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Article abstract

Between 1869 and 1890, the episodic arrangements which had characterized pre-Confederation public health work in Toronto slowly gave way to a more organized approach. However, the process of change involved continuous conflict between the supporters of privatism and growth and the advocates of intervention and amelioration. The catalyst for much of the debate was Dr. William Canniff who was Toronto's first, permanent salaried Medical Health Officer. His attempts to control disease and improve the quality of urban life were opposed by growth-oriented aldermen and their constituents but were supported by middle class lay and medical reformers as well as the federal and provincial governments. The interplay of these forces replicated the experiences of British and American public health enthusiasts and prefigured developments in other Canadian cities. But Canniff and his supporters were unable to resolve the dichotomy between public good and private interest and therefore bequeathed this legacy to their twentieth century successors.

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Heather A. MacDougall

Résumé/Abstract

Les services d'hygiène publique de Toronto, qui avaient un caractère sporadique avant la Confédération, devinrent de plus en plus structurés de 1869 à 1890. Cependant, les transformations provoquèrent constamment des conflits entre les partisans de la libre entreprise et de l'expansion économique et ceux de l'intervention publique et de l'amélioration des services. Le Dr. William Canniff, premier médecin des services d'hygiène publique de Toronto rémunéré et occupé à plein temps, fut l'un des protagonistes du débat. Les tentatives qu'il fit pour enrayer les maladies et améliorer la qualité de la vie urbaine étaient battues en brèche par des conseillers municipaux partisans de l'expansion économique et par les électeurs de ceux-ci, mais soutenues par les réformistes — médecins et autres — de la classe moyenne, ainsi que par les gouvernements fédéral et provincial. Le jeu des forces en présence reproduisait l'expérience déjà vécue par les partisans passionnés de l'hygiène publique en Grande-Bretagne et aux États-Unis, et laissait présager l'évolution des autres villes canadiennes. Mais Canniff et ses partisans se révélèrent incapables de concilier bien public et intérêt de l'entreprise privée, léguant cette tâche à leurs successeurs du XX^e siècle.

Between 1869 and 1890, the episodic arrangements which had characterized pre-Confederation public health work in Toronto slowly gave way to a more organized approach. However, the process of change involved continuous conflict between the supporters of privatism and growth and the advocates of intervention and amelioration. The catalyst for much of the debate was Dr. William Canniff who was Toronto's first, permanent salaried Medical Health Officer. His attempts to control disease and improve the quality of urban life were opposed by growth-oriented aldermen and their constituents but were supported by middle class lay and medical reformers as well as the federal and provincial governments. The interplay of these forces replicated the experiences of British and American public health enthusiasts and prefigured developments in other Canadian cities. But Canniff and his supporters were unable to resolve the dichotomy between public good and private interest and therefore bequeathed this legacy to their twentieth century successors.

During the 1870s and 1880s, the provision of public health services emerged as a major political issue in Toronto. The debate was triggered by the abolition of the local board of health after more than three decades in existence. The city council justified its action by stating that "economic" reasons dictated transferring the board of health's functions to the board of works.¹ Implicit in this action was the assumption that given prevailing medical theory which emphasized environmental sanitation, aldermen were capable of protecting Torontonians' health without the assistance of medical experts. This attitude was only grudgingly reversed as it became evident that urban politicians were unable to deal with the health hazards that accompanied the city's growth and industrial development during these decades.

Lay and medical reformers began to articulate a programme of preventive medicine which was based on British and American legislative and administrative precedents. Through their efforts, both the federal and provincial governments became interested in municipal health problems and paved the way for Toronto to re-establish its local board of health in 1872 and to appoint its first, permanent, salaried medical health officer in 1883. The vigorous work of Dr. William Canniff, aided by the Toronto Sanitary Association and other concerned reform

groups, meant that during his term in office a systematic approach to public health activity was begun. Public reaction to Canniff's policies and programmes revealed the continuing gap between the expectations of expert reformers and the realities of local politics. In examining the gradual evolution of public health services in Toronto, the interplay of conflicting ideas concerning intervention and amelioration as opposed to privatism and growth² demonstrated very clearly how slowly public opinion responded to the prodding of reformers.

Late in 1869, public health activity in Toronto ceased to exist as a distinct function of council with the amalgamation of the local board of health and the board of works.³ The rationale behind this decision which had been mooted throughout the 1860s included the belief that Toronto was a sanitary and healthy city and therefore did not need a board of health, the idea that both boards merely duplicated each other's works, and the desire to limit local spending in this field.⁴ Most significantly, however, the passage of by-law 502 revealed the public's confusion over the role of the medical profession in the enunciation and provision of preventive medical services.

In 1834, Toronto's first city council passed by-law 8

which established a local board of health to oversee the control and elimination of contagious diseases, the improvement of the environment through effective sewage and garbage disposal, and the protection of the inhabitant's health from the pernicious effects of noxious trades.⁵ Under this statute, local boards of health had been appointed annually from among the aldermen and had practised a limited amount of public health work except during violent epidemics of infectious diseases such as cholera in 1834, 1849, 1854 and 1866 and typhus from 1845-47.⁶ During these epidemics the city had hired one or more medical health officers, had provided medicines and hospital facilities for the sick, and had borne the entire cost of eradicating these diseases. Such sporadic activity was in fact more curative than preventive in spite of the efforts of the health officers to convince their fellow citizens that preventing the accumulation of reeking piles of garbage and cleaning privies and cesspools on an annual basis offered some protection from these scourges.⁷

The council responded to these suggestions by appointing health inspectors for both the eastern and western portions of the city. The inspectors were expected to investigate complaints about "nuisances" such as overflowing privies, violations of the health by-law, and to supervise the disposal of garbage and "night soil."⁸ Since these were patronage positions, the appointees were political supporters not doctors. This situation mirrored both ward politics and public opinion on disease causation and prevention.

Throughout the nineteenth century, three disease causation theories influenced the evolution of public health services. The most popular was the "filth" or "zymotic" theory which postulated that accumulations of human, animal, or vegetable waste left to putrefy produced noxious vapours or miasma which in turn led to disease.⁹ At the opposite pole to this anti-contagionist approach lay the germ theory whose supporters argued that each disease was a specific entity caused by a distinct germ and communicated from one individual to another.¹⁰ Since the adherents of the germ theory were unable to prove the validity of their views until the bacteriological revolution of the 1880s, many laymen and doctors preferred to unite aspects of both views into the contingent-contagionist theory of disease causation. The contingent-contagionists believed that under proper climatic conditions, the disease germs which abounded in rotting effluvia became active and led to outbreaks of contagious diseases.¹¹ For the contingent-contagionists as for the supporters of the zymotic theory, the most effective form of preventive medicine was sanitation. Thus, in the period prior to Confederation, the emphasis in public health work was on nuisance removal and abatement, disease control during epidemics, and street cleaning.

