

Dr. Airy's report to the local government board on the sanitary state of a part of the registration district of Burton-upon-Trent.

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Dr. Airy's Report to the Local Government Board on the Sanitary State of a part of the Registration District of Burton-upon-Trent.

EDWARD C. SEATON, M.D.,
Medical Department,
May 14, 1878.

THIS inquiry relates mainly to three large villages, Church Gresley, Newhall, and Swadlincote, which differ in physical and geological features, in character of population, and in sanitary condition, not only from the rest of the Gresley sub-district in which they lie, but from all the other parts of the Burton-on-Trent registration district.

This registration district lies partly in Staffordshire and partly in Derbyshire, and occupies the valley of the Trent for a distance of about 16 miles.

The greater part of the district, on either side of the valley, lies on beds of ochreous marl of the new red sandstone formation. In these parts the population is purely agricultural. The bottom of the valley consists of peat and alluvial deposits, and affords wide but wet pastures. In the neighbourhood of Burton the land is frequently flooded by the river.

Towards the south-east the land rises gradually from the alluvial meadows in the bottom of the valley to a height of about 300 feet above the Trent. Here is a ridge of hills which forms the boundary between the Burton-on-Trent Union, and the Ashby-de-la-Zouch Union, and also between the counties of Derbyshire and Leicestershire. On the Burton side the lower half of these hills consists of new red sandstone beds. The upper half is composed of strata of the coal formation. This upper half is the region occupied by the three villages of Newhall, Swadlincote, and Church Gresley; and herein lies the cause of the difference between them and the rest of the union.

Church Gresley occupies the crowning plateau and south-western slopes of a hill in the coal-field jutting from the ridge above mentioned, about 340 feet above the level of the Trent; on the northern slope of the same hill is the village of Swadlincote, about 200 feet above the Trent; and further to the north, on the opposite side of a wide hollow which opens towards the Trent valley, is the village of Newhall, about 240 feet above the Trent, with a hill behind it rising to about 300 feet.

Large collieries have been established here, and a dense and dirty mining population has sprung up with great rapidity. The beds of clay which are here met with in the coal formation are suitable for the manufacture of earthenware, and the presence of clay and coal on the same spot has led to the establishment of several very large potteries, chiefly in the village of Swadlincote, where fire-bricks and sewer-pipes are made in great quantities. Similar geological and industrial conditions extend into the adjoining parts of the Ashby Union.

The immediate cause of inquiry was the prevalence of diphtheria and scarlet fever, as shown by the Registrar-General's Quarterly Returns during the year 1877. The following table (I.) compiled from those returns, gives the numbers of deaths registered in the Gresley sub-district from seven principal zymotic diseases during the years 1876 and 1877. Mortality.

TABLE I.—DEATHS FROM ZYMOTIC DISEASE in the GRESLEY SUB-DISTRICT.

Year and Quarter.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.
1876 i. - - -	—	—	—	2	—	1	1
ii. - - -	—	—	—	—	2	1	1
iii. - - -	—	5	1	—	—	—	10
iv. - - -	—	10	1	2	—	1	3 (1 cholera.)
1877 i. - - -	—	1	1	4	3	—	—
ii. - - -	—	—	—	6*	6	—	1
iii. - - -	—	—	13†	3	4	—	1
iv. - - -	—	—	16†	4	4	—	—

Registrar's Notes { * The 6 deaths from diphtheria occurred in the village of Rodliston.
† Of the 13 deaths from scarlet fever, 7 occurred at Swadlincote, 5 at Newhall, and 1 at Church Gresley.
† Of the 16 deaths from scarlet fever, 7 occurred at Newhall, 6 at Church Gresley, and 3 at Swadlincote. The disease is still very prevalent in Newhall.

It will be seen that the district registrar in his notes draws especial attention to the villages of Newhall, Church Gresley, and Swadlincote. In previous years also these three places were the subject of special notice, in 1871 on account of scarlet fever, and in 1872 on account of small-pox.

