

**A discourse on the epidemic cholera morbus of Europe and Asia. Delivered as an introductory lecture, at the College of Physicians and Surgeons in the City of New-York, November 9, 1831 / By Joseph Mather Smith.**

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DISCOURSE

ON THE

EPIDEMIC CHOLERA MORBUS

OF EUROPE AND ASIA;

DELIVERED AS AN

INTRODUCTORY LECTURE,

AT THE

COLLEGE OF PHYSICIANS AND SURGEONS

IN THE CITY OF NEW-YORK,

*November 9, 1831.*

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By JOSEPH MATHER SMITH, M.D.  
PROFESSOR OF THE THEORY AND PRACTICE OF PHYSIC AND CLINICAL MEDICINE.

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NEW-YORK:

PRINTED BY J. SEYMOUR, JOHN-STREET.

1831.



DISCOURSE

TO THE

PRESIDENT AND TRUSTEES

OF THE

COLLEGE OF PHYSICIANS AND SURGEONS


IN THE CITY OF NEW-YORK,

THE FOLLOWING DISCOURSE

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## DISCOURSE.

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GENTLEMEN,

THE occasion on which we are assembled is one of interest to the medical profession, and to the public at large. It is to resume the employment of imparting instruction in an art which has not inappropriately been styled divine. It is to renew the relations between teacher and pupil; and to fulfil the noble design of the Regents of the University, in establishing a College, devoted exclusively to Medicine and Surgery. During the interval in which our halls have been closed, many memorable events have transpired in the world. Whilst our own country has enjoyed every blessing a people can desire, and especially an unusual exemption from malignant epidemics, Europe has suffered by civil commotions, international wars, and desolating disease. Though we have had nothing to fear from these political strifes, yet great alarm has pervaded the public mind, lest the wide-spread pestilence, denominated *Cholera*, should invade our shores. The danger of such an occurrence having particularly drawn

the attention of physicians and the public authorities to the subject, I propose, in the present lecture, to give a connected view of the more important advices which have reached us, in relation to the disease.

Though it is not our intention to inquire into the pathological peculiarities of the epidemic, we may advert to some of its phenomena, and also to the different names by which it has been distinguished. The term, *Cholera Morbus*, is found in most of the ancient records of medicine. The Nosologists employ it to denote a disease in which a vomiting and purging of bilious matter is a remarkable and characteristic symptom. To such an affection, if to any, its etymology renders it appropriate. In forming the nomenclature of diseases, recourse is commonly had to some of the most striking circumstances in their medical history, such as the parts of the body they chiefly affect, their symptoms, duration, extent of prevalence, or time or mode of occurrence. To deviate so far from this rule as to name a disease by a term expressive of a fact or circumstance which does not appear in that disease, is manifestly improper. Now, with regard to the fatal epidemic in question, it is contended by those conversant with the disease, that the term Cholera is inapplicable, as a discharge of bile is rarely or never observed to occur; and that, on the contrary, when it does appear it is a critical and favorable symptom. We are told by Dr. James Johnson, and his statement is corroborated by a multitude of Indian physicians, that no bile appears in the stools, or in the bowels after death. "Neither in Europeans nor in



natives, was any tinge of that secretion discovered in the intestinal canal." Corresponding with this account is the observation of Dr. Barry, who appears to have attentively studied the disease in Russia, during the last summer. He says that vomiting and purging are among the least important symptoms, and that the appearance of the matter evacuated resembles serum, or strained rice water. But though there is no evacuation of bile, the name of Cholera is still employed, on account of the general symptoms of the disorder being, for the most part, the same with those of the disease so long known by that term.

With a view to distinguish certain general characters of the disorder, writers have employed various attributive words. Thus, from its extensive prevalence it has been called *Epidemic Cholera*; and from the violent cramps of the limbs and other parts, it derived the name of Spasmodic Cholera. Dr. Scott, of Fort St. George, Madras, proposes the name of *Cholera Asphyxia*, as best expressing the rapid extinction of the pulse and prostration of the organic powers. The fatal form of disease known in India by the appellation of *Mort de Chien*, is said by Dr. Paisley and other Indian physicians, to be nothing more than the highest degree of the Cholera Morbus.

The nature and pathognomonic characters of the epidemic Cholera can be accurately studied by those only who have opportunities of seeing the disease. Our own country happily affording no such opportunities, we shall limit our observations to its history, etiology, epidemic character, and



prophylactics. On these points our sources of information, it is believed, are sufficiently abundant to enable us to arrive at satisfactory conclusions.

In its epidemic or pestilential form, the Cholera has been said to be a plague of modern origin. Though this assertion cannot be admitted as strictly true, it must be granted that the earlier records of medicine furnish few or no examples of the disease appearing in the frightful form in which it has prevailed in the present century. The medical and mythological writings of the ancient Hindoos have been referred to as containing notices of the disease. But the earliest authentic writer on the subject is Bontius, physician to the Dutch settlement of Batavia, who distinctly states, that the malady was well known and "extremely prevalent" in Asia in 1629. Sonnerat, who travelled in Hindostan between the years 1774 and 1781, describes the disease as occurring epidemically on the coast of Coromandel. He states that during one epidemic visitation more than 60,000 persons perished of the Cholera in the country between Cherigam and Pondicherry. Paisley speaks of the disease, as an epidemic in 1774, and Curtis of Madras, gives an account of its ravages in 1782 in the southern provinces of India. These and other writers of credit clearly show that the Cholera is entitled to a conspicuous place among the Indian epidemics of the last two centuries.