From the viewpoint of the city council, the work of the

local board of health had become redundant by 1869, since the board of works was well-equipped to carry out sanitary activities. The council's attempt to rationalize the work of the two boards was no doubt commendable from the standpoint of limiting local expenditure, but it failed to take the medical aspects of the health board's role into consideration. The danger inherent in this became apparent in 1871 when smallpox erupted in the city. By February, 1872, the board of works recognized its inability to provide vaccination and hospital treatment which were necessary to end the epidemic and compelled the council to amend by-law 502 and to re-create the local board of health.¹² Under by-law 542, the reconstituted board of health set up an isolation hospital in the House of Refuge and appointed a noted medical man as its superintendent.¹³ With the end of the epidemic, the local board of health reverted to its previous quiescent state. This return to the episodic approach that had characterized pre-Confederation public health work in Toronto indicated that preventive medicine was seen by local politicians as a temporary expedient not a permanent responsibility.

This piecemeal, *ad hoc* form of preventive medicine was not confined to the local level of government. In 1873, Oliver Mowat's Liberal government passed Ontario's first post-Confederation public health act. The province was only to have a central board of health during grave emergencies. At all other times, the power and responsibility of caring for Ontarian's health needs were vested in their local authorities. The composition of the local boards was left to the municipal governments' discretion, and although the 1873 act gave medical health officers or aldermen acting as health officers fairly extensive powers of investigation and compulsion, it did not make the appointment of a medical health officer mandatory.¹⁴ These minimal provisions accurately reflected prevailing conceptions of public health activities and current assumptions regarding the role of the government in the lives of its citizens.

This non-interventionist viewpoint was about to be challenged by reformers who wished to implement many of the advances that were occurring in Great Britain and the United States. In Britain, the first phase of public health reform had culminated in the Public Health Act of 1848 which established a central board of health for the country and attempted to organize the appointment of local health boards and medical health officers. Under the direction of Edwin Chadwick, a doctrinaire sanitarian and secretary to the central board, the British public health movement stressed the importance of environmental sanitation and emphasized the role of engineers and architects in the provision of good water supplies, effective and economical waste removal procedures, and decent housing.¹⁵ With the demise of the central board in 1854 because its critics feared excessive central direction, the second phase of public health reform began with the appointment of

John Simon as the Chief Medical Officer of the Privy Council. Simon was qualified for the position by virtue of his medical background and his seven years as the City of London's first Medical Officer of Health.¹⁶ Simon built effectively on the foundation that Chadwick had laid but in doing so shifted the emphasis from sanitation to disease control and improving the quality of urban and rural life. He and the reform groups such as the Social Science and Epidemiological Associations which supported him were instrumental in encouraging the British government to pass the Sanitary Act of 1866 and the great Public Health Acts of 1872 and 1875.¹⁷

The public health activists in the United States also provided models to emulate. In 1866, after a lengthy publicity campaign organized by concerned doctors, lawyers, and other professionals, the New York state legislature set up a non-partisan and medically-oriented Board of Health Commissioners for New York City.¹⁸ Massachusetts followed this pioneering effort by creating the first, permanent state board of health in 1869.¹⁹ Both of these developments marked the evolution of health services from part-time, poorly-financed responses to epidemic diseases to full-fledged departmental status within the urban and state bureaucracies. And in 1872, Dr. Stephen Smith, a well-known public health reformer and member of the New York City Health Board, gathered leading public health enthusiasts together to form the American Public Health Association. The APHA was created to provide a forum for the discussion of public health policies and legislation and the latest scientific discoveries, and to prepare for lobbying activities.²⁰ Both the British and the American examples offered interested Torontonians theoretical positions to argue and practical procedures to imitate.

But, before these precedents could be copied, a crucial alteration in public opinion had to occur. During the 1870s, the expansion of public health work was inhibited by two factors. First, the economic downswing during the decade imposed fiscal restraints on all forms of government spending. Second, Torontonians believed the nineteenth-century dictum that "that government which governs least, governs best." Municipal politicians, in particular, because they were often middling rather than well-to-do merchants and retailers, accepted this view and argued that a balanced city budget was as important as a balanced corporate budget. While they could appreciate the commercial potential of clean, paved streets, a good water supply, and efficient sanitation services, they were unable to overcome their prejudice in favour of custodial care for the poor and the sick, especially when the council was already expending \$10,000-14,500 per year on it.²¹ The preventive aspects of public health work which necessitated the appointment of a trained, committed expert did not appeal to either their sense of the priorities or to their understanding of the obligations of municipal administration.

Fortunately, the 1880s were to supply the impetus for reform on three levels. Throughout this decade, the principle of central government intervention became a reality and radically changed the relationship and activities of Canada's three tiers of government in the health care field. The booming economic conditions of the early years coupled with the implementation of the tariff and railway construction portions of the national policy contributed greatly to the impact of industrialization on Toronto. And finally, an effective rallying point for public health supporters appeared in Dr. William Canniff. Taken together, these developments supplied the force necessary to shatter much of the inertia and complacency which Toronto's city council had displayed concerning preventive medicine in the 1870s.

Although the British North America Act of 1867 granted the federal government exceedingly limited jurisdiction in the field of health services, the senior level was given the responsibility for collecting vital statistics. For public health reformers, the morbidity and mortality statistics which William Farr of the Registrar-General's Department in Great Britain and Lemuel Shattuck in Massachusetts had collected and publicized formed the basis for a concerted attack on many of the worst problems which accompanied urban-industrial growth.²² Since factual knowledge of a problem was increasingly being viewed as the first step in its solution, Canadian sanitarians sought to emulate their British and American counterparts by persuading the federal government to finance the collection of this vital information. In the winter of 1882-83, Sir John A. Macdonald's government bowed to pressure from the Canadian Medical Association and agreed to provide \$10,000 to pay the statisticians. The grant was to be administered by the Department of Agriculture and was conditional on the appointment of a full-time, salaried medical health officer by cities with a population over 10,000.²³ To qualify for this largess, Toronto was thus required to name a permanent, paid MHO.

