

Preparing for the Pandemic: City Boards of Health and the Arrival of Cholera in Montreal, New York, and Philadelphia in 1832

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Article abstract

This paper compares the responses of city officials in Montreal, New York, and Philadelphia to the cholera epidemic of 1832. In the absence of a medical consensus on the cause or contagious nature of the disease, physicians recommended a variety of preventive/protective measures ranging from quarantine to isolation hospitals to city sanitation. Significantly, prejudices toward immigrants, the working class, and particular ethnic groups influenced the city leaders' response to the epidemic as much as the opinion of medical experts. Of the three cities, Philadelphia experienced the lowest death rate during the epidemic—a success that contemporaries attributed to the city's hygienic/sanitation program but was due to the clean supply of drinking water from the city's state-of-the-art waterworks.

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This paper compares the responses of city officials in Montreal, New York, and Philadelphia to the cholera epidemic of 1832. In the absence of a medical consensus on the cause or contagious nature of the disease, physicians recommended a variety of preventive/protective measures ranging from quarantine to isolation hospitals to city sanitation. Significantly, prejudices toward immigrants, the working class, and particular ethnic groups influenced the city leaders' response to the epidemic as much as the opinion of medical experts. Of the three cities, Philadelphia experienced the lowest death rate during the epidemic—a success that contemporaries attributed to the city's hygienic/sanitation program but was due to the clean supply of drinking water from the city's state-of-the-art waterworks.

Cette étude met en relief les réactions de fonctionnaires municipaux des villes de Montréal, New York, et Philadelphie devant l'épidémie de choléra de 1832. Vue le désaccord entre médecins au sujet de la cause et de la nature de la contagion, les professionnels médicaux de l'époque ont proné diverses mesures contradictoires pour effectuer la protection et prévention que tout le monde cherchait, telles des quarantaines, l'isolement des hôpitaux, et le nettoyage et l'assainissement généraux des villes. Certains préjugés à l'égard d'immigrés, de classe, et d'ethnicité ont sensiblement pesé dans les actions prises par les leaders municipaux – souvent autant que les opinions des experts médicaux. Des trois villes étudiées, Philadelphie a enregistré le taux de mortalité le moins élevé de l'épidémie – une réussite attribuée à l'époque au programme municipal d'hygiène et d'assainissement. Erreur – elle avait résulté plutôt de l'eau potable venue de la station de pompage ultramoderne récemment construite pour approvisionner la ville.

As cholera spread through North America in the spring and summer of 1832, cities found themselves forced to combat the epidemic with minimal support from federal, provincial, or state governments. Historians of the disease have rightly made the city the focus of their studies. What they have not fully addressed is the ways in which cities, facing a common health challenge, turned to one another for support in combating the disease. Leonard P. Curry, in his study of the governance of United States cities in the first half of the nineteenth century, discusses the ways in which cities “sought, in the experience of the other towns, assistance in dealing with special issues” and looked “for procedures that other cities had found workable.”¹ Curry focuses on poor relief and educa-

tion and says little about inter-city cooperation in matters of disease control. In attempting to educate themselves about the nature of cholera and how best to combat it, the health departments of the major cities on the east coast worked closely with one another, drawing up similar contingency plans for controlling the disease. On the eve of the arrival of cholera in the New World, the health departments of New York, Philadelphia, Baltimore, and Boston corresponded with one another, ordered their medical leaders to assemble the known data about the disease, sponsored a medical conference so that cities might exchange information, and sent medical personnel to Montreal and Quebec, where cholera first broke out in North America, to study how successfully these cities dealt with the disease.

The classic studies of cholera in North America, Charles Rosenberg's *The Cholera Years* (1962) and Geoffrey Bilson's *A Darkened House* (1980),² examine the impact of cholera on the United States and Canada respectively. Rosenberg's study concentrates largely on New York, extrapolating from that city's experience the effects of the disease on other cities in the United States. While Bilson examines the impact of the epidemic on the cities of both Lower and Upper Canada, neither he nor Rosenberg focuses on the inter-urban and international nature of the efforts these cities made to contain the pestilence in North America. They neither emphasize the role that political considerations played in the medical analysis of the etiology of the disease nor address the question of how Philadelphia came to be viewed as a model for combating it. To understand fully the response of North American cities to the threat posed by cholera, it is vital to realize that contemporaries viewed the epidemic as an international threat that could best be kept in check by inter-city cooperation.

The physicians sent by the boards of health of Philadelphia and New York to Montreal subscribed to the prevalent medical theory on the disease. They were convinced that cholera was not spread by contagion but was a local phenomenon, bred in filth and spread by miasma, striking victims who suffered from a predisposition to the disease. Their observations of cholera in Montreal confirmed these theories on the etiology of cholera. While both teams of physicians interpreted the disastrous health situation in Montreal through the lens of contemporary medical literature, their medical judgments were also strongly influenced by social, political, and economic considerations. Reporting back to their respective boards of health, the two teams put forward similar recommendations on how best to limit the onslaught of the disease and yet Philadelphia suffered far less from the ravages of cholera than did New York. Philadelphia prided itself on having a death rate from cholera

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that was one-quarter that of New York and one-twelfth that of Montreal. Once the epidemic had passed, Philadelphia physicians and the Philadelphia press congratulated themselves on the effectiveness of their response to the disease. The city explained these startling differences in dealing with cholera by pointing out the differences in the physical infrastructures of the cities, the greater professionalism and political authority of the Philadelphia Board of Health, and the rapidity with which the board had implemented its medical campaign. Little did they suspect that the primary reason for the city's good fortune was due not to the superiority of the medical aid received but to the ready availability of an unlimited supply of clean fresh drinking water from the Fairmount reservoir.

The pandemic that swept North American cities in 1832 was caused by a comma-shaped bacterium, *Vibrio cholerae*, known by various names including Asiatic cholera and *Cholera morbus*. It is now generally accepted that *Vibrio cholerae* originated in India, where cholera was endemic, and first reached the West in the early nineteenth century.³ The disease was transmitted through human feces, generally ingested in drinking water. It first escaped the subcontinent in 1817, reaching Moscow in September 1830 and thence westward across Europe. The mysterious origins and terrifying nature of the disease added to the sense of dread it created in Europe and North America. Victims of the disease were stricken with severe diarrhea and vomiting, accompanied by excruciatingly painful cramps through the trunk and legs. As dehydration continued, the bodily fluids were excreted as "rice water" and the victim quickly collapsed and turned blue. Often, fifty per cent or more of those who caught cholera died, with death coming to the more fortunate victims in as little as four to six hours. An eyewitness described one victim as

a young woman of apparently twenty-five . . . absolutely convulsed with agony. Her eyes were started from their sockets, her mouth foamed, and her face was a frightful livid purple. She had been taken in perfect health only three hours before, but her features looked to me marked with a year of pain. The first attempt to lift her produced violent vomiting, and I thought she must die instantly.⁴

The newspapers in Philadelphia and other major east coast port cities showed a morbid fascination with Asiatic cholera as it progressed across Western Europe in the fall and winter of 1831–1832. The death tolls in Europe were recorded in detail and speculation became rife on whether the epidemic would cross the Atlantic. Several months before Asiatic cholera arrived in North America, the Philadelphia *Daily Chronicle* reported, "Few subjects possess more interest at present than this disease."⁵ In Montreal, the *Gazette* and other newspapers were equally mesmerized by the march of cholera through the cities of France, Britain, and Ireland.

