

DOCUMENT 10-I (Online Companion):

Additional extracts from overview by Lord Ashley, Edwin Chadwick, and the board's medical adviser, Thomas Southwood Smith¹

[8] The great epidemic outbreak proceed[ed] from Caboul and the north-western provinces of Hindustan [India] as from a centre, swept over Afghanistan, Persia, and the southeastern portion of Asiatic Turkey, until it was arrested by the winter of 1846 in its progress towards Europe. It had up to this date become localised in the northeastern parts of Asia Minor, from whence in the spring of 1847 it again commenced its career. Spreading in all directions, [it struck] on the one hand the cities of Asia Minor, Persia, Arabia, and Egypt, and on the other Georgia, **Circassia**, and the southern provinces of the Russian empire. The northern branch of this great outbreak continued its **progress** until nearly the whole of the governments of European Russia were affected. Thereafter, one portion of it advanced into Finland and Sweden, where it apparently terminated its destructive course. Another branch, after sweeping round the northeastern [8/9] shores of the Black Sea, and nearly decimating the cities and towns of the lower Danube [River], advanced through Austria into Germany and **Hanover**, and at the same time attacked the capital of the Turkish empire. Some idea of the geographical extent of the pestilence may be formed by the circumstance that it ravaged Constantinople, Berlin, St. Petersburg, and Cairo in the same month. Hamburg was attacked on 7 September [1848]. . . . Three weeks afterwards the epidemic . . . appeared at Edinburgh. . . .

In every European city in which the pestilence prevailed, it gave distinct warning of its approach [by] . . . an extraordinary prevalence and mortality of . . . influenza, . . . intermittent fever, diarrhoea, dysentery, . . . scarlet fever, [and] . . . typhus. . . . In London . . . the malady which all along continued its course with the most steady [9/10] progress was that which was the most nearly allied in nature to the approaching epidemic, namely diarrhoea. The deaths from this disease . . . were in 1848 more than seven times greater than in 1839, and nearly five times greater than in 1841, . . . [indicative of] an epidemic force extending over the metropolis and steadily increasing. . . . The Metropolitan Sanitary Commissioners, . . . [having observed] the increasing crowding of the population, its state of filth, its low sanitary condition, and the actual prevalence among the people of the diseases that precede and give warning of the approach of the evidence, [predicted] that the impending [cholera] epidemic would be more severe than that of 1832. And the event has mournfully realized the prophecy. . . .