On the provincial scene, an even more significant development was occurring. As indicated earlier, the Mowat government favoured a permissive approach to social welfare legislation throughout the 1870s. In the following decade, this attitude changed markedly and the provincial government began to play a more dynamic role in funding and supervising the work of local authorities. As a result of the revelations of the select committee of the Ontario legislature appointed in 1878 to examine "the Subject of Sanitary Measures for Maintaining and Promoting Public Health"²⁴ and the agitation by leading members of Toronto's medical elite, the Mowat administration created the first permanent Provincial Board of Health in 1882.²⁵

The purpose of the Provincial Board was to supervise existing local boards, encourage the formation of new ones

and thereby ensure a measure of uniformity in the provision of health services throughout Ontario. But the looseness with which its duties were defined, its lack of compulsory powers, and the ever-present problem of local inertia or opposition all combined to hamper the Board's effectiveness. In 1884, therefore, the Mowat government amended the 1882 Act to strengthen the compulsory prerogatives of the Board and to clarify the division of local and provincial responsibilities.²⁶ Included in the 1884 Act, which was modelled on the British Consolidated Public Health Act of 1875, was a section that not only defined the duties of the local medical health officer but also made his appointment mandatory.²⁷ By asserting its faith in the ability of the medical profession to solve many of the health problems that abounded in Ontario's towns and cities, the province was directly challenging the parsimony and apathy that characterized local bodies' activities in the public health field.

Nevertheless, preventive medical services were not the only area to receive increased provincial scrutiny and then be made the subject of legislation. The Factory Act of 1884, the Workmen's Compensation Act of 1887, and the amendment to the Municipal Act to permit the construction of Houses of Industry in 1888²⁸ were all indicative of the interventionist tendencies of the 1880s. These laws resulted from the concern which the economic and political elite felt about the ravages of industrialization. In contrast to most local politicians who were only interested in growth and development, lay and medical reformers became involved in crusades which stressed society's moral and social obligations. Temperance, sabbatarianism, women's enfranchisement, protection of neglected and dependent children, and public health were all causes which upper middle class professionals espoused.²⁹ Significantly, rather than attempt to influence the local political scene, many of these groups sought legislation from the provincial government with the result that Toronto, for example, was very suspicious of any efforts by provincial departments to intervene in its affairs.

Another critical factor which influenced the evolution of public health services during this period was the population explosion and geographical expansion which Toronto experienced due to its increasing industrialization and, at least initially, its spirit of buoyant economic opportunism. According to the 1891 census, the number of Torontonians had grown from 96,196 to 181,220 during the decade.³⁰ Territorially, the city had expanded to annex the villages of Yorkville (1883), Brockton (1884), and Parkdale (1889).³¹ Immigrants and rural Ontarians flooded into the city's factories, retail and wholesale enterprises, financial and commercial ventures, and institutions of higher education. In 1881, 932 factories employed 13,425 workers who produced goods valued at \$19,562,981; by 1891, this had risen to 2,401 establishments with 26,242 employees manufacturing

\$44,963,922 worth of products.³² Not only did the number of factories increase but the size of industrial establishments also rose according to the most recent research on the period.³³ Such extensive growth revealed both the inadequacies of existing urban services and the necessity for bold, constructive solutions to them.

The coalescence of federal funding, pressure from the Provincial Board of Health, and an increasing public awareness of the magnitude of Toronto's environmental ills resulted in the passage of by-law 1317 which delineated the duties of Toronto's first, permanent medical health officer in March, 1883. During the debate on the duties of the medical health officer, it became clear that the expectations of the Provincial Board, the medical profession and other public health supporters were far in advance of the views of Toronto's council. Alderman John Baxter, a Tory from St. Patrick's Ward, recommended that the health officer act as the city's jail surgeon, hospital relief admissions officer, public vaccinator, smallpox hospital superintendent, mortality statistics collector, and advisor "on all matters of a sanitary nature."³⁴ In response to this mixture of curative and preventive functions, Dr. William Oldright, Chairman of the Provincial Board, addressed an open letter to the council on February 6, 1883, in which he outlined seventeen specific duties for the MHO and suggested that the preventive aspects of his task be clearly established.³⁵ The sub-committee discussing the issue, however, was more concerned about qualifying for the federal grant and rationalizing city medical services than with setting up a prototype medical health department. In consequence, by-law 1317 (see Appendix I) reflected Alderman Baxter's position much more than Dr. Oldright's. The council evidently hoped that its new employee's activities would lie mainly in the curative area and that his preventive role would be confined to offering expert counsel on sanitary questions and saving the municipality money by refusing to admit chronic cases to Toronto General Hospital. Given this limited stance, the choice of the first incumbent assumed great importance.

The man the council nominated to implement its rather ambiguous legislation was a noted Toronto surgeon and teacher, historian and Canadian nationalist, Dr. William Canniff. Born in Hastings County, Upper Canada in 1830 to Loyalist parents, Canniff received his medical education in Ontario, the United States, and Great Britain.³⁶ He saw military service with the British Army in 1856, with the United States Army of the Potomac in 1863, and with the Canadian militia in 1866 and 1885. In addition to engaging in private practice, he taught surgery and pathology at Victoria College Medical School, was a founding member of the Canadian Medical Association in 1867 and its President in 1881. Politically, he supported the Macdonald Conservatives, but as a member of the Canada First party, he also found non-partisanship an attractive option.³⁷ By birth, education, and political allegiance, Can-

niff was ideally suited to introduce the concept of preventive medicine to Torontonians.

From the beginning of his official career, Canniff took a dynamic stance. As a result of his training at St. Thomas' Hospital in London in 1855 and his later experiences in the United States Army, he had been exposed to both British and American theories of disease causation and preventive techniques.³⁸ Canniff derived many of his tactics and much of his philosophy from the work of Edwin Chadwick, John Simon, Stephen Smith, and other American public health leaders. Although he was active during the bacteriological revolution of the 1880s which transformed public health thought, Canniff followed the older view that filth and noxious odours contributed to the virulence of disease germs. In propounding this view, Canniff was representative of orthodox medical practitioners and concerned laymen but somewhat behind the views of the younger members of the profession. Throughout his years in office, Canniff attempted to interest Torontonians in improving the urban environment, but even such a moderate programme which consisted of proven precedents evoked only limited support.