By the courtesy of the superintendent registrar for the Burton-on-Trent district, Mr. W. Coxon, I was enabled to obtain a return of the mortality in each of those three places, separately, from 1870 to 1877 inclusive. From these data I have calculated the death-rates for those places, making allowance for increase of population. These are given in Table II. For the sake of comparison I have also given the corresponding death-rates for the four sub-districts of the Burton-on-Trent Union, distributing the deaths in the workhouse in proportion to population, and altogether excluding the Mickleover Lunatic Asylum.

I have estimated as accurately as I have been able the population of the three townships above named, at the end of 1873 (the middle point of the period in question). Unfortunately the length of time which has elapsed since the last census was taken (in 1871), and the rapid growth of population in this district, make the estimate less certain than I could have desired.

TABLE II.—ANNUAL RATES of MORTALITY. Average of 8 years, 1870–1877.

Locality.	Estimated Population, 1873–4.	Average annual death-rates per 1,000 inhabitants from								
		All causes.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Croup.	Whooping Cough.	Fever.	Diarrhoea.
Sub-districts	1. Tutbury	7,127	18.6	.05	.16	.47	.05	?	.42	.16
	2. Repton	6,225	19.8	—	.32	.42	.24	?	.20	.40
	3. Gresley	14,000	20.5	.53	.55	1.50	.39*	?	.38	.33
	4. Burton	28,890	20.6	.07	.44	.56	.17	?	.54	.26
Townships	Church Gresley	4,000	17.7	.37	.44	1.44	.28	.16*	.28	.34
	Stanton-and-Newhall	3,750	20.0	1.23	.80	1.53	.00	.17*	.30	.27
	Swadlincote	1,530	23.5	.49	1.31	1.80	.08	.08*	.65	1.14

* The diphtheria rate for the Gresley sub-district includes several cases of "croup"; and probably some of the deaths registered from "croup" in the three townships above named were really cases of diphtheria.

It will be observed that the three townships of Church Gresley, Stanton-and-Newhall, and Swadlincote comprise very nearly two-thirds of the population of the Gresley sub-district, the remaining third being about equally divided between the township of Stapenhill (a suburb of Burton-upon-Trent) and a group of nine small agricultural townships and parishes. The mortality of the Gresley sub-district takes its character principally from those three villages above named.

Scarlet fever.

Scarlet fever was fatally prevalent in those three villages in 1870 and 1871, causing 76 deaths. From 1872 to 1875 inclusive, not a year passed without a death from scarlet fever in one or another of the three places. In 1876, however, there was no death from that cause, but doubtless the infection was kept up by non-fatal cases or by cases in the adjoining neighbourhood, for in the third quarter of 1877 the disease reappeared in a fatal form, and before the end of the year there had been 5 deaths in Church Gresley, 12 in Stanton-and-Newhall, and 10 in Swadlincote. In the present year (1878) up to February 25, the deaths have been 8, 2, and 1 in those three places respectively. It now prevails chiefly in Church Gresley, and appears to be of a malignant type. The conditions of filth and bad water supply under which the disease has spread are described below, in reference to the sanitary authorities concerned. Universally, there has been almost total want of isolation. There is no infectious hospital in the neighbourhood, and, failing such provision, it is next to impossible in the cottages of the poor, with only two bedrooms, to separate the sick from the healthy. When one member of the family is attacked, the rest have to take their chance. It is scarcely less difficult to keep an infected family isolated from its neighbours, on account of the imperfect knowledge among them of the dangers of the disease, of its mode of propagation, and of the lengthened period during which a patient convalescent from it is capable of infecting others.

The village schools have remained open during the recent epidemic, with the exception of a week at Christmas time. It is to be feared that they may have assisted in spreading it.

Diphtheria.