Epidemic Cholera, 1848-1849 India to Britain

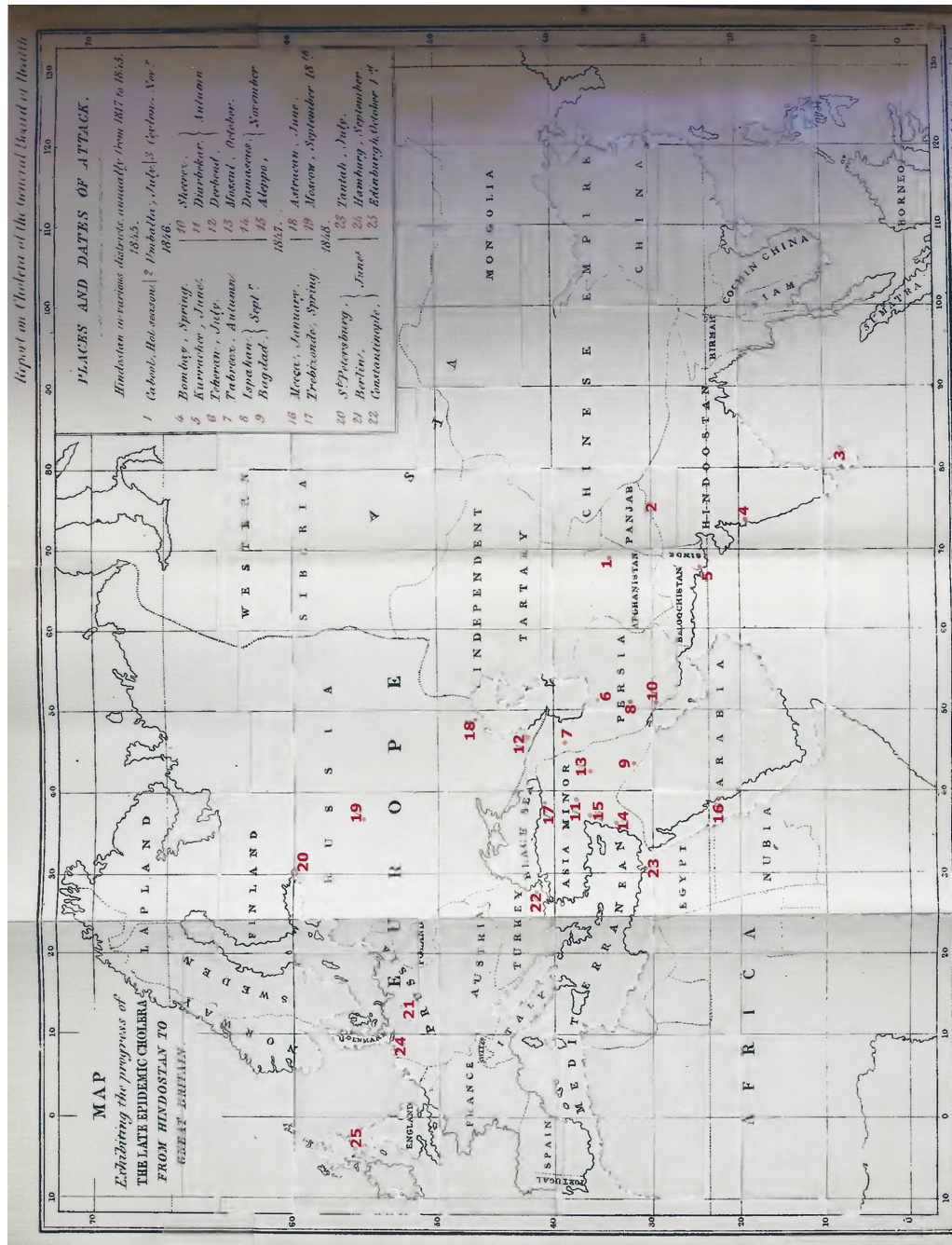
Circassia: Region in the Caucasus, northeast of the Black Sea.

progress: The map on the following page appears as the frontispiece to the *Report*. Faded numbers indicating the progress of the second cholera pandemic are adjusted for legibility. See 1850: GBoH, Map exhibiting the progress . . . in Supplementary Figures (Online Companion) for a larger version.

Hanover: At the time, a kingdom in the northern part of the German Confederation.

Cholera in Europe Always Preceded by Other Epidemic Diseases

¹GBoH, *Report on the Epidemic Cholera of 1848 and 1849* (London: HMSO, 1850); 159 pages. Square brackets in text contain page numbers.



[17] In . . . every town in Great Britain in which the first cases [of cholera] were accurately observed, its invasion was similar. So that this approach by isolated attacks, at considerable distances as to place and intervals of time, may be regarded as one of the laws of the epidemic. The popular notion that cholera is sudden in its invasion of a place or district is as unfounded as the former prevalent opinion that it is sudden in its attack of the individual person. . . . At least in this country, it is gradual and even slow in its approach. And the recognition of this law is of the highest importance in a practical point of view. These isolated cases occurring in any locality during the prevalence of a **general epidemic constitution** are unequivocal and certain signs that an outbreak is impending over that place. They are warnings not to be mistaken, demanding the immediate and energetic adoption of preventive measures. . . . [18] As was anticipated and predicted, cholera during its recent visitation returned to the same counties, and the same cities and towns, even the same streets, houses, and rooms which it ravaged in 1832. It is true that many places have been attacked in the recent which escaped in the former epidemic, but very few indeed that suffered then have escaped now, except in some few instances in which sanitary measures had in the meantime been effected. In some instances it has reappeared on the very spot in which it first broke out 16 years ago. . . .