As a new municipal official, Canniff used a British technique, house-to-house inspection, to initiate public awareness of his department and its role. From August 1 to December 1, 1883, six constables borrowed from the Police Force carried out a city-wide survey which served a twofold purpose. By revealing the extent of unsanitary conditions, the study presented Canniff with a list of target areas for further activity. And, in addition, this method "awakened" Toronto's citizens to their responsibilities in the health field because the inspectors used persuasion rather than coercion to gain public interest and respect.³⁹ The house-to-house survey became an annual ritual and was the first indication that continuous supervision of living and working conditions was to be an integral part of health department policy.

In 1884, the amendments to the provincial Public Health Act forcefully delineated the preventive aspects of the medical health officer's task. Although Canniff continued to interview relief applicants, this legislation placed control and prevention of infectious diseases, house, school, and factory inspection, regulation of the quality of meat, milk, and ice supplies, and the duty of improving Toronto's water supply and sewage disposal facilities firmly within his purview. Unfortunately, the MHO was not given either the legal or financial powers to carry out these responsibilities. Proof of this emerged when the city council refused to agree to the appointment of ratepayers rather than aldermen to the local board of health in 1885.⁴⁰ Such outside support would undoubtedly have made the health officer's job easier, but it deprived the council of its right to control the spending of public funds. This abrupt setback did not deter Canniff in

his pursuit of his objectives, and through a combination of judicious use of the lay and medical press, personal lobbying with mayors and members of the local board of health and careful orchestration of public agitation by reform groups like the Toronto Sanitary Association, he was able to win grudging political support for his policies.⁴¹

Between 1884 and 1890, Canniff and his department endeavoured to carry out their legislative and administrative duties effectively. In 1885-86 and 1888, outbreaks of smallpox tested departmental isolation and notification procedures as well as its capacity to organize and staff public vaccination stations. As the morbidity and mortality statistics indicated, the epidemics were contained quickly in spite of hidden and unreported cases. In 1885-86, there were 28 cases with 3 deaths while in 1888, there were only 11 cases and 1 death.⁴²

These impressive statistics did not obscure two crucial problems in disease control. Under the Public Health Act, all doctors and householders were required to report cases of smallpox, diphtheria, scarlet fever, and typhoid to the health department within twenty-four hours. Smallpox was usually reported immediately, but cases of the other ailments were sometimes hidden for fear of the consequences. Since hospitals were still viewed as charnel-houses, few families wished to see their sick removed to the Isolation Hospital. Similarly, working-class Torontonians feared having their homes placarded in spite of the health department's offer to pay for food and rent because they could not afford to leave their jobs for the two week incubation period. Canniff's attempts to increase notification and to secure a by-law to enforce quarantine failed because he was confronting deeply-rooted prejudice against government intervention.⁴³

As indicated earlier, much of the health department's work focused on ameliorating living and working conditions through annual inspections designed to uncover flaws in the ventilation, waste disposal systems, water supplies, and sanitary facilities of homes, schools, and factories. This routine work was varied by the health department's efforts to respond to citizen complaints concerning overflowing privies, noxious cesspools, rotting refuse, suspicious well and cistern water, and unfit housing. In 1885, Canniff's men answered 800 of these "specials"; by 1889, the number had risen to approximately 6,000.⁴⁴ Since each case usually required three visits to "educate" the property owner in his sanitary duty, this was the most time-consuming and arduous aspect of health department work. If the department's orders were not carried out, legal action through the City Commissioner's office was instigated. In 1885, 205 notices were served on recalcitrant householders; by 1889, this had increased to 1,422.⁴⁵ From Canniff's standpoint, such an extensive increase in inspection and judicial proceedings indicated that his standards for environmental sanitation were being adopted. From the **property owner's perspective**, the activity of

the health department was an unwelcome intrusion in the realm of private property rights.

The health department also extended its jurisdiction to include surveillance over Toronto's meat, milk, and ice suppliers. In spite of the Victorian belief in the sanctity of private property, public exposure of the highly unsanitary conditions in many of the city's slaughterhouses and butchershops in the daily press and the medical health officer's annual reports led to the creation of an annual licensing and inspection system in 1886.⁴⁶ After meeting with the mayor and the medical health officer, the butchers decided to support the health department scheme and by 1890 were even advocating the construction of a municipal abattoir to solve the problem of the effluent from their trade.⁴⁷ Similar advances in official inspection practices contributed somewhat to an improvement in the quality of Toronto's milk and ice supplies.⁴⁸ The business practices of unscrupulous ice dealers, however, forced Canniff to use the lay and medical press to warn the public not to use ice cut too close to the sewage outfall pipes.⁴⁹ Once again, it appeared that regulating a trade required both legislative enactments and public approval.

The most vital area in which Canniff signally failed to achieve his goals was in the improvement of Toronto's water supply and sewage disposal facilities. In 1882, the Toronto *Globe* described the city water system's product as "drinkable sewage."⁵⁰ Throughout his career, Canniff stressed the validity of this statement by inveighing bitterly against the unhealthy practice of dumping Toronto's sewage into the same harbour from which it derived its drinking water. To combat this pernicious habit, he and Charles Sproatt, one of the City Engineers, recommended moving the intake pipe to the lakeside of Toronto Island.⁵¹ Neither the municipally-owned Water Company nor the city council was favourably impressed by this suggestion in spite of frequent press complaints concerning the quality of Toronto water.⁵² Such a project required vast amounts of capital, and during the 1880s the city was more interested in straightening the Don River, constructing a new City Hall and Courthouse, and completing the Garrison Creek sewer. Although Mayors Boswell, Manning, Howland, and Clarke all mentioned the necessity of improving the waterworks in their various inaugural addresses, the problem was still unresolved in 1890.⁵³

Altering Toronto's inefficient sewer system proved to be an equally intractable problem. As a disciple of the Chadwickian school, which emphasized that disease was caused by filth, Canniff was horrified by the immense accumulation of human and animal waste which resulted from the city's rapid growth. He also feared that much valuable fertilizer was being permitted to pollute the environment and in an article published in *The Week* noted that,

throw away material so necessary to maintain the soil for vegetable products. Beside, there are within a short distance of Toronto waste lands which could, by the aid of this very substance, be made fertile fields.⁵⁴

To solve this difficulty, he urged the construction of a trunk sewer to remove the city's effluents.⁵⁵