Anterior to the present age, the Cholera had rarely appeared in Europe as a reigning popular distemper. Sydenham, and other European authors, describe the sporadic form of the



disease, and notice its more than usual prevalence at particular periods. It is said to have occurred extensively in every part of Europe, in 1600 ; in London, in 1669 and 1676 ; in Switzerland, in 1696 ; and in Paris, in 1750.

But it is only within a few years that the Cholera has attracted particular and universal attention. Assuming a form, for the most part, unknown in former times, it has opened a broader outlet of human life than any other epidemic disease. With energies more terrific than plague or yellow fever, it admits of no equal in the celerity and fatality of its attacks. In its devastations too, it has no competitor, but reigns supreme over every other destroyer of the human race. In tracing the history of this new and dreaded variety of Cholera, reliance will be placed upon such authorities as have come to us from quarters entitled to confidence.

From the Indian physicians we learn that the disease first suddenly appeared in the beginning of August, 1817, in Zilla Jessore, a town about one hundred miles north-east of Calcutta. There was no peculiarity of weather at the time, and the local authorities could assign no cause for its occurrence but the use of bad rice and spoiled fish. The disease soon spread to the adjacent villages, and thence extended in various directions through the country of Bengal. Before the end of August, it attacked the native population of Calcutta, and in the first week of the following month it seized upon the European residents. It continued in that city for several months, raging with violence from January till the end of May, 1818. The deaths during this period



were rarely under 200 a week. The epidemic had now extended from Silhet to Cuttack, and from the mouth of the Ganges to the confluence of this river with the Jumma. Retiring, for the most part, from Bengal, the disease concentrated its force in the interior provinces, and chiefly in the districts bordering on the Ganges and Jumma. In Benares, the famous seat of brahminical learning, 15,000 persons were destroyed in two months; and at Allahabad, forty or fifty perished daily. Pursuing its march, it soon reached Goorackpoor, in which district it numbered 30,000 victims in a month. It thence proceeded successively to Lucknow, Cawnpore, Delhi, Agra, and other districts along the course of the Ganges.

At this period the grand army, engaged in a war with the Pindarees, or Freebooters of India, consisting of 10,000 warriors and 80,000 followers, were posted in Jubbulpore, Mundellah, and Sauger. In the three divisions of this force, and particularly in the center division, the disease suddenly appeared about the 6th of November, and in twelve days 9000 had fallen beneath its deadly influence. The number attacked converted the camp into one great hospital. All ranks and ages, Europeans and natives, were indiscriminately struck down by the invisible foe. These terrible devastations induced the Commander in Chief, the Marquis of Hastings, to change his position. A removal to a drier and more elevated soil, at the distance of fifty miles, placed the army so far beyond the power of the disease, that in a short time



he was enabled to transmit a despatch to the government, announcing the subsidence of the pestilence.

From the north-eastern parts of Hindostan Proper, the disease took a direction through the Deccan, committing the most frightful ravages in Husseinabad, Aurungabad, Poor-nah, and other districts. On the 6th of August, it appeared in Bombay, having consumed about one year in traversing the Indian Delta, from Calcutta. In this journey, it advanced about fifteen or eighteen miles a day, and tarried from two to six weeks in a place.

Though temporarily checked in its western course by the Arabian sea, the epidemic spread in other directions, and especially south, along the coasts of Malabar and Coromandel. It appeared in Madras the eighth of October, two months later than in Bombay. From the Indian peninsula, it crossed to the neighboring island of Ceylon, in the capital of which it commenced its ravages in December.

The peculiarities of the epidemic had now been fully developed. Its mode of falling upon a place, and its career in particular districts, were singularly capricious. "Sometimes," says the Report of the Calcutta Medical Board, "the disease would make a complete circle round a village, and, leaving it untouched, pass on, as if it were wholly to depart from the district. Then, after a lapse of weeks, or even months, it would suddenly return, and, scarcely reappearing in the parts which had already undergone its ravages, would nearly depopulate the spot that had so lately congratulated itself on its escape. Sometimes, after running a long course



on one side of the Ganges, it would, as if arrested by some unknown agent, at once stop, and taking a rapid sweep across the river, lay all waste on the opposite bank."

As yet the Cholera had been, for the most part, confined to Continental India. In the following year, 1819, it took a wider range, encircling the islands of the Indian Ocean. In Mauritius it broke out the 15th of September, and in Bourbon early in December. In both of these Islands it prevailed with great mortality. Whether it appeared in Madagascar, or on the western coast of Africa, we are not informed. About the same time it invaded Siam and the adjacent regions. Forty thousand perished in Bankoe. Cochin China and Tonquin suffered in 1820. At the close of the same year it commenced its ravages in China, displaying its terrors first at Canton; and thence, taking a northern route, arrived at Peking in 1821. In this latter city the Cholera is said to have exerted its deadliest power, destroying its victims with unexampled rapidity, and occasioning an amount of mortality which required assistance from the government for the sepulture of the dead.