A Law of Epidemic Cholera in Great Britain

general epidemic constitution: See Document 7 and "epidemic disease" in Glossary.

Cholera Favors the Same, Unsanitary Locales

[22] During the recent epidemic, the disease often attacked definite spots in the districts which it invaded, confining its ravages to particular streets, the adjoining streets escaping, and even to one side of a street, scarcely a single case occurring on the opposite side. . . . [23] In this respect, also, cholera bears a marked resemblance to typhus, yellow fever, and plague. . . . The occurrence of six, eight, or even more deaths was not uncommon in a particular house. But such a house did not form a centre from which the disease spread to neighboring houses, and thence over the district. On the contrary, simultaneously with the attack in this particular house, or as soon as the work of death had been accomplished in it, the disease broke out afresh at a considerable distance, the intervening houses escaping. The preceding history of its progress from Asia to Europe, and through the several countries of Europe, shows that it advanced not by a strictly contiguous progressive and uninterrupted course. At one time it sprung up at a single bound over a vast tract of country, while at another time its course was retrograde. Its progress through a city was similar, there being in general no regular continuity in its course, but its progress consisting in a succession of local outbreaks. . . .

Epidemic Cholera Always Progresses in a Succession of Unconnected, Local Outbreaks

[26] We have elsewhere called attention to the atmospheric changes which usually precede and accompany the outbreak of great epidemics. These changes, though observed from ancient times, have not yet been connected

Atmospheric Conditions as Accessory Causes of Epidemic Cholera

by any precise relation with the origin and progress of pestilence. . . . In London . . . when the pestilence was most prevalent and mortal . . . from the middle of August to the middle of September, the temperature was, without exception, high. The air was unusually stagnant. . . . It is stated by Mr. Glaisher of the Royal Observatory, Greenwich, that the horizontal movement of the air during this whole period was only one-half of the usual amount. . . . The air was, for the most part, very close and oppressive. . . . [28] The general result of observation and experience is that the natural condition most conducive to the production and propagation of cholera is a hot, moist, and stagnant atmosphere, especially when immediately preceded by the prevalence of cold and dry winds. Hence the central part of India is stated to be the most subject to cholera, probably on account of its higher temperature; and the earlier and more constant occurrence of the causes that give rise to the southwest monsoon, or sea breeze of the hot months, that is, a hot wind saturated with moisture. . . . [29] In such a condition of the atmosphere, some of the main excretory functions of the body, particularly the exhalations from the skin and the lungs, must be to a great degree suppressed, and a proportionate poisoning of the blood by the retention in the system of matters which ought to be eliminated from it is inevitable. . . . It is important to bear in mind that these physical conditions of the atmosphere which thus oppress the vital powers are the very conditions under which noxious animal and vegetable refuse decompose with the greatest rapidity, and in which the products are carried in greatest quantity into the blood by the respiratory organs. But these atmospheric conditions can only be regarded as powerful accessory causes, acquiring peculiar force in a climate in which they are so intense as in India; but by no means as the sole or essential causes, since the pestilence has prevailed extensively and severely in countries in which such atmospheric conditions do not exist . . .

When the pestilence actually broke out in any locality, it spared neither sex nor age. . . . [30] A very large proportion of its victims were in the prime of life. . . . Cholera confirms the observation formerly promulgated in regard to typhus, that it seizes on persons in the most productive periods of life, . . . many of them parents of young and increasing families, who are suddenly cut off by a great . . . and preventable calamity. . . . Great numbers of its victims are among the healthy and vigorous. No robustness of constitution was found a security against the pestilence under exposure to powerful predisposing conditions. On the other hand, in the absence of such conditions, the feeble and sickly escaped as well as the strong. . . .