Such an expensive undertaking required the ratepayers' approval. The first referendum on this issue was held October 7, 1886, and the proposal was defeated by a vote of 1,501 to 435.⁵⁶ Supporters of the project such as Mayor William Howland, the Toronto Sanitary Association, the *News*, and Canniff redoubled their efforts after this setback. More public meetings were held in 1886, and in 1887 Mayor Howland compelled the council to pay for another report on the scheme. In a series of editorials throughout December, 1887, the *News* strongly argued against the aldermen who were claiming that the project was too expensive and concluded its campaign in favour of the trunk sewer with the observation that,

The bay is every day becoming more polluted... and at any moment an epidemic may result which will throw the prosperity of the city back ten years, besides entailing the loss of many valuable lives. No considerations of economy or desire for a low rate of taxation should prevent the endorsement of this necessary and practical measure.⁵⁷

Nevertheless, Toronto's ratepayers were unable to contemplate spending the \$1.4 million which the sewer would cost, and the project was again defeated 3,757 to 2,825.⁵⁸

Although the increased support for the trunk sewer suggested that the continuous publicity surrounding the issue had reached a sympathetic audience, its rejection by the voters revealed the inherent limitations of the environmentalist approach to public health work and indicated that more than "unsparing exposure of abuses" was needed to ameliorate large-scale nuisances. Canniff, however, continued to agitate for an end to the "privy pit menace" and by 1890, the local board of health had overcome its scruples about intervening in the sanitary arrangements of Toronto homes and proposed a by-law to establish districts within which privies were prohibited.⁵⁹ Such a minor victory, in conjunction with growing disillusionment about his task, personal health problems, and a sustained newspaper attack on his administrative ability, caused Canniff to resign on September 17, 1890.⁶⁰ In a terse note to the chairman of the local board of health, Canniff cited "brain disease" as his justification for leaving his post, and by the beginning of November, the city council was advertising an open, competitive examination to choose his successor.⁶¹

Even a new country cannot afford to systematically

In assessing the impact of the Canniff years on the

development of public health services in Toronto, three important successes can be balanced against what he considered his "failure." First, although Toronto's death rate increased from 21.3 per 1,000 in 1883 to 24.2 in 1886, it had declined to 18.3 in 1889.⁶² Since the city's population more than doubled during the decade, these statistics, according to nineteenth-century sanitarians' standards, represented a substantial achievement. (Modern demographers, however, would suggest that the decline in the death rate was more likely a result of the increase in the number of younger members of the population due to immigration and rural migration rather than to the impact of public health activity.) Second, municipal spending on preventive medicine increased from \$31,463.25 in 1883 to \$52,024.50 in 1887 and peaked at \$81,799.01 in 1889.⁶³ This was a marked contrast to the meagre \$16,048.35 expended in 1872 to control the smallpox epidemic.⁶⁴ And third, Canniff had expanded his department's size and workload during his seven years in office so effectively that public health work had become an integral part of the city's bureaucracy.

In spite of these favourable results, Canniff viewed his career as a "failure" because he had not been able to gain support for vital environmental improvements like a trunk sewer and because he believed that political rather than health considerations governed decisions on preventive matters. As he had indicated to Mayor Howland in 1887, the executive committee's refusal to support the local board of health's request for either an amendment to the Municipal Act to permit the city to issue "Sanitary Improvement Debentures" to finance health work or to give the health department to legal power to enforce its orders and then charge to cost of the improvements to the owner's property taxes meant that "the efforts of this Department [will] be more or less thwarted."⁶⁵ He elaborated on this theme in a letter published by Toronto's two leading medical journals after his resignation. He informed the readers of the *Canada Lancet* and the *Canadian Practitioner* that,

During all my period in office I found that it was with the greatest difficulty that I could get any matter discussed except along the lines of its possible effects on the interests of the individual alderman whose constituent any special offender against the law might be; nor indeed, in many instances was it possible to obtain [the local board of health's] permission to take active steps for the removal of any flagrant nuisances since someone's particular friend would thereby be, in his estimation, financially ruined.⁶⁶

Accurate as this assessment may have been, Canniff's difficulties stemmed from factors beyond his control. His department's activities in preventive medicine simply did not generate the same type of enthusiasm as the major public works undertaken in the 1880s because they did

not add to civic revenue and prestige. Although public health expenditure grew on a dollar basis, it remained at only 1% of the municipal budget while spending on local improvements rose from 7% in 1885 to 19% in 1890.⁶⁷ In addition, public health activity fell between the two styles of municipal reform which dominated this decade. By not overly stressing the moral and social uplift aspects which influenced William Howland's supporters,⁶⁸ or the concepts of efficiency and business-like behaviour which characterized E.F. Clarke's administration,⁶⁹ Canniff was unable to garner sustained assistance from either coterie of urban reformers who directed Toronto's politics. And, the effect of the bacteriological revolution on the younger generation of Toronto doctors was to cause them to question the appropriateness of the medical health officer's emphasis on "filth." But the most important factor which limited Canniff's success was his inability to resolve the differing viewpoints which dominated the public health debate. For the liberal, professional elite which provided much of the leadership of reform groups, the value of sanitation and disease prevention was obvious; for Toronto's aldermen and their constituents, the creation of jobs through urban expansion and "bonusing" and low rates of taxation took precedence over preventive work.

Between 1869 and 1890, the city of Toronto moved slowly to establish public health services. From the nadir of abolition in 1869 to Canniff's resignation in 1890, local politicians grudgingly adopted measures to deal with ever-expanding urban health problems. Public support for these activities had been created through reference to British and American successes and through a growing fear that the human and environmental costs of urban-industrial growth were too high. But, although the experts, the reformers, and the federal and provincial governments all tried to foster the development of efficient public health services in Toronto, their efforts were partially negated by continuing resistance to government intervention by rate-payers, property owners, and the city council. Resolving the dichotomy between public good and private interest was the legacy which the nineteenth-century public health pioneers bequeathed to their twentieth-century successors.

APPENDIX I

No. 1317. A BY-LAW

To regulate and define the duties of the Medical Health Officer or Officers of the City of Toronto.

[Passed March 12, 1883.]

Whereas it is desirable more particularly to define the duties appertaining to the position of Medical Health Officer;

Therefore the Council of the Corporation of the City of Toronto enacts as follows:

From and after the passing of this By-law the following shall be the duties of the person or persons holding the office of Medical Health Officer or Officers for the City of Toronto.

I.