While these desolations were going on in Eastern Asia, the disease overspread the Spice Islands. Among other insular countries, it especially visited Java, Celebes, Manilla, and Amboyna; and in 1823 it extended to the island of Timor.

Though the epidemic had now spread over many degrees of latitude and longitude, its strength was not exhausted. It occasionally slumbered, but only to awaken with renewed



vigor. In China, Mongolia, and other quarters of central and southern Asia, and the Philippine islands, it continued to recur for several successive years. In 1822 it reappeared in Java, destroying 100,000 persons. In its northern progress it reached the confines of Siberia in 1826.

During the time in which the disease was confined to the countries which have been mentioned, it was generally known by the name of the Indian Cholera. Hitherto there had been no serious apprehensions in Europe that the disease would ever appear in that quarter of the globe. The able reports of the Medical Boards of the Presidencies of Bengal, Madras, and Bombay, were regarded rather as curious and interesting additions to the general stock of medical literature, than as sources of knowledge which would one day become practicably available in countries without the boundaries of Asia. Later events, however, have caused them to be differently estimated. The subsequent history of Cholera will show that its march, though slow, has been progressively westward; and that the labors of the physicians of India have greatly contributed to facilitate the inquiries of their European brethren.

The most westerly point to which the Cholera had extended in 1818 was Bombay. From this part of the Deccan it tardily crossed the Arabian Sea, and appeared in July 1821, in Muscat, and other parts of Arabia, subject to the Prince of Oman. The number that sunk under the disease in this new theatre of its action was not less than 60,000. Death frequently followed in a few minutes after the attack.



Among the principal places in the countries bordering on the Persian Gulf, which severely suffered, were Shiraz and Bassora; in the former 16,000 perished, and in the latter 18,000, of whom, we are told, upwards of 14,000 died in two weeks. Pursuing the course of the larger rivers, it advanced up the Tigris to Bagdad and Mosul, and up the Euphrates to Syria, reaching Aleppo in 1822. In the Persian empire few places of note escaped the disease; Yezd, Kindestan, and Tauris, were visited with severity.

In June 1823, the Cholera attacked Antioch, and other towns in that part of Asia bounded by the Mediterranean. At the same time it ravaged Diaberkur. In August it invaded Baku on the Caspian Sea, and after scourging the surrounding districts, arrived in September at the Russian city of Astrachan.

At this point of approach to Europe, the Cholera made a pause of several years. It preserved its existence, however, in the countries it had already overrun, repeating its attacks on certain towns, and visiting districts unknown to it before. It especially lingered in Persia; and recovering its original force in October, 1829, suddenly appeared in Teheran, the royal residence, where its ravages subsided after the commencement of winter. In the following year it spread over various provinces around the Caspian Sea. In June it prevailed in Shervan and Mazanderan. Upwards of 4000 cases occurred in two provinces; and in the town of Taurus the mortality was not less than 5000. The city of Tifflis was nearly desolated; the population being reduced by deaths



and flight of the inhabitants, from 30,000 to 8,000. One account states that 20,000 died in 15 days. The rites of religion were here interposed to stay the direful calamity.

While the cholera was thus raging in the Persian provinces, it again appeared in Astrachan, at the mouth of the Volga; it being now seven years since its first visitation to that city. It showed itself in the beginning of July, and in ten days, the cases amounted to upwards of 1200, of which more than a third terminated fatally. In the course of its prevalence 17,000 perished in eight days. In the number destroyed were the governor, and many of the municipal officers. It has been estimated, that, at this period, 1830, 6,000,000 of people had fallen victims to the Cholera in Asia.

As if impatient of the limits within which it had hitherto been restrained, the disease now urged its way along the banks of the Volga, crossed the Asiatic frontier, and spread itself over the greater part of Russia in Europe. Having invaded the principal towns and countries inhabited by the Cossacks, and watered by the Don, the Dneiper and the southern tributaries of the Volga, it arrived at Moscow, the 15th of September, 1830, about two months and a half after its second appearance in Astrachan. The occurrence of the disease in that city occasioned great alarm, and before any sanitary measures were adopted, 50,000 workmen, and many of the nobility fled the city. More than 200 cases were reported in the first twelve days, and at the height of the epidemic, 244 persons were attacked in one day. The consternation soon reached the Russian metropolis, and the Auto-



crat, with a view to arrest the further extension of the malady in his dominions, with a spirited munificence, offered a reward of 25,000 rubles for the best dissertation on the nature, cause, prevention, cure, &c. of the disease. A Council of Health was formed at Moscow, composed of physicians from Paris, Berlin, Gottingen, and other places. These, devoting themselves to the study of the epidemic, reported, at the end of three months, that more than 8000 cases had come under their observation, and that of this number, more than one half died. The disease continued to appear in Moscow till the month of January.

In the spring of the present year it renewed its ravages in Europe, appearing in the north as far as Archangel, and in the west, as the Baltic sea. In May it prevailed in Riga, and continued to rage with unabated violence until late in July. Upwards of 7000 cases occurred in the city and neighboring districts, of which about one half perished.

