

Document 26–II (Online Companion)

John Snow's *MCC2* account of the investigations he conducted during and after the Broad Street cholera outbreak¹

When the General Register Office published the *Weekly Return* for 9 September 1854, Snow realized he had only investigated forty percent of the deaths in the cholera field that occurred on 1 and 2 September. The new evidence was a game-changer. In Snow's mind, the cholera outbreak was a complex, epidemiological case study that deserved, nay required, additional investigations.

He interrupted the South London study a second time in mid-September to conduct a few inquiries in the former Broad Street cholera field. But it wasn't until early October, when he had completed all house-to-house inquiries for the South London study that he resumed systematic investigations closer to home, to the degree possible given the elapsed time since the outbreak and the flight of the former population. Throughout, he submitted drafts of his findings for typesetting at the publishing house that was preparing and expanded edition of *On the Mode of Communication of Cholera*.

The most terrible outbreak of cholera which ever occurred in this kingdom, is probably that which took place in Broad Street, Golden Square and the adjoining streets **a few weeks ago**. Within two hundred and fifty yards of the spot where Cambridge Street joins Broad Street, there were upwards of five hundred fatal attacks of cholera in ten days. The mortality in this limited area probably equals any that was ever caused in this country, even by the plague; and it was much more sudden, as the greater number of cases terminated in a few hours. The mortality would undoubtedly have been much greater had it not been for the flight of the population. Persons in furnished lodgings left first, then other lodgers went away, leaving their furniture to be sent for when they could meet with a place to put it in. Many houses were closed altogether, owing to the death of the proprietors. In a great number of instances, the tradesmen who remained had sent away their families. In less than six days from the commencement of the outbreak, the most afflicted streets were deserted by more than three-quarters of their inhabitants.

There were a few cases of cholera in the neighbourhood of Broad Street, Golden Square in the latter part of August. The so-called outbreak which commenced in the night between 31 August and 1 September was, as in all similar instances, only a violent increase of the malady. As soon as I became acquainted with the [38/39] situation and extent of this irruption of cholera, I suspected some contamination of the water of the much-frequented street pump in Broad Street, near the end of Cambridge Street. But on

a few weeks ago: The outbreak began during the night of 31 August/1 September 1854; *MCC2* was published in early January 1855.

¹ Snow, *On the Mode of Communication of Cholera* 2nd ed., (London: Churchill, January 1855), 38–55; see References (Online Companion) for a link to a PDF and transcription of the entire book.

examining the water on the evening of 3 September, I found so little impurity in it of an organic nature that I hesitated to come to a conclusion. Further inquiry, however, showed me that there was no other circumstance or agent common to the circumscribed locality in which this sudden increase of cholera occurred, and not extending beyond it, except the water of the above mentioned pump. I found, moreover, that the water varied during the next two days in the amount of organic impurity, visible to the naked eye on close inspection in the form of small white, flocculent particles. I concluded that at the commencement of the outbreak, it might possibly have been still more impure.

I requested permission, therefore, to take a list at the General Register Office of the deaths from cholera registered during the week ending 2 September in the sub-districts of Golden Square, Berwick Street, and St. Ann's, Soho, which was kindly granted. Eighty-nine deaths from cholera were registered during the week in the three sub-districts. Of these, only six occurred in the four first days of the week; four occurred on Thursday, 31 August, and the remaining seventy-nine on Friday and Saturday. I considered, therefore, that the outbreak commenced on the Thursday. I made [an] inquiry in detail, respecting the eighty-three deaths registered as having taken place during the last three days of the week.

On proceeding to the spot, I found that nearly all the deaths had taken place within a short distance of the pump. There were only ten deaths in houses situated decidedly nearer to another street pump. In five of these cases, the families of the deceased persons informed me [39/40] that they always sent to the pump in Broad Street, as they preferred the water to that of the pump which was nearer. In three other cases, the deceased were children who went to school near the pump in Broad Street. Two of them were known to drink the water. The parents of the third think it probable that it did so. The other two deaths, beyond the district which this pump supplies, represent only the amount of mortality from cholera that was occurring before the irruption took place.

