

## **Dr. R. Bruce Low's report to the Local Government Board on the sanitary condition of Hatfield.**

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### Dr. R. Bruce Low's Report to the Local Government Board on the Sanitary Condition of Hatfield.

GEORGE BUCHANAN,  
Medical Department,  
May 28, 1889.

In his annual Report for 1887, the Medical Officer of Health for the Hatfield Rural Sanitary District, recording an exceptional prevalence and fatality of diarrhoea during that year in a particular part of Hatfield town, referred to this diarrhoea as promoted by

1. Absence of main sewer ventilation ;
2. Absence of efficient scavenging ;
3. Insufficient house drainage ;
4. Defective slaughter-houses ;
5. Existence of stables in confined spaces.

In view of this report the Board wrote on February 24th, 1888, inquiring of the Rural Sanitary Authority what action had been decided upon in reference to the unwholesome conditions reported on by the Medical Officer of Health.

In reply, the Local Authority stated on April 21st, that:—

The above matters, besides receiving the Authority's serious and full consideration, had been referred to its Inspector of Nuisances, who had remarked thereon as follows:—

- " 1. The main sewer being properly trapped, no ventilation is required.
- " 2. Scavenging is done to the satisfaction of the Inspector.
- " 3. The more efficient drainage of several houses in the district is now in progress.
- " 4. Slaughter-houses are kept clean to the satisfaction of the Inspector.
- " 5. All stables are kept very clean and healthy."

And this communication of the Local Authority concluded with the expression of its "firm opinion" that the sanitary condition of its district was "fairly good," and that no special measures were required in relation thereto.

The Board was not, however, content with the above assurances of the Local Authority, and on May 3rd intimated that in view of the statements of the Medical Officer of Health, the Local Authority's reply was unsatisfactory.

Thus the matter stood until, at the end of January of the current year, the annual report for 1888 of the Hatfield Medical Officer of Health having been received by the Board, it was found to contain a passage as follows:—

"During the year one portion of the main sewer was found to be blocked in Hatfield in the lower part of the town; it was found to be in a very bad condition, and much out of level. In part of it the sewage remains standing, and there must be constant leakage into the subsoil. It may here be remarked that it was just in this low-lying part of the town in which there were so many infant deaths last year (1887) from diarrhoea."

Once again, therefore, the Board wrote (February 12th, 1889) to the Local Authority advertng to the statements of the Medical Officer of Health, and inquiring what action was being taken by the Authority in the matter of this sewer.

In reply, the Local Authority stated (on 8th March) that:—

"Upon referring the question of the condition of the main sewer in the lower part of the town of Hatfield to their Inspector of Nuisances,



he reports that he is quite satisfied with the condition of the sewer, and in his opinion no nuisance from it exists."

Thereupon the Board determined to ascertain for itself the sanitary state of Hatfield town in respect of the matters reported upon by the local Medical Officer of Health; and whether any improvements had been actually effected in the conditions described by him.

Hatfield may conveniently be divided into three parts:—1. The Old Town, which lies between the Great Northern Railway on the west, and Hatfield Park on the East; 2. Beaconsfield Terrace, a new suburb immediately west of the railway, which separates it from the town proper; and 3. New Town, a suburb about 500 yards south-west of Beaconsfield Terrace, and separated from it by gardens, fields, and allotments. The population of these several parts of Hatfield is estimated by the Clerk to the Rural Sanitary Authority as follows:—

	Inhabited Houses.	Population.
The Old Town - - -	350	1,600
Beaconsfield Terrace - - -	70	350
New Town - - -	130	600
	550	2,550

I propose to report separately on the *sanitary circumstances* of these three parts.

It is the Old Town, as above defined, wherein special diarrhœa prevalence has occurred; and to this part of Hatfield the Medical Officer of Health has been more particularly referring, in calling attention to sanitary shortcomings which have become the subject of correspondence between the Board and the Sanitary Authority.