On the 26th of June it entered the imperial city of St. Petersburg. Terrified at so frightful a visitor, the Czar and his court retired from the capital; and for greater security, surrounded himself with an impenetrable *Cordon Militaire*, allowing, for a season, no approach from without, how urgent soever might be the necessity of communication. As in many other instances, thousands of the inhabitants fled to places where the disease had not yet appeared, leaving the city comparatively desolate. At one period between 500 and 600 new cases occurred daily. Towards the end of July the epidemic gradually subsided, the fugitives returned to



their homes, and by the 15th of August the disease had nearly ceased. More than 4000 persons fell victims out of about 8000 cases.

In the meantime, the cholera appeared in many other places, and especially seized upon the armies of Russia, prostrating their strength and destroying their Commander in Chief. But it rested not here. Poland equally felt the force of the reigning disease.—Poland, then just risen in her strength, and struggling to throw off the yoke of a hated despotism! The incense burning on her altars of liberty had no power to neutralize the pestilential influence abroad in the earth. To her sanguinary sufferings were added the calamities of a wasting disease. In Warsaw, the epidemic attacked all ranks and ages; but was most prevalent among the lower orders. In July it prevailed with extreme violence, and in the same month, we are told, it appeared in every town and village in Poland.

In its career during the last summer, the Cholera has passed over most of the countries of northern and central Europe. From Archangel on the White Sea, and St. Petersburg, Cronstadt, Riga, and Dantzic on the Baltic, it has reached south to Odessa on the Black Sea. Recent accounts state that the epidemic had appeared in Berlin and Constantinople; and that of 50,000 pilgrims to the shrine of Mecca, during the present year, 20,000 had perished of the disease.

In reviewing the imperfect sketch which has now been given of the epidemic Cholera, it will be observed, that since its first appearance in India, in 1817, a period of about four-



teen years, it has spread over a space of about one hundred and twenty degrees of longitude, and ten degrees of south and sixty-five of north latitude—ranging over the most populous regions of the earth, and prevailing in countries of almost every variety of soil and climate.

The entrance of the disease into Europe soon gave origin to measures which it was hoped would be preventive of its extension. Sanitary cordons were interposed between the healthy and sickly districts, the regular course of trade was interrupted by the establishment of quarantines, and even the communications by mail were in some instances perforated with pins, and subjected to the action of disinfecting fumigations. Though far removed from the influence of epidemic Cholera, the police of our own seaport towns have followed the example of the European governments, in imposing a rigorous quarantine upon vessels and goods arriving from the Baltic and other quarters where the disease has appeared.

How far these prophylactic measures have succeeded in checking the spread of the disease in Europe, and are calculated to protect us from its invasion, is a question of impressive moment; a question which can be satisfactorily answered only by an appeal to facts, and a careful comparison of the epidemic phenomena of the disease with those of epidemics in relation to which the value of quarantine is satisfactorily determined. Whatever be the immediate and essential cause of Cholera, there can be no doubt, that in its nature it is allied to some one of those general agents or

influences, which are known to be productive of epidemics ; or, in other words, that it is not generically different from the causes of certain other epidemic distempers. Allowing this to be true, it may not, perhaps, be difficult to determine to what description of epidemics the Cholera belongs ; and consequently to decide what reliance may be placed on the measures of quarantine.

In classifying epidemics, authors have adopted different methods. Whilst one arranges them according to the seasons of the year in which they appear, another divides them according to the extent of their prevalence, some being local, and others general. Such generalizations are obviously too indeterminate for practical or philosophical purposes. A just classification of epidemics can be founded only upon their etiology. The causes of popular diseases have certain general properties which are similar ; and hence, in their analogies may be found distinctive characters upon which a classic arrangement of those diseases may be definitely formed. No arrangement on this plan having been made sufficiently comprehensive, I ventured, on another occasion, to offer one which it was thought would facilitate the study of the laws of epidemics.\* In the classification referred to, epidemics are reduced to three kinds, namely, *contagious*, *infectious*, and *meteorationous*. These may be defined as follows :—

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\* See Elements of the Etiology and Philosophy of Epidemics.



1st. Contagious epidemics are those diseases which arise from specific poisons, generated by disease in the human body, and communicable to healthy persons by both mediate and immediate contact. Their extensive prevalence is favored by a peculiar state of the general atmosphere.

2d. Infectious epidemics are those forms of disease mostly fevers, which prevail in the summer and autumn, and which are produced by the miasmata or malaria exhaled from decomposing animal and vegetable substances.

3d. Meteoratious epidemics are such diseases as originate from certain insensible or secret qualities of the general atmosphere. They prevail in all situations and seasons, and often spread over extensive tracts of land and ocean.

As these three classes comprise all the disorders which deserve the title of epidemic, the inquiry may now be made, to which class does the Cholera belong?

1st. Is it a contagious epidemic?

In entering on this topic it is proper to remark, that the question of contagion or non-contagion is one so fertile of controversy, that an entire unanimity can hardly be expected amongst those who claim to be heard in relation to the communicability of Cholera. Conclusions drawn from extensive and enlightened observation are generally entitled to confidence; and the more so, when they are concurrently arrived at by a large majority of observers, widely separated and unknown to one another. Such appear to be the conclusions of the Indian and European physicians in regard to the question of contagion in Cholera.