With regard to the deaths occurring in the locality belonging to the pump, there were sixty-one instances in which I was informed that the deceased persons used to drink the pump water from Broad Street, either constantly or occasionally. In six instances, I could get no information owing to the death or departure of every one connected with the deceased individuals. In six cases, I was informed that the deceased persons did not drink the pump water before their illness.

The result of the inquiry was that there had been no particular outbreak or increase of cholera in this part of London except among the persons who were in the habit of drinking the water of the above-mentioned pump well. I had an interview with the Board of Guardians of St.

James's parish on the evening of Thursday, 7 September, and represented the above circumstances to them. In consequence of what I said, the handle of the pump was removed on the following day.

Besides the eighty-three deaths mentioned above as occurring on the three last days of the week ending 2 September and being registered during that week in the sub-districts in which the attacks occurred, a number of persons died in Middlesex and other hospitals. [In addition], a great number of deaths which took place in the [40/41] locality during the last two days of the week were not registered till the week following. The deaths altogether on 1 and 2 September which have been ascertained to belong to this outbreak of cholera were one hundred and ninety-seven. Many persons who were attacked about the same time as these died afterwards. I should have been glad to inquire respecting the use of the water from Broad Street pump in all these instances, but was engaged at the time in an inquiry in the south districts of London, which will be alluded to afterwards. When I began to make fresh inquiries in the neighbourhood of Golden Square after two or three weeks had elapsed, I found that there had been such a distribution of the remaining population that it would be impossible to arrive at a complete account of the circumstances. There is no reason to suppose, however, that a more extended inquiry would have yielded a different result from that which was obtained respecting the eighty-three deaths which happened to be registered within the district of the outbreak before the end of the week in which it occurred.

The additional facts that I have been able to ascertain are in accordance with those above related. As regards the small number of those attacked who were believed not to have drunk the water from Broad Street pump, it must be obvious that there are various ways in which the deceased persons may have taken it without the knowledge of their friends. The water was used for mixing with spirits in all the public houses around. It was used likewise at dining rooms and coffee shops. The keeper of a coffee shop in the neighbourhood which was frequented by mechanics, and where the pump water was supplied at dinner time, informed me (on 6 September) that she was already aware of nine of her customers who [41/42] were dead. The pump water was also sold in various little shops, with a teaspoonful of effervescing powder in it, under the name of sherbet; and it may have been distributed in various other ways with which I am unacquainted. The pump was frequented much more than is usual, even for a London pump in a populous neighbourhood.

There are certain circumstances bearing on the subject of this outbreak of cholera which require to be mentioned:

(1) The workhouse in Poland Street is more than three-fourths surrounded by houses in which deaths from cholera occurred. Yet out of five

hundred and thirty-five inmates, only five died of cholera, the other deaths which took place being those of persons admitted after they were attacked. The workhouse has a pump-well on the premises in addition to the supply from the Grand Junction Water Works, and the inmates never sent to Broad Street for water. If the mortality in the workhouse had been equal to that in the streets immediately surrounding it on three sides, upwards of one hundred persons would have died.

(2) There is a Brewery in Broad Street, near to the pump, and on perceiving that no brewer's men were registered as having died of cholera, I called on Mr. Huggins, the proprietor. He informed me that there were above seventy workmen employed in the brewery, and that none of them had suffered from cholera—at least in a severe form—only two having been indisposed, and that not seriously at the time the disease prevailed. The men are allowed a certain quantity of malt liquor. Mr. Huggins believes they do not drink water at all. He is quite certain that the workmen never obtained water from the pump in the street. There is a deep well in the brewery, in addition to the New River water. [42/43]

(3) At the percussion cap manufactory, 37 Broad Street, where I understand about two hundred workpeople were employed, two tubs were kept on the premises always supplied with water from the pump in the street, for those to drink who wished. Eighteen of these workpeople died of cholera at their own homes—sixteen men and two women.

(4) Mr. **Marshall**, surgeon, of Greek Street was kind enough to inquire respecting seven workmen, employed in the manufactory of dentists' materials at Nos. 8 and 9 Broad Street who died at their own homes. He learned that they were all in the habit of drinking water from the pump, generally drinking about half-a-pint once or twice a day. Two persons who reside constantly on the premises, but do not drink the pump water, only had diarrhoea.