He shall examine applicants for admission to the Hospital, and other medical relief, and report to the Mayor.

II.

He shall consult with, and advise the Committee on Markets and Health, when required by them, respecting all matters relating to the Public Health, and the sanitary condition of the City, or any part thereof, and when by the said Committee, or by the Mayor of the City of Toronto, required so to do, visit any person, place or premises, and examine any such person and inspect any such place or premises, and report in writing the result of such examination or inspection to the said Mayor, or Committee, as the case may be, and advise on the remedy to be applied or other action to be taken, as the case may require.

III.

He shall, under the direction of the Mayor – upon being informed by any Health Inspector, Constable or other person, that any person or family is destitute and suffering from disease or illness or any kind, at once proceed to visit such person or family, and upon such visitation take such measures for their immediate relief as to him seem requisite, either by reporting them as fit subjects to be removed to the General Hospital or other place provided for that purpose, or by supplying to them, or directing that they be supplied with the requisite and necessary medicine for their relief at the expense of the City, and a regular and correct account of each case and of any such expenditure shall be kept by him, and a return of the same shall be made by him to the Committee on Markets and Health fortnightly.

IV.

He shall, when required by him to do so, advise the said General Inspector of Licenses respecting unwholesome or adulterated articles of food exposed or offered for sale in the City of Toronto.

V.

He shall attend regularly at least once in each month in each Ward of the City, at such times and places as the Committee on Markets and Health may from time to time appoint, and perform the duties of pub-

lic vaccinator for the City of Toronto, the vaccine matter required by him for such purposes to be supplied by the Corporation of the City of Toronto.

VI.

He shall attend upon and discharge the duties of physician and surgeon, when instructed by the Mayor or the Committee on Markets and Health, to any City official or employee who may at any time be injured while engaged in the actual discharge of the duties of his office or employment; and such attendance shall be regular and continued so long as may be necessary for the recovery of any such official or employee from any injury so sustained.

VII.

He shall discharge all such other duties pertaining to the public health of the City of Toronto and the sanitary condition thereof, or of any part thereof, including the collection and return of Mortuary Statistics, as may be imposed on him or required from him from time to time by any By-law, Resolution, Rule, or Regulation of the Council, or by any order or Resolution of the Committee on Markets and Health, or by any order or direction of the Mayor of the City, or by any statute heretofore passed or hereafter to be passed by the Parliament of Canada or the Legislature of Ontario, or by any Order in Council, Rule or Regulation heretofore made or to be made hereafter by the Government of Canada or of said Province; and generally he shall give due and proper attention to all the usual business appertaining to the Health Department of the City of Toronto.

VIII

The hours of attendance of the Medical Health Officer or Officers in the office at the City Hall shall be from 10 a.m. to 12 a.m., and from 3 p.m. to 4 p.m. on all days except public holidays and Saturdays. On Saturday the hours of attendance shall be from 10 a.m. to 12 o'clock noon.

I certify that I have examined this Bill and that it is correct.

ROBERT RODDY,
City Clerk.

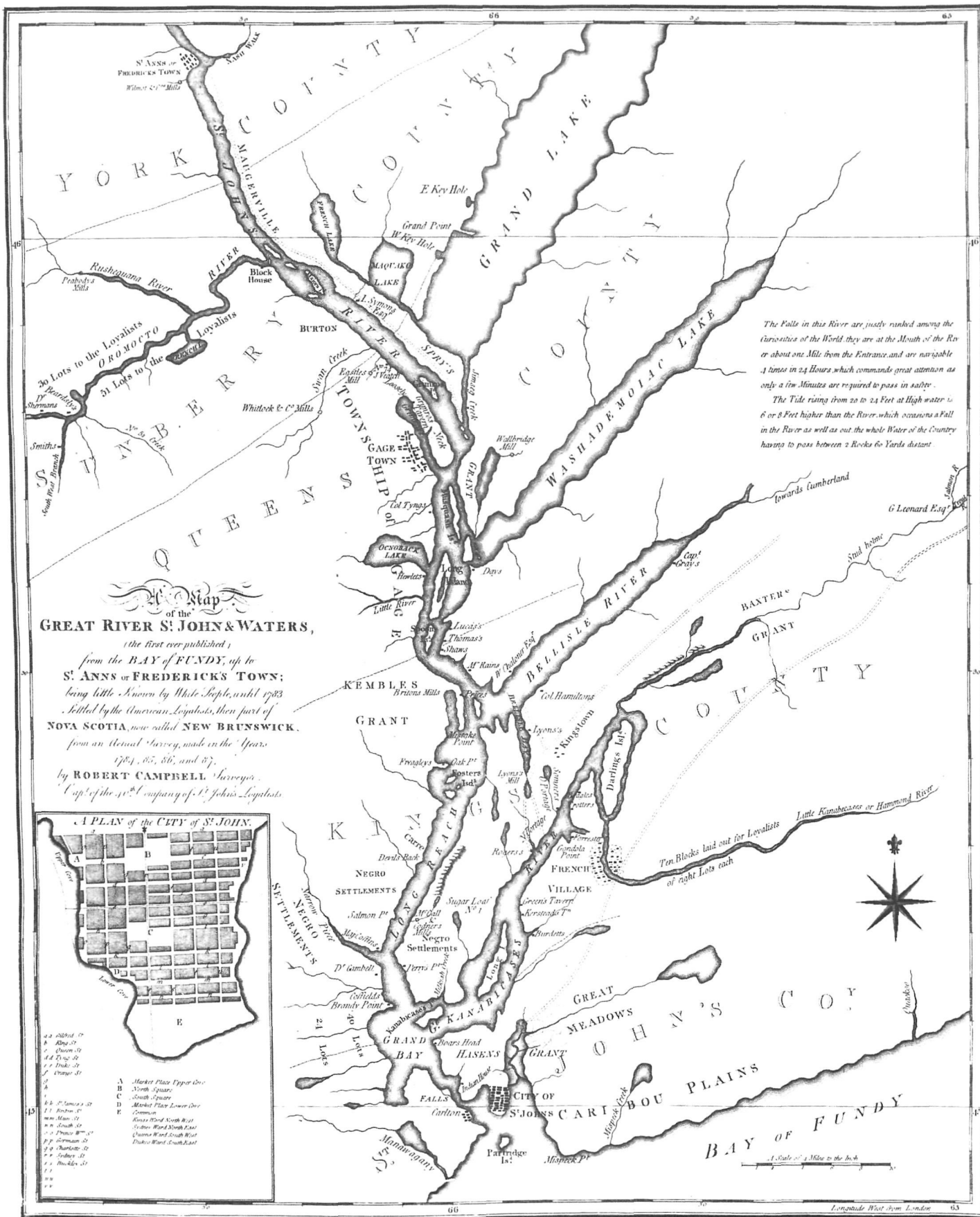
Council Chamber,
Toronto, March 12th, 1883.