In the report on the disease as it appeared in the territories subject to the Presidency of Bengal, in the years 1817, 1818, and 1819, drawn up by Dr. Jameson, under the superintendence of the Medical Board, by order of the government, we have a digest of the documents furnished by one hundred medical officers. Though some difference of opinion occurred in relation to the cause of the disease, the grand inference drawn by the Board was, that the Cholera was not propagated by contagion.\* The correctness of this inference was several years afterwards corroborated by the Report of the Madras Medical Board, drawn up by Dr. Scott. In speaking of contagion, the Report says, "If this question could have been decided simply by the opinions of a majority of medical men, it would have already been set at rest against the doctrine of contagion,"—"for there are few subjects, perhaps, on which so little diversity of sentiment has existed." An attempt was made to show, that the disease was introduced into Mauritius by the *Topaz* frigate; but the principal medical officer of that island attributed it to atmospheric influence, denying the importation of contagion.† In accordance with these decided testimonies against contagion is the opinion of our countryman, Dr. Burrough. This gentleman, in his interesting letter to Dr. Hosack, states, that having seen and treated the disease in India, in 1820 and 1822, and again in 1829 and 1830, he "cannot for a moment admit that the

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\* Medico-Chirurgical Review.

† Ibid.



disease, under ordinary circumstances of invasion, is contagious." It is a fact, sufficiently curious to be noticed, that the most strenuous advocate of the contagiousness of the Cholera of India is one who has never seen the disease, and whose knowledge of it is chiefly derived from the Reports to which we have referred. I allude to Sir Gilbert Blane. With this gentleman, now venerable in age, the idea of contagion appears to be ever present in his meditations on epidemic diseases. His labored commentary on the official communications relating to the Cholera, betrays the same indomitable prejudice which prevails in his Essays on the causes of Yellow Fever.

But if, as these authorities seem to show, the cholera were not contagious in India, has it not been so more recently in Europe? When the disease first appeared in Russia in Europe, the doctrine of its contagiousness was generally received as well by physicians as the public authorities. That doctrine, however, it appears, was destined to undergo a signal explosion. The inquiries, instituted for the express purpose of ascertaining the cause, &c. of the epidemic, soon resulted in establishing the important fact, that it originated and spread independently of contagion. Of the twenty-four physicians, composing the Medical Council at Moscow, but three remained partisans of contagion, and these, we are told, could not furnish one authenticated fact to prove their doctrine.

Among the many considerations urged against the contagiousness of the disease at Moscow, are some of the most



convincing character. Thus, it is said that none of those that fled the city, though many of them afterwards sickened and died, communicated the complaint to others in a single instance. Dr. Albers, the principal of the Russian commission to Moscow, says that "no case is on record, of the Cholera having been transferred from Moscow to other places; and it is equally certain that, in no situation appointed for quarantine has any case of cholera occurred."\* The attendants on the sick were not more liable to be attacked, than those, who, for security, had recourse to absolute seclusion. Neither the effects of patients, merchandise, sleeping with the sick, nor the bodies of the dead, though dissected in great numbers, were at all capable of propagating the disorder. Indeed, we are assured, "that thousands of authenticated facts, collected in hospitals and private practice, prove the nullity of immediate contagion." And further, "that investigations made with the greatest minuteness, prove incontestably that the disease was not imported, but originated spontaneously in Moscow."†

Concurrent with these statements are the conclusions of other high medical authorities. In May, of the present year, the Livonian Medical Board officially announced to the inhabitants of Riga, the appearance of the Cholera in

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\* See his report, published in the "Return to an Address to His Majesty," dated June 24, 1831, &c.

† See New-York Medico-Chirurgical Bulletin, edited by George Bushe, M.D. August, 1831.



that city ; and at the same time declared it as their opinion, that the disease was not imported, that it was not personally contagious, and that it could not be communicated by goods or merchandise. The Board call on the people to dismiss their fears of contagion ; and urge them, as their only way of escape, to observe attentively the rules of hygiene.

From these evidences of the non-contagiousness of the Cholera at Moscow and Riga, we may fairly infer, that in no part of Europe has it been a communicable disease. This inference will no doubt be fully sustained by the official reports which are expected from the Medical Boards of other places, where the disease has recently prevailed. It is true, some of the documents collected by the British government, and printed by order of the House of Commons, assert the contagiousness of the Cholera. In the communication of Sir William Crichton, physician in ordinary to the emperor of Russia, it is said, that the Medical Board of St. Petersburg was obliged to acknowledge the communicability of the disease. He says, however, that a difference of opinion existed on the subject. The paper of Sir William, which professes to exhibit the principal facts in support of contagion, affords no particulars, sufficiently precise, to invalidate the opposite doctrine.

