Making a Difference:

Milestones in Public Health & Biotechnology: Canadian Connections

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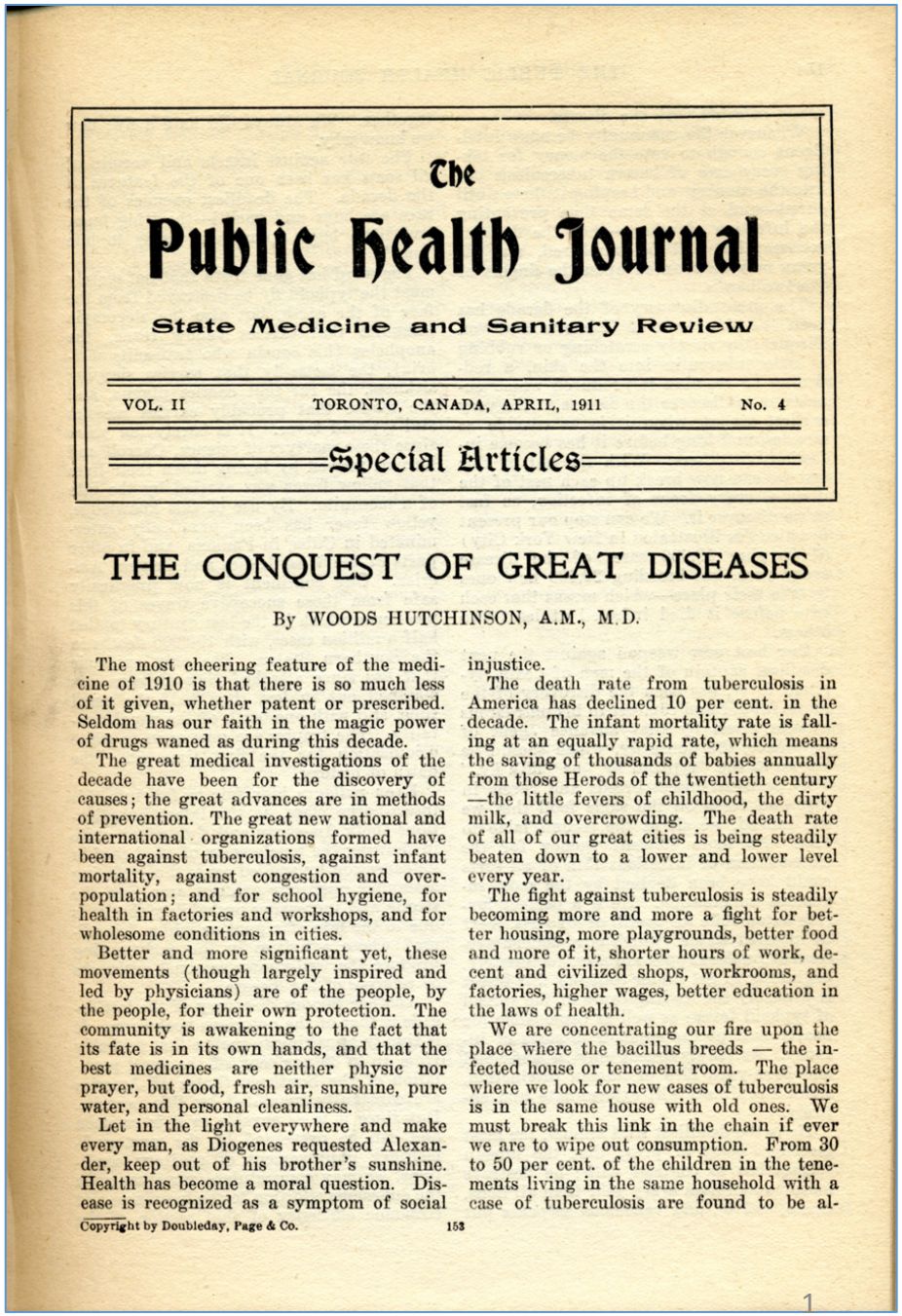
Lecture #1 – Preludes in Canadian Public Health

By Christopher J. Rutty, Ph.D.
Professional Medical Historian
Health Heritage Research Services
http://healthheritageresearch.com
& Adjunct Lecturer,
Dalla Lana School of Public Health,
University of Toronto

Living and Learning in Retirement, Course E
Class #2, September 15, 2017
Glendon College, York U., Room A002



The

Public Health Journal

State Medicine and Sanitary Review

VOL. II TORONTO, CANADA, APRIL, 1911 No. 4

Special Articles

THE CONQUEST OF GREAT DISEASES

By WOODS HUTCHINSON, A.M., M.D.

The most cheering feature of the medicine of 1910 is that there is so much less of it given, whether patent or prescribed. Seldom has our faith in the magic power of drugs waned as during this decade.

The great medical investigations of the decade have been for the discovery of causes; the great advances are in methods of prevention. The great new national and international organizations formed have been against tuberculosis, against infant mortality, against congestion and overpopulation; and for school hygiene, for health in factories and workshops, and for wholesome conditions in cities.

Better and more significant yet, these movements (though largely inspired and led by physicians) are of the people, by the people, for their own protection. The community is awakening to the fact that its fate is in its own hands, and that the best medicines are neither physic nor prayer, but food, fresh air, sunshine, pure water, and personal cleanliness.

Let in the light everywhere and make every man, as Diogenes requested Alexander, keep out of his brother's sunshine. Health has become a moral question. Disease is recognized as a symptom of social injustice.

The death rate from tuberculosis in America has declined 10 per cent. in the decade. The infant mortality rate is falling at an equally rapid rate, which means the saving of thousands of babies annually from those Herods of the twentieth century —the little fevers of childhood, the dirty milk, and overcrowding. The death rate of all of our great cities is being steadily beaten down to a lower and lower level every year.

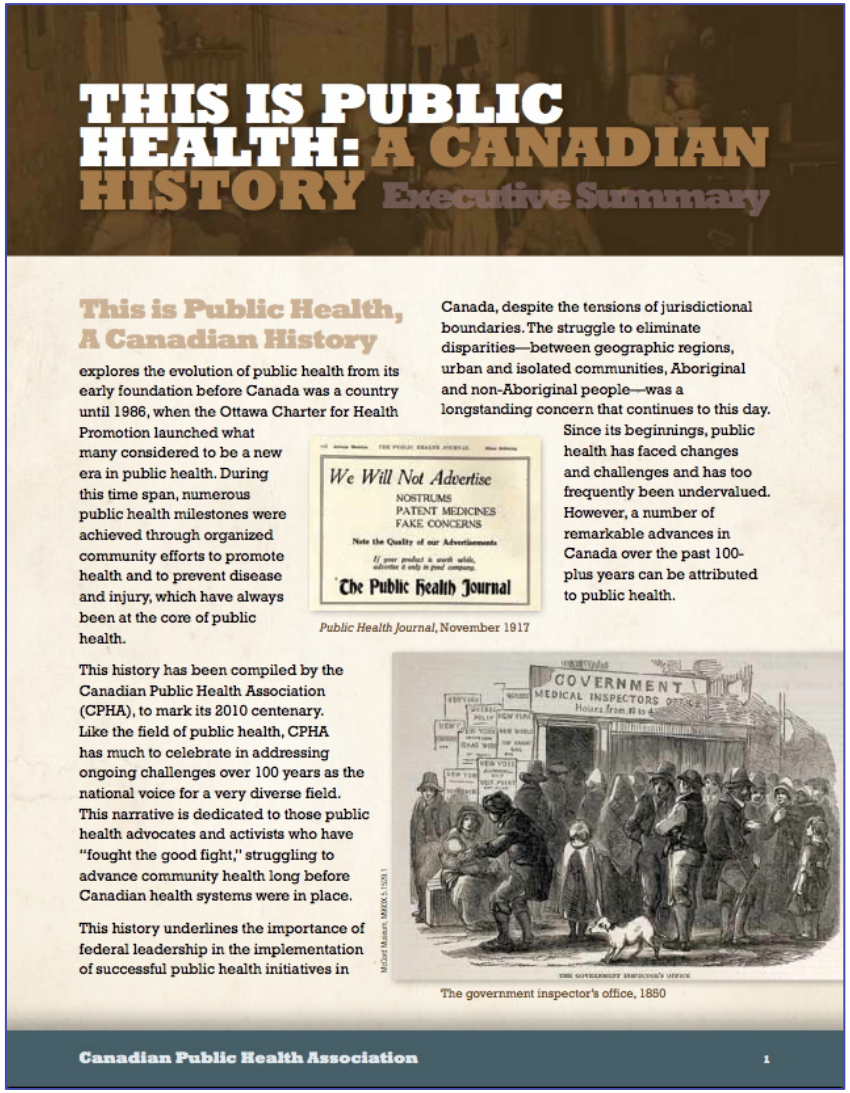
The fight against tuberculosis is steadily becoming more and more a fight for better housing, more playgrounds, better food and more of it, shorter hours of work, decent and civilized shops, workrooms, and factories, higher wages, better education in the laws of health.