[32] During the epidemic of 1831–32, it is stated that numerous instances occurred in which an infected individual came into a healthy locality, after which the disease soon afterwards attacked other persons in the

*Predisposing
Conditions Determine
When Cholera Is Fatal*

house or immediate neighbourhood in which the infected individual resided, and spread from thence as from a centre. No instances of this kind has been brought under our notice in the progress of the [1848–49] epidemic. In all cases where the facts have been carefully observed on the first appearance of the disease in a new locality, . . . it has appeared to attack and **spread epidemically**, and not by contact of the sick with the healthy. . . . [34] It is true that instances were reported of nurses in attendance on the sick catching the disease and dying. . . . We made a careful examination into all the cases that were brought to our notice in which nurses were reported to have caught the disease from a close attendance on an infected person. In every case . . . [35] we found either that the nurse had been previously suffering under premonitory diarrhoea, in some instances for several days, which she had neglected; or that she had committed some act of intemperance; or was exhausted by over fatigue. . . .

[36] We submit that the law of the disease, exemplified by these and other instances—that it spreads, not by continuity of time or place, but that it occurs at irregular periods and extends by a succession of local outbreaks—is a decisive proof that it is propagated not by the contact of one infected person with another, but by a general influence operating on particular localities and persons, according to certain localizing conditions and predisposing causes. The recent epidemic has afforded, perhaps, the most definite and impressive evidence of the influence of these localizing conditions and predisposing causes that has yet been observed: . . .

Overcrowding.—Without a certain quantity and quality of air life cannot be maintained. When a number of persons are crowded together in a small space without the constant admission of fresh air, they are exposed to a double evil. They are deprived of the necessary quantity [36/37] of air, and what air they do breathe becomes more and more vitiated at every respiration. . . . The skin and lungs exhale at each moment a definite and measurable quantity of poisonous gas (carbonic acid gas), together with a certain amount of animal matter of a highly putrescent nature. . . . It is found that this putrescent animal matter, if it is not allowed to escape, is deposited on the walls of living and sleeping rooms, clings to articles of clothing, bedding, and other furniture, and is the source of the nauseous smell perceived on entering dirty and crowded dormitories, living rooms, school rooms, and other places of public resort. Under confinement in such a place, the most robust health gives way, . . . destroys the resisting power of the constitution, and predisposes to disease . . . when such a place happens to be invaded by an epidemic influence. . . .

[40] Filth.—When an atmosphere contaminated by emanations

*Epidemic Cholera Is,
by Definition,
Non-Contagious*

spread epidemically: Non-contagious “influences” that appear during specific epidemic constitutions and only attack predisposed individuals.

The Law of the Disease

*Eight Localizing
Conditions and
Predisposing Causes
that Prove this Law:*

*Respiring Vitiated
Air in
Overcrowded Spaces*

*Noxious, Effluvial
Emanations
from Filth*

that arise from filth accumulated in and about dwellings is respired, the noxious matters dissolved or suspended in the air are carried directly into the blood. . . . Yet no just appreciation is generally entertained of the importance to health and life of the purity of the air that is habitually breathed. . . . [41] “It may appear almost incredible,” says Mr. Grainger, “. . . [that] the grosser and more palpable contamination of the air of towns by smoke has attracted more general attention, and has given rise to more stringent legislation for its removal, than the infinitely graver evils arising from those subtle, invisible, but all-powerful effluvia proceeding from decomposing organic matter, whether animal or vegetable, which in a multitude of . . . ways lay the foundation for diseases.” . . .

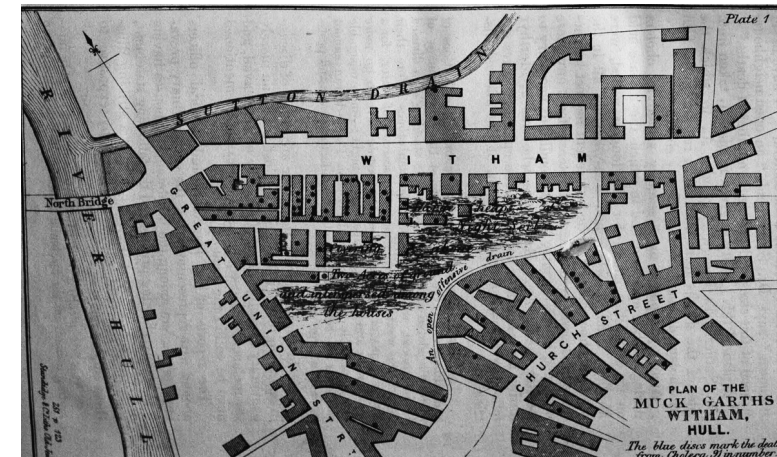
[43] Dr. Baly, Physician of the Milbank Penitentiary, after careful investigation, is of the opinion that the diarrhoea and dysentery to which that prison is so subject, are intimately connected with the noxious animal effluvia wafted across the Thames from the bone-boiling establishments in Lambeth.