(5) Mr. Marshall also informed me of the case of an officer in the army who lived at St. John's Wood, but came to dine in Wardour Street, where he drank the water from Broad Street pump at his dinner. He was attacked with cholera and died in a few hours.

(6) I am indebted to Mr. Marshall for the following cases, which are interesting as showing the period of incubation, which in these three cases was from thirty-six to forty-eight hours. Mrs. — of 13 Bentinck Street, in the eighth month of pregnancy, aged 28, in the eighth month of pregnancy, went herself (although they were not usually water drinkers), on Sunday, 3 September, to Broad Street pump for water. The family removed to Gravesend on the following day. She was attacked with cholera on Tuesday morning at seven o'clock, and died of consecutive fever on 15th September, having been delivered. Two of her children drank also of the water, and

were attacked on the same day as the mother, but recovered. [43/44]

(7) Dr. **Fraser** of Oakley Square kindly informed me of the following circumstance. A gentleman in delicate health was sent for from Brighton to see his brother at 6 Poland Street, who was attacked with cholera and died in twelve hours on 1 September. The gentleman arrived after his brother's death and did not see the body. He only stayed about twenty minutes in the house, where he took a hasty and scanty luncheon of rump steak, taking with it a small tumbler of brandy and water—the water being from Broad Street pump. He went to Pentonville, and was attacked with cholera on the evening of the following day, 2 September, and died the next evening.

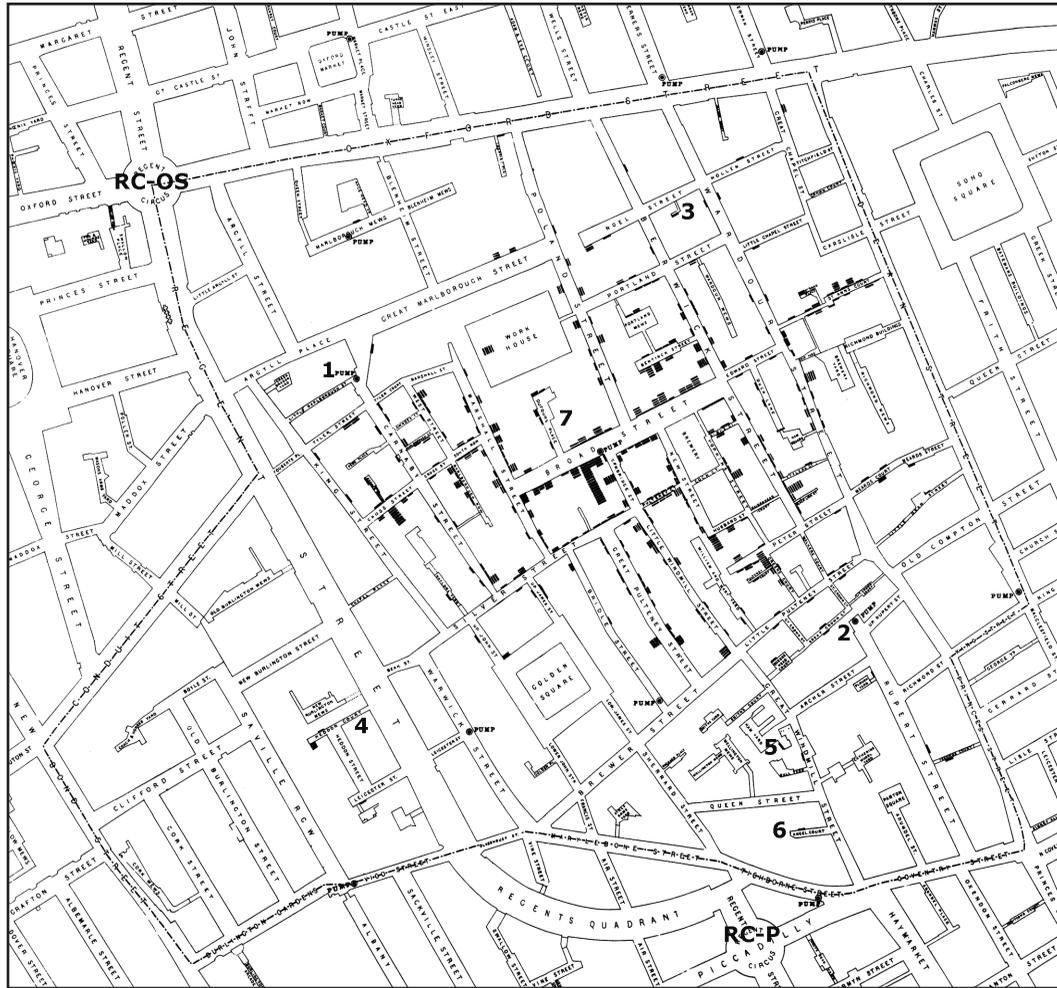
(8) Dr. Fraser also first called my attention to the following circumstances, which are perhaps the most conclusive of all in proving the connexion between the Broad Street pump and the outbreak of cholera. In the *Weekly Return of Births and Deaths* of 9 September, the following death is recorded as occurring in the Hampstead district: "At West End, on 2 September, the **widow of a percussion cap maker**, aged 59 years, diarrhoea two hours, cholera epidemica sixteen hours." I was informed by this lady's son that she had not been in the neighbourhood of Broad Street for many months. A cart went from Broad Street to West End every day. It was the custom to take out a large bottle of the water from the pump in Broad Street, as she preferred it. The water was taken on Thursday, 31 August, and she drank of it in the evening and also on Friday. She was seized with cholera on the evening of the latter day, and died on Saturday, as the above quotation from the register shows. A niece, who was on a visit to this lady, also drank of the water. She returned to her residence in a high and healthy part of Islington, was attacked with cholera, and died also. There was no cholera at the time, [44/45] either at West End or in the neighbourhood where the niece died. Besides these two persons, only one servant partook of the water at Hampstead West End, and she did not suffer, or at least not severely. There were many persons who drank the water from Broad Street pump about the time of the outbreak without being attacked with cholera. But this does not diminish the evidence respecting the influence of the water, for reasons that will be fully stated in another part of this work.