We are concentrating our fire upon the place where the bacillus breeds — the infected house or tenement room. The place where we look for new cases of tuberculosis is in the same house with old ones. We must break this link in the chain if ever we are to wipe out consumption. From 30 to 50 per cent. of the children in the tenements living in the same household with a case of tuberculosis are found to be al-

Introduction

- As described in the outline, this course begins by highlighting the early Canadian impact of smallpox from the 17th century and efforts to control its spread through inoculation and then vaccination.
- Cholera was a major public health threat during the 19th century and also a major driver of public health development, particularly in Toronto
- The devastation of diphtheria, the hope of diphtheria antitoxin, and a resurgence of smallpox amidst vaccination challenges in the late 19th century will conclude this first class.

- A few other elements of the story that didn't fit in the official course description:
- Highlighting the pioneering public health promotion and publication work of Dr. Edward Playter;
- The introduction of Pasteur Rabies Vaccine;
- The establishment of the Ontario Provincial Labs;
- And the escalating impact of Tuberculosis in Canada during the 19th century.

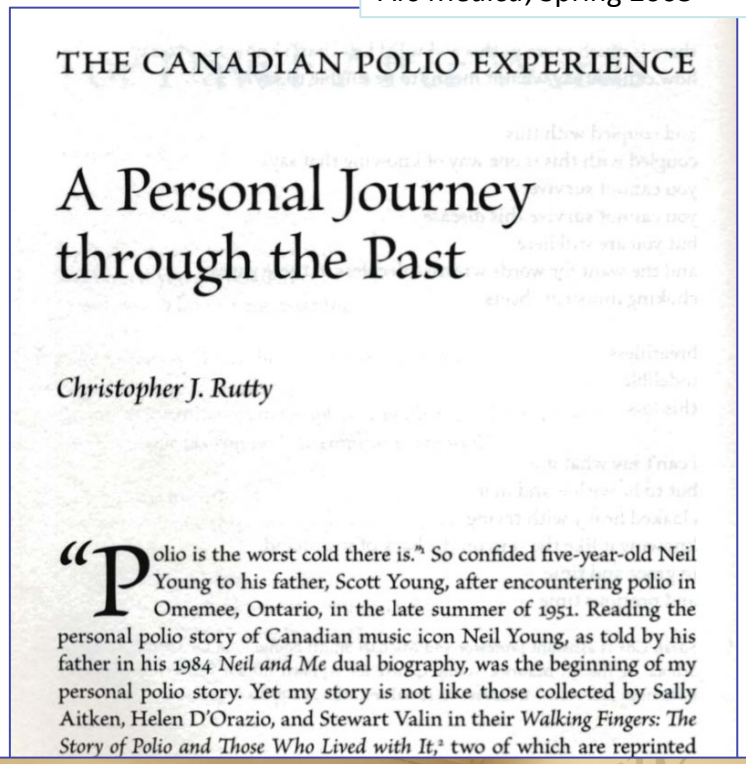


C.J. Rutty, *This is Public Health: A Canadian History* (Canadian Public Health Association eBook, 2010) - https://www.cpha.ca/history-e-book

Introduction

- I'm teaching this course based on 20+ years of professional experience as a medical historian in private practice with expertise in the history of public health, infectious diseases, and biotechnology, particularly in the Canadian context.
- This expertise developed through undergraduate, Masters and especially Ph.D. level, research into the history of medicine, particularly the history of polio.
- My interest in polio was sparked by the experience of Neil Young with the disease in 1951 when he was 5.
- I wrote a research paper around his story for a course at the University of Western Ontario in 1988.
- 1995 – Completed Ph.D. in the Department of History, UofT., on the history of polio in Canada, supervised by Professor of Michael Bliss, author of *The Discovery of Insulin*, among many other works in Canadian history and Canadian medical history.