In the winter of 1831–1832, fearing that "our beloved country will not be exempt from the transmission, to its own shores," the New York Board of Health sent a "memorial" to the Congress of the United States, pointing out that the threat

of cholera was "one peculiarly of a national character, and intimately connected with commerce . . . which, the powers of no one city or state are sufficient to afford remedy or relief." The Board of Health urged Congress to create, without delay, a sanitary commission to visit Europe and Asia to collect facts on "the means of preventing, and remedies to be applied to, this fatal disease."⁶

The House Committee on Foreign Affairs, to whom this memorandum was referred, rejected the suggestion, stating that such information could best be obtained by diplomatic means from European countries that had already made extensive studies of cholera. This refusal to act upon the request of the New York Board of Health was accompanied by a report from the Privy Council to the British House of Commons from June 1831 that contained physicians' assessments of the cholera epidemic that swept Russia in 1830–1831.⁷ The report, provided to Congress by the United States State Department, was apparently meant to supply the information that New York hoped to obtain by sending medical observers to Europe. On the question of the threats to commerce and health posed by cholera, the chairman of the House Committee on Foreign Affairs recommended that "adequate regulation of quarantine" be used and observed that such regulations had been "left heretofore, to the cognizance of State authority."⁸ The Board of Health of Philadelphia strongly supported the resolution of the New York Board of Health that a national sanitary commission be created "for the purpose of preventing if practicable the introduction of the Indian . . . cholera in the U. States,"⁹ but to no avail. Neither the federal nor state governments took action.

Forced to rely on their own devices, the boards of health of Philadelphia and New York sought the advice of elite members of the medical profession in investigating the literature on the disease. The Philadelphia board acted slowly in assembling data. At its meeting of 23 March 1832, two months after Congress had refused to take action, the Board of Health appointed a committee of the Medical Society of Philadelphia "to take into consideration every means that may be necessary to prevent the introduction of cholera into the port of Philadelphia and report to the board as soon as practicable."¹⁰ On 11 April, the board requested that the College of Physicians of Philadelphia, perhaps the most prestigious medical organization in the country, draw up a similar report for the benefit of both the medical community and laymen.¹¹ At its 25 April meeting the Committee on Sickness reported to the Board of Health that it was in correspondence with the boards of health of Boston, New York, and Baltimore on the question of containing cholera and that they had authorized three doctors to attend a conference on the subject to be held in New York.¹² The doctors, John T. Sharpless, George F. Leaman, and J. R. Burden, submitted their report on ways to contain cholera at the 9 May meeting of the Board of Health. They concluded that cholera appeared not to be contagious and that it was therefore unnecessary to detain persons on ships more than ten days. They also focused on the importance of cleaning

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filth from the city and instructed the public to practise temperance and personal hygiene.¹³ The Medical Society report was presented to the Board of Health on 30 May, just before cholera first broke out in Quebec and Montreal; the report of the College of Physicians of Philadelphia came shortly after. All three reports were strongly anti-contagionist in their viewpoint, placing their authors firmly on one side of a heated medical controversy.

The unknown etiology of cholera led to speculation as to its causes that came to divide the medical professions of Europe and America into two camps. Bisset Hawkins, a British observer of the cholera epidemic in Russia, pointed out in 1831 that the spirit of partisanship was almost as fierce on this medical topic as it was on political or theological questions.¹⁴ At issue was the question of whether cholera was spread through contagion, as was smallpox, or through miasma, emerging from filth and rotting organic matter, as the anti-contagionists contended. The contagionists justified their theory in part on the fact that the disease followed trade routes, with barge men and sailors often the first ones to be attacked by the disease when it broke out in a city. However, the way in which cholera spread did not fit the contemporary definition of contagion, which specified personal contact between individuals. The anti-contagionists pointed out that cholera would break out in whole districts at once without the requisite human-to-human contact and that medical personnel who tended to the victims seldom caught the disease. In 1831–1832, the majority of the medical community “realized that no existing theory of contagion taken by itself could possibly explain those facts” and tended to subscribe to some variant of the miasma theory. The public believed it was no accident that the disease followed trade and emigration routes, and espoused contagion as the cause of the disease’s epidemic spread across Europe and America.¹⁵

Historian Erwin H. Ackerknecht has pointed out in his seminal essay on anti-contagionism that there were major flaws in the arguments of *both* factions in this debate.

*Intellectually and rationally the two theories balanced each other too evenly. Under such conditions the accident of personal experience and temperament, and especially economic outlook and political loyalties will determine the decision. These, being liberal and bourgeois in the majority of physicians of the time brought about the victory of anticontagionism.*¹⁶

Ackerknecht suggested that authoritarian regimes that placed emphasis on the interests of the community and the state subscribed to the contagionist thesis with its corollary of quarantine, while more liberal regimes with their stress on the primacy of individual freedom were anti-contagionist and focused on the importance of sanitation reform.¹⁷ This interpretation has been reinforced by historian Richard Evans, who argues that common to all theories of the etiology of cholera in this period is “the indissoluble connection between medical science, economic interest, and political ideology.”¹⁸ Critics have accused Ackerknecht’s thesis of being too Manichean. Although in

autocratic Prussia state interventionism persisted well into the 1860s,¹⁹ Peter Baldwin has demonstrated that “etiological hand to hand combat raged” in Prussia on the subject of contagion. In Austria, medical opinion evolved from contagionist to anti-contagionism as physicians became more familiar with the disease.²⁰ Whatever the limitations of the Ackerknecht analysis of how authoritarian regimes regarded the etiology of cholera, the almost universal advocacy of anti-contagionism by the medical communities of Philadelphia, New York, and Montreal validates his argument that economic and political factors influenced medical theory. As shall be seen in Lower Canada, the dispute divided the English and French communities. The anglophone medical community attributed the cholera epidemic to local miasmatic conditions, not to the huge influx of Irish immigrants from cholera-stricken Europe, while the French-Canadian *Patriote* Party used contagionism and quarantine to justify their attempts to halt anglophone immigration.

Although the literature consulted by the committees of the Medical Society of Philadelphia and the College of Physicians of Philadelphia gave conflicting interpretations of the cause of cholera, the committees subscribed solely to anti-contagionist theory. Among the medical analyses they examined were a series of reports requested by Charles C. Grenville, of His Majesty’s Privy Council, from Russia in 1831, which were later submitted to Parliament, the governor general of Lower Canada, and the United States State Department. In his report, the Prussian Dr. Albers commented that “there prevailed a great diversity of opinions”²¹ on the question of whether it was contagious. While admitting that in the debate over the etiology “both parties cite facts which are met with point blank contradictions by the opposite party,” Dr. Albers was convinced that cholera was contagious, although “such contagion differs from the nature of all known contagions.”²² Dr. Thomas Walker reported that “in Moscow, by far the greatest part of the medical men are of the opinion that the disease is not contagious, but produced by some peculiar state of the atmosphere.” He disagreed with this judgment, admitting, “I myself am *convinced* of the contagious nature of the disease, but that *proofs* of its transmission from one individual to another are not *quite perfect* as yet.”²³

The Philadelphia physicians who examined reports on cholera in Europe chose to ignore the evidence of doctors who demonstrated contagionist leanings. The introduction to the report of the committee of the College of Physicians of Philadelphia announced that they had “abundant and convincing proof of the non-contagiousness of the disease, and of the utter uselessness of quarantine restrictions.” Their analysis was based on both a selective reading of contemporary European medical opinion and the ancient writings of Hippocrates, who had coined the word *cholera* to describe diarrhea-producing diseases. Although the physicians who wrote these reports had yet to see *Vibrio cholerae*, they presumed it was “merely . . . a more violent grade of the malady” traditionally referred to as cholera.²⁴ The committee discounted the idea that cholera