The deaths which occurred during this fatal outbreak of cholera are indicated in the accompanying map, as far as I could ascertain them. There are necessarily some deficiencies. In a few of the instances of persons who died in the hospitals after their removal from the neighbourhood of Broad Street, the number of the house from which they had been removed was not registered. The address of those who died after their removal to St. James's Workhouse was not registered. I was only able to obtain it in a part of the cases on application at the Master's Office, for many of the persons were too ill when admitted to give any account of themselves. In the case also of some

Donald Fraser: One of the GBoH inspectors who conducted a special investigation in the outbreak area; see Document 23.

widow of a percussion cap maker: Susannah Eley; her sons owned the percussion cap factory at 38 Broad Street.

Peter Marshall: MRCS (1828); LSA (1832).



“Topography of the Outbreak”

Deaths from cholera, 19 August – 30 September, 1854

Straight-line distance from Regent Circus, Oxford Street
(RC-OS) to Regent Circus, Piccadilly (RC-P)
is one-half mile.

- 1 Marlborough Street pump
- 2 Rupert Street pump
- 3 Philip’s Court (off Noel Street)
- 4 Heddon Court (off Regent Street)
- 5 Ham Yard (off Great Windmill Street)
- 6 Angel Court (off Great Windmill Street)
- 7 Dufour’s Place (off Broad Street)

(Adaptation of Map 1, in Snow, *MCC2*, after 44;
see 1855–01: map 1 in Supplementary
Figures of the Online Companion.)

of the workpeople and others who contracted the cholera in this neighbourhood and died in different parts of London, the precise house from which they had removed is not stated in the return of deaths. I have heard of some persons who died in the country shortly after removing from the neighbourhood of Broad Street. There must, no doubt, be several cases of this kind that I have not heard of. Indeed, the full extent of the calamity will probably never be known. The deficiencies I have mentioned, however, probably do not detract from the correctness of the map as a diagram of the topography of the outbreak. For, if the locality of the few additional cases could be ascertained, they would probably be distributed over the district of the outbreak in the same proportion as the large number which are known.