Ars Medica, Spring 2005



THE CANADIAN POLIO EXPERIENCE

A Personal Journey through the Past

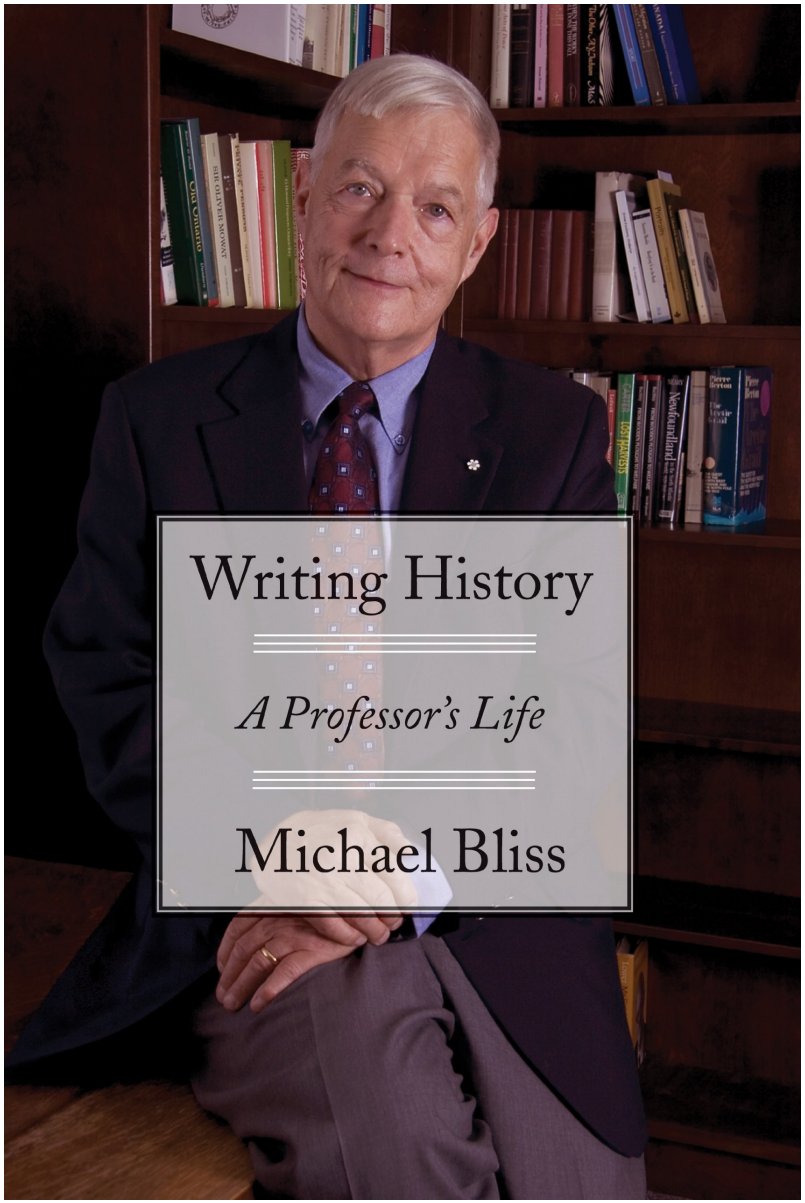
Christopher J. Rutty

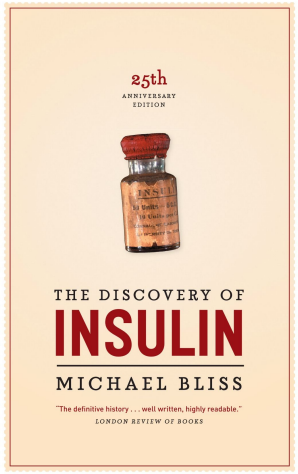
"Polio is the worst cold there is."[1] So confided five-year-old Neil Young to his father, Scott Young, after encountering polio in Omemee, Ontario, in the late summer of 1951. Reading the personal polio story of Canadian music icon Neil Young, as told by his father in his 1984 *Neil and Me* dual biography, was the beginning of my personal polio story. Yet my story is not like those collected by Sally Aitken, Helen D'Orazio, and Stewart Valin in their *Walking Fingers: The Story of Polio and Those Who Lived with It*,[2] two of which are reprinted

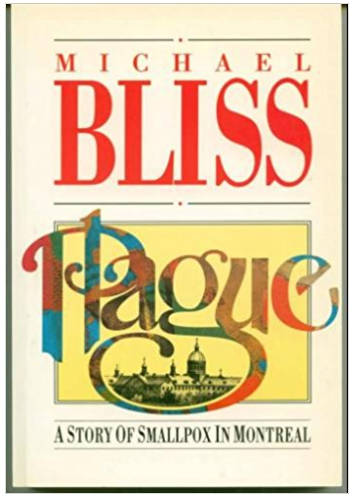
History of Vaccines Exhibit, Museum of Health Care, Kingston, Nov. 2013
http://www.museumofhealthcare.ca/explore/exhibits/vaccinations/

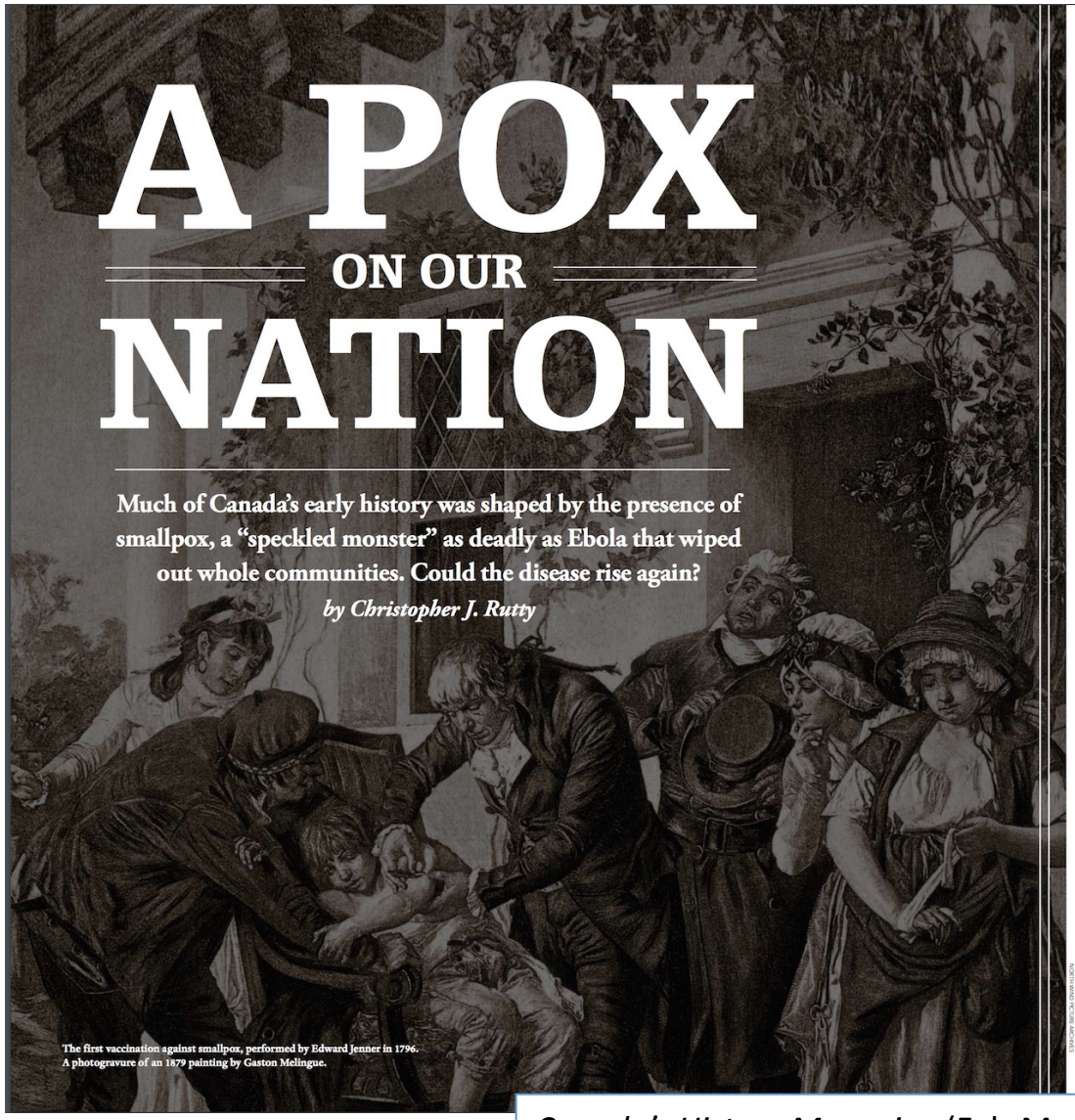
Dedication

- Indeed, I would like to start with a personal dedication to the late Professor Michael Bliss, without whom I wouldn't be standing here…
- Professor Bliss passed away all too suddenly on May 18, 2017 at age 76.
- Ph.D. supervisor (1990-95)
- Colleague, friend and unofficial agent
- He connected me with LLiR, leading to my teaching this course
- He also connected me with *Canada's History Magazine* to write an article about the early history of smallpox in Canada…







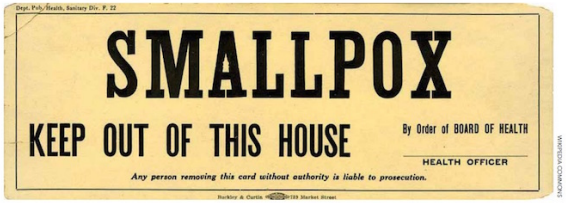


A POX ON OUR NATION

Much of Canada's early history was shaped by the presence of smallpox, a "speckled monster" as deadly as Ebola that wiped out whole communities. Could the disease rise again?

by Christopher J. Rutty

The first vaccination against smallpox, performed by Edward Jenner in 1796. A photogravure of an 1879 painting by Gaston Melingue.



Above: A quarantine poster warns that a home is contaminated by smallpox, circa 1910.