One of the most severe outbreaks of cholera that occurred in the metropolis was at Albion Terrace, Wandsworth Road, a place consisting of seventeen . . . comfortable dwellings. About 200 yards in the rear of the terrace is an open ditch which receives the drainage from Clapham, Streatham, and Brixton Hill. The inhabitants of the houses complained of offensive effluvia in their gardens behind, whenever the wind blew in a particular direction. The servants complained of a stench in different parts of the **kitchen-floor**, more especially over the sink in the **back-kitchen**. In the house in which the first case of cholera occurred, there was an enormous accumulation of most offensive rubbish, . . . consisting of a disgusting compound swarming with maggots and exhaling a putrid effluvia. There is also reason to believe that the water supplied to some of the houses accidentally became contaminated with the contents of a sewer and cesspool. Within the space of a fortnight, out of an estimated population of 120 persons residing in this terrace, forty-two persons were seized with cholera, of whom thirty died, or 71 percent of the whole number attacked. . . .

[45] There is a spot in the town of Hull which affords a remarkable example of the influence of town refuse in lowering the standard of the public health and predisposing to epidemic disease. . . . [In the suburb of Witham, writes Dr. Sutherland,] “there is a triangular space of ground . . . nearly three acres in extent, about two acres of which is used as a place of deposit for part of the night soil of the town and other manure, which is interspersed in heaps among the houses and close to the doors of the dwellings. These noxious matters are collected by a number of persons who make a trade of accumulating and selling them for agricultural purposes. . . . One indication of the extreme unhealthiness of this district is afforded by the

**Albion Terrace
Outbreak**

kitchen-floor: Partially or fully submerged basement floor.
back-kitchen: Scullery.



Muck Garths of Witham, Hull
According to Southland, the garths (enclosed yards) contained “large heaps of night soil covering about two acres of ground and interspersed among the houses.”
Black dots (blue in original) indicate number of cholera deaths per affected house.
Non-contagionists frequently employed spot maps like this to indicate spread of disease-causing effluvia.
Modification of map in GBoH, 1850 Report, facing 46.

fact that, although the average of persons who die in other parishes in the town of Hull is 23 years, the average age of all persons dying at Witham is only 18 years.” A warning was given of the approach of cholera on the town ten months before its arrival. . . . Nothing was done to cleanse it. Cholera at length struck the town and broke out in this spot with a violence scarcely paralleled in any other place in this country. On the outskirts of a triangular space, measuring little more than 200 yards, [45/46] there occurred 91 deaths from cholera. . . .

The reports of the inspectors and medical officers abound with representations of the extraordinary prevalence of cholera among the inhabitants of houses having foul and overflowing privies . . .

[47] **Malaria** from putrescent mud.—While epidemic cholera was prevailing in the town of Cardiff in the month of June 1849, a sudden attack of the disease took place in a cluster of houses about a mile and a half distant from the town, situated near a canal from which water had been drawn off, leaving a large surface of black putrescent mud to the direct action of a hot sun. The result was that very offensive effluvia were immediately perceptible. The smell was complained of by the inhabitants of all the adjoining houses, and produced a variety of symptoms, varying in intensity in different individuals. There were on this spot 22 houses, three of which were vacant, with a total population of 117 souls. Out of the 19 inhabited houses, 15 were affected . . . There were in all 43 cases of diarrhoea, 33 of developed [47/48] cholera, and 13 deaths. . . . The works of the canal were finished as expeditiously as possible and the water admitted. Persons on the spot stated that the air felt purer immediately and the disease was arrested. Dr. Milroy has called attention to the effect of foul canals and ditches in neighbourhoods of London in predisposing to severe attacks of cholera. . . .