The dotted line on the map surrounds the sub-districts of Golden Square, St. James’s, and Berwick Street, St. James’s, together with the adjoining portion of the subdistrict of St. Anne, Soho, extending from Wardour Street to Dean Street, and a small part of the sub-district of St. James’s Square enclosed by Marylebone Street, Titchfield Street, Great Windmill Street, and Brewer Street. All the deaths from cholera which were registered in the six weeks from 19 August to 30 September within this locality, as well as those of persons removed into Middlesex Hospital, are shown in the map² by a black line in the situation of the house in which it occurred or in which the fatal attack was contracted. In addition to these, the deaths of persons removed to University College Hospital, to Charing Cross Hospital, and to various parts of London are indicated in the map; the exact address was given in the *Weekly Return of Deaths* or when I could learn it by private inquiry.

The pump in Broad Street is indicated on the map, as well as all the surrounding pumps to which the public had access at the time. It requires to be stated that the water of the pump in Marlborough Street, at the end of Carnaby Street, was so impure that many people avoided using it. And I found that the persons who died near this pump in the beginning of September had water from the Broad Street pump. With regard to the pump in Rupert Street, it will be noticed that some streets which are near to it on the map are, in fact, a good way removed on account of the circuitous road to it.

These circumstances being taken into account, it will be observed that the deaths either very much diminished, or ceased altogether, at every point where it becomes decidedly nearer to send to another pump than to the one in Broad Street. It may also be noticed that the deaths are most numerous near to the pump where the water could be more readily obtained.

² [original footnote] The particulars of each death connected with this outbreak were published in the Weekly Returns of the Registrar-General to 16 September, and I procured the remainder through the kindness of the Registrar-General and the District Registrars.

The wide open street in which the pump is situated suffered most, next the streets branching from it, especially those parts of them which are nearest to Broad Street. If there have been fewer deaths in the south half of Poland Street than in some other streets leading from Broad Street, it is no doubt because this street is less densely inhabited.

In some of the instances where the deaths are scattered a little further from the rest on the map, the malady was probably contracted at a nearer point to the pump. A cabinet-maker who was removed from Philip's Court [off] Noel Street, to Middlesex Hospital, worked in Broad Street. A boy also who died in Noel Street went to the National school at the end of Broad Street. Having to pass the pump, [he] probably drank of the water. A tailor, who died at 6 Heddon Court [off] Regent Street, spent most of his time in Broad Street. A woman, removed to the hospital from 10 Heddon Court, had been nursing a person who died of cholera in Marshall Street. A little girl who died in Ham Yard and another who died in Angel Court, [both off] Great Windmill Street, went to the school in Dufour's Place [off] Broad Street, and was in the habit of drinking the pump water, as were also a child from Naylor's Yard and several others who went to this and other schools near the pump in Broad Street. A woman who died at 2 Great Chapel Street [south of] Oxford Street, had been occupied for two days preceding her illness at the [47/48] public washhouses near the pump and used to drink a good deal of water whilst at her work. The water drank there [was] sometimes from the pump and sometimes from the cistern.

The limited district in which this outbreak of cholera occurred contains a great variety in the quality of the streets and houses. Poland Street and Great Pulteney Street consist in a great measure of private houses occupied by one family, whilst Husband Street and Peter Street are occupied chiefly by the poor Irish. The remaining streets are intermediate in point of respectability. The mortality appears to have fallen pretty equally amongst all classes in proportion to their numbers. Masters are not distinguished from journeymen in the registration returns of this district, but judging from my own observation, I consider that out of rather more than six hundred deaths, there were about one hundred in the families of tradesmen and other resident householders. One hundred and five persons who had been removed from this district died in Middlesex, University College, and other hospitals, and two hundred and six persons were buried at the expense of St. James's parish. The latter number includes many of those who died in the hospitals, [as well as] a great number who were far from being paupers and would, on any other occasion, have been buried by their friends. [But they] were either not aware of the calamity or were themselves overwhelmed by it. The greatest portion of the persons who died were tailors and other operatives who worked for the shops about Bond Street and Regent Street, and the wives

and children of these operatives. They were living chiefly in rooms which they rented by the week.

