

## Document 24-I (Online Companion)

### The sewers are blameless: The chief engineer's response<sup>1</sup>

On the 12th inst. [this month, September] the general committee [of the Metropolitan Commission of Sewers] passed the following resolution: —

“That the engineer, Mr. Bazalgette, do prepare for presentment to the general committee, at its next meeting, a special report, explanatory of the mode of conducting the works of the Commissioners in building and repairing sewers and covering open sewers; the ordinary precautions taken for the prevention of nuisance and danger to the public health, and the special precautions taken at the present time; the general state of the works now being executed, and the state of health of the men engaged upon them; and as to the propriety of suspending the works for a period, and whether any and what additional precautions are requisite; and generally on the propriety of executing sewage works during the prevalence of cholera.”

In pursuance of the above resolution Mr. Bazalgette has presented the following report: —

1 Greek Street, Soho  
18 September 1854

To the Honorable, the Metropolitan Commissioners of Sewers.

Gentlemen,

The accompanying resolution of the general committee of 12 September requires a statement of the nature of the works now in progress under your direction with reference to the prevalence of disease in London. A better knowledge of the facts by the public generally will tend to allay the alarm which is at present felt respecting the construction of new sewers.

It is important to the inhabitants of London that new sewers should be constructed during the dry weather and long days of summer and autumn. They can then be executed more expeditiously with less injury to the shopkeepers and trade generally, and at considerably less cost.

In the treacherous subsoil which exists in many parts of London, it is essential also to execute the work in dry weather to insure the safety of the sewers and the adjoining houses. Moreover, London is more empty at this particular season than at any other period.

I am fully persuaded that the construction of new sewers has in no degree added to the prevalence of cholera and that a general stoppage of these works at the present time would be productive of the most serious evils to the public. On the other hand, the completion of such works, com-

<sup>1</sup> “Metropolitan Commission of Sewers,” *Times* (25 September 1854): 9, c.

bined with proper house drainage, has produced a marked diminution in the number of cases of cholera in the localities affected. Many of the works now in hand will remove nuisances which are stated by medical men to be of the most destructive character, and the immediate execution of these works has been repeatedly pressed on your attention by the inhabitants themselves. I need only refer to the memorial before you, signed by 28 of the inhabitants and shopkeepers of King Street and Charles Street, Westminster, requesting you not to stop the works in progress there, and expressing their satisfaction at the mode in which the works have been conducted.

The ground opened for construction of new sewers in the streets of London consists generally, first, of the road materials, then of dry earth or ground, and below it of the natural or maiden soil. It must be evident, therefore, that in reality there will be no more offensive smell from building a new sewer than from laying in the foundation for a house. The lime used in either case has a rather purifying tendency. It sometimes happens that an escape of gas from the mains met with in the new trenches causes a strong smell, which might possibly be mistaken for that of sewage, but I apprehend that it is by no means so prejudicial to health. When old sewers are met with and have to be broken up and destroyed or connected with the new works, the practice is to complete the works very rapidly and in very short lengths, and to deodorize and remove immediately everything which is in the slightest degree offensive. At the present time these precautions are enforced by you to a more than ordinary extent, and all excavations are repeatedly covered with quicklime, although there may be no apparent necessity for its use, and, as a further precaution, peat charcoal is about to be used upon the works in addition to quicklime.

It appears, so far as I have been able to ascertain, that up to the present time, the streets in which new sewers are now in the course of construction have been more exempt from the visitation of cholera than other similar streets where no such works are in progress. Much has been said respecting the existence and disturbance of the ancient "plague field" in Little Marlborough Street to account for the recent outbreak of cholera in that neighbourhood. [However,] it is a fact that the "plague field," as it is called, occupied only a small spot at the extremity of the district visited with disease. The cholera was less virulent at that particular spot than in many other parts of the district. The subsoil of the district which was disturbed for the construction of the new sewers was generally a clear, sharp gravel and sand, such as would be the strongest recommendation to any neighbourhood, and no smell was perceptible from the works during their progress.

In Little Marlborough Street, which is an exception to this rule, the subsoil was a dark mould or clay from which, however, beyond a few bones found at the west end of the street and some slight smell, there was no marked indication of animal remains. It is worthy of special observation that during the progress of these works, none of the workmen employed on them were affected with illness and the works were completed as far back as 8 February [1854]; that is, a period of from six or seven months before the outbreak of cholera there.

From personal inspection and special inquiry since the late fearful outbreak of cholera in the district of St. James's, I find that those houses which were properly drained into the sewers have been remarkably exempt from the epidemic. [The outbreak] burst with unmitigated violence on the overcrowded houses with overcharged cesspools and obstructed drainage. But, inasmuch as a more minute inquiry is now being instituted by Mr. Cooper upon these subjects for your information, I will not further detail them.

It is a fact that of the 2,300 men at present employed by you in old sewers or upon new sewer works, there has been but one death from cholera within the last fortnight. The workmen in sewers, as a class, are not remarkable for sobriety and steadiness, and do not inhabit the best parts of London.

To avoid alarm to the public at the present time, it may be desirable to delay the commencement of works not already ordered and contracted for in the most populous and unhealthy districts.

The reports of the engineers in charge of the districts, as to the nature of the soil and general condition of all works now in hand, and the precautions taken to avoid nuisance and injury to health, are given in detail in the appendix to this report.

In connexion with this subject, there are two points to which I would especially bespeak attention:

1. It would be unsafe to trap the gullies, excepting to a limited extent, until some more perfect system of ventilation has been matured because it would tend to concentrate the gaseous production of the sewers and cause them to burst through the house drains into the houses. The subject of ventilation is, however, at present under your consideration. And

2. The importance of destroying cesspools and draining into the sewers during the coming winter cannot be too strongly impressed upon the London householders as a preventive against a probable further visitation of cholera next summer.

J. W. Bazalgette, Engineer.