Diphtheria appears, from the returns of mortality for the several sub-districts of the Burton-on-Trent district, to have been more prevalent in the Gresley sub-district than in either of the others, though the Repton sub-district is nearly on a par with it in this respect. Not a year has passed since 1870 in which the registrar has not returned a death from diphtheria, in the Gresley sub-district. Some cases thus returned appear to have been registered as "croup." This, I believe, was the case in the return of two deaths from "diphtheria" in the fourth quarter of 1876, and in 2 of the 4 cases returned in the first quarter of 1877.

Looking through the death-register of the Gresley sub-district, from the middle of 1876, the first appearance of "diphtheria" in the register is met with in February 1877, when, on the 21st and 22nd, the deaths of two children named Satchwell, aged 6 and 4 years, were registered from that disease. From the description given to me by the mother there can be no doubt that they died of true diphtheria. Four other children in the same family were also attacked, but recovered. This family lived in Castle Gresley (a little village adjoining Church Gresley, but at a lower level,) in one of 28 houses, known as "New Row," recently built for the accommodation of miners working in a neighbouring colliery. These houses are of a good class, but the pump which supplies them with drinking-water is only a few yards from the nearest privies and pigsties. I did not hear of any other cases in the Row at that time. The private medical attendant who had been called in to these and others of the earliest cases was unable to give me any information concerning them, except that they were generally isolated cases. The then medical officer of health has since resigned.

The next appearance of diphtheria in the death-register is "Rosliston, May 21, Henry Lovely, 4 years:" "May 31, Samuel Lovely, 17 years:" "June 1, John Lovely, 10 years:" "June 8, Sarah Ann Lovely, 13 years:" "June 16, Charles Lovely, 10 months:" "June 29, Emma Lovely, 3 years." These were six out of nine children of the same family. Rosliston, which had in 1871 a population of only 447, is a fairly wholesome little agricultural village, on a soil of new red sandstone marl about 100 feet above the level of the Trent, neither deeply buried nor bleakly exposed. The house in which these six deaths took place was the middle house of three which were built about three years ago. Two tenants had occupied the house previously without injury to health. The two adjoining houses have also been occupied, and are still occupied, without any similar outbreak of disease. The children from these two end houses (seven in number, at ages from 6 months to 13 years), though in frequent association with the sick children in the middle house, appear to have entirely escaped any attack, unless possibly one child was slightly affected. Water for washing purposes was for all three houses obtained from a pump at the back, 15 yards distant from the privy. The well was known to be polluted from a defective slop drain, and the water stank. [The drain has since been taken up and relaid and the water is much better, but is still not used for drinking.] Drinking water was obtained from a good well belonging to a public-house in the village. There is, however, no need to look to the condition of this house in Rosliston for the origin of the outbreak. The Lovelys had only come into the house three weeks before the boy Henry was attacked, bringing with them an elder boy, William, aged 16, who was just recovering from an attack of diphtheria. The family had previously been living at a neighbouring village, Cauldwell, and the boy William had been at work in a neighbouring coal-pit. There were no other cases of diphtheria in Cauldwell: there was nothing about the house they occupied there to cause disease, except that some refuse-heaps were rather too near to the back door: drinking water was got from the village pump: the situation of the village was quite wholesome. I think it may reasonably be supposed that William Lovely contracted diphtheria while at his work in the colliery, or perhaps in visiting Castle Gresley, where the disease had already taken hold.

About the same time as the last diphtheria death in Rosliston, there was a death (at the age of 5 years) in Church Gresley, in a family which has subsequently left the district, about which I could get no information. At the end of June and beginning of July there were two fatal cases (at the ages of 6 and 1), in Castle Gresley, in a family named Swann. The elder of these two children had previously been playing with two of another family who were recovering from an ulcerative affection of the tongue and fauces, probably diphtheritic. Three others of the same family, aged 8, 4, and 2, recovered. About the same time three children in another family in the same village were attacked with a throat affection marked by the presence of patches "like wash leather" on the fauces, evidently diphtheria. All three recovered. More than three months later, with no intermediate history traceable, another fatal case, (age 10 years,) occurred in the New Row in Castle Gresley, where the Satchwells, the first cases mentioned above, had resided. Since then there have been no more diphtheria deaths in Castle Gresley; but groups of cases have occurred in Church Gresley.