Although it appears that the opinions of the Asiatic and European physicians generally concur in respect to contagion, there are among them, and also among those who have never seen the disorder, some who hold that the Cholera, and, as they believe, certain other diseases, may, under peculiar



circumstances, acquire a contagious quality. This doctrine has been dignified by the title of contingent or incidental contagion, a doctrine unsupported by any solid evidence. Without undertaking, on this occasion, to show the foundation of that error, it may be remarked, that an epidemic disease which in one case is contagious, is so in every other case. Who will contend that one case of small-pox or measles is contagious, and that another case of the same disease, in different circumstances, is not contagious? or, in other words, when has it been observed that either of these diseases has prevailed epidemically in one city or country without the contagious property, and in another with that property? In communicable epidemic disorders, it is contagion which gives them some of their more distinctive and striking peculiarities. Now, with respect to Cholera, it may, we think, be confidently asserted, that if it have prevailed in any place, either in India or Europe, without the quality of contagion, then, in every other place, it has been absolutely destitute of that quality, and *vice versa*. Were the disease in any case communicable, it is reasonable to suppose that it would be so in the most violent and fatal, and that experiments might be devised to prove its contagiousness. Such experiments have been resorted to, and have totally failed. We are distinctly assured by Dr. Alexander Uccelli, an Italian physician in the naval service of Russia, in a letter from Sebastopoli, the capital of the Crimea, to his father, professor Uccelli, at Florence, that various physicians, in different parts of the empire, had the courage to inoculate themselves in different ways with



blood drawn from the most malignant cases, and with the matter ejected from the stomach ; and also to clothe themselves with the vestments of the patients, without experiencing any injury or inconvenience.

If further proofs were wanting to establish the incommunicable nature of Cholera, they might be found in the epidemic prevalence of the malady. One of these proofs we cannot avoid noticing. In regard to all the acknowledged varieties of contagion, it is known that an approximation to the bodies or effects of the sick is essential to the communication of the poison ; and also, that a certain period elapses after the poison is implanted in the system, before the disease is developed. Now, suppose that several cases of a disease, communicable by mediate contagion, be distributed in different parts of a town, so that each might form a point whence the contagion might radiate. What, it may be asked, would be the period within which the cases would be greatly multiplied ? Secluded as the sick generally are, comparatively but few individuals would come within the influence of the contagious poison ; and those few would remain in health for several days before the disease would show itself. The cases, however, thus occurring, would form new sources of contagion, whence the poison would spread to other persons, in whom, as in the former, a certain time would pass before its morbid action would appear. In this manner the disease would go on, until after a considerable lapse of time, its prevalence would amount to an epidemic. Now, if Cholera be contagious, we can see no reason why it should not conform to



these laws. That it does not, may be proved by referring to a few examples of its prevalence. In the army of the Marquis of Hastings, 9,000 perished in twelve days after the disease first appeared. In the district of Goorackpoor, 30,000 died in a month; and in the city of Bassora, upwards of 14,000 in two weeks. If to these numbers be added a third, we shall probably have a tolerably correct estimate of the total number of cases which occurred in those places, supposing a third of those attacked to have recovered. Such prodigious havoc, in such brief intervals of time, must obviously be produced by some cause more generally operative than contagion; for, it is wholly inconsistent with the slow and progressive mode in which communicable diseases wind their way through communities, and multiply their victims. Besides, if Cholera were extended by contagion, it would never suddenly disappear from places where there were persons susceptible of its attack, and at the same time suddenly break out in districts many miles distant, and prevail there with desolating violence; nor would it, as it is stated by the Calcutta Medical Board, first encircle a village without entering it, and then, after weeks or months, return, and passing by the parts before visited, lay all waste within.

Upon the whole, so numerous and satisfactory are the proofs of the non-contagiousness of the disease, that no reasonable doubt can remain as to its incommunicable nature. Resting on the soundness of this conclusion, we may inquire,

2dly. Is the Cholera an Infectious Epidemic?



The phenomena which attend the prevalence of diseases arising from those infectious exhalations from the soil, known by the generic term of *koino-miasma*, are, for the most part so determinate, that in common there is no difficulty in coming to a correct decision. That the Cholera is not of miasmal origin appears to be the unanimous opinion of the Indian and European physicians, and at this conclusion all must arrive who attentively examine the history of the disease. The disorders produced by *vegeto-animal effluvia* are usually of a febrile character, as intermittent, remittent, and yellow fever ; to none of which does Cholera bear any resemblance. Miasmal fevers occur chiefly in low, marshy, and flat countries ; and their prevalence is exclusively confined to those climates and seasons of the year in which the atmospheric temperature is elevated, and consequently favorable to animal and vegetable decomposition. They never suddenly rise up and prevail with desolating fury ; and then, after a period of from two to six weeks, as suddenly disappear, without any apparent cause. On the contrary, they appear slowly, and continue to prevail till late in the autumn, or till some remarkable change takes place in the sensible qualities of the air. In most of these particulars the Cholera is widely different. Though its ravages begun in countries notorious for the production of fevers, it has since spread over parts of the earth the soil and climate of which are unfavorable to the origin of infection. It has prevailed alike in low countries and mountainous regions, in the sultry heats of Hindostan, the temperate climates of Germany,



and the cold latitudes of Russia. These considerations distinctly prove that the Cholera has no connexion with miasmal emanations from the earth; and hence we are brought to the final inquiry,

3dly. Is the Cholera a meteoratious epidemic?