ARTHUR R. BOSWELL,
Mayor.

NOTES

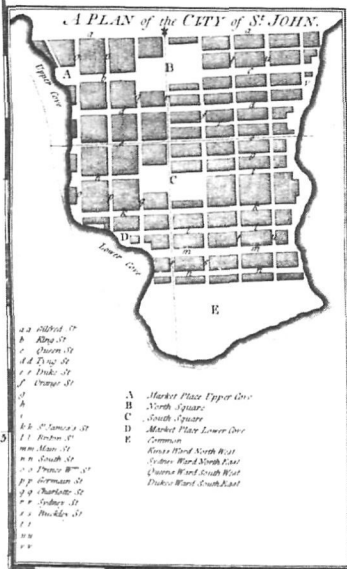
1. City of Toronto, *Minutes of the Proceedings of the Council of the Corporation of Toronto* (Hereafter cited as *Minutes*), February 8, March 22, April 5, 19, 26, and November 26 1869.
2. I wish to thank John Taylor for suggesting this concept to me and for demonstrating how effectively it can be argued in his article, "Fire, Disease and Water in Ottawa: An Introduction," *Urban History Review*, Vol. 8, No. 1 (June 1979), pp. 7-38.
3. *Minutes*, November 26 1869.
4. *Minutes*, February 8, March 22, April 5, 19, 26 1869.
5. Toronto City Council, "An Act to Establish a Board of Health," By-law 8, June 9 1834.
6. See Charles Godfrey, *The Cholera Epidemics in Upper Canada, 1832-1866* (Toronto, 1968); *Minutes*, 1883, Appendix, p.87.
7. Two of the best examples of this type of advice can be found in the reports presented by Dr. William Tempest and Dr. James Rowell to City Council in 1866 and 1868. See: *Minutes*, 1866, pp.1-12, 154-58; and *Minutes*, Appendix 6, pp.9-18.
8. *Minutes*, May 16 1835 and February 1 1836.
9. George Rosen, *A History of Public Health* (New York, 1958), pp.277-78, 287-90; Phyllis A. Richmond, "American Attitudes Toward the Germ Theory of Disease, 1860-1880," in G.H. Brieger, ed., *Theory and Practice in American Medicine: Historical Studies from the Journal of the History of Medicine and Allied Sciences* (New York, 1976), pp.58-84.
10. Richmond, "Germ Theory of Disease," and Taylor, "Fire, Disease and Water."
11. William Frazer, *A History of English Public Health, 1834-1939* (London, 1950), p.69.
12. *Minutes*, 1872, Appendix 4, pp.6-7.
13. *Minutes*, 1872, Appendix 25, pp.46-47.
14. Ontario, *Statutes*, 36 Victoria, Chapter 63, "An Act Respecting the Public Health," March 29 1873.
15. R.A. Lewis, *Edwin Chadwick and the Public Health Movement, 1832-1854* (London, 1852).