I may premise that the industries of Hatfield are those usual in a small country town, and the labouring class constitutes the bulk of the population. Not a few persons of this class are employed in one way or another on the estate of the Marquis of Salisbury; others work at a brewery, and, in addition, the Great Northern Railway gives employment to a considerable number of persons, many of whom reside in Beaconsfield Terrace. About one-fourth of the houses in Hatfield are owned by the Marquis of Salisbury.—Geologically Hatfield is on Chalk, covered in the town by loamy gravel, while about Beaconsfield Terrace and New Town some superficial clay is met with.

#### *Hatfield Old Town.*

The Old Town, with which this report is more especially concerned, is situated in, and upon the slopes of a hollow. From the centre of the place, where the ground is nearly level, the slope rises more sharply on the east than on the west.

*Sewerage.*—Hatfield has been provided with sewers; but as to the date at which some of them were constructed there is no record. These older sewers have, it is said, been in existence at least 50 years. In 1871 the "Commissioners of Sewers" borrowed, the clerk informs me, 2,191*l.* for the purpose of providing a sewage outfall and for supplementing the then existing sewers. At that time an arrangement (still continuing in force) was made, by which the sewage of the Old Town is utilised on one of the Marquis of Salisbury's farms. The sewage converges to settling tanks at some distance north-east of the town, whence the liquid part of it is pumped now by electric motors on to the land. The settling tanks are cleaned out three times yearly. The older sewers of Hatfield are of brick half round





in shape, with flat bottoms constructed of pebbles laid in cement. At the upper part of the town they are 18-inch sewers, but in the centre of the place they are 24 inches in diameter. About 12 or 13 years ago, after an extraordinarily heavy rainfall, these sewers burst in several places, and it is stated that the repairs of the sewers then carried out were imperfectly done. Some of these old brick sewers run underneath inhabited houses. There are but 10 man-holes (four of them recently constructed) on the whole system, all of them covered by stone flags cemented down. Neither at the man-holes nor elsewhere on the sewers have ventilators been provided. Meanwhile, all gully gratings in the roads, and all drain and sewer inlets (except certain rain spouts, and perhaps not a few sink pipes) are professedly trapped. No surface channels are provided for the side walks and a considerable quantity of sand and road grit gets washed into the sewers by the rainfall. There is no systematic flushing of the sewers, though a pond above the town can, I am told, be turned into the sewers through a sluice when required. Private drains are sometimes of brick, sometimes of pot pipes; rarely are they disconnected from the sewer, and equally rarely are they ventilated. Neither are soil pipes ventilated, and sink pipes, trapped and untrapped, are in connexion with the drains, so that, under any pressure of air in the sewers, the discharge is into houses instead of into the general atmosphere.

The portion of the old sewer complained of in the Annual Report for 1888 of the Medical Officer of Health, is situated in the London Road. Previous to the sewer being laid here, a portion of what is now road was a pond. When the sewer was laid, and the road constructed, no proper provision was made against the probable sinking of the newly made ground hereabouts. Accordingly, when the land gave way, as in the course of time it did over the site of the old pond, a portion of the sewer sank out of level and finally ruptured, with the result that a blockage of the sewer occurred with soakage of the sewage into the soil. The date of this occurrence is not apparently precisely known; but after the discovery of it last September, the ground was opened in the London Road, and different portions of the brick sewer were replaced by 12-inch glazed sanitary pipes; in places where the old sewer had sunk out of level, new sections of sewer were laid on concrete. As a result the London Road sewer now consists, for a distance of about 100 yards, alternately of sections of brick sewer and sections of glazed sanitary pipes.