On November 14, a child, aged 11, died of diphtheria in that part of Church Gresley township, known as Coppice Side, which belongs to the Swadlincote Urban District. The house is old and confined, and a slaughter-house stands close behind it. Privies stood close by, which have since been removed. Water, believed to be good, was obtained from a well at some distance.

A month and a half later, on December 31, a child, aged 7 years, in a neighbouring house, the back windows of which look out upon the slaughter-house and privies above mentioned, died of diphtheria. This child's death was speedily followed by that of its mother. The two children last mentioned had attended the same school (a private one) in the village, but I did not hear of other cases in connexion with that school.

In the interval between November 14 and December 31, two deaths from diphtheria occurred in another part of the village, in children aged nearly 6 and 4, who were not known to have been in communication with any infected place or persons. The house where they lived was one of a pair, quite new, exceptionally well-built, and faced with cement, in an exposed situation on the brow of a hill, but free from filth. The elder child, the first attacked, went to the Board School in the village, a newly built commodious school, in connexion with which no other cases of bad sore throat had come to the master's knowledge.

Altogether I heard of 32 cases of diphtheria, 17 of them fatal, in 10 families, in the neighbourhood, in the year 1877, including one in January 1878. In eight out of these 10 families, the first person attacked was a child between 5 and 11 years. Concerning one of the remaining two families I was not informed of the ages, but the members attacked were children. The only certain exception was the family of Lovely, in which the first person attacked was a boy of 16.

In the above account I have not included seven deaths, registered as "croup," some of which were probably cases of diphtheria.

It deserves to be mentioned that the above-described prevalence of diphtheria occurred after and during some months of exceptionally wet weather. On this point information was courteously given to me by the Head Master of the Burton-upon-Trent Grammar School, C. U. Tripp, M.A., from his own records of the local rainfall. He informs me that the year 1876, which was rather wet generally, wound up with three out of four months (September, November, and December,) very wet indeed, and that in eight out of the 12 months of 1877, the rainfall exceeded the usual amount. The clayey nature of the soil of the district makes it highly retentive of moisture. On the Gresley hill top there is a wide common in the midst of the village covered with pools of standing water.

Sanitary
condition.

I have now to speak of the sanitary condition of the three principal villages above mentioned, separating them according to the sanitary jurisdiction to which they belong.

The township of Stanton-and-Newhall, and the chief part of the township of Church Gresley, are in the Burton-on-Trent Rural Sanitary District. The township of Swadlincote, with the remainder of Church Gresley, is in the Swadlincote Urban Sanitary District.

BURTON-ON-TRENT RURAL SANITARY DISTRICT.

Newhall.

The village of Newhall, situated as I have already described, and inhabited almost exclusively by coal miners, consists, in its older parts, of a crowd of houses of a poor class huddled together in a disorderly way on either side of the principal road through the place. On some branch roads there are numbers of new rows of a better class of dwellings. All are built of the brick made in the neighbourhood, which is porous and retentive of moisture. They are therefore generally damp. The floors are generally paved with tiles or bricks. The roofs are tiled or slated, and are often unprovided with eaves-troughs and fall-pipes. Some of the houses have no back opening, and one or two are built back to back.

When the coal trade was at the height of its prosperity, there was a great deal of over-crowding with lodgers. At present over-crowding is only met with where a large family occupies a small house. In one such case last December the Inspector of Nuisances found the father of a family and seven children lying in one small room measuring 11 feet by 10 feet and 7 feet high. The man and six of the children were down with scarlet fever, caught from a neighbouring family; one of the children died. There was a leaky privy and pigsty about 10 feet from the bedroom window.