It's been more than nine decades since Canada had its last brush with a deadly smallpox epidemic. When the dreaded disease broke out in southwestern Ontario's Windsor region in early 1924, almost half of the sixty-seven people who contracted the illness died. Doctors were taken by surprise and at first failed to identify it. Canada had not seen such a serious smallpox epidemic since 1885, when the illness swept Montreal, killing 3,154 people.

"Today we have no conception of the meaning of the word 'smallpox,'" wrote Dr. John Heagerty of Canada's Federal Public Health Service in a booklet published shortly after the Windsor outbreak. "For us the word has been robbed of its terrors, and we discuss the problem of smallpox in the community in a general and academic way."

But the illness was hardly academic to those who were stricken. The Windsor outbreak in January was traced to the home of furniture mover Gordon Deneau. None of the four doctors who saw Deneau initially recognized his ailment as a particularly virulent form of hemorrhagic (bloody) smallpox. After Deneau's death, more people became sick. Five members of his immediate family died. Once doctors knew what they were dealing with, measures were quickly put in place. Patients were quarantined, and within a week most of the seventy thousand people in the Windsor area were vaccinated, effectively stopping the epidemic in its tracks. "All deaths which occurred were of unvaccinated persons," reported Toronto's *Globe* in March 1924. "The only persons who attended the funeral of Deneau and escaped infection were those vaccinated."

In pre-vaccine days, noted Heagerty, "the word 'smallpox' blanched the cheek and brought a look of terror to the eyes. Smallpox in those days meant death. Relentless and insatiate, the disease would sweep through a community mowing down all those who had not already suffered from it; killing, maiming, and leaving its victims blinded or disfigured for life." Moreover, "it played a part of no little importance in the political history of Canada in the early days."

Although officially eradicated in 1979, smallpox remains a threat today, either as a potential bioterrorist weapon or as a virus inadvertently resurrected. In recent years scientists have speculated that the virus could spread from the frozen bodies of eighteenth-century victims of the disease that thaw as global warming melts the Siberian permafrost. Thus it's worth giving the subject of smallpox some thought today.

Smallpox began to shape Canada's political history in 1616 when the disease struck the Aboriginal population living near Tadoussac, France's first North American fur-trading post. The disease had been unknown to the First Nations, who had no natural immunity, and this population would become highly vulnerable to its deadly power.

Canada's History Magazine (Feb-March 2015)

http://healthheritageresearch.com/clients/Canadas-History-Magazine/SmallpoxCan-CanHistMag201502-3-RuttyCJ.pdf

The "Digested" Version…

Exploring the legacy of smallpox in our country's history—and the likelihood of another deadly epidemic

The Speckled Monster

BY CHRISTOPHER J. RUTTY FROM *CANADA'S HISTORY*

KNOWLEDGE

IT'S BEEN MORE than nine decades since Canada had its last brush with a deadly smallpox epidemic. The dreaded disease broke out in south-western Ontario's Windsor region in early 1924, killing nearly half of the 67 people infected. Canada had not seen such a serious smallpox out-break since 1885, when the illness swept Montreal, causing more than 3,100 deaths.

"Today we have no conception of the meaning of the word 'smallpox,'" wrote Dr. John Heagerty, of Canada's Federal Public Health Service, in a booklet published shortly after the Windsor outbreak. "For us, the word has been robbed of its terrors, and we discuss the problem of smallpox in the community in a general and academic way."

Once doctors knew what they were dealing with, patients were quaran-tined. Within a week, most of the 70,000 people in the Windsor area were vaccinated, stopping the epi-demic—which in pre-vaccine days often meant death—in its tracks.

Although eradicated in 1979, smallpox remains a threat today, either as a potential bioterrorist

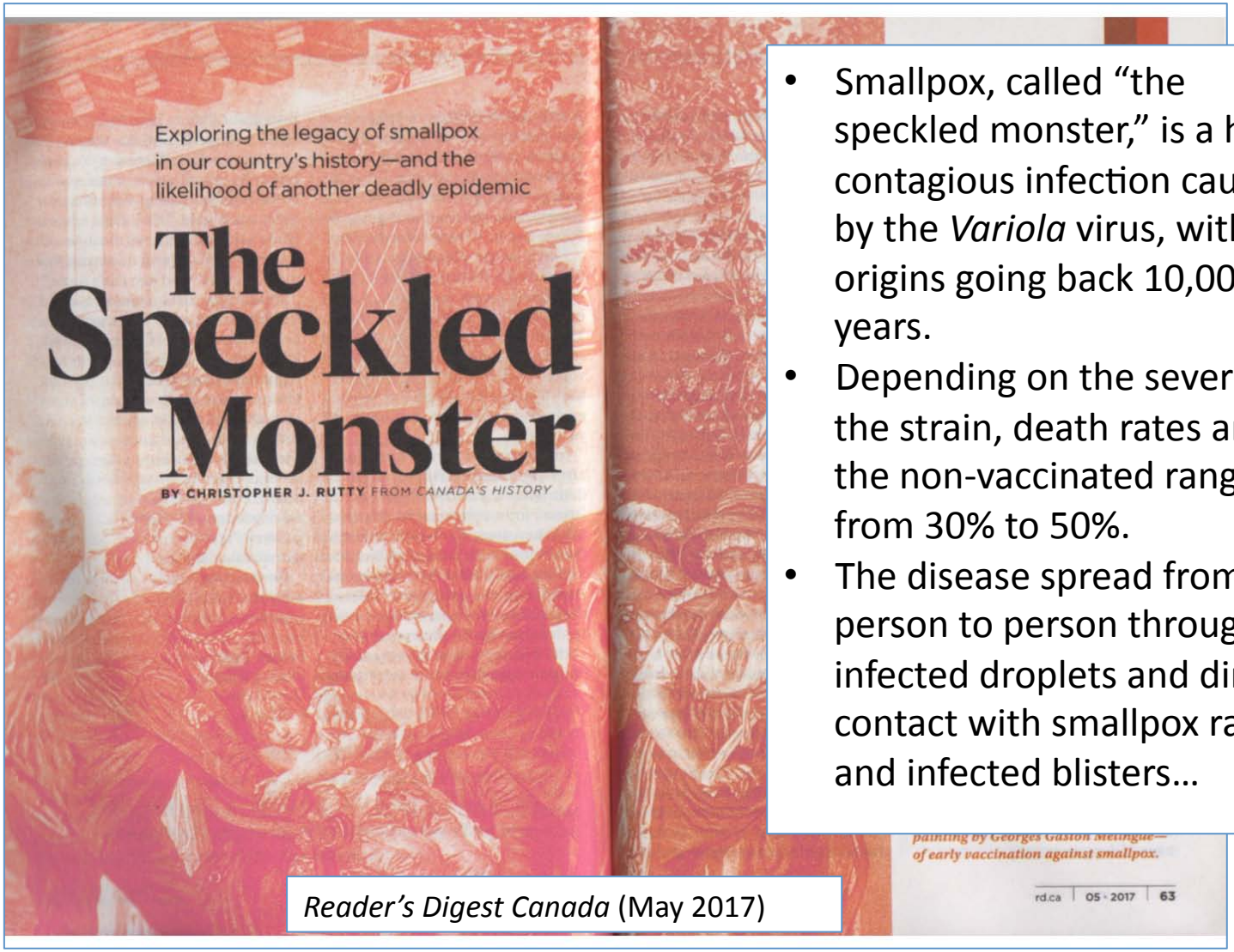
A photogravure—based on an 1879 painting by Georges Gaston Melingue—of early vaccination against smallpox.

rd.ca | 05 · 2017 | 63

Reader's Digest Canada (May 2017)

http://healthheritageresearch.com/clients/Canadas-History-Magazine/RuttyCJ-SpeckledMonster-ReadersDigest-2017-05-p62-67.pdf

The "Digested" Version…



Reader's Digest Canada (May 2017)