At the date of my visit, two of the manholes in the London Road having been opened, and a portion of the old brick sewer having been exposed, it was found that the mortar between the bricks forming the sides and crown of the sewer had here and there crumbled away, so that in many places there were openings between the bricks, and the sewer had therefore ceased to be water-tight. In addition there was found a considerable deposit of black sludge within the sewer, strongly suggestive of the gradient of the sewer being, if not irregular, at least a very poor gradient. With a view to test this, 15 buckets of water highly coloured with "Venetian red" were poured down a manhole just above where the sewer had been repaired, and it was found that 25 minutes elapsed before any red colour could be detected in the fluid contents of the sewer at a manhole about 100 yards lower down.

*Excrement Disposal* is mostly by water-closets, which have almost completely replaced the pit privies which formerly existed in the Old Town. For the poorer class dwellings, closets are provided in the yards, and their pans have to be flushed by hand. At the time of my visit many of these closets were dirty, and in some cases the seats were besmeared with filth. In some of the courts visited by me, closets were found destitute of closet-pans; such closets consisted in each instance of a structure above and in the course of a square brick drain, the flow of which was subject to arrest by solid matters of various kinds contributed through this privy above it. In one of these courts there were but three closets for the accommodation of the inmates of 20 houses. By consequence, children had been passing their excrement on the surface of the court. Occasionally the closet is in a dark corner and entirely without window or other opening for light or ventilation. One of these dark privies had three seats, and on lighting a match, it was seen that the seats had no sort of partition between them, and that in the corner of the privy was, in addition, a urinal. In better-class houses flushing boxes or waste preventers have here and there been provided; but the closet



even in these better class dwellings is sometimes so badly situated that proper lighting and ventilation cannot be obtained.

*Water supply.*—This is in the hands of the Marquis of Salisbury, who has piped a plentiful supply from springs in his park to the town. The water is from the Chalk, and is reported to be of excellent quality. A small charge is made to each house using the service. Practically, the whole of the Old Town is supplied from this source, but in some of the yards there are wells 20 to 30 feet deep still in use. For a few of the private houses too, as for instance in the Station Road, there are deep wells sunk into the Chalk, and the railway station also has a deep well of its own. Owing to the careless habits of some of the townsfolk a large amount of the public supply is wasted through faulty fittings, or through neglect of people turning off their taps. The public supply is also used by the road surveyor for watering the streets, and to renew the water in the gully-traps, by pouring water down the gratings in the roads.

*Scavenging* of ashpits (and of privies where they exist) is left to owners and occupiers, who have to make their own arrangements with farmers and others. I saw very few covered ashpits. At the time of my visit I did not observe many cases in which refuse had been allowed to accumulate close to dwellings.

*Slaughter-houses.*—There are four of these at Hatfield, all situated in more or less unsuitable positions. In one case the animals to be slaughtered have to be driven up two or three steps into and through the butcher's shop before they can reach the yard in which the slaughter-house stands. Similarly the blood, offal, and manure have to be carried from the yard through the shop into the street before they can be carted away. The butcher's pony, too, passes daily through the shop to and from its stable in the yard. In another instance the slaughter-house is near the public street, and the butcher's proceedings are in full view of passers by. Children are said to crowd here on killing days to see the slaughtering process. A third slaughter-house was in bad repair, and the fourth was in a neglected state, the flagged floor broken and uneven, with gaping joints. The gully to the drain was out of repair. The water tap consisted of a plug of wood hammered into the end of the leaden pipe; it permitted the water to spout out and run down to waste on the wall and floor. Provision of a public slaughter-house offered by the Marquis of Salisbury has not been accepted. The offer of it has not yet, I understand, been withdrawn.

*Stables.*—As in many old towns, Hatfield stables have often been erected in too close proximity to houses and in confined spaces. Occasionally they were found back-to-back with inhabited dwellings, and in such case were sometimes complained of by neighbours.