The water supply of Newhall is very bad. There are some wells, generally near privies, which are for the most part reserved for the use of the cottages to which they belong. The majority of the people have to fetch water from a ditch called Batch's Hole, about a quarter of a mile behind the village. This is nothing but a drain of surface water at the side of a piece of pasture where it is trodden and befouled by cattle. It receives, above the dipping pool, a slop drain from a neighbouring cottage, and (in flood time) the drainage of a ditch at the back of a privy.

This surface drain after passing by two or three more fields and meadows, where it receives further defilement from cattle and house refuse, is again resorted to for drinking water at a point known as the "Sough," where the children who go to fetch the water sometimes leave their dejections to poison what remains. It cannot be wondered that Newhall has a death rate from diarrhoea of 1.23 per thousand. There is a third source, a spring of good water, about half a mile distant, which is resorted to by some of the dwellers in the south-eastern end of the village. Others drink filtered rain water. Some poor old people have to buy water from their neighbours at $\frac{1}{2}$ d. a bucket.

I should mention that Newhall expects to share in a new supply of water which is proposed in the first instance for Church Gresley, as mentioned below.

There is no proper drainage in Newhall. Some groups of houses have cesspools in their gardens, to which the house slops are conveyed by surface channels or imperfect drains: others are drained into ditches and watercourses, or the slops lie in pools about their doors and dust heaps.

The privies are of the ordinary filthy kind, ill-contrived and leaky reservoirs of excrement, constructed without any view to deodorisation, and often without provision for removal of the accumulated matters. They are only emptied when it suits the convenience of the neighbouring farmers to take the manure. Previous to the appointment of the present active Inspector of Nuisances last October, the state of the privies in Newhall was much worse. For instance, there was a row of seven houses with 35 inhabitants and only one privy for them all, from which the filth oozed under and into an adjoining house. This, and many others, have been removed to less objectionable positions, but still the general character of them is that of nuisances perpetually liable to recur.

Nuisances from refuse and manure heaps and from pigs filthily kept are of ordinary occurrence, in spite of active inspection.

I have already mentioned that there are no means of isolation in case of epidemic disease. When small-pox raged in 1872, a little hospital was built on the confines of Newhall and Swadlincote, and was very serviceable in arresting the spread of the disease. Unfortunately this building was afterwards sold and pulled down, and the Rural Sanitary District now has no provision of the kind, except (for paupers) the infectious wards at the Workhouse in the town of Burton.

Church Gresley is in better condition than Newhall, notably in the matter of drainage. The Sanitary Authority have expended several thousand pounds in this work, which was completed last year. From the crest of the hill on which the village stands two main sewers are led in opposite directions to two sets of filtering tanks, whence the effluent liquid passes into natural watercourses. One of these filtering tanks, however, near Castle Gresley, has been found productive of nuisance to a neighbouring brewery, and at the time of my visit an alteration was in progress, whereby the sewage is to be intercepted for purposes of irrigation. There are some doubts whether the house drains have been in all instances carefully laid and properly connected with the main sewers, and properly trapped and ventilated outside the dwellings. Great vigilance will be needful on the part of the Authority to see that this part of the work is satisfactorily executed.

*Church
Gresley.*

In respect of water, Church Gresley is at present ill-supplied, relying entirely on wells which are not many yards distant from privies and piggeries. Many houses are altogether without any supply of their own. The Sanitary Authority have in hand a large scheme of water supply, to be pumped from a deep well in an adjoining parish to a reservoir on a hill above the village, and thence to be distributed by gravitation not only to Church Gresley, but also to Swadlincote and Newhall. Some provision of the kind is very greatly needed.

A great deal of the privy accommodation in Church Gresley is similar to what I have already described in Newhall. Indeed this may be stated of all the country villages.

The Rural Sanitary Authority are the Guardians of the Burton-upon-Trent Union. They delegate their sanitary powers to a Committee who meet once a month and on special occasions when required. A good deal of work is done by means of Parochial Sub-Committees. The Authority have not applied for any urban powers, nor have they adopted any byelaws for their district.