- Smallpox, called "the speckled monster," is a highly contagious infection caused by the *Variola* virus, with origins going back 10,000 years.
- Depending on the severity of the strain, death rates among the non-vaccinated ranged from 30% to 50%.
- The disease spread from person to person through infected droplets and direct contact with smallpox rashes and infected blisters…

http://healthheritageresearch.com/clients/Canadas-History-Magazine/RuttyCJ-SpeckledMonster-ReadersDigest-2017-05-p62-67.pdf

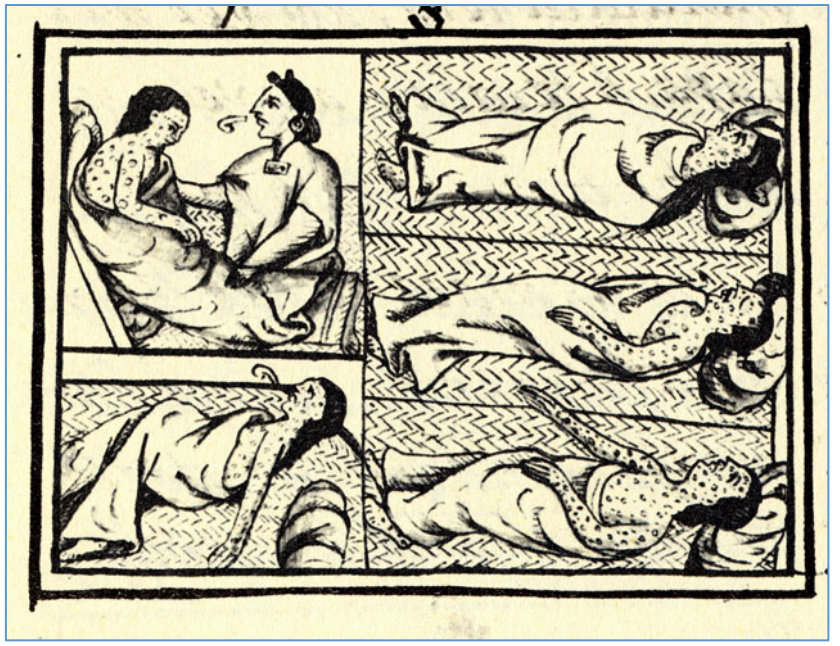
Smallpox Control

- Twentieth century smallpox incidence in Canada peaked at 3,300 cases in 1927, but fell sharply to zero by the mid-1940s
- The last smallpox case in Canada occurred in 1962 when a teenage boy brought the disease home after a trip to Brazil.
- It was a mild case, but with smallpox very rare in North America, this infected teen, who travelled by train through the eastern U.S. and into Canada, set off public health alarms and a mass vaccination campaign on both sides of the border.
- This single case underscored the vulnerability to smallpox in North America while the disease remained endemic anywhere else on the planet.
- It also sparked the global initiative that led to the eradication of smallpox in 1979.
- More on that story in a later class…

Canada's last smallpox case, 1962

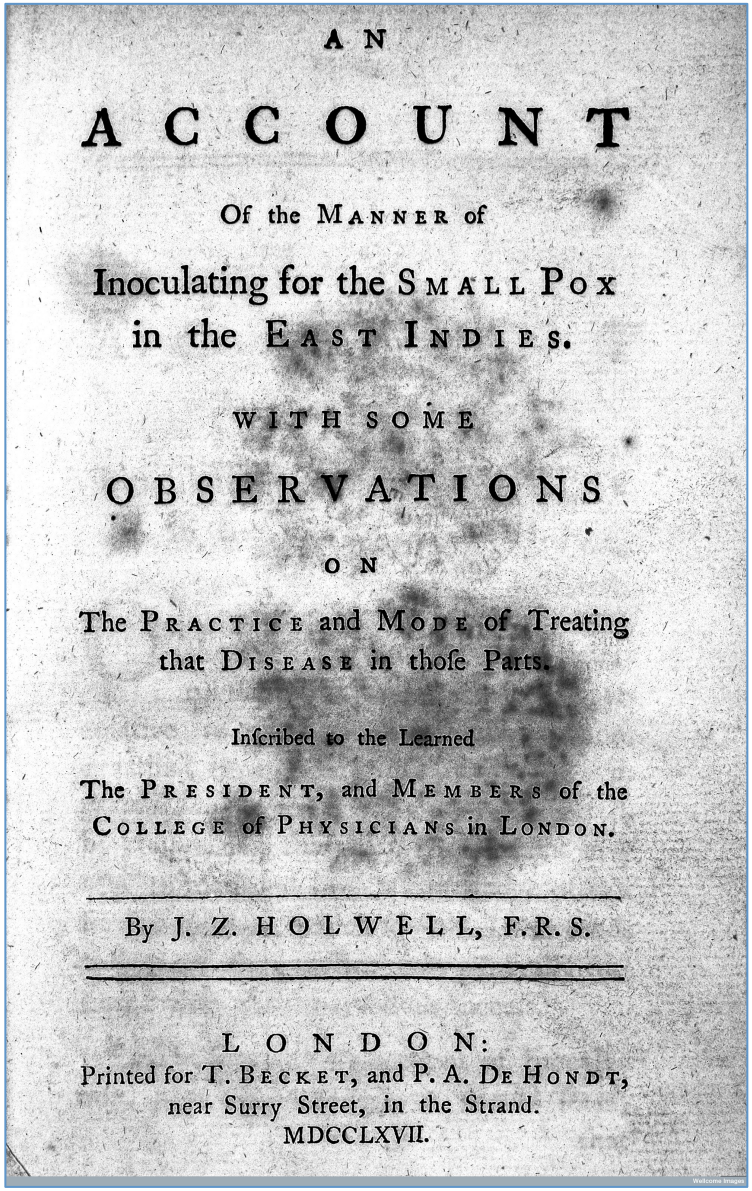
Smallpox Control

- The first smallpox epidemic in what would become Canada struck in 1616, with the local indigenous population devastated near Tadoussac, France's first trading post in North America.
- The disease soon spread to other First Nations in the Maritimes, James Bay and the Great Lakes region.
- During the 1630s, nearly every First Nation in the Great Lakes region was affected by smallpox, and by 1636 the population of the Huron north of Lake Ontario had been reduced by half.
- During the balance of the 17th century, smallpox was always present among the native population as it spread over half of North America, taken in all directions when whole tribes fled in terror during epidemics.



Smallpox Control

- Soon after the British conquest of New France in 1763, a way to prevent smallpox, known as "variolation," was introduced
- Originated in 11th century China, variolation exposed people to smallpox in a controlled manner; if infected deliberately through a scratch they developed a much less severe form of the disease and became immune
- **1765** - Variolation first used in Quebec and soon there was a concerted immunization effort among prominent families and the British troops, at it was also used in the native population; yet much less enthusiasm for variolation among the American colonies
- **July 1775** - Soon after Washington launched an attack on Quebec, smallpox broke out among his troops, but it did not affect the immunized British forces, forcing Washington's men to retreat.
- Thus, smallpox immunization played a major role in saving Canada for the British Empire.



AN

ACCOUNT

Of the MANNER of

Inoculating for the SMALL POX in the EAST INDIES.

WITH SOME

OBSERVATIONS

ON

The PRACTICE and MODE of Treating that DISEASE in thoſe Parts.