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was a disease new to North America, citing references to cholera by the first century CE Latin encyclopedist Corelius Celsus and the seventeenth-century English physician Thomas Sydenham to demonstrate that it had always been present in Western society. The physicians found cholera to be “but an aggravated or epidemic variety, . . . known to every reader as of no infrequent occurrence in the summer season, in nearly all climates.” It differed only in that it was now appearing in an “epidemic” form.²⁵ The Committee of the Medical Society came to similar conclusions as did Dr. J. Young of Chester, Pennsylvania, who wrote an essay in the *American Journal of the Medical Sciences*, over three months before the arrival of cholera in the New World, in which he cited cases of cholera he had cured in the 1820s.²⁶ The Medical Society report commented that not only had all attempts to contain the disease through quarantine failed, they had, “by suspending or interrupting commerce and depriving of employment thousands of those who are directly or indirectly dependent upon it for the means of their daily subsistence, rendered multitudes of individuals and families more favourable subjects of the disease,”²⁷ thus providing further evidence of the validity of Ackerknecht’s thesis of the interconnectedness of etiology theory and economics. While the overwhelming majority of the medical profession denied that cholera was contagious and thus controllable by quarantine, the general public thought otherwise. Typical was the Philadelphia *Daily Chronicle* observation that “the disease must undoubtedly have been brought to Canada by emigrants from Great Britain; and if the doctors can dismiss prejudice for a few days, here is a fair opportunity to settle the question of contagion.”²⁸

Following the diagnosis of Hippocrates and other ancient physicians, whose writings still made up much of the basis of medical education in the early nineteenth century, the reports submitted to the Philadelphia Board of Health placed stress on the dangers of ingesting certain foods such as shellfish, under-cooked pork, and excessive use of onions, melons, cucumbers, and under-ripe fruits.²⁹ Added to these dangers were a number of other factors that supposedly predisposed individuals to catching the disease. Among these were “addiction to spirituous or other intoxicating drinks.” Being in a high emotional state because of fear, grief, anxiety, or other depressing passions also was also thought to make the individual highly susceptible to the disease,³⁰ a concept that would greatly influence analyses of the physicians who journeyed to Montreal and Quebec to observe the epidemic. “Valetudinarians,” the infirm, and the under-nourished poor were also thought to be predisposed to cholera as were those who lived in damp, low-lying areas “crowded with a depraved or indigent population.”³¹ Not surprisingly, the physicians concluded that being in the care of a doctor was essential for recovery. Stating that “there has scarcely been an instance of recovery where the subjects of it [cholera] have been without medical assistance,” the medical advisors to the Board of Health stressed the urgency of setting up temporary hospitals to treat the sick at the first appearance of cholera.³²

The first reported cholera death in Montreal was on 9 June 1832.³³ News of the outbreak reached Philadelphia on 16 June. The Philadelphia *Daily Chronicle* declared that it was its “painful duty to announce” that cholera had arrived in the New World.³⁴ Reflecting the high state of public anxiety about the threat, the Quaker diarist and chronicler of early nineteenth-century Philadelphia life, Deborah Norris Logan, observed, “There is a great feeling of excitement at present in the Public mind upon account of the Cholera in Canada, its ravages in Montreal have been frightful, and enough to appal the stoutest heart.”³⁵

Although no effort was made “to put the city in a position to meet the visitor until a few days before its ravages commenced in this country,”³⁶ when the threat became imminent, the Philadelphia Board of Health acted speedily, implementing its plans for dealing with the disease. It was encouraged into action by the local press. On 18 June, the *Daily Chronicle* called for hiring men “to collect and carry away every particle of impurity that can be scraped from any quarter of the town. The expense would not be great; and the citizens would cheerfully incur it.”³⁷ In their meeting the next day the Board of Health incorporated the Medical Society committee’s recommendations for municipal action into a proclamation. They took a sanitarian approach. Believing that all disease emanated from filth, the board called for the cleansing of the city, “it having been clearly ascertained by the experience of all countries where cholera has flourished, that when the greater cleanliness was observed, there the disease has assumed the milder form.”³⁸ Thirty thousand dollars was appropriated for the “purification of the city,”³⁹ and water drawn from the Schuylkill River was used to clean the streets.⁴⁰ The effort was apparently successful, for on the twenty-ninth, Deborah Logan noted that “the allarm about the cholera has been so far productive of good in getting the city unusually well cleaned.”⁴¹

Believing that first-hand knowledge of the threat that faced them should be obtained, and following the lead of New York City, the Philadelphia Board of Health authorized a medical committee to be sent to Canada “for the purpose of ascertaining the nature of the disease.”⁴² The committee appointed by the city Sanitary Committee consisted of Samuel Jackson, Charles D. Meigs, and Richard Harlan, all fellows of the College of Physicians of Philadelphia. Jackson, who would become the major spokesman on cholera for the medical societies of Philadelphia, had received his MD from the University of Pennsylvania in 1808 and had been elected president of the city Board of Health in 1820. He was on the medical faculty of the University of Pennsylvania and in 1830 was a vice-president of the Medical Society of Pennsylvania.⁴³ He and his fellow physicians left for Montreal on 23 June⁴⁴ determined to make an objective medical study of the disease but carrying with them preconceived ideas about its cause and nature. Jackson, Meigs, and Harlan arrived in Montreal on or about 27 June.

Doctors J. R. Rhineland and James Ellsworth DeKay, sent on a similar mission by the New York Board of Health, had

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arrived on 21 June.⁴⁵ DeKay had recently returned to New York from Turkey, where he had made a study of Asiatic cholera.⁴⁶ In yet another example of inter-city and international cooperation, as further reports of the devastating epidemic in Montreal reached New York, a meeting was held in the city on 22 June in which \$3,000 was raised to send medical assistance to the immigrants in northern New York State and Lower Canada. Doctors John B. Stevenson and Peter Forrester were sent to the border to administer aid.⁴⁷ By the time the Philadelphia doctors arrived, Montreal was in a desperate and chaotic state, with 3,411 cases of cholera and 970 deaths already reported by the Montreal Board of Health.⁴⁸ Adding to the health problems facing the city, 40,000 to 50,000 immigrants were disembarking in Lower Canada that summer and political unrest among the French Canadians was rampant.

Although the Privy Council in London had sent circulars to its colonial governments recommending that boards of health be created, cities be cleansed, and quarantine be imposed, little was done by the government of Lower Canada to prepare for the onslaught of the disease.⁴⁹ Lord Aylmer, the governor general of Lower Canada, asked the Quebec Medical Board to make suggestions on how to deal with the disease, should it appear in the province. Drawing largely upon the rules set up by the British government, they called for cleansing the cities. They also accepted the British government's contention that the disease was contagious and recommended setting up a quarantine station to screen immigrants on ships from Europe. At the end of February 1832, the House of Assembly acted on Lord Aylmer's recommendation for a quarantine and health bill: "It empowered the Governor to name a board of health to consist of senior magistrates, a health commissioner, a resident physician, and to establish a quarantine station at Grosse Isle, on the St. Lawrence River below Quebec."⁵⁰ The station at Grosse Isle proved to be ineffective in stopping shipping and screening passengers.⁵¹ The House of Assembly of Lower Canada appropriated £10,000 to pay for quarantine enforcement and the establishment of boards of health in the province.⁵² Despite this appropriation, the newly created boards of health did little to clean up their towns in preparation for the onslaught of the disease.⁵³ The Montreal Board of Health issued regulations governing the cleanliness and health of the city on 9 June but neither enforced them nor took other action to deal with the threat posed by cholera.⁵⁴