#### *Beaconsfield Terrace.*

The cottages here, the property of the Marquis of Salisbury, are of modern construction, some of them being built of concrete blocks; they have ample garden space around them. Dry earth closets are used. They are emptied by the occupiers on their gardens and allotments. The system seems to give satisfaction. Slop water from the north end of the terrace is conveyed from the houses in glazed pipes to a tank on the north side of the suburb, and the contents of this are pumped out by the Marquis of Salisbury's men and conveyed on to the land. On the south side, a second tank for the slop water of another section of the terrace is provided. This tank is emptied in a similar manner to the other, but in addition it has an overflow into a portion of the Hatfield sewer system, which has quite recently been extended as a 12-inch pipe sewer to the south-west into French Horn Lane, which, skirting the south end of Beaconsfield Terrace suburb, passes under the railway bridge and joins the London Road. The ashes and house refuse of Beaconsfield Terrace are disposed of by the occupiers upon their gardens, or are removed from time to time by persons in the employ of the Marquis of Salisbury. At the date of my inspection I did not find here undue accumulation of such matters.

*Water Supply.*—This is derived from a series of wells sunk behind the cottages, but only to a depth of about 18 feet. Much care seems to have been taken to prevent contamination of the water by surface washings.



*New Town.*

*Sewerage.*—In 1879 a system of sewerage was carried out by the Rural Sanitary Authority at a cost of 150*l.* This "system" is found to consist of pipe sewers leading to a tank situated about 300 yards west of the Work-house. From this tank the sewage can be pumped to another tank raised upon a wooden stage above the first, whence it can be run into carts and led on to the land. Failing this pumping process, the overflow from the first tank passes 150 yards on to a field where pits were dug for the retention of the sewage until it should soak into the soil. During the digging of the pits, water springs were tapped, and the pits were flooded. The result of the whole arrangement has been that the sewage has found its way into a roadside ditch wherein, for a distance of several hundred yards, there is a coating of black stinking slime, creating a nuisance which has often been complained of by those who were compelled to pass that way. In New Town, owners and occupiers make their own arrangements for the removal of refuse. No special nuisance from neglect of refuse removal was observed at the date of my visit.

*Excrement Disposal* is by hand-flushed closets, by pit privies, and by pail-closets; but the first predominate. Most of the closets I saw were in a filthy state, the pans being coated with excrement from inadequate or neglected flushing. The privy pits or vaults were large, some serving for two privies, and from their position they are often dangerous to wells near at hand.

Privies here are only emptied at irregular and long intervals. Examples of defects of closet and privy accommodation were met with as follows:—

In a new house the water-closet was partitioned off from the scullery; it had no window or other means of ventilation. Flushing of the closet was effected by working the pump in the scullery, so that the water overflowing from the sink stone should be conveyed by a pipe directly into the soil pipe below the pan; the pan itself being left to take its chance of flushing in other ways. A particular row of six cottages had but one closet for the accommodation of their inmates. The pan of this closet, at the date of my visit, was choked up with filth, the excuse being that the water to flush it had to be drawn up by a windlass from a well 100 yards off, and carried to the closet.

*The Water Supply* of New Town is derived from surface wells 15 to 30 feet deep. The wells are covered usually with wooden lids, many of which were more or less dilapidated. The wells are mostly close to the houses; some are within three yards of the house door. The inside of these wells is not protected against soakage through the superficial soil, the bricks lining them being laid loosely without cement. On looking down the wells I could often see marks of a dark-coloured fluid which had trickled down one side or other of the well into the water. In reply to my inquiries many of the occupiers stated that after heavy rains the water in the well became muddy and discoloured.

#### GENERAL SANITARY ADMINISTRATION BY THE RURAL SANITARY AUTHORITY.

The Guardians meet fortnightly and sanitary business is taken, the clerk tells me, at each meeting. The Medical Officer of Health does not now, as formerly, attend all the meetings of the Sanitary Authority, but he reports in writing on matters coming under his observation. The Inspector of Nuisances attends each meeting of the Sanitary Authority to give information and, if necessary, assistance.