Previous to October 1877, the post of Medical Officer of Health for the whole Rural District was filled by Dr. J. McCully, who held a large combined district in Staffordshire and Leicestershire. On Dr. McCully's resignation, the Burton Rural District was divided between two Health Officers, each at a salary of 50*l.* a year, one of whom is Mr. Alfred Hooper, of Newhall, and the other Dr. P. G. Bell, of Etwell, both under the Order of the Board of 11th November 1872. The present Inspector of

Nuisances, Mr. T. Barry, was appointed in October 1877, at a salary of 200*l*. He is authorised to give notice at once to abate a nuisance without the delay that would be involved in first reporting the case to the Sanitary Authority. His journal and report book show that a great deal of valuable work has been done in the few months since he took office. I have pleasure in acknowledging the assistance which I received from all the officers of the Authority with whom I had communication in the course of my inspection.

SWADLINCOTE URBAN SANITARY DISTRICT.

The village of Swadlincote, lying between Church Gresley and Newhall, and smaller than either of them, adopted the Local Government Act, and became a Local Board District in 1871, including in its limits a strip of the parish of Church Gresley which lines its principal street.

Its population was then about 1,640. At the present time it is estimated at about 2,500.

There is more variety of class and character in the dwellings of Swadlincote than in either Newhall or Church Gresley; it has some good shops, and a capital market hall, and is evidently the central emporium of this district, as well as the seat of its most important pottery works.

The state of Swadlincote in regard of water-supply is not creditable to the Sanitary Authority. About ten years ago, before the formation of the Local Board, some of the inhabitants combined to procure water by boring at the head of the hollow between Swadlincote and Newhall. They succeeded in tapping a water-bearing stratum, from which the water rose abundantly to the surface—an Artesian well, in fact,—and from this source they carried the water in pipes to a cistern in the village, whence it is supplied to a public pump in the market place. There is one other pump in the course of the pipe in the outskirts of the village. The market hall and two or three private houses have separate pipes from the cistern, but the great majority of the inhabitants have to come to the pump in the market place. Three years ago two more bore-holes were sunk, and a larger yield of water was obtained; but the people are as badly off as before: there are still only those two pumps for the whole village; and the distance many of the women have to go to fetch water, makes them very chary of using it: clothes and bodies and vessels are left unwashed; vermin thrive; and infectious disease is fostered. Meanwhile there is water running to waste at the bore-holes, and from a factory tank in the village which receives the surplus after the cistern is filled, in quantity sufficient to supply every house in Swadlincote with more than it could use. And for two years past the Authority have been debating what to do, and are now waiting for the Church Gresley scheme, instead of using what is actually at their doors.

There are several private pumps over wells in the village, but they are not much used, the water in them being for the most part notoriously unfit for drinking.

The village lies on the slope of a hill, with good natural facilities for drainage, of which advantage has been taken only so far as to lead house-drains down the slope into a watercourse at its foot. Privies and pigsties line this watercourse, and house refuse of all kinds is thrown into it. It is the open main sewer of Swadlincote. Some houses under which it passes have had cases of enteric fever year after year. Lower down it passes close by an unwholesome row of cottages called Darklands, where enteric and scarlet fever prevailed last year. By the side of the principal road through the village there are filthy ditches, receptacles of the slops and garbage of the vicinity, which are offensive at all times, and doubly offensive in the summer.

Swadlincote is conspicuous among the three villages I have described for prevalence of fever, having a death-rate from that cause of 1.14. The great majority, if not all, of the fever deaths have been from enteric fever. The death-rate from diarrhoea, 0.98, very nearly approaches that which prevails in Newhall.

The Sanitary Authority have no place where they can temporarily isolate cases of infectious disease.