Inſcribed to the Learned

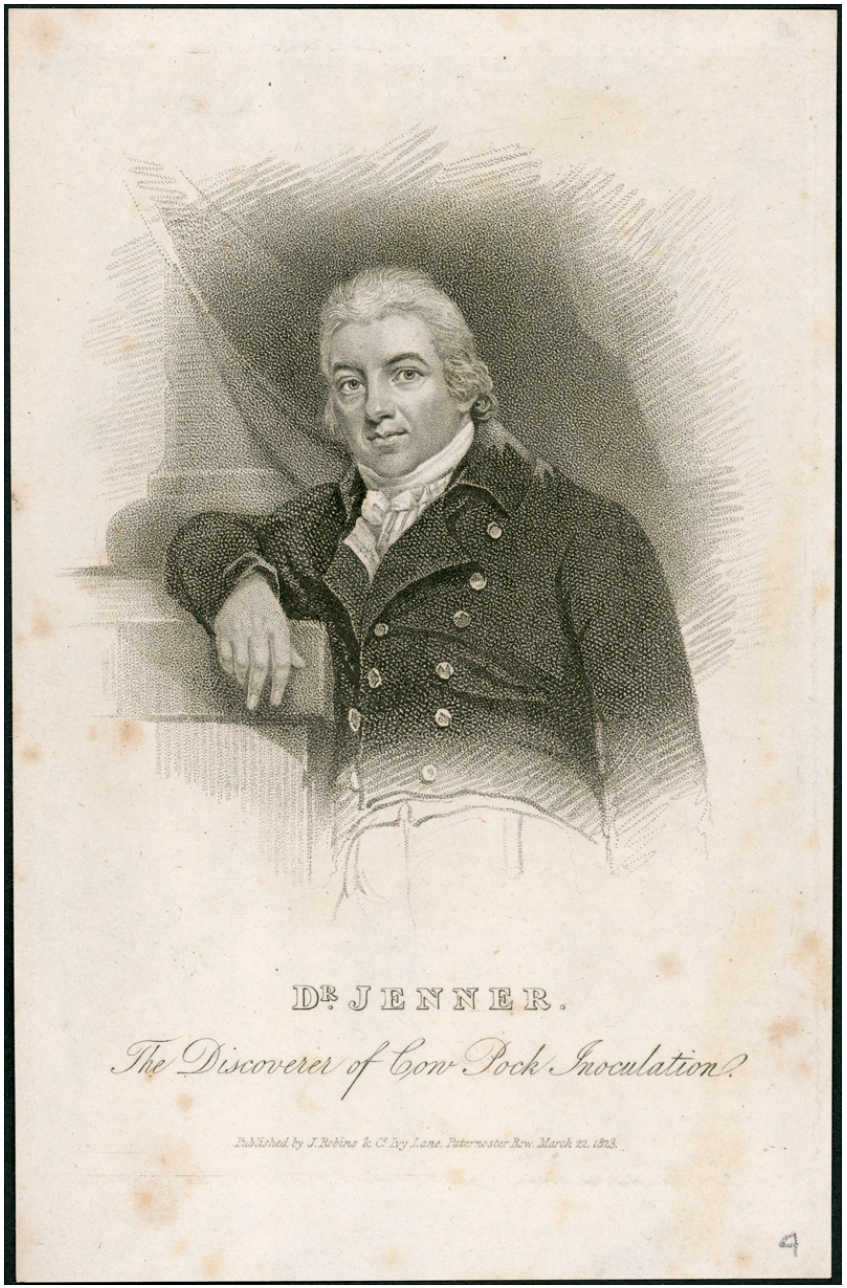
The PRESIDENT, and MEMBERS of the COLLEGE of PHYSICIANS in LONDON.

By J. Z. HOLWELL, F.R.S.

LONDON:
Printed for T. BECKET, and P. A. DE HONDT,
near Surry Street, in the Strand.
MDCCLXVII.

Smallpox Control

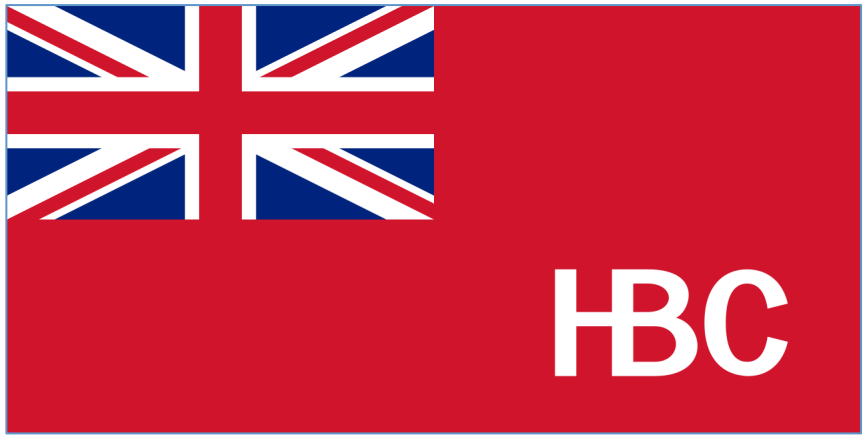
- **1796** - Variolation was soon supplanted by smallpox "vaccination," developed by Edward Jenner in Britain
- Jenner observed that milkmaids rarely had pox-marked skin and discovered that exposure to a mild cowpox infection (*vacca* is Latin for cow) immunized people against smallpox.
- Jenner was the first to collect the cowpox-infected material from the skin of calves to prepare a "vaccine," and then demonstrate that the inoculation of a healthy person protected them from the disease during a smallpox outbreak.
- British North American natives quickly benefited from smallpox vaccination and were enthusiastic about its value and personally appreciative to Jenner.



Smallpox Control

- During the late 18th and early 19th centuries, the Hudson's Bay Company served as the de-facto public health agency across the northwest, focused especially on smallpox prevention among the native population.

- **1838-39** - HBC launched an immense vaccination program across most of what is now western Canada that would limit the disease to little more than a toehold for several decades.