From their study of the situation in Montreal, the Philadelphia physicians reaffirmed their belief that cholera was not imported or spread by contagion and posited that poverty, fear, and a general predisposition to the disease were the primary reasons why certain people were susceptible to cholera.⁵⁵ The physicians believed ethnicity to be one of the dominant predisposing factors. From Dr. William Robinson, a member of the Montreal Board of Health, they learned that among the immigrants, who were predominately Irish, "it was not uncommon for six and even ten families to occupy a tenement formerly inhabited by one."⁵⁶ Jackson concluded that

"the emigrant newly arrived . . . have their systems strongly predisposed to attacks of disease, and . . . would first feel the effects and become the earliest victims of a pestilential or epidemic influence when prevailing."⁵⁷

The doctors from the College of Physicians found the majority French-Canadian population of Montreal similarly predisposed to catch the disease: "The French Canadian has undergone no change in language, habits, religion, or modes of life, since the conquest of the country by the English. He retains all the peculiarities of his origins."⁵⁸ The French Canadians were described as living on a diet of soups and bread and living "with little attention to comfort or cleanliness, and are rather intemperate."⁵⁹ They were found to have habits that made them susceptible to the epidemic, consuming large quantities of spirits and living in unhygienic houses.⁶⁰ In contrast, the English in Montreal "use a good substantial nutriment, with the attention to the comforts of life for which their nation is distinguished."⁶¹ The Philadelphia physicians found that the disease attacked both the Irish immigrants and the French Canadians almost simultaneously, leading them to conclude that it was unlikely that the disease was spread by contagion. The French Canadians were far worse hit than the immigrants while the English suffered very little: "The coincidence between these facts and those in Europe cannot fail to strike the attention." The percentage of cases in Britain was remarkably small, the cases in Ireland larger, while in France cholera "pressed on the population . . . with an iron hand."⁶²

Jackson and his colleagues were critical of the relief efforts taken by the Montreal authorities, pointing out that when cholera attacked Montreal, the Board of Health had not yet been activated, no measures for cleansing the city had been undertaken, and no accommodation for victims had been provided. A ravine filled with filth and stagnant water was the site of a large number of the cholera cases, but nothing was done to clean it up. The Philadelphia physicians pointed out that the Board of Health had been offered the seminary—a large and spacious building—for a temporary hospital, an offer that they turned down. Instead, the Board of Health turned sheds that had been built to house immigrants into temporary hospitals, the evicted immigrants being exposed to the elements and thus to the greater probability of catching cholera. At first the patients were without beds or blankets and many were laid on straw, a situation that still remained uncorrected for over half of the patients when the Philadelphia physicians arrived in Montreal. The doctors found that "instead of hospitals they in reality could be regarded as mere charnel houses, where the destitute and houseless might die beneath a roof instead of the canopy of heaven. In St. Ann's shed, the day of our arrival, 117 patients had been admitted, of whom 101 had died."⁶³

In his 1866 book on cholera, Dr. Robert Nelson, the health commissioner for Montreal in 1832, gave a picture of the situation entirely at odds with that of the Philadelphia physicians. He defended his work fighting cholera in Montreal, arguing that shortly after the epidemic broke out, he had organized

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the city to tend to the victims. The shacks that Jackson criticized Nelson spoke of with pride as a temporary hospital with a steward, cooks, nurses, all under the "excellent medical attention of the resident physician."⁶⁴ Dispensaries were set up in the city that supplied free drugs to all who applied, and coffins were provided for the dead.⁶⁵ Nelson did admit that the city was woefully understaffed with doctors: only thirty licensed physicians and surgeons were available to tend to a population of 32,000. Thirty-four years after the event, he laid much of the blame for the high death rate in the city on the doctors of Montreal, criticizing their reliance on the *methodus medendi* teaching of the scholastics whose "principles had no application here," proving "useless in every case, and injurious in many."⁶⁶ Illustrative of the methods that he condemned were the drugs that the Philadelphia doctors recommended be given to cholera victims. They claimed that "the alcoholic solution of camphor, camphor water, and opium; blue mass opium, and ipecacuanha; sulphuric ether; ammonia; warm brine; spirits of lavender compound; and many other similar medicines, have been . . . employed, and all with more or less success."⁶⁷ The Philadelphia physicians believed that when treated this way in its early stages, "there are few diseases more manageable and more entirely within the control of medicine and medical skill."⁶⁸

The enflamed political emotions among the Montreal population confirmed the assumption of the doctors from the College of Physicians that emotional agitation, fear, and panic greatly increased the probability that one would be struck down by cholera. Jackson and his colleagues were well aware of the political turmoil that had torn Lower Canada asunder that spring.

In Canada party strife had proceeded this spring to great lengths, the passions had been roused, antipathies, and hatreds, and personal animosities were in the height of bitterness. These feelings had not subsided when the epidemic burst upon the city. Not only did the excitements of these passions prove individually unfavourable, but they exercised an unhappy influence, by paralyzing public measures for sanitary objects. The most beneficial suggestions and liberal offers coming from one party, were regarded with a jealous eye, as originating in a sinister intention, and were rejected by the other. Instead of unanimity for the public welfare, there reigned division, distraction, and distrust.⁶⁹

The political turmoil to which the Philadelphia physicians referred was a result of the long-standing dispute between the French-Canadian majority of Lower Canada and the English governors, merchants, and professional classes who controlled the administration of city and province. Louis-Joseph Papineau, the speaker of the popularly elected House of Assembly of Lower Canada and titular head of the predominately French-Canadian *Patriote* party, was outspoken in his demands for greater French-Canadian representation in the upper house Legislative Council, the executive, and the judiciary, whose members were appointed by the governor. In January 1832 Daniel Tracey, an Irish physician who was

an ardent supporter of Papineau and deeply hostile to British government, was jailed on charges of libelling the Legislative Council. In the month he remained in jail, he became a hero of the *Patriote* party and was selected as their candidate in a by-election to fill a vacant Montreal seat in the Assembly. The voting went on for weeks, with tempers on both sides becoming strained. On 21 May, fighting broke out near the polling place in Montreal between the supporters of the English and *Patriote* parties. The garrison was called out and the soldiers fired into the crowd to subdue what the government described as a "riot." The French-Canadian opponents of the government, in contrast, characterize the incident as a "massacre." Three French Canadians were killed. The events of 21 May hardened divisions in Montreal society and created a frenzy of accusations and recriminations on both sides. To his enemies in the British establishment Tracey was the tool of *Patriote* leader Papineau who "employed Mr. Tracey to invite the Irish violently to uphold their cause."⁷⁰ The liberal/radical French-language newspaper *La Minerve* viewed him as a Canadian Daniel O'Connell, fighting for equal political rights for French Canadians as O'Connell was fighting for equal rights for Irish Catholics.

M. Tracey, pour défendre de ce côté de l'océan la nationalité et le caractère de l'Irlande opprimée, forme le projet de se dévouer entièrement à la politique.⁷¹

Dr. Tracey won the election by three votes but never took his seat in the Assembly. He died of cholera in July while tending to other victims.

Historian Howard Markel has shown how American health officials in New York City used quarantine to limit the flow of Russian Jews into the city during the cholera epidemic of 1892.⁷² Sixty years earlier, French-Canadian political leaders attempted to use similar tactics to stem the flow of Irish emigrants who were flooding into Lower Canada. While the *Patriote* Party included individuals of Irish descent who were bound to the French Canadians by their mutual dislike of English domination of Lower Canada, the party fervently opposed the unrestricted immigration of Irish paupers, who they believed threatened to destroy French culture. *Patriote* Party spokesmen were firm in their belief that cholera was spread by contagion, justifying their call for rigid quarantine of all ships entering the St. Lawrence and illustrating the validity of Ackerknecht's contention that the debate on the etiology of cholera was greatly influenced by political and economic considerations.