In deciding that the disease does not belong to the first two classes of epidemics, we are naturally led to reduce it to the third; and that this classification is not arbitrary or forced, will clearly appear upon comparing the phenomena of the disease with those of epidemics, which are generally allowed to be of meteoratious origin. But in coming to this conclusion, it is not pretended that any advancement is made in our knowledge of the essential nature of the cause of Cholera. The influences of the atmosphere which are productive of disease, are of two kinds, namely, *sensible* and *insensible* or *occult*; the latter constitute the epidemic constitutions of Sydenham and other writers, or what may more properly be denominated insensible or *epidemic meteoration*. As a general or wide-spreading cause of disease, epidemic meteoration prevails in every variety of the sensible qualities of the air. Thus, the cause of Cholera is observed to operate in every season and climate, though most destructive in the warm months, owing, probably, to the exciting causes of the malady being then more numerous and powerful. Among the congeners of Cholera is Influenza, a common and well known epidemic. It appears in the hottest as well as the coldest weather, and in countries of every topographical variety. Like Cholera, it springs up suddenly,



and after prevailing from four to six weeks, rapidly abates and disappears. Sometimes it occurs simultaneously in places remote from one another, and spreading from these, eventually overruns a whole continent, and sometimes the whole earth. It often seizes on thousands in the first few days of its prevalence. In these and other respects the two diseases closely resemble each other in their epidemic character.

As examples of other diseases originating from epidemic meteoration may be mentioned some of the forms of angina ; the fatal spotted fever which prevailed a few years since in New England ; the epidemic pneumonia typhoides which overspread the northern states in 1812 and 1813; and the disease known by the name of the Dengue, so recently prevalent in the islands of the Antilles, and on the continental shores of the Gulf of Mexico. Among the more ancient meteorations epidemics is the fatal *Sudor Anglicus*, which prevailed in England in 1485; and which, like Cholera, attacked all classes, and continued its ravages for a few weeks only ; it is said about the period of an Influenza.

“ This rapid fury, not like other pests  
Pursued a gradual course, but in a day  
Rushed as a storm o’er half the astonished isle,  
And strewed with sudden carcasses the land.”

All these diseases, as well as some others of an anomalous character, depend upon certain influences of the atmosphere, the precise nature of which has hitherto eluded inquiry. The existence of these influences is known only



by their effects. Assembled under the general head of epidemic meteoration, they constitute the most extensive class of epidemic causes. Some of the older philosophers supposed the morbid properties of the air were derived from mineral poisons exhaled from the interior of the earth. Others supposed them to originate from planetary influence. But these opinions are purely conjectural. If meteorations arise from extraneous substances diffused in the atmosphere, then, the number and variety of those substances must correspond with the number and variety of diseases they are supposed to produce. That this is the fact, cannot be admitted as even probable. The only hypothesis which appears at all plausible is, that the epidemic causes in question, are nothing more than certain alterations in the relative quantities or conditions of the constituent elements of the atmosphere. The changes in the sensible qualities of the air are great and various; and we can readily imagine that the changes in its insensible properties are equally so. The ultimate occasions of those changes are beyond our penetration. In this view of the subject, the writers on Cholera have hinted, that the cause of the disease might be some alteration in the electrical properties of the air. Dr. Annesley, the respectable author of the *Sketches of the most prevalent diseases in India*, says that the epidemic phenomena of Cholera "points to the existence of some difference in the atmosphere, and that he has little difficulty in believing that difference to be chiefly in its electrical state." Mr. Orton, another Indian physician, has advanced the same hypothesis.



In Europe, this doctrine has received the support of M. Loder of Moscow, physician to the emperor. He thinks the Cholera is primarily an affection of the nervous system, and that its cause is electro-magnetism. The truth of these etiological opinions is favoured by the interesting fact stated by Dr. Davy in his account of the disease as it prevailed in the island of Ceylon, namely, that the flaccidity of the muscular parts after death resembles that produced in animals by electricity, or when hunted to death. But whatever be the nature of the aerial influence which produces Cholera, there can be no hesitation in classing the disease with meteoratic epidemics.

In conclusion : If the views which have been offered be correct, we may advance with confidence to the final inquiry, how far a system of medical police can protect us from the invasion of the epidemic Cholera ? The atmospheric origin of the epidemic being determined, the problem may be solved in a few words. The express design of the laws establishing quarantines, expurgation of ships, merchandise, etc. is to prevent the importation of *poisons* which are productive of epidemic diseases. Some of the contagions being poisons of that kind, as that of smallpox, and also certain infections, as the malignant miasm producing yellow fever, come properly under the prohibitory operation of those laws. These poisons are capable of adhering for a season to various materials, and may be transported in ships across the seas ; and hence, in preventing their introduction, the efficacy of quarantine is every where acknowledged. But here



the prophylactic powers of quarantine end. Against the invasion of meteoratic epidemics all public enactments are, in effect, nullities. The causes of these diseases being certain influences which pervade the general atmosphere, are as uncontrollable by human agency as stormy clouds and tempests. That the cause of Cholera is of this sort, cannot be doubted; and in this conviction, we must regard the sanitary measures, recently adopted by our municipal authorities as impotent and nugatory. They serve but to dissipate popular apprehensions. If any measure of purification be insisted on, it should consist in merely expelling the air that may be retained in the holds of ships and packages of goods during their passage from sickly to healthy ports. Supposing the air thus transported to preserve its morbid properties, no persons would suffer from it, but those immediately exposed to it; or in other words, it could not induce in the general atmosphere an epidemic influence. Facts, however, abundantly show, that such precautions are utterly useless. In no instance is it known, that a ship or any species of merchandise after leaving an epidemic region has produced a case of Cholera. Even in places which have been recently devastated, goods of all descriptions are regarded as perfectly innoxious. The Extraordinary Committee established at Moscow by order of his majesty the emperor, conclude their report with the explicit declaration: "That it is unnecessary to subject merchandise to fumigation in those places where the Cholera has existed."