The Medical Officer of Health, Mr. J. Hamilton, has recently come under the Order of the Local Government Board of 11th of November 1872, and has a salary of 20*l*. The Inspector of Nuisances, receiving a salary of 30*l*. and holding also the office of Surveyor at a salary of 20*l*., is Mr. J. Salisbury, who is also Inspector of Nuisances for the Ashby-de-la-Zouch Urban District in Leicestershire. I received valuable aid from all the officers of the Authority in the prosecution of my inquiry.

March, 1878.

HUBERT AIRY.

RECOMMENDATIONS :—BURTON-UPON-TRENT RURAL SANITARY DISTRICT.

1. It is of the utmost importance that an ample supply of pure water should be obtained for the villages of Church Gresley and Newhall as speedily as possible.

Meanwhile great care should be taken to secure from pollution the waters which are at present in use in the district, whether from wells or from surface streams. Wells which are polluted should be closed. (Public Health Act, 1875, sec. 70.)

2. The village of Newhall should be thoroughly sewered and drained. (The position of the village suggests resort to sewage-irrigation. How advantageously this may be carried out under suitable conditions may be seen in the neighbouring Urban District of Ashby-de-la-Zouch.) The Board's "Suggestions as to Main Sewerage, Drainage, and Water Supply" may very usefully be consulted by the Sanitary Authority.

3. Steps should be taken to abate the nuisance and danger to health arising from filthy privies with leaky cesspits. It is not sufficient to order them to be emptied again and again. They should be dealt with under sections 40 and 41 of the Public Health Act, 1875, or, as nuisances likely to recur, under sections 95 and 96 of that Act; measures being taken to procure such structural alterations as will permit frequent and complete removal of the contents, without danger of mixture with rain or surface drainage, or of soakage of filth into the soil near dwellings. (See the Office Report "On certain means of preventing excrement nuisances in towns and villages.")

It is very desirable that the removal of excrement should be made a matter of public scavenging, and should be performed at regular and frequent intervals by men in the employ of the Sanitary Authority, or by a contractor under the supervision of the Authority's officers.

4. The rapid growth and industrial character of the population in Newhall and Church Gresley make it desirable that the Sanitary Authority should have byelaws for their district, and that they should possess urban powers relating to the cleansing of streets, the removal of refuse, and the construction of new buildings (sections 42, 44, 157, 158, of the Public Health Act, 1875). The model byelaws which have been drawn up by the Board would be of assistance to the Authority in this respect.

5. The Rural Sanitary Authority should have at command a fit place for the reception, isolation, and medical treatment of cases of infectious disease. There should also be a chamber for disinfection by heat, an ambulance for conveyance of the sick, and a mortuary. (Public Health Act, 1875, sec. 131, *et seq.*)

RECOMMENDATIONS :—SWADLINCOTE URBAN SANITARY DISTRICT.

1. The Sanitary Authority should, without further delay, take steps to supply every part of the village of Swadlincote with plenty of good water.

2. They should take skilled engineering advice as to the best means of draining the village. (This might perhaps most naturally be arranged in combination with the Burton Rural Authority.)

3. Steps should be taken to abate the nuisance and danger to health arising from filthy privies with leaky cesspits. They should be dealt with under the sections of the Public Health Act above mentioned; measures being taken to procure such structural alterations as will prevent the entrance of rain, or surface drainage, and the soakage of filth into the soil near dwellings, and will permit frequent and complete removal of the contents. See the Office Report "On certain means of preventing excrement nuisances in towns and villages."

It is desirable that the removal of excrement should be performed at regular and frequent intervals by men in the employ of the Sanitary Authority, or by a contractor under the supervision of the Authority's officers.

4. The Urban Sanitary Authority should have at command (either in their own possession or by arrangement with another Authority,) a fit place for the reception, isolation, and medical treatment of cases of infectious disease. There should also be a chamber for disinfection by heat, an ambulance for conveyance of the sick, and a mortuary. (See Public Health Act, 1875, sec. 131, *et seq.*)