In yet another example of inter-city cooperation and what appears to be a concerted effort by the House of Assembly to pave the way for quarantine legislation, in October 1831 it dispatched Dr. Francois-Xavier Tessier to New York City to learn about that city's health and quarantine systems. This was done several months before the Assembly passed quarantine legislation. Tessier had been appointed the health officer for the port of Quebec on the recommendation of Papineau who,

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as speaker of the House, must have played a major role in sending him to New York. In the months after cholera broke out in Lower Canada, Tessier, a *Patriote* Party candidate for the Assembly, found his actions as health officer the centre of a political dispute between the *Patriote* Party in the Assembly and the opposition on the Board of Health. The Board of Health dismissed Tessier from office in October 1832 on the grounds that he had failed to control the epidemic. An inquiry by the Assembly found the basis of the board's actions dubious and partisan.⁷³ Other disputes over the implementation of quarantine to control cholera took a decidedly political turn. In December 1831 the Quebec Emigrant [*sic*] Society, whom the chief emigrant [*sic*] agent believed to be dominated by French Canadians, protested against unrestricted immigration,⁷⁴ and in February 1832 the Assembly passed a measure imposing a tax of one to two dollars per head on each immigrant entering Lower Canada.⁷⁵ This legislation was perceived by the *Tory Montreal Gazette* as intending "to obstruct the influx of Europeans which by increasing the number of English inhabitants, threatens soon to merge the preponderance of the French Canadians in Lower Canada."⁷⁶

The arrival of cholera in the city just weeks after the bloody confrontation of 21 May led the issue of quarantine to be further politicized with the debate between the contagionists and anti-contagionists dividing largely along ethnic lines. The *Patriote* party accused the administration of importing Irish immigrants infected with cholera in order to kill the French-Canadian population and replace them with English speakers.⁷⁷ At a public meeting of *Patriote* supporters in the village of Debartzch on 30 July the British government was condemned "for having suffered so considerable an emigration, at a time when she was under the frightful influence of the cholera, which by this means has been introduced into the colony."⁷⁸ Edouard Rodier, a radical in the *Patriote* Party denounced the cholera as a British plot:

When I see my country in mourning, and my native land presenting to my eye nothing but one vast cemetery, I ask, what has been the cause of all these disasters? and the voice of my father, my brother, and my beloved mother,—the voices of thousands of my fellow-citizens—they must respond from their tombs. It is emigration. It was not enough to send among us avaricious egoists . . . They must . . . rid themselves of their beggars and cast them by the thousands on our shores; they must send us miserable beings, who, after having partaken of the bread of our children, will subject them to the horrors following upon hunger and misery; they must do still more, they must send us in their train pestilence and death.⁷⁹

Papineau himself castigated the government for its weak and incompetent response to the cholera crisis, saying, "Its fear of the merchants has let it permit the entrance of the plague into the country."⁸⁰ From the viewpoint of the *Patriote* Party, the economic and cultural interests of the predominately agrarian French Canadians were being sacrificed to the greed of the English merchants and their political enablers. Dr. Nelson, who was a *Patriote* and a strong supporter of Louis-Joseph

Papineau, argued that the disease had been imported from Europe and should be controlled by a rigorous quarantine.⁸¹ The *Patriote* party organ *La Minerve* agreed:

On demande hautement depuis plusieurs jours un système efficace de quarantaine et de purification pour les émigrés qui arrivent journellement, et on ne voit rien s'établir de la sorte. Pour comble de malheur on dit qu'il n'y a plus d'argent. Mais ce mal, l'Exécutif peut y remédier facilement; qu'il convoque la Législature.⁸²

The *Tory Montreal Gazette* responded vigorously to these charges, arguing that "to hold ENGLAND to account for a dispensation of PROVIDENCE could enter only into the heads of madmen or of brainless wittlings."⁸³ The merchants and anglophone community of Montreal and Quebec subscribed to the theory that cholera was not contagious and that quarantine was therefore useless. A rigorously enforced quarantine would keep out labourers needed to dig canals vital to the commercial interests of the English merchants and the trade that they needed to survive economically. Both the government and the anglophone medical community argued that the epidemic was not contagious but was endemic to Canada, subscribing to what Jackson described as "the existence of an active epidemic influence or agency operating at once on the mass of the population," a theory that justified the merchants' opposition to quarantine. As proof that the disease was neither imported nor spread by contagion they pointed out that cholera had broken out in both the immigrant and Canadian populations simultaneously. They offered as further proof reports "of the prevalence of the disease among the Indians of the north, inland 100 leagues from the sea."⁸⁴

These partisan disputes over contagion and quarantine were set against a larger century-long conflict recently described by historian Ian McKay as a dispute over the attempt to replace traditional Canadian forms of human organization with a new liberal order that stressed freedom of trade, labour and expression, equality, and the individual's right to property.⁸⁵ Immigration and land settlement had become big business, dependent upon the construction of canals that Papineau's *Patriote* Party were reluctant to finance with state-sponsored loans. "Immigration would inevitably affect the law, the agricultural system and static culture of the lower St. Lawrence. The *patriotes* preferred to preserve subsistence agriculture on feudal lines at the expense of large-scale trade in new staples."⁸⁶ The Lower Canada Assembly was opposed to replacing the traditional seigneuries with a British free land tenure system and even resisted the commutation of seigneurial obligations that had been swept away in France by the revolution.⁸⁷ Thus quarantine not only served a medical purpose but was an instrument in a larger struggle to preserve an ancient French-Canadian way of life.

Although vicious political debates raged between the *Tory* anglophone newspapers and their French-Canadian and Irish liberal/radical counterparts, they were united in their criticism of the incompetent response of the Montreal government and

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its Board of Health to the cholera crisis. While *La Minerve* criticized the government for failing to enforce quarantine, the Tory *Montreal Gazette* and the *Canadian Courant* were scathing in their denunciation of the indolence of the Montreal Board of Health. The *Gazette* severely chastised the Board of Health, blaming the fatalities from the disease directly on the board's sloth in purifying the city and their careless treatment of some of the victims.⁸⁸ The arrivals of Drs. Rhineland and DeKay prompted the paper to comment sarcastically that

the Boards of Health of New York and Albany have been prompt and energetic in the measures they have pursued to meet the disease, and afford an excellent example to a certain Board, for whose conduct we have never had any reason to express any praise . . . [H]ere, the presence of the pestilence for a week, and the death of hundreds, produces nothing.⁸⁹

A month later the newspaper was still critical: "Their best united exertions are urgently demanded in a crisis, which, it must not be disguised, is truly alarming."⁹⁰ It was not until 11 August, two months after cholera had first broken out in Montreal, when deaths in the city from cholera were declining, that the *Montreal Gazette* applauded the actions of the Sanitary Committee for removing "immense quantities of filth and manure, sufficient to engender as well as to support a pestilence."⁹¹ The *Canadian Courant* was even more scathing in its criticism of the Board of Health and in June coined the phrase "dying-houses" to describe the makeshift sheds used as hospitals.⁹² Almost two months later they could still describe Montreal as "one of the foulest haunts of men on the American continent." "It is now high time that some prompt and efficient measures were adopted for cleansing and disinfecting the whole city."⁹³ The citizenry began to respond where the Board of Health had remained quiescent. Volunteer health wardens began to take over the job of cleansing the city and "have done more, in one week, than the Wardens employed by the Board of Health could have done in a month."⁹⁴ Not until early August did the Board of Health approve covering over the ravine identified by Jackson, Meigs, and Harlan in June and described by the *Canadian Courant* as a "nest of infection."⁹⁵ Only towards the end of August did the Board of Health finally begin to prosecute tenants who had failed to cleanse their houses and yards.⁹⁶ From these reports it appears that for two months the Board of Health of Montreal neglected to address the medical and hygiene needs of the city while ignoring the most flagrant violations of their own health code.