[50] Dampness.—The late epidemic has afforded large additional

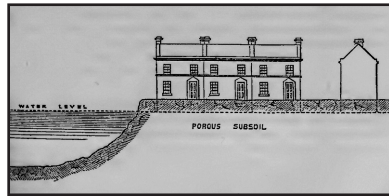
Malaria: Miasmas; bad air that may predispose a person to diseases if inhaled.

**Harmful Emanations
from
Putrescent Mud**

**Cholera Localizes
Where the Ground Is
Damp**

evidence . . . as to the influence of dampness in causing the localization of the disease. . . . The districts bounding both sides of the Thames have suffered much more than those at a distance from the river. Upwards of 64 percent of the total deaths of the metropolis have occurred in its neighbour-

hood. One of the main causes of the excessive mortality near the banks of the Thames appears to be the large evaporating surface of foul water which such sites present. . . . [52] The accompanying sketch from Dr. Sutherland's report . . . [53] shows the lateral infiltration of water from rivers and canals under the foundations of houses built on their banks. . . .



Origin of Damp Subsoil
Sketch #2,
GBoH, Report (1850), 53.

[55] Want of drains and bad drains.—The object of efficient drainage-work is two-fold: First, the removal of decomposing matter in suspension in water; second, the removal of surplus moisture. But ample experience has proved that bad drainage . . . increases the evil intended to be obviated by extending the noxious evaporating surface or by shifting the decomposing matter from one place to another. The [55/56] Superintending Inspectors in their reports on the various towns they have examined concur in stating that the force of fever and cholera in general falls on those localities which are without drainage, or in which the drainage that has been attempted has been so unskillfully performed as to have increased the evil.

Dr. Sutherland and Mr. Clark give a remarkable example of this in their reports on Bristol . . . [when] describing the condition of certain courts . . . containing 66 dwellings . . . “A glance at the plan will show that something like sanitary improvements had actually been contemplated [wrote Dr. Sutherland]. And no doubt it was believed that the object would be attained if only a sufficient number of drains and privies were constructed. . . . [But, reported Mr. Clark, the angle of the drains] favoured the flow of sewage [back] upon the courts [rather than into a sewer main]. . . . The effect of this faulty construction was necessarily to occasion a large accumulation of privy and house refuse; . . . in fact, to create extended local cesspools of the worst and most obnoxious character. Under these circumstances, it cannot be matter of surprise that cholera raged in these courts with terrific virulence—that within a few days, 44 persons fell victims—and that it was not till the most energetic measures were adopted, and a complete purification and white-liming effected, that its ravages were stayed. . . .”

[57] Dr. Milroy gives [an example] of the effect of the condition of foul sewers in predisposing to violent attacks of cholera. . . . [58] Close to a ward in [the Marylebone Infirmary] where cholera first appeared, while the rest of the house was exempt from the disease, there had been an open, un-trapped [sewer] drain which emitted very offensive effluvia. The nurses remarked that the smell was always worst when the windows were first opened in the morning. The nuisance was immediately corrected, and

thereupon the disease ceased to manifest itself in this particular part of the building.

Graveyards.—. . . [59] At Bristol, . . . there is a burial ground about 80 feet in length and between 40 and 50 in breadth, the surface of the earth of which is four and a half feet above the level of the pavement in the adjoining courts. It is completely surrounded by houses, 33 in number. Under the external walls of the burial ground there are drains with open **gully** grates, from which, at the time the medical inspector examined them, issued a most offensive odour having the unmistakable graveyard smell. Out of the 33 houses, one of them being empty, cholera broke out in 15, chiefly in those on the side next to the burial ground. In one house there occurred no fewer than 11 cases, in several from five to six, in all 47 cases and 33 deaths. . . .