16. R. Lambert, *Sir John Simon, 1816-1904, and English Social Administration* (London, 1963), pp.34-44, 187-214.
17. *Ibid.*, p.330.
18. John Duffy, *A History of Public Health in New York City, 1625-1866* (New York, 1968), pp.540-70; Stephen Smith, *The City That Was* (New York, 1911; reprinted in 1973).
19. In fact, Louisiana had created a State Board of Health in 1854 as a response to a violent yellow fever epidemic in 1853, but the board's efforts were sporadic and it was Massachusetts which set the post Civil War standard for state intervention. See Barbara G. Rosenkrantz, *Public Health and the State: Changing Views in Massachusetts, 1842-1936* (Cambridge, Mass., 1972), pp.8-73.
20. Nancy R. Bernstein, *The First One Hundred Years: Essays on the History of the American Public Health Association* (Washington, 1972), pp.2-7.
21. *Minutes*, 1881, Appendix 226, p.904.
22. John M. Eyler, *Social Medicine: The Ideas and Methods of William Farr* (Baltimore, 1979), pp.13-65, 123-58; Rosenkrantz, *Public Health and the State*, pp.14-25.
23. *Canada Lancet*, Vol. 15 (1882), pp.33-38. It is noteworthy that William Canniff was the Chairman of the CMA Committee on Vital Statistics and Public Hygiene and was instrumental in securing the federal government grant.
24. Taylor, "Fire, Water and Disease," pp.26-27.
25. J.T. Phair, "Public Health in Ontario," in R.D. Defries, ed., *The Development of Public Health in Canada* (Toronto, 1940), p.67.
26. Ontario, *Statutes*, 47 Victoria, Chapter 38, "An Act to make further provisions respecting the Public Health," March 25 1884.
27. Ontario, *Statutes*, 47 Victoria, Chapter 38, Section 69, Schedule A, "By-law in Force in Every Municipality Till Altered by the Municipal Council."
28. Richard Splane, *Social Welfare in Ontario, 1791-1893* (Toronto, 1965), pp.53-64.
29. Although there is no solid study of late nineteenth-century reform movements, several studies do cover various aspects. See: Desmond Morton, *Mayor Howland: The Citizens' Candidate* (Toronto, 1973); C. Armstrong and H.V. Nelles, *The Revenge of the Methodist Bicycle Company: Sunday Streetcars and Municipal Reform in Toronto, 1888-1897* (Toronto, 1977); Neil Sutherland, *Children in English Canadian Society: Framing the Twentieth Century Consensus* (Toronto, 1976); and John C. Weaver, "The Modern City Realized: Toronto Civic Affairs, 1880-1915," in Alan F.J. Artibise and Gilbert A. Stelter, eds., *The Usable Urban Past: Planning and Politics in the Modern Canadian City* (Toronto, 1979), pp.39-72.
30. D.C. Masters, *The Rise of Toronto, 1850-1890* (Toronto, 1947), p.165.
31. Jesse E. Middleton, *The Municipality of Toronto*, Volume II (Toronto, 1923), pp.804-807.
32. Masters, *Toronto*, p.174.
33. Gregory Kealey, *Toronto Workers Respond to Industrial Capitalism, 1867-1892*, (Toronto, 1980), pp.32-33, 316-18.
34. *News*, February 1 1883.
35. *News*, February 6 1883.
36. Charles G.D. Roberts and A.L. Tunnell, eds., *A Standard Dictionary of Canadian Biography*, Volume I (Toronto, 1934), pp.93-94; William Canniff, *History of the Settlement of Upper Canada* (Toronto, 1869), reprinted, with an introduction by D. Swainson (Belleville, 1971), pp.i-iv.
37. Carl Berger, *The Sense of Power* (Toronto, 1970), pp.79-105; William Canniff, *Canadian Nationality: Its Growth and Development* (Toronto, 1875).
38. William Canniff, *A Manual of the Principles of Surgery, Based on Pathology for Students* (Philadelphia, 1866); Lambert, *Sir John Simon*, pp.36-55; G.W. Jones, "The Medical History of the Fredricksburg Campaign," in Brieger, ed., *Theory and Practice in American Medicine*, pp.174-78.
39. *Minutes*, 1883, Appendix 120, pp.536-37.
40. *Minutes*, 1885, February 2, 10, 23, and March 2 1885.
41. *Minutes*, 1884, Appendix 53, p.211; *Canadian Practitioner*, Vol. 9 (1884), p.249; *ibid.*, Vol. 10 (1885), pp.89-90; *Annual Reports of the Local Board of Health, 1884-1890* (Hereafter cited as *AR, LBH*).
42. "Annual Report, Provincial Board of Health," in Ontario, *Sessional Paper*, 1886, Vol. 18, Part VI, No. 74, Appendix, p.163; *AR, LBH*, 1888, Appendix, pp.63-65.
43. *Canadian Practitioner*, Vol. 12 (1887), p.250.
44. "Annual Report, Provincial Board of Health," 1886, p.163; *ibid.*, 1890, Vol. 22, Part VII, No. 72, p.25.
45. *Ibid.*
46. *Ibid.*, 1887, Vol. 19, Part III, No. 14, Appendix, pp.147-48.
47. *Minutes*, 1890, Appendix, p.1036.
48. "Annual Report, Provincial Board of Health," 1887, pp.147-48; *ibid.*, 1890, p.24.
49. *AR, LBH*, 1889, Appendix, p.70; *News*, January 25 and May 11 1869.
50. Reprinted in *Canada Lancet*, Vol. 15 (1882), pp.26-27.
51. "Annual Report, Provincial Board of Health," Ontario, *Sessional Papers*, 1885, Vol. 17, Part VII, No. 70, Appendix, pp.96-98; *ibid.*, 1889, Vol. 21, Part IX, No. 76, Appendix, p.20.
52. *News*, September 23 1884; March 21, 1885; April 12 1886; March 21 and June 28 1887; March 21 1890; *Canada Lancet*, Vol. 22 (1889), pp.282, 314.
53. Each mayor's inaugural address was printed as Appendix I in the *Minutes* for 1884-1890.
54. *The Week*, October 9 1884.
55. *Minutes*, 1884, Appendix 188, p.78.
56. Morton, *Mayor Howland*, p.59.
57. *News*, December 31 1887.
58. Morton, *Mayor Howland*, p.103.
59. *Minutes*, 1890, Appendix, pp.1078-79, 1825-26.
60. *News*, July 12 and 15, August 16, 19, 21, 23, 25, 26, and 28, September 17, 1890; *Minutes*, 1890, Appendix, pp.1959-60.
61. *Minutes*, 1890, Appendix, pp.2467-81; *News*, November 11 and December 8, 1890; *Canadian Practitioner*, Vol. 16 (1891), p.161. Canniff's claim that he was physically ill probably indicated his intense frustration and bitterness more than actual debility because he left Toronto to set up practice in Muskoka. He continued to practice and write until he retired to Belleville where he died 18 October 1910. His abrupt departure left an open field for Toronto's younger public health enthusiasts. With the assistance of the medical profession, the council held a competition for the vacant position. None of the four candidates, including Dr. A.R. Pyne, the acting MHO, passed all of the tests. Dr. Pyne charged that the experimental portion of the examination had been improperly conducted and refused to compete again. Not until April, 1891 was the city able to name Dr. Norman Allen as Canniff's successor.
62. Ontario, *Sessional Papers*, 1893, Vol. 25, No. 5, p.41.
63. City Treasurer's Detailed Statement of Annual Expenditure for 1883, *Minutes*, 1884, pp.lxxxix-lxxxii; Annual Expenditure for 1887, *Minutes*, 1888, pp.53-55; Annual Expenditure for 1889, *Minutes*, 1890, pp.52-54.
64. City Treasurer's Detailed Statement of Annual Expenditure for 1873, *Minutes*, 1874, pp.39-40.
65. *AR, LBH*, 1887, Appendix, p.41.
66. *Canada Lancet*, Vol. 23 (1890), pp.73-74; *Canadian Practitioner*, Vol. 15 (1890), p.531 offers further comment on the situation.
67. City Treasurer's Detailed Statement of Annual Expenditure for 1885, *Minutes*, 1886; Annual Expenditure for 1890, *Minutes*, 1891.
68. Morton, *Mayor Howland*, pp.103-107.
69. Armstrong and Nelles, *Methodist Bicycle Company*, pp.173-77.



The Falls in this River are justly ranked among the Curiosities of the World they are at the Mouth of the River about one Mile from the Entrance and are navigable 3 times in 24 Hours which commands great attention as only a few Minutes are required to pass in safety.
 The Tide rising from 20 to 24 Feet at High water is 6 or 8 Feet higher than the River which occasions a Fall in the River as well as out the whole Water of the Country having to pass between 2 Rocks 3 Yards distant

Map of the Great River St. John & Waters,
 (the first ever published)
 from the BAY of FUNDY, up to
 S^t. ANNS or FREDERICKS TOWN;
 being little known by White People, until 1783
 settled by the American Loyalists, then part of
 NOVA SCOTIA, now called NEW BRUNSWICK.
 from an actual Survey, made in the Years
 1784, 85, 86, and 87.
 by ROBERT CAMPBELL Surveyor.
 Capt. of the 50th Company of B. John's Loyalists



A Map of the Great River St. John ..., by Robert Campbell, 1788. ACML Facsimile No. 71, from an original copper engraving in the National Map Collection.

See page 58.