

**Dr. Thorne Thorne's Report to the Local Government Board on the Sanitary Condition of Stapleford, in the Rural Sanitary District of Shardlow, and on the Prevalence of Infectious Diseases in the Village.**

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I.—GENERAL DESCRIPTION.

Stapleford is a large village in a rural sanitary District of Shardlow, and it is situated six miles south-west of Nottingham. The greater part of the village lies on undulating land which slopes towards the river Erewash. The soil is sandstone and conglomerate; some dwellings, however, are situated on the alluvium of the river. In 1871 the inhabitants numbered 1,967, but during the last few years the population has rapidly increased, it being now estimated at about 2,600, and it is stated to be still increasing. The inhabitants are mostly occupied in lace and silk works, and in neighbouring railway carriage works, iron works, and collieries.

II.—PREVALENCE OF INFECTIOUS DISEASES.

1. *Enteric fever* was prevalent in Stapleford at the date of my inspection, there being then, as far as could be ascertained, about 15 cases, and the disease was apparently on the increase. This immediate of enteric fever commenced towards the end of December 1876, but prior to that date there had been occasional cases for at least six-months, and information derived from the medical men practicing in the village is to the effect that Stapleford is rarely, if ever, free from the disease for any length of time, although it has hitherto usually been of a comparatively mild type. Inspection of the death returns shows that during the five years 1872—76, 13 deaths were registered as due to this cause, one or more fatal cases having occurred in each of the five years. Under these circumstances it was not found possible to trace the exact origin of the present outbreak.

2. *Scarlet fever*.—Although there were no cases of scarlet fever in Stapleford on the occasion of my visit, yet the disease has been very prevalent there during the past two years. In 1875 there were 20, and in 1876 there were 12 deaths from this cause in the village.

III.—GENERAL SANITARY CIRCUMSTANCES OF THE VILLAGE.

1. *Water Supply*.—Throughout the greater portion of Stapleford the water supply is either obviously foul, or is subject to constant risk of pollution. Its distribution is also in many instances very defective. The supply is derived from wells, the depth of which is stated to vary, according to their site, from about 10 feet to 50 feet. In dangerous and often in close proximity to many of these wells are placed, besides heaps of general refuse, large midden-privies, the wet contents of which soak into the surrounding soil, and as a rule these sources of pollution are situated on a higher level than the wells: even where these nuisances are not in such proximity to the wells, these latter are often sunk in a soil on the surface of which the inhabitants habitually throw slop water and liquid refuse. Under these circumstances the contents of some of the wells have become so palpably filthy that their use has been abandoned; but the supplies which have taken the place of those disused (and which at times have to be stolen), are often but little or no better except so far as external appearance is concerned, and there can be but little doubt that these apparently better supplies have in some instances been the means by which enteric fever has been spread. Thus the disease has been notably prevalent amongst persons drinking the contents of a well in Mellows Yard: and in several instances I found that persons living in houses either altogether without any provision for water, or having only wells too foul for use, procured a supply from a brooklet known as 'Sick Ditch.' Thus, in East Street, this water was procured at a spot just below which the streamlet received the sewage from a neighbouring group of houses. A few yards below the dipping place the pollution of the stream was increased by the sewage from about 30 houses, in two of which enteric fever was prevalent, and the contents of the stream thus fouled were again drunk by several families in another street. Enteric fever also prevailed in this street.

2. *Sewerage and Drainage.* — By far the greater portion of Stapleford is provided with a system of sewers. The more modern sewers consist of glazed pipes, but the older ones, concerning the efficiency of which not much seems to be known, are stated to be "brick barrel drains." No provision whatever has been made for the ventilation of the sewers except where, here and there, a road gulley is left untrapped until complaint is made of nuisance resulting from it. Fortunately for the inhabitants nearly all the drain inlets are outside the houses, otherwise very general poisoning of the air in dwellings must have resulted. But in some few cases it is otherwise. Thus in one house which I visited, and where enteric fever prevailed, I found a sink-pipe having an unbroken communication with the main sewer, and with a view of preventing the passage of sewer air into the house, the inlet was corked up. — The sewage ultimately reaches the river Erewash, either directly, or by means of its small tributary the Sick Ditch.

3. *Means for the disposal of Excrement and Refuse.* — Throughout Stapleford common midden-privies form the means for the disposal of excrement and refuse, and these structures are the source of very considerable nuisance and danger to health. They are mostly of such a size as to enable the inhabitants to store up in close proximity to, or even in actual contact with, their dwellings very large accumulations of excrement and filth; and they are so constructed that mingling of the ashes and dry refuse with the excreta is impossible. The middens also being sunk below the level of the surrounding surface, were almost universally flooded with subsoil water, a circumstance which ensured the fouling of the surrounding wells, and in many cases of the walls and foundations of dwelling-houses. It is true that, with a view of excluding rainfall, a large number of the middens have somewhat recently been roofed in, but so long as their construction remains what it now is, this step will do little or nothing towards ensuring the dryness of their contents. Special complaint having been made as to the midden-privies at the National Schools, I visited the premises, and found that a series of privies communicate with huge middens having a capacity of about 1,000 cubic feet, the contents of which are stored at times for 12 months, and that the structures all lie within a few feet of the master's dwelling-house, the air in which is in consequence thoroughly fouled. There is no system of scavenging in the village, and hence the inhabitants have to get rid of their midden contents as best they can. This, of course, lends to long continued storage of filth.