Unwholesome water.—During the late epidemic, much additional evidence has been elicited proving the influence of the use of impure water in predisposing to the disease. There has scarcely been a town in the kingdom in which cholera has been prevalent that has not afforded some instance of it. And when the water has been contaminated by the contents of sewers or privies, or by the drainage of graveyards, the seizures have been more sudden and violent, and the proportion of the attacks greater even than from overcrowding. [59/60] The following out of great numbers may be cited as examples. . . .

The first outbreak of cholera in Rotherhithe occurred in 16 houses which were supplied with water from a well that was expressly ascertained to be contaminated by infiltration from a foul open ditch. In these 16 houses there were 20 cases of cholera; and several of the persons who died were decent mechanics and not in destitute circumstances. The water which supplied 25 houses in another street were taken out of a ditch that received the contents of privies. In these 25 houses there occurred 25 deaths [60/61] from cholera. The medical officer states his conviction that the use of this water acted powerfully as a predisposing cause and tended to spread the disease. . . .

Thirteen small houses forming a court called Surrey Buildings in Horsleydown were supplied with water from a sunk tank, the edge of which was even with the pavement so that it constantly received washings from the court. Here 8 deaths from cholera occurred in one week, and another followed in the ensuing week. . . .

In one court in Lambeth where most malignant scarlet fever . . . and very bad typhus had prevailed, two severe cases of cholera occurred. The surgeon was induced to examine the water supplied by a pump, when he found it discoloured and so foul that “it stank . . . [61/62] of the contents of a cesspool.” The piston of the pump was removed and no other case of

**Graveyard Smells
Predisposing Persons
to Cholera**

**Ingestion of Impure
Water Predisposes
Persons to Cholera**

**The Surrey Buildings
Cholera Outbreak
(Documents 2, 3 & 4)**

**Cholera and Fever
Prevail in Localities
with Inadequate
Drainage**

Questions

Does this constitute a natural experiment?

If so, is it similar to what either Grant or Snow believed occurred in Surrey Buildings?

our first notification:
Document 1.

Dietary Errors May Predispose Persons to Cholera

Extreme Fatigue May Predispose Persons to Cholera

cholera occurred in the court.

In Manchester, a sudden and violent outbreak of cholera took place . . . [where] the inhabitants used water from a particular pump well. This well had been repaired, and a sewer which passes within nine inches of the edge of it became accidentally stopped up and leaked into the well. The inhabitants of 30 houses used the water from this well. Among them there occurred 19 cases of diarrhoea, 26 cases cholera, and 25 deaths. The inhabitants of 60 houses in the same immediate neighbourhood used other water. Among these there occurred 11 cases of diarrhoea but not a single case of cholera. . .

[63] Food.—We recommended in **our first notification** the observance, during the prevalence of the epidemic, of such a solid and dry diet as would naturally tend to maintain a moderately constipated state of the bowels and . . . an abstinence, or at least a very limited indulgence, in vegetables and fruits. We also gave a caution against the use of salted or dried provisions, oily kinds of fish, as well as shellfish. We likewise enjoined moderation in the use even of the most wholesome and suitable food, and, as a rule, an abstinence from ardent spirits. The experience of the late epidemic has shown that these precautions were of more importance than could have been fully comprehended at the time. Such disastrous consequences had resulted in some foreign cities from the use of crude vegetables and acid fruits that the authorities forbade the sale of them. Articles of food of this description have been found equally pernicious in our own country.

Among the first cases of cholera that occurred in Great Britain were those of the Prussian sailors on board the barque *Pallas*. . . Having been brought from a healthy town, [they] were exposed for a few hours to the epi[63/64]demic influence at Hamburg and [then] ate on their passage to Hull a quantity of plums which the vessel was bringing to Hull for the market. “The eating of a few plums,” observes Dr. Sutherland, “would certainly under normal circumstances have produced no such fatal results. But during an epidemic constitution, such indulgence is well known to be fraught with extreme danger. Possibly these men might have resisted their morbid state had it not been for the very serious error as to diet which they committed.” . . . Similar statements are made respecting other articles of diet against which caution has been given, and which, as has been proved by general experience, cannot be used without imminent peril during exposure to an epidemic influence, however . . . nutritive they may be to the same individual in the absence of an epidemic constitution. . . [65] Not only were habitual drunkards the most easy and certain victims of cholera, but even single acts of intemperance were followed by almost immediate diarrhoea. . .