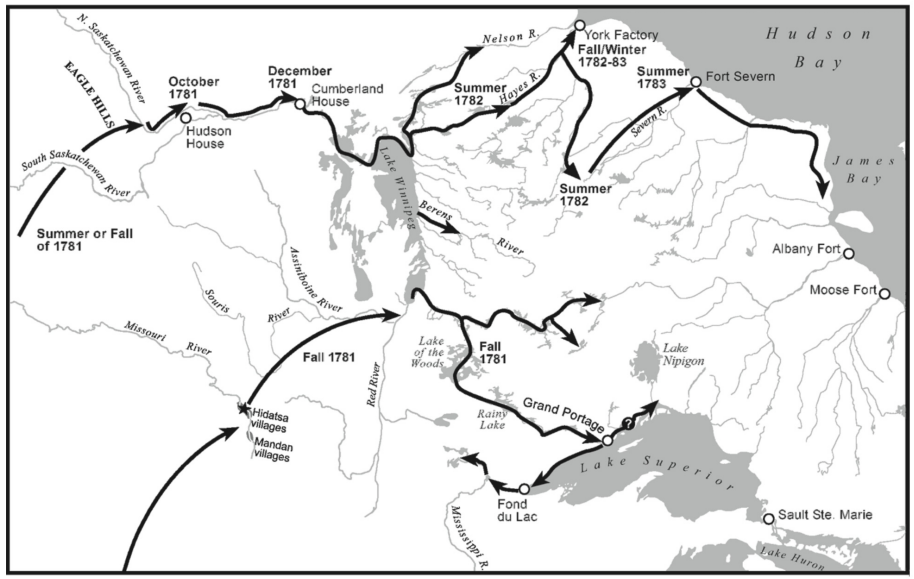
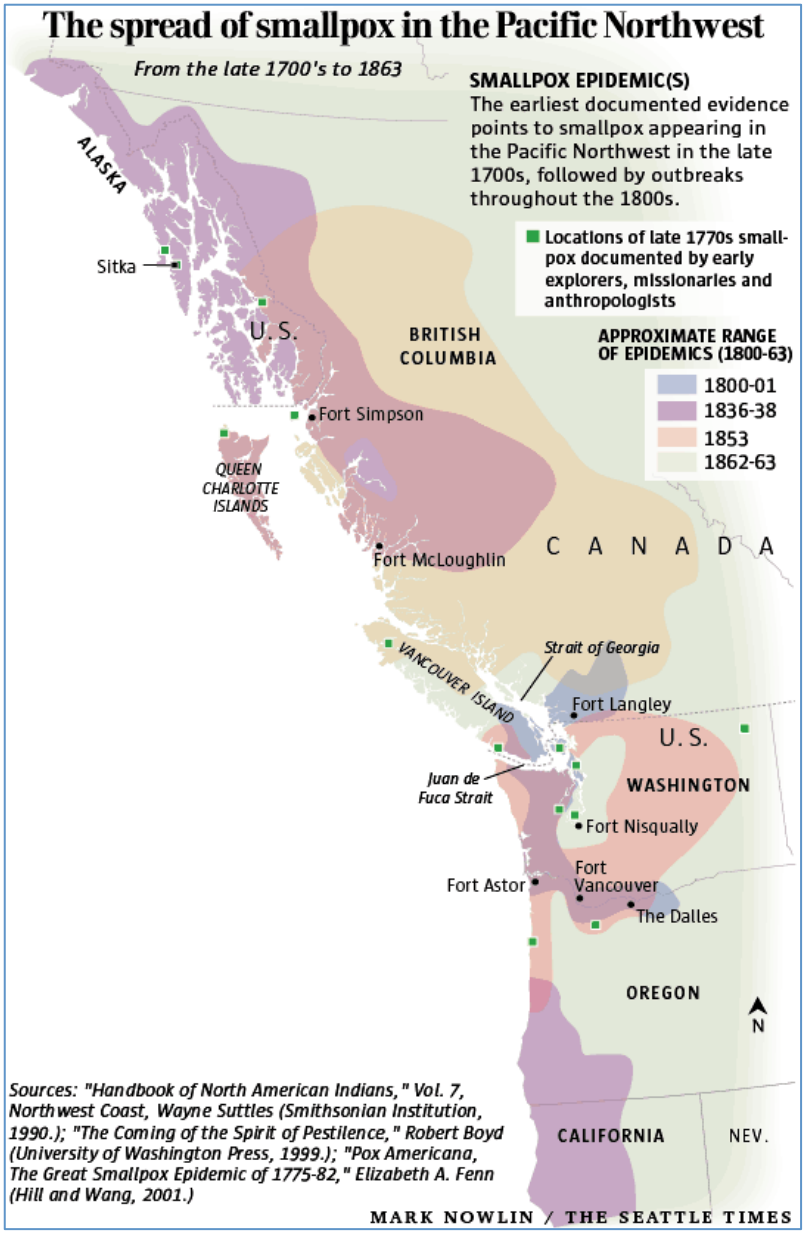


Fig. 1. The 1779–83 smallpox epidemic on the northwestern plains. *Source:* F. J. Paul Hackett, *"A Very Remarkable Sickness": Epidemic Disease in the Petit Nord, 1670–1846,* Manitoba Studies in Native History, vol. 14 (Winnipeg: University of Manitoba Press, 2002), pp. 93–118.

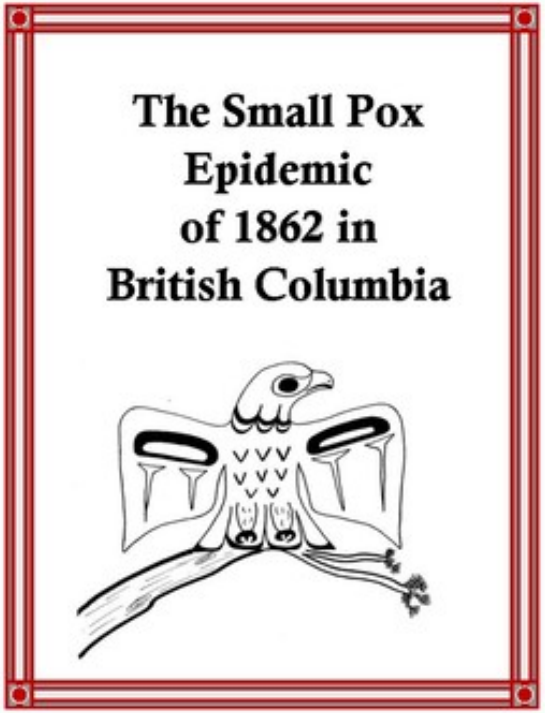
Smallpox Control

- **1862-63** - However, on the west coast the smallpox control story was much less positive towards the indigenous population of what would become British Columbia
- **March 18, 1862** – A ship from San Francisco arrived in Victoria, then the capital of the colony of Vancouver Island, with a smallpox case on board, sparking an outbreak that spread quickly among colonists and the local indigenous population
- However, many colonists in Victoria saw the natives as the real disease threat, prompting an aggressive effort to expel them from the colony, driving them back to every corner of the province, effectively spreading smallpox with great devastation