The following table exhibits the chronological features of this terrible outbreak of cholera. [48/49] [49/50] The deaths . . . are compiled from the sources mentioned above in describing the map. But some deaths, which were omitted from the map on account of the number of the house not being known, are included in the table. As regards the date of attack, I was able to obtain it with great precision through the kindness of Mr. Sibley in upwards of eighty deaths which occurred in Middlesex Hospital. The hour of admission was entered in the hospital books, as well as the previous duration of the illness. In a few other cases also I had exact information of the hour of attack, and in the remainder I have calculated it by subtracting the duration of the illness from the date of death. Where the illness did not exceed twelve hours, the attack was considered to have commenced the same day. Where the illness exceeded twelve, [but] did not exceed thirty-six hours, the attack was put down to the previous day, and so on. Where the illness exceeded forty-eight hours, its duration is generally given in days, which were subtracted from the date of the attack. Although this plan does not always give the precise date of attack, it reaches within a few hours of it.

[As such, the table] is as valuable, perhaps, as if the exact day were given, unless the hour as well as the day could be introduced. Where premonitory diarrhoea is stated to have existed, the period of its duration is deducted from the date of death. The time of attack is fixed at the first commencement of indisposition, except in two or three

Henry Sibley: Middlesex Hospital registrar; see Document 16-1 (Online Companion) for a preliminary list of deaths.

TABLE I.

Date.	No. of Fatal Attacks.	Deaths.
August		
19	1	1
20	1	0
21	1	2
22	0	0
23	1	0
24	1	2
25	0	0
26	1	0
27	1	1
28	1	0
29	1	1
30	8	2
31	56	3
September		
1	143	70
2	116	127
3	54	76
4	46	71
5	36	45
6	20	37
7	28	32
8	12	30
9	11	24
10	5	18
11	5	15
12	1	6
13	3	13
14	0	6
15	1	8
16	4	6
17	2	5
18	3	2
19	0	3
20	0	0
21	2	0
22	1	2
23	1	3
24	1	0
25	1	0
26	1	2
27	1	0
28	0	2
29	0	1
30	0	0
Date unknown	45	0
Total	616	616

instances in which the patient was labouring under another disease [such] as phthisis or typhus fever. There are forty-five cases in which the duration of the illness was not certified or entered in the books of the registrars. The time of attack in these cases is consequently unknown. These persons nearly all died in the first days of September [during] [50/51] the height of the calamity. It is almost certain that they were cut off very quickly, like the others who died at this time.

It is pretty certain that very few of the fifty-six attacks [assigned] in the table to 31 August occurred [un]till late in the evening of that day. The irruption was extremely sudden, as I learn from the medical men living in the midst of the district, and commenced in the night between 31 August and 1 September. There was hardly any premonitory diarrhoea in the cases which occurred during the first three days of the outbreak. I have been informed by several medical men that very few of the cases which they attended on those days ended in recovery.

The greatest number of attacks in any one day occurred on 1 September, immediately after the outbreak commenced. The following day the attacks fell from one hundred and forty-three to one hundred and sixteen, and the day afterwards to fifty-four. A glance at the above table will show that the fresh attacks continued to become less numerous every day. On 8 September—the day when the handle of the pump was removed—there were twelve attacks; on the 9th, eleven; on the 10th, five; on the 11th, five; on the 12th, only one. After this time, there were never more than four attacks on one day. During the decline of the epidemic the deaths were more numerous than the attacks, owing to the decease of many persons who had lingered for several days in consecutive fever.

There is no doubt that the mortality was much diminished, as I said before, by the flight of the population, which commenced soon after the outbreak. But the attacks had so far diminished before the use of the water was stopped that it is impossible to decide whether the well [51/52] still contained the cholera poison in an active state, or whether from some cause the water had become free from it. The pump well has been opened. I was informed by Mr. **Farrell**, the superintendent of the works, that there was no hole or crevice in the brickwork of the well by which any impurity might enter. Consequently, in this respect the contamination of the water is not made out by the kind of physical evidence detailed in some of the instances **previously related**. I understand that the well is from twenty-eight to thirty feet in depth and goes through the gravel to the surface of the clay beneath.

The sewer, which passes within a few yards of the well, is twenty-two feet below the surface. The water at the time of the cholera contained impurities of an organic nature in the form of minute, whitish flocculi [which were] visible on close inspection to the naked eye, as I before stated.