Sent to Lower Canada to discover the causes and study the treatment of cholera, the Philadelphia physicians reaffirmed their conviction that the disease was an epidemic form of a local disease emerging from filth and spread by miasma. They concluded that cholera was neither contagious nor imported but brought about by fear and a general predisposition to the disease among certain elements in the population. They advocated enlightening the public about the disease as a way of reducing the fear that they believed predisposed individuals to catching cholera. The failure of the Montreal health and

civic officials to dealing with the disease convinced the physicians that similar disastrous problems could be avoided only by rapid response to the disease from urban health authorities. The refusal of the Montreal authorities to admit cholera victims into hospitals and the appalling nature of the sheds in which cholera patients were housed led the physicians to call for temporary public hospitals in Philadelphia.⁹⁷ Jackson and his colleagues stressed that such temporary hospitals would provide the swift remedial assistance needed by victims if they were to survive. "The delay of an hour may usher in . . . collapse." Showing concern for the well-being of the individual inhabitants, they favoured having public authorities

provide the means to treatment for those who cannot command them so that aid may be properly administered to all the moment of attack. These means are a number of . . . houses of reception in various parts of the city; stations where nurses, physicians, and students . . . can be procured in the night and without delay.⁹⁸

Also recommended was "the evacuation of certain localities, where the occurrence of numerous cases indicates a pestiferous influence and the furnishing to the poor, as far as practicable, wholesome and nourishing food."⁹⁹

Cholera broke out in New York City on 24 June, motivating the Philadelphia Sanitary Committee and the Board of Health into action. On 4 July the Sanitary Committee wrote to the governor requesting permission to use the State Arsenal on Juniper Street as a hospital. They explained, "Thus far we have found it absolutely impossible to procure the use of private property for this object, which is nevertheless believed upon the highest medical authority to be of primary importance."¹⁰⁰ On 5 July the Sanitary Committee created a cholera medical board composed of physicians to provide medical aid to the sick and to keep the board and the hospitals apprised of any cases of cholera.¹⁰¹ The Sanitary Committee informed the citizens of Philadelphia that "the experience in Canada illustrates . . . forcibly the consequences of delaying preparation until the actual appearance of the pestilence."¹⁰² Arguing that "immediate arrangements needed to be made "to meet the disease at every probable point of attack," the committee outlined their plan for placing temporary hospitals throughout the city.¹⁰³ Undoubtedly, as was the case in England, these hospitals were intended to stop the spread of the disease as much as they were meant to cure the sick.¹⁰⁴ On 11 July the Board of Health requested permission of the controller of the public schools to use schools as cholera dispensaries.¹⁰⁵ By 18 July, five hospitals had been set up in the city with facilities to accommodate up to 200 patients for ten days. Board of Health authorization was given for the Sanitation Committee to send convalescing patients to the city hospital.¹⁰⁶

The extraordinary overcrowding in certain sections of the city was seen as a major health hazard. On 28 July, as the disease spread throughout the city and the number of victims increased, the Board of Health authorized the removal of individuals from densely populated or infected districts

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of the city at public expense.¹⁰⁷ "A block of six four-story houses, inhabited by ninety-two families, consisting of four hundred and seventy-three persons, and situated between Front Street and Water and Race and Vine Streets, was the first attacked."¹⁰⁸ Houses in the neighbourhood lying between Arch and Vine Streets were forcibly vacated.¹⁰⁹ On 11 August, with the numbers of the dead increasing among the poor, the Board of Health assumed responsibility for providing free coffins.¹¹⁰ While this attention to the medical and funereal needs of the destitute is illustrative of the civic-mindedness of the city fathers, it cannot have escaped their notice that such actions as placing destitute victims in local neighbourhood hospitals and forcefully removing the poor from overcrowded buildings kept the victims, who were often black, confined and separate from the more prosperous members of society. The board's daily announcement of the number of dead attracted crowds of hundreds and then thousands at the height of the epidemic.¹¹¹

The local populations sometimes challenged the implementation of these plans for fighting the disease. The Sanitary Committee complained that landowners protested the setting up of temporary hospitals in their neighbourhoods, saying that "when a site has been thought of, they [the Sanitary Committee] have found themselves opposed by a torrent of violence, and as they are constrained to be believed, of unreasonable and unnecessary feeling."¹¹² At the height of the epidemic, physicians in these hospitals protested against being assaulted and insulted by what they referred to as "rabble." In a public appeal for support, the physicians in charge of the temporary hospitals denied that they were forcing anyone into the hospitals. They argued that they were acting only out of public duty and rejected "all pecuniary compensation." The doctors' threatened to "wash our hands in innocence" and retire from the hospitals unless their efforts were supported and protected by their fellow citizens.¹¹³ The threat apparently restored order, for no further attacks were reported.

By the end of August the Board of Health was able to announce that "the pestilence has in great measure passed."¹¹⁴ With two notable exceptions, Philadelphia had escaped the epidemic's effects more lightly than its sister cities. The official death toll as of 13 September was 935, or 1 person in 173, compared to New York where 2,782, or 1 person in 47 died, and Montreal where in excess of 1,904 deaths, or 1 person in 14, were recorded.¹¹⁵ The official estimate for Montreal was probably very low. Dr. Nelson, the Montreal health commissioner, remembered "that the deaths in Montreal reached 4,000, if they did not exceed that number a little."¹¹⁶

The death toll in Philadelphia would have been even lower except for the deadly outbreaks of cholera in the Arch Street prison and the almshouse. There were 134 cases of cholera reported in the almshouse with 61 deaths. Understaffed and overwhelmed, the almshouse administration turned to the Sisters of Charity of Emmetsburg, who took charge of the

wards and brought the situation under control.¹¹⁷ In the prison approximately 80 of the 310 prisoners died, the exact number not being known because many of the sick were either sent to the cholera hospitals or released. The state-owned prison was used to hold convicted criminals, paupers, debtors, and untried prisoners, many of whom were malnourished. They were crowded into thirteen twenty-foot square rooms at night where they were given nothing but straw to sleep on. Their diet consisted of bread, potatoes, thin soup, and molasses and water.¹¹⁸ The epidemic broke out in the prison on 30 July, first affecting newly entered prisoners and then spreading rapidly through the whole jail. Responding to the belief that the undernourished were most prone to fall victim to the disease, the prison personnel increased the food given the prisoners on 2 August.¹¹⁹ This did little to alleviate the situation. By the night of 4 August the epidemic had spread through the entire jail and

the diseased were so numerous upon the floors of the extensive halls, that the keepers had difficulty to avoid treading upon them, as they performed their duties. About 80 persons were lying dead, dying or suffering, with this epidemic in the building.¹²⁰

The next day, "the chief keeper, bewildered with fatigue and almost in a state of derangement," had "many of the prisoners discharged upon their own recognizance" with "thirteen of the most serious offenders taken, guarded to a watch house."¹²¹ The astronomically high death rate of almost one prisoner in four at the Arch Street prison led the state legislature to undertake an investigation.