4. *Dwelling Accommodation.* — This is as a rule fairly good, but in some instances the yards common to groups of houses are, from want of proper pavement and the consequent retention of pools of slop-water around the drain-inlets, a source of nuisance. There are also some dwellings which are considerably overcrowded. In one house, I found that, a family of 15 persons had only two bedrooms. In one of these each of six occupants had about 160 cubic-feet, in the other each of eight occupants had about 125 cubic feet each; the more overcrowded room being slept in during the day time by a ninth person. A few months ago scarlet fever broke out in this house, and there being no means of isolation available, it spread until eight members of the family had been attacked. Since then two cases of enteric fever have occurred in the house. In other cases I found that enteric fever patients were compelled to sleep in the same beds with persons as yet in health.

#### IV.— CONCLUSIONS.

From the details above given it will be evident that the prevalence of *enteric fever* in Stapleford has, as elsewhere, been associated with conditions leading to the excremental poisoning of air breathed and of water drunk, and that given the existence of this disease in the village, the general sanitary circumstances prevailing there are precisely such as to favour its spread. The large prevalence of *scarlet fever* in the village must in the main be attributed to the complete absence of any means of isolation, and to the conditions of overcrowding.

#### V.— SANITARY ADMINISTRATION.

A medical officer of health and an inspector of nuisances have been appointed for the whole of the rural sanitary district. Neither of these officers is required to devote himself entirely to the duties of his office, and the time of the latter is partly taken up in performing the duties of surveyor to the authority. The medical officer of health has only held office for a few months, his appointment having been sanctioned in September 1876, and at the date of my inspection he had not as yet made himself fully acquainted with the duties attaching to it. Owing probably in part to this —

circumstance, but mainly to the fact that none of the recent cases of enteric fever in Stapleford had occurred amongst paupers, concerning which class only he received returns of sickness, this officer had not been aware of the prevalence of the disease, and the sanitary authority had taken no steps to stay its spread.

With regard to the previous action of the authority it should be stated that they, in September 1876, adopted a series of byelaws for Stapleford, relating to the construction of streets and buildings, and with respect to the drainage of new buildings, and to the provision of closets, &c. in connexion with such buildings. I am also informed that some additional works of sewerage have been carried out, that new midden-privies have been constructed and others structurally modified, and that numerous undrained piggeries and nuisances have been abolished. But it is quite evident that much of this work has not been of a nature to lead to real sanitary improvement. By the construction of sewers which are unventilated, or by the building and modification of midden-privies which remain in every essential respect similar to those which had become so great a nuisance that it was found necessary to do away with them, the sanitary authority is in reality only perpetuating or adding to the existing sources of nuisance and danger to health in the place.

During the course of my inspection I communicated with the clerk to the rural sanitary authority, and I pointed out the immediate and urgent necessity — 1st, for at once providing a wholesome water supply to those of the inhabitants who at present, are drinking from polluted sources; 2nd, for the organisation of a system of disinfection wherever enteric fever was prevailing; 3rd, for securing the entire services of some competent person who, under the direction of the medical officer of health, should see to the efficient adoption of these measures; and 4th, some temporary means of isolation for fever patients who cannot properly be isolated in their own houses, in anticipation of any extension of the present outbreak.

R. THORNE THORNE.

February 5, 1877.

#### RECOMMENDATIONS.

1. Measures should be taken under section 70 of the Public Health Act, 1875, to secure the closing of such wells as are polluted within the meaning of that section.

2. An ample and wholesome water-supply should be provided throughout the village, and since it is quite evident that no such supply can be procured from the existing sources, the sanitary authority should without delay procure skilled advice as to the best means by which this recommendation can be carried out.

3. Steps should be taken to ensure the efficient sewerage and drainage of every portion of Stapleford. The sewers should be provided with ample means of ventilation; measures should be adopted, as by the cutting off of the direct communication now existing between the interior of houses and the sewers, to prevent the escape of sewer air into dwellings; and in the ultimate disposal of the sewage care should be taken not to pollute any watercourses.

4 All midden-privies which, from the nature of their construction, or otherwise, are a nuisance or a source or injury to health, should be dealt with to the fullest extent of the powers possessed by the sanitary authority under the Public Health Act, 1875.

5. Efficient, means for the disposal of excrement and refuse should be carried out. As I am informed that there is no prospect of a watercloset system being adopted in the village some form of dry closet should be brought into use. If any form of privy be retained, it should be so constructed and managed that dryness of contents, thorough mingling of ashes with the excreta, and the frequent removal of its contents, shall be ensured, conditions which will be most easily obtained by placing some moveable receptacle, such as a galvanised iron pail on wheels, beneath the privy-seat. This latter plan, or the earth-closet system, will be especially necessary where the space around dwellings is so limited that the privies must, of necessity be in somewhat close proximity to them, notably in the case of the National Schools. But under any circumstances the sanitary authority should itself undertake the regular removal of the privy and midden contents throughout the village.

6. Wherever yards are, from defective paving or otherwise, in such a state as to be a nuisance, their condition should at once be remedied.

7. Where the overcrowding of a house or of any part of a house is such as to be dangerous or prejudicial to the health of the inmates, it should be dealt with as a nuisance.

8. With a view of arresting the progress of dangerous infectious diseases, it is of the first importance that the sanitary authority should have in readiness some standing means for the isolation of persons who cannot be properly isolated in their own houses. Such means ought to be provided beforehand, so that they may be available when required.

9. The medical officer of health should, in conformity with the instructions under which he holds office, keep himself, by regular and systematic inspection, informed as to the conditions injurious to health in his district, and inquire into and ascertain by every means at his disposal the causes, origin, and distribution of diseases, with a view to his advising the authority as to these matters. Special inquiry as to the existence of infectious diseases in every portion of the district, should be made at frequent intervals, and in this he should have the assistance of the inspector of nuisances.

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