[66] Many deaths occurred during the late epidemic from disre-

garding the caution against fatigue. In numerous instances, nurses, medical men and, on some occasions, clergymen zealously devoted to their arduous duties lost their lives from continuing their labours too unremittingly. . .

[89] Over the whole of Europe, and in every town and village of this country, wherever cholera broke out it was preceded and accompanied by an enormous amount of diarrhoea. . . [90] The medical men who have entered into this inquiry [Sutherland, Grainger, etc.] have come to the unanimous conclusion that, whenever diarrhoea prevails extensively in a country or district where cholera is epidemic, that diarrhoea is premonitory of cholera. It is not a mere coincident or concomitant. It is not even merely a predisposing condition, like a multitude of other circumstances. [It] is part and parcel of the disease not to be distinguished from the actual commencement of the most severe form of the malady. . .

[129] From the experience of Great Britain and other countries in 1831-32, we came to the conclusion that the treatment of cholera patients in hospitals was not successful. We discountenance the use of these establishments, recommending that the best provision practicable should be affording assistance to the individuals who might need it at their own homes, particularly by the selection of proper persons instructed as nurses in the special services required on the occasion and paid for devoting their whole time to attendance on the sick at their own habitations under the direction of the medical officers. The experience of the late epidemic has placed the correctness of this view beyond doubt. . .

[145] When cholera first appeared in this country [in 1831], the general belief was that the disease spreads principally, if not entirely, by communication of the infected with the healthy and that therefore, the main security of nations, cities, and individuals consists in the isolation of the infected from the uninfected—a doctrine which naturally [145/146] led to the enforcement of rigorous quarantine regulations, the establishment of military and police cordons, and the neglect and often abandonment of the sick, even by relations and friends. . . . [Since then,] facts have been ascertained which . . . [indicate] that the disease is not in the common acceptance of the term, contagious, but spreads by an atmospheric influence, its progress consisting of a series of local outbreaks. . .

It was formerly believed that the most powerful predisposition to this disease is induced by deficient food and clothing, and that for this reason its chief victims are found among the destitute or persons on the verge of pauperism. [However,] a closer observation of facts showed that . . . a far more powerful predisposition is the habitual respiration of an impure

*(Premonitory)
Diarrhoea Where
Cholera Prevails Is
Part of the Disease*

*Cholera Victims Should
Be Treated at Home,
When Possible*

Summary Remarks:

*Nature of Cholera
As a Non-contagious
Disease*

*Respiration of Impure
Atmosphere Is Chief
Predisposition*

***Cleanliness Provides
an Exemption***

***Sanitary
Improvements Deter
Cholera's Progress***

atmosphere. The highest degree of susceptibility is produced where both these conditions are combined, that [146/147] is, where people live irregularly, or on unsuitable diet, and at the same time filthily. In places in which a great degree of cleanliness is maintained, the poor as well as the rich enjoy exemption from this disease. . . .

Experience [with cholera in 1848–49] has added to our previous knowledge of the efficiency of sanitary arrangements in checking the extension of this formidable disease. For the evidence we have detailed shows that where combined sanitary arrangements have been carried into effect, the outbreak of the pestilence has sometimes been averted; that where its outbreak has not been prevented, its course has been gradually, and in several instances suddenly, arrested; that where material improvements have been made in the condition of the dwellings of the labouring classes, there has been an entire exemption from the disease; and that where minor improvements have been introduced, the attacks have been less severe and less extensive, and the mortality comparatively slight. . . .

[149] All which we humbly certify.

Ashley [Lord Anthony Ashley-Cooper, Commissioner]

[Edwin] Chadwick [Commissioner]

T. [Thomas] Southwood Smith [Medical Officer]

Gwydyr House:
Headquarters of the
General Board of Health,
situated in Whitehall
(London), a quarter
mile south of Trafalgar
Square.

Gwydyr House, 14 August 1850