In his report to the Consulting Medical Board of Philadelphia, Dr. Jackson, the secretary to the board, attributing the unusually high number of deaths in the prison to an "active epidemic influence" that he felt "was called into existence by some exciting cause, *most commonly error in diet*."¹²² The committee created by the legislature to investigate the epidemic in the prison found further potential causes of the disease. "The privy, which almost adjoins the men's day room, was thought very offensive, notwithstanding the efforts made to purify it . . . [N]one of the committee . . . entered the apartment in which the untried prisoners and vagrants were confined during the day, without the most marked disgust at the filth, destitution and *personal* misery in which the majority of the prisoners were found."¹²³ The committee recommended the "supply of provisions and comforts, for the untried prisoners and debtors whom the safety of society and the welfare of the state may require to be confined, and to place such persons as least upon an equal position with the convicts," provided that such improvements "should not increase the disposition or facilities to misuse the public revenue, by encouraging idleness and profligacy."¹²⁴

Both the Philadelphia medical community and the newspapers emphasized with pride Philadelphia's low death rate from cholera and took pleasure in comparing these rates to the higher rates in other cities. The *Cholera Gazette*, published in imitation of New York's *Cholera Bulletin*, had as its declared

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purpose the education of both the medical profession and the general public. A concerned city apparently made it required reading for, as Henry Carey wrote to James Fennimore Cooper, "The people now read only the *Cholera Gazette*."¹²⁵ In its initial issue, published before the onslaught of the disease in Philadelphia, Dr. Isaac Hays, the editor, boasted that "conditions which render certain localities most obnoxious to the disease" are being corrected and "hospitals for the reception and treatment of that class of society who are the principal subjects of its attacks" are being established so that the city is "well prepared for a visitation."¹²⁶

The *Cholera Gazette* and other city newspapers made constant comparisons with the situation in New York. Weekly death tolls in New York and other cities were reported in the *Cholera Gazette* and compared unfavourably with those in Philadelphia. The *Cholera Gazette* reported somewhat cryptically in its first issue that the "unfortunate differences existing between many of the medical men of New York and the Board of Health of that city, rendered it impossible . . . for any accurate details as to the actual ravages of the disease in that city to be obtained."¹²⁷ Although subsequent issues of the *Cholera Gazette* listed numbers of deaths for the previous week in New York, the observation is an indication of the apparent lack of cooperation between New York's Board of Health and its medical community. While the Philadelphia Board of Health quickly established the temporary local hospitals called for by Drs. Jackson, Meigs, and Harlan, political concerns of members of the New York Board of Health kept similar recommendations by Drs. De Kay and Rhinelanders from being implemented. A report in the *New York Courier and Inquirer* for 9 July, reprinted in the *United States Gazette* of Philadelphia, condemned the New York Board of Health, composed of aldermen of the city, for ignoring the recommendations of the doctors whom they had sent to Canada. The newspaper also denounced the board for "their wanton and cruel neglect in preparing the necessary hospitals for the sick poor—their unwillingness to report facts—and their culpable conduct in all that relates to the pestilence now among us."¹²⁸ The charge appears to have been justified, for the New York Board of Health was populated with politicians who were aroused with difficulty from their customary state of apathy. Medical appointments were often dictated by nepotism and political considerations and it was only by chance that a medical practitioner sat on the Board of Health.¹²⁹ As late as 1859 a New York State Senate committee found that in Philadelphia "the best medical talent is employed to protect the public health," but in New York "this idea is practically discarded."¹³⁰

Philadelphia was fortunate that the first reported cases of cholera in the city in early July were isolated and that incidents of the disease did not reach epidemic proportions until 27 July, over a month after the disease began to ravage New York City. This gave the Board of Health time to remove filth from the city. In addition to the nine temporary hospitals created in the city, an additional ten were placed in the county.¹³¹ Perhaps because

of the city's Quaker tradition of public service, politics does not appear to have played a major part in the decisions of the Philadelphia Board of Health. Once convinced of the urgency of the preparations needed to withstand the assault of cholera, the Philadelphia Board of Health acted quickly.

In his report to the Consulting Medical Board of Philadelphia, Dr. Jackson directly addressed the question of the circumstances in the city that were "influential in ameliorating the violence of the epidemic cause, circumscribing its activity, and diminishing its fatality."¹³² His analysis of Philadelphia's success in mitigating the impact of the epidemic conformed to the etiology of the disease he had formed before visiting Montreal. He proudly credited the physical plan of the city, with its "hollow squares, separated by wide and paved streets" for preventing overcrowding and providing ventilation and ease of cleaning. Several of Jackson's explanations for the city's relative success reflected his diagnosis of the causes of the disease. He attributed Philadelphia's low death rate to the success of the Board of Health efforts to cleanse the city and set up "numerous local hospitals provided with ample medical attendance." These included applying lessons he had learned in Canada such as communicating the symptoms of the disease to the public so that they could get the early medical treatment thought to be essential for survival. Attention to the instruction of the public was "entirely neglected in Quebec, and Montreal, and in New York" who were "taken unprepared by the epidemic." Jackson believed that the "moral resolution, calmness and perfect freedom from alarm and panic" generally manifested by our citizens . . . contributed in no small degree to diminish the number of cases, and the intensity of the attacks."¹³³

Jackson pointed out, almost incidentally, "The abundant supply of wholesome water placed at the command of the whole community, affords a healthful beverage, and gives the means of the most complete cleanliness, by washing the dirty gutters of the streets, close alleys and lanes."¹³⁴ He was referring to the Fairmount Water Works, the pride of Philadelphia and a major tourist attraction that was considered to be one of the wonders of the then modern world. Disguised within temple-like neoclassical buildings that still adorn the banks of the then pristine Schuylkill River, water wheels pumped 3,750,000 gallons of water a day up to a reservoir on Fairmount, the site of the present art museum. The water was then gravity fed to the city through underground pipes.¹³⁵ No other city in North America had the access to fresh water that Philadelphians could count on both for domestic purposes and for washing the filth, almost universally perceived as a major breeding ground for cholera, from the city streets.¹³⁶

In contrast, neither Montreal nor New York provided their inhabitants with either fresh drinking water or water for cleansing the streets. The Philadelphia physicians documented the filthiness of Montreal in their report, a condition that the city took no measures to rectify until the epidemic had all but run its course. New York was known as the filthiest city in the United States.¹³⁷ An 1829 study by the Lyceum of Natural

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History calculated that New York City produced over 100 tons of excrement a day that gradually seeped down into the water table, tainting the well water. Even supposedly fresh water, carted in from the country and too expensive for the poor, was often polluted.¹³⁸

While sanitarian Jackson placed emphasis on the use of Fairmount water to flush the streets clean, it was Philadelphia's fresh supply of drinking water that enabled the city to escape the worst assaults of water-born cholera in 1832. Those areas that received this clean water were relatively free of cholera. Those areas still reliant on wells, often placed close to outhouses, were not. The two districts outside the city limits where the death rates were highest, Southwark and Moyamensing, had limited or no access to Fairmount water. In Southwark, where there were 251 cases of cholera in a population of 20,740, a ratio of 1 in 82, only 73 dwellings are listed as having Fairmount water. In Moyamensing, where there were no water lines before 1832 and the population was dependent on contaminated well water, 198 cases of cholera were reported in a population of 6,822, a ratio of 1 in 39. Within the city itself, with its population of 80,458, there were 407 cases of cholera reported, a ratio of 1 in 198, a rate 40 per cent that of Southwark and one-fifth that of Moyamensing. The city had 6,291 dwellings and 102 tenements connected to the Fairmount water system.¹³⁹