The Medical Officer of Health, Dr. L. Drage, was appointed in January 1887, at a yearly salary of 50*l.*, a moiety of which has been repaid to the Sanitary Authority out of moneys voted by Parliament. Recently he has been re-appointed until Lady Day, 1890. Dr. Drage has, in his two years of office, taken an interest in sanitary work, and has set himself to procure remedies for some of the most pressing of the unwholesome conditions in his district.

The Inspector of Nuisances, Mr. Wells, has held office since 1872. Previously he was surveyor of roads for a large district in Hertfordshire. He receives a salary of 50*l.* per annum, half of which has been repaid out of the Parliamentary grant. In addition to his occupation as Inspector of



Nuisances, Mr. Wells is a publican and hotel-keeper. He keeps a livery stable, and he farms likewise a holding of 250 acres. He does not make systematic inspections of his district, but visits different places from time to time, and whenever matters are specially reported or complained of to him. Until June last, Mr. Wells kept little official record of his proceedings, but since an interview of Mr. Peel, the Board's General Inspector, with the Sanitary Authority in that month, he has kept note of his visits of inspection in an "Inspector's Pocket Book." From June to the end of the year the pocket book contains 66 entries, and for the first quarter of 1889 an additional 18 entries; for the most part these relate to nuisances resulting from stopped drains, accumulation of refuse, and the like. This book is initialed from time to time by the Chairman of the Sanitary Authority, and in most cases a note is added that the matter complained of has been attended to. I learn from Mr. Wells that he exercises some sort of supervision over a registered common lodging-house in the town, and that, in addition, he visits the slaughter-houses at intervals.

In reference to the Medical Officer of Health's contention, that an excessive incidence, in 1887, of epidemic diarrhoea on Hatfield Old Town had been related to a variety of unwholesome conditions there, and especially to flagrant defects of the main sewer, it needs to be said that almost precisely similar conditions have elsewhere been found to have promoted diarrhoeal sickness. How far, at Hatfield the conditions were directly or indirectly related to the local prevalence of infantile diarrhoea in 1887, is a question which cannot now be definitely settled; but there can be no question that the evidence, so far as it goes, is consistent with relation between the two sets of circumstances having been an intimate one. Be this as it may, the Medical Officer of Health's discontent, past and present, with the London Road sewer, is on other grounds abundantly justified, as also is his discontent with the general want of sewer ventilation in Hatfield, with the numerous defects of its house drainage, and with the structural shortcomings and want of regulation of the slaughter-houses. For the rest: in the matter of scavenging, improvement has admittedly taken place since the presentation of the Medical Officer of Health's 1887 report; and, as regards stables, two of the worst in the town have been got rid of. Generally too there has apparently been, since the date of that report, greater activity in sanitary amendment than heretofore. But much remains to be done for the town.

R. BRUCE LOW.

#### RECOMMENDATIONS.

1. Skilled advice and assistance should be obtained with a view to the re-sewering of Hatfield Old Town, and consideration should at the same time be given to the question of providing for the sewerage of New Town and Beaconsfield Terrace along with the Old Town on the same or some other efficient sewer system.

2. The inadequate closet accommodation, especially in some of the courts at Hatfield, should be supplemented; and the defective closets should be improved as regards their ventilation. In all parts of the town water-closets should have water laid on to them, and be provided each with a flushing-box. Where water supply to closets on this method is not obtainable, the water-closets should be abolished and a closet on the pail or dry earth system substituted.

3. The water service of Hatfield Old Town should be extended to New Town and Beaconsfield Terrace, or a wholesome supply from other source or sources should be obtained for these places.

4. Systematic inspection throughout Hatfield should be undertaken for the discovery of sanitary defects of dwellings and their appurtenances. These should be duly recorded, and measures be taken for procuring the remedy of each unwholesome condition.

5. The Local Authority should, under section 42 Public Health Act, 1875, itself undertake the scavenging of refuse in this part of the district.