Dr. Hassall, who was good enough to examine some of this water with the microscope, informed me that these particles had no organised structure. He thought they probably resulted from decomposition of other matter. He found a great number of very minute, oval animalcules in the water, which are of no importance except as an additional proof that the water contained organic matter on which they lived. The water also contained a large quantity of chlorides, indicating, no doubt, the impure sources from which the spring is supplied. Mr. Eley, the percussion cap manufacturer of 37 Broad Street, informed me that he had long noticed that the water became offensive, both to the smell and taste, after it had been kept about two days. This, as I noticed before, is a character of water contaminated with sewage. Another person had noticed for months that a film formed on the surface of the water when it had been kept a few hours.

I inquired of many persons whether they had observed [52/53] any change in the character of the water about the time of the outbreak of cholera, and was answered in the negative. I afterwards, however, met with the following important information on this point. Mr. **Gould**, the eminent ornithologist, lives near the pump in Broad Street and was in the habit of drinking the water. He was out of town at the commencement of the outbreak of cholera, but came home on Saturday morning, 2 September, and sent for some of the water almost immediately. He was much surprised to find that it had an offensive smell, although perfectly transparent and fresh from the pump. He did not drink any of it. Mr. Gould's assistant, Mr. Prince, had his attention drawn to the water and perceived its offensive smell. A servant of Mr. Gould, who drank the pump water daily and drank a good deal of it on 31 August was seized with cholera at an early hour on 1 September. She ultimately recovered.

Whether the impurities of the water were derived from the sewers, the drains, or the cesspools (of which there are a number in the neighbourhood), I cannot tell. I have been informed by an eminent engineer that whilst a cesspool in a clay soil requires to be emptied every six or eight months, one sunk in the gravel will often go for twenty years without being emptied, owing to the soluble matters passing away into the land springs by percolation. As there had been deaths from cholera just before the great outbreak not far from this pump well in a situation elevated a few feet above it, the evacuations from the patients might of course be amongst the impurities finding their way into the water. Judging the matter by the light derived from other facts and considerations previously detailed, we must conclude that such was the case. A very important point in respect to this pump well is that the water passed with almost everybody as being [53/54] perfectly pure. It did, in fact, contain a less quantity of impurity than the water of some other pumps in the same parish which had no share in the propaga-

John Farrell: Surveyor of pavements for the parish of St. James, Westminster.

previously related: On pp. 23–36 of *MCC2*, including outbreaks in Thomas Street, Horsleydown and Albion Terrace, Wandsworth Road.

John Gould: Produced several illustrated books on birds, in collaboration with his wife, Elizabeth Gould, and other artists. Assisted Charles Darwin in classifying bird skins collected during the *Beagle's* voyage in the 1830s.

tion of cholera. We must conclude from this outbreak that the quantity of morbid matter which is sufficient to produce cholera is inconceivably small and that the shallow pump wells in a town cannot be looked on with too much suspicion, whatever their local reputation may be.

Whilst the presumed contamination of the water of the Broad Street pump with the evacuations of cholera patients affords an exact explanation of the fearful outbreak of cholera in St. James's parish, there is no other circumstance which offers any explanation at all, whatever hypothesis of the nature and cause of the malady be adopted. Many persons were inclined to attribute the severity of the malady in this locality to the very circumstance to which some people attribute the comparative immunity of the city of London from the same disease—[that is,] to the drains in the neighbourhood having been disturbed and put in order about half a year previously. Mr. Bazelgette, however, pointed out in a **report** to the commissioners that the streets in which the new sewers had been made suffered less than the others. A reference to the map will show that this is correct, for I recollect that the streets in which the sewers were repaired about February last were Brewer Street, Little Pulteney Street, and Dean Street, Soho. Many of the non-medical public were disposed to attribute the outbreak of cholera to the supposed existence of a pit in which persons dying of the plague had been buried about two centuries ago. If the alleged plague pit had been nearer to Broad Street, they would no doubt still cling to the idea. The situation of the supposed pit is, however, said to be Little Marlborough Street, just out of the area in which the chief mortality [54/55] occurred. With regard to effluvia from the sewers passing into the streets and houses, that is a fault common to most parts of London and other towns. There is nothing peculiar in the sewers or drainage of the limited spot in which this outbreak occurred. Saffron Hill and other localities, which suffer much more from ill odours, have been very lightly visited by cholera.

report: Perhaps Snow is referring to Document 24-1 (Online Companion).