Jackson failed to make the connection between clean drinking water and freedom from cholera, instead attributing the high incidence of cholera in Southwark and Moyamensing to "the character of the population." "In both those districts reside the worst portion of our population, and in Moyamensing, especially, there is a dense population, some of whom are of the lowest order and most abandoned habits."¹⁴⁰ Poverty and ethnicity were, for Jackson and the majority of his medical contemporaries, major factors in one's susceptibility to cholera. While it was the Irish and the French Canadians of Montreal whom he saw as most prone to succumb to the disease, in Philadelphia it was the black population. Although he did not separate the incidences of cholera in the black and white populations of Moyamensing, he did point out that the district contained a large black population and stated that one in forty-one blacks caught cholera whereas only one white in seventy-four did.¹⁴¹

Historian Andrew M. Schocket has demonstrated that

because of the immense cost involved in constructing a network of water supply . . . the Watering Committee directed the construction of water mains to neighborhoods, then installed branches down individual streets, and finally allowed individual property owners to connect to the new pipes. Not surprisingly, the Watering Committee made sure to send pipes down the streets of Philadelphia's best neighborhoods first.¹⁴²

Suburbs paid to install their own mains and individual dwelling owners had to pay to be connected to the mains.¹⁴³ The population of the poor district of Southwark, which was eligible to have mains laid in 1832, could not afford to do so.

It is ironic that the water system built in the hope of putting an end to yellow fever, a disease carried by mosquitoes and not by polluted water, would provide protection for the city from a disease they had no knowledge of when the waterworks was conceived. The yearly investment of approximately half of the Philadelphia city budget in the Fairmount Water Works during the thirty years prior to the 1832 epidemic¹⁴⁴ brought benefits unimagined by the city fathers when they began the project.

The epidemic of 1832 did nothing to change the ideas that the prominent physicians of the day had about cholera, even though there was evidence that, had they chosen to view it in a different light, would have helped unlock the mystery of the etiology of the disease. Among the books that Samuel Jackson bequeathed to the College of Physicians of Philadelphia is an 1832 volume, *A Geographical and Statistical Account of the Epidemic Cholera*, by H. S. Tanner, that mapped the progress of cholera through North America, showing that it followed rivers and canals. Jackson, like virtually all of his medical contemporaries, believed that cholera was indigenous to the continent and explained the data Tanner collected as illustrating that it was spread through a miasma that arose from fetid waterways. It would be over two decades before John Snow's analysis of the water supplies of London demonstrated that cholera was spread not through breathing fetid fumes but through drinking contaminated water¹⁴⁵ and a half-century before Robert Koch identified with certainty the bacterium that causes cholera.¹⁴⁶

Until 1872, the federal government "had no interest in public health matters."¹⁴⁷ The first effective state health department was not established until 1869, so cities could expect little help from state government.¹⁴⁸ The support given Philadelphia by the state government in Harrisburg was minimal. The only aid that Philadelphia received from Harrisburg after cholera had struck was permission to use the state armoury as a hospital and Governor George Wolfe's declaration of 9 August as a day of "humiliation, fasting and prayer, imploring the god of Heaven to remit unto us all our iniquities, transgressions and sins; deprecating his merited displeasure."¹⁴⁹

Facing the prospect of little or no support from federal, state, or provincial governments, the major cities of North America relied upon their own resources and the cooperation of their sister cities in the face of the impending arrival of Asiatic cholera in 1832. Philadelphia, Montreal, New York, and other east coast cities exchanged ideas and information about the disease, exemplifying Curry's thesis that many city leaders envisioned themselves as part of an urban community transcending individual cities.¹⁵⁰ While Curry addressed inter-city cooperation within the United States, during the 1832 cholera pandemic this sense of urban community transcended national boundaries.

The first cholera epidemic in North America occurred while urban public health was in its infancy. Quebec and Montreal, the first cities in North America to be struck by cholera, had

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newly created boards of health with no experience at disease control and were ill-prepared to cope with the epidemic. Philadelphia benefited from having a board of health active since 1794 and relatively free of the political corruption that plagued New York. Philadelphia also had time to study conditions in both the Canadian cities and New York and enjoyed an appreciably lower death rate in part because of what it learned from the experience of other cities. Although much of what the physicians who travelled to Montreal found out about cholera would prove to be invalid, their conviction of the connection between filth and the disease led them to implement cleansing of the city, an action that undoubtedly helped eliminate sources of cholera contamination.

While Philadelphia's good fortune in escaping the worst effects of the cholera epidemic were, unbeknownst to its physicians, due primarily to the availability of pure city drinking water, the efforts of the city's Board of Health were seen as essential to the city's well-being in this crisis. Philadelphia became a model for effective public health practices and inspired other cities to follow its lead in establishing stronger public health controls. The low death rate in Philadelphia, attributed to the liberal use of water in cleaning the streets, led Baltimore, in August 1832, to begin to use city water to cleanse its streets.¹⁵¹ Charles Rosenberg has noted that in the aftermath of the cholera epidemic of 1832 the Board of Health of New York City "settled into its customary apathy."¹⁵² However, the example of the Philadelphia's successful battle against the epidemic evoked admiration of its waterworks and proved an inspiring exception to New York City's reversion to apathy on the question of public health. During the autumn of that year a delegation of New York officials visited Philadelphia to learn about its waterworks and sewage system.¹⁵³ A small group of dedicated New York civic leaders provided the leadership needed to overcome the political, economic, and engineering challenges that stood in the way of the construction of the Croton Aqueduct, a enormous construction project that was completed in 1842.¹⁵⁴ Frederick Graff, the superintendent of the Fairmount Water Works, would advise New York, Boston, and other American cities in the construction of their municipal waterworks.¹⁵⁵ Although the measures taken by these cities did not eliminate the threat of cholera—it would return several more times in the next thirty-five years—they marked major steps in the growth of urban governmental responsibility for public health and inter-city cooperation among North American cities in the first half of the nineteenth century.

Notes

1. Leonard P. Curry, *The Corporate City: The American City as a Political Entity, 1800–1850* (Westport, CT: Greenwood, 1997), 219.
2. For the 1832 cholera epidemic in Montreal, see also John J. Heagerty, *Four Centuries of Medical History in Canada* (Toronto: Macmillan Canada, 1928); Edouard Desjardins, "L'Épidémie de choléra de 1832," *L'Union médicale du Canada*, (December 1971); Jean-Claude Robert, "The City of Wealth and Death," in *Essays in the History of Canadian Medicine*, ed. Wendy Mitchinson and Janice D. McGinnis (Toronto: McClelland and

- Stewart, 1988); Geoffrey Bilson, "Canadian Doctors and the Cholera," *Canadian Historical Association Historical Papers* 1977: 104–119.
3. Kenneth F. Kiple, ed., *The Cambridge World History of Human Disease* (Cambridge: Cambridge University Press, 1993), 642–643.
4. "A Walk through a Cholera Hospital," *Vindicator* (Montreal), 19 June 1832.
5. "The Cholera," *Daily Chronicle* (Philadelphia), 28 March 1832.
6. Board of Health, "Memorial of the Board of Health of the City of New York," included in Congress, House, Committee on Foreign Affairs, *Report on Cholera Morbus*, 22nd Cong., 1st sess., 20 January 1832, 34–35.
7. *Ibid.*
8. *Ibid.*, 1.
9. Minutes, Board of Health of Philadelphia 37-1, H18 (25 January 1832), Philadelphia Archives.
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