Compelled, as we are, to repose in the justness of these



conclusions, our hopes of exemption from the epidemic Cholera must rest on the distance at which we are separated from the field of its present prevalence. It may reach us, however, from northern Russia, by the route of Lapland, the Arctic Ocean, Greenland, Labrador, and Canada. The broad Atlantic is a mighty barrier ; but not impassable to the moving and extending power of epidemic meteoration. Should the destroying angel light upon our shores, our safety, under Providence, will depend upon the avoidance of every occasion that may favor his deadly attack.

GENTLEMEN, STUDENTS OF MEDICINE,

If, at some period not distant, the epidemic of which we have been treating should fall upon our country, it will devolve upon you to study its nature and the means of cure. As guardians of the public health, it will be expected that you discharge your high and responsible duties with intelligence and skill. To qualify you for honorable and useful service in such an emergency, and also for the ordinary offices of your profession, is the business of those here appointed to instruct you. Inspired by your attention to their prelections, it is hoped, they will not weary in laboring for your improvement.



## APPENDIX.

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*The following account of the Symptoms of the Cholera Morbus in Russia, is given in the Report of Sir William Crichton, Physician in ordinary to the Emperor.*

“GENERAL uneasiness; violent headache and giddiness; great languor; oppression at the chest; pain at the pit of the stomach and at the sides; a very weak pulse and frequent vomitings, first of undigested food, and then of a watery fluid mixed with phlegm; frequent purging; severe pains, which make the patient roll about and scream; cessation, or very scanty secretion of urine; excessive thirst; cramp in the legs, beginning at the toes, and by degrees reaching the body; voice feeble and hoarse; the eyes dull and sunk in the head; the features changed, and like those of a corpse; coldness; contraction and bluish tinge of the extremities; a coldness over the whole body; the lips and tongue become blue; a cold and clammy perspiration. The vomiting and purging soon exhaust the strength of the patient. The spasms become greater, attacking successively the most vital parts. The pulse ceases, the beating of the breast becomes scarcely sensible, and the patient, after having suffered the most horrible martyrdom, dies quietly, having a few minutes ease just before his end. The duration of the malady is, generally speaking, from twenty-four to twenty-eight hours; but sometimes its course is still more rapid; and sometimes slower.”

*Mode of Treatment in Russia, by the same author.*

“Circumstantial accounts not having yet been received from all the places where the Cholera has raged, we are not able to give any exact information relating to the best mode of treatment. Bleeding at the commencement of the disorder, has been generally recommended. At Astrachan and in Georgia, calomel with opium, after the Anglo-Indian method, has been found of use. At Soratoff, a diaphoretic treatment was found efficacious; after bleeding, vapor and warm water baths, warm drinks, aromatic and stimulant frictions were applied with a good deal of success. At Moscow, where there are several physicians of various nations, many different modes of cure were of course tried; but the diaphoretic method was that most generally preferred. Our information respecting the differences of practice in Moscow, is not sufficiently complete to enable us to decide which has been the best.”



*Mode of Treatment adopted by Dr. Alexander Uccelli, a navy surgeon in the Russian service, extracted from his communication to his father, Professor Uccelli. Printed at Florence, July 1831.*

“You must be well persuaded, educated as I have been in your school, and in that of the celebrated Thommasini, at Bologna, and consequently with principles totally opposite to those maintained by these physicians, (English,) that I have not conformed to their mode of treatment; but have adopted a system of practice consistent with our own pathological opinions, which practice has crowned my efforts with the happiest success; since, in more than 2000 cases which I have treated, the mortality has never been greater than eight or nine per cent., and these were, for the most part, cases to which I was called at an advanced stage of the disease.

“As the exciting causes were intemperance (a vice to which the lower orders are particularly addicted) and suppressed perspiration, the principal indication which I had in view, was to promote a derivation to the skin by means of copious sweats, which I effected chiefly by very hot fomentations, baths, friction, &c. and in the greater number of cases, I have had the satisfaction to succeed without the administration of other medicines except acidulated drinks.

“Perhaps my chief success resulted from the prescription of *vapor baths*, which I administered with the apparatus of Professor Assalini, and which I have seen him employ most successfully in many desperate cases of disease. I have caused a great number of similar machines to be constructed, with certain modifications to render their application more simple and economical.”—“The triumphant success of these baths, and the celebrity they acquired in the treatment of the Cholera Morbus, have determined me to extend their use more widely.

“Vapor baths, or baths by immersion in water, and hot fomentations, with acidulated drinks, I have found almost always sufficient in themselves to restore the patient. In cases, however, of obstinate vomiting, calcined magnesia with the oxide of bismuth, in small doses, and repeated during the day, or the draught of Riverius succeeded in relieving it. In more serious cases, where gastric embarrassments existed, castor oil, or the oil of sweet almonds has been not a little successful; and in some particular cases I have been obliged to have recourse to bleeding, leeches, nitre in doses, and epispastics applied to the epigastric region. Such expedients form the basis of the treatment I have employed, and I may say with success in Cholera Morbus.”