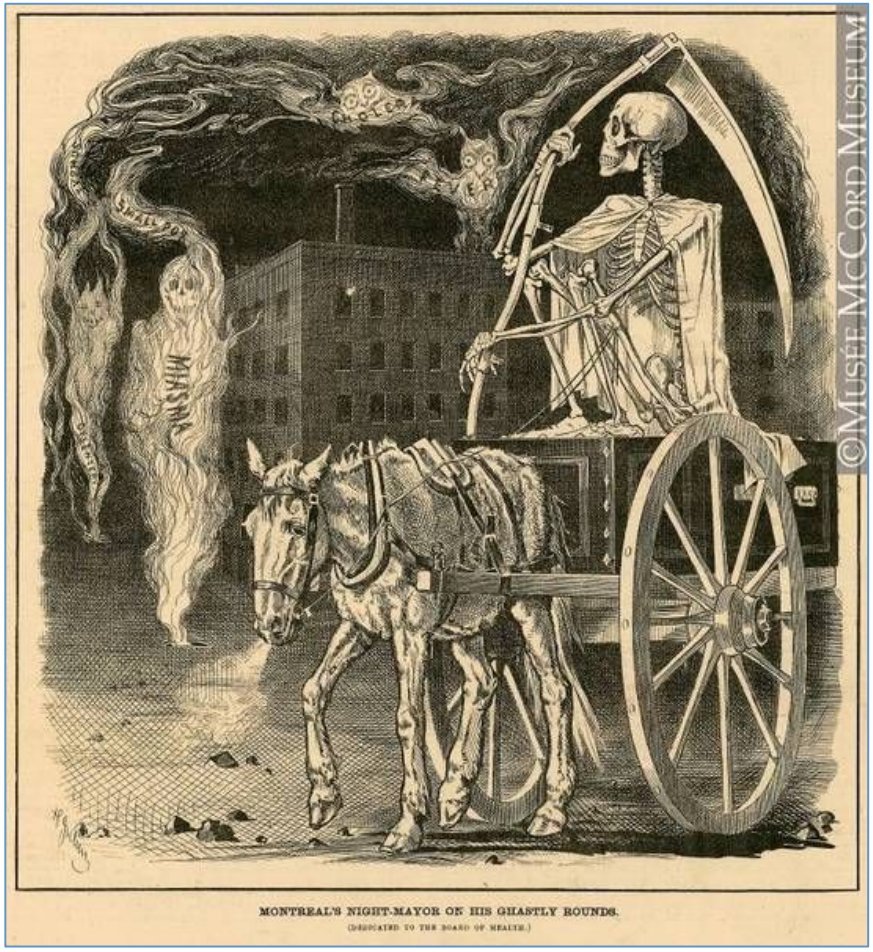
Smallpox Control

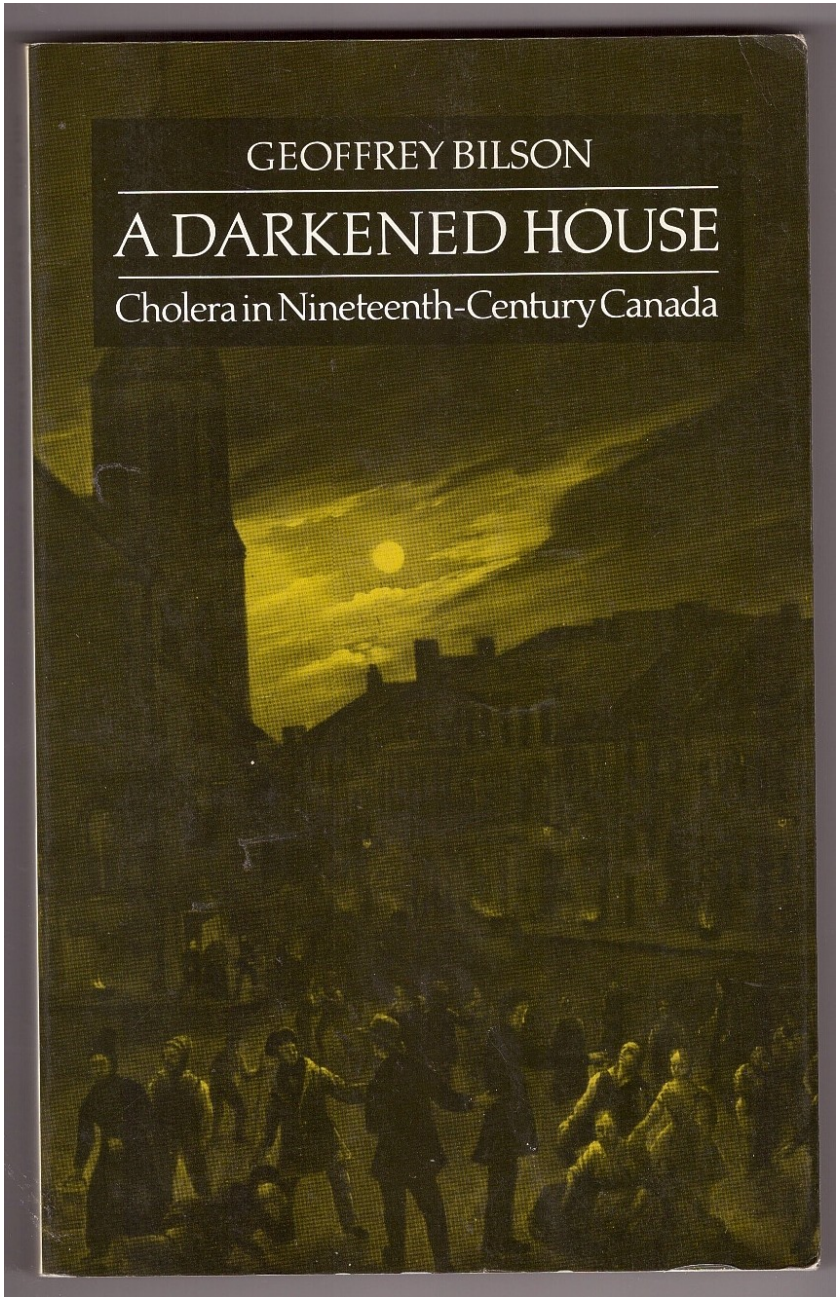
- The smallpox outbreak exposed often deep racist views about the “Indians” among many colonists, fuelled by desires for colonial land expansion and a northern gold rush
- Although miners in search of gold also spread the disease into the north, many suspect smallpox provided an opportunity to enable a deliberate colonial strategy to significantly reduce the indigenous population of the Pacific Northwest
- Some estimate 60% of the indigenous population living on the West coast in 1861 was dead by the end of 1863
- Nevertheless, there were efforts by many in the colony and beyond to vaccinate the natives, including Hudson Bay Company traders, but such efforts could only place a certain limit on what would become a major tragedy for Canada’s First Nations on the west coast…



Cholera and Public Health Building

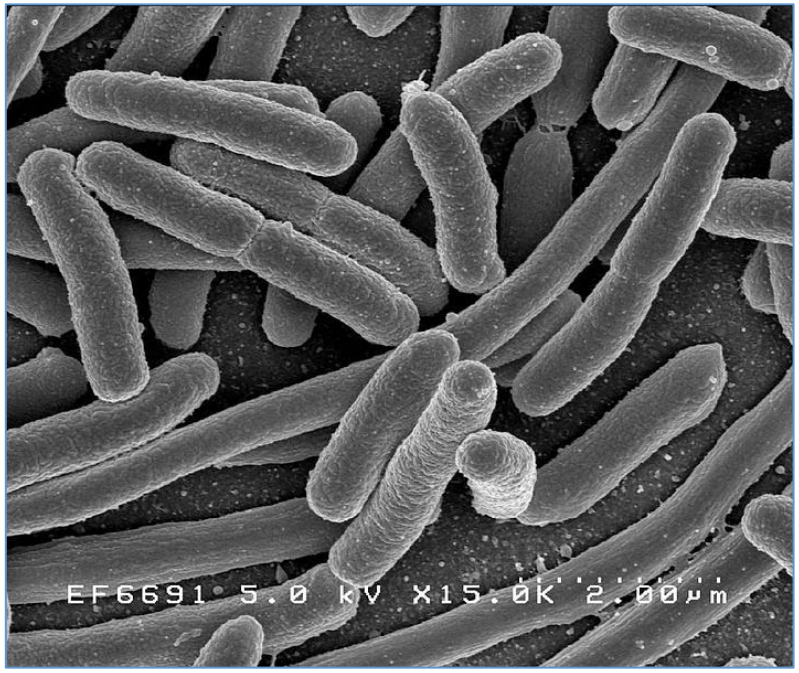
- Much less could be done to prevent or control one of the greatest infectious disease threats of the 19th century, Cholera

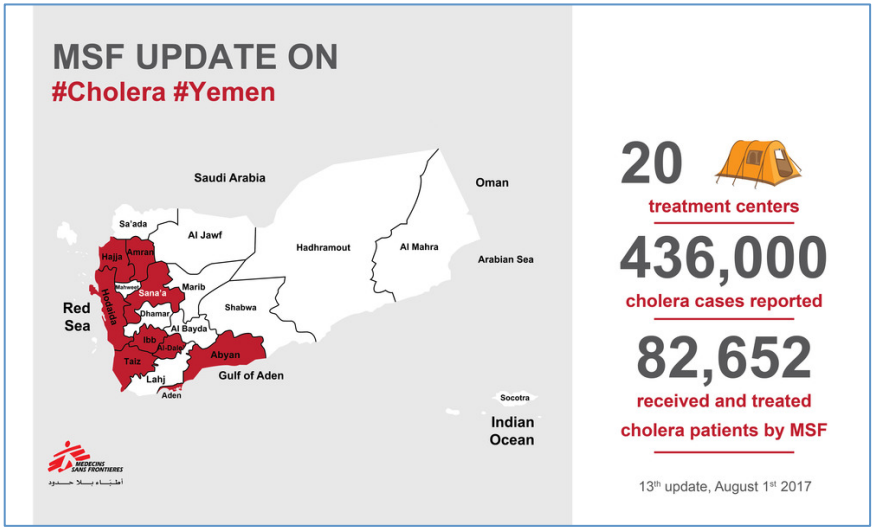




Cholera and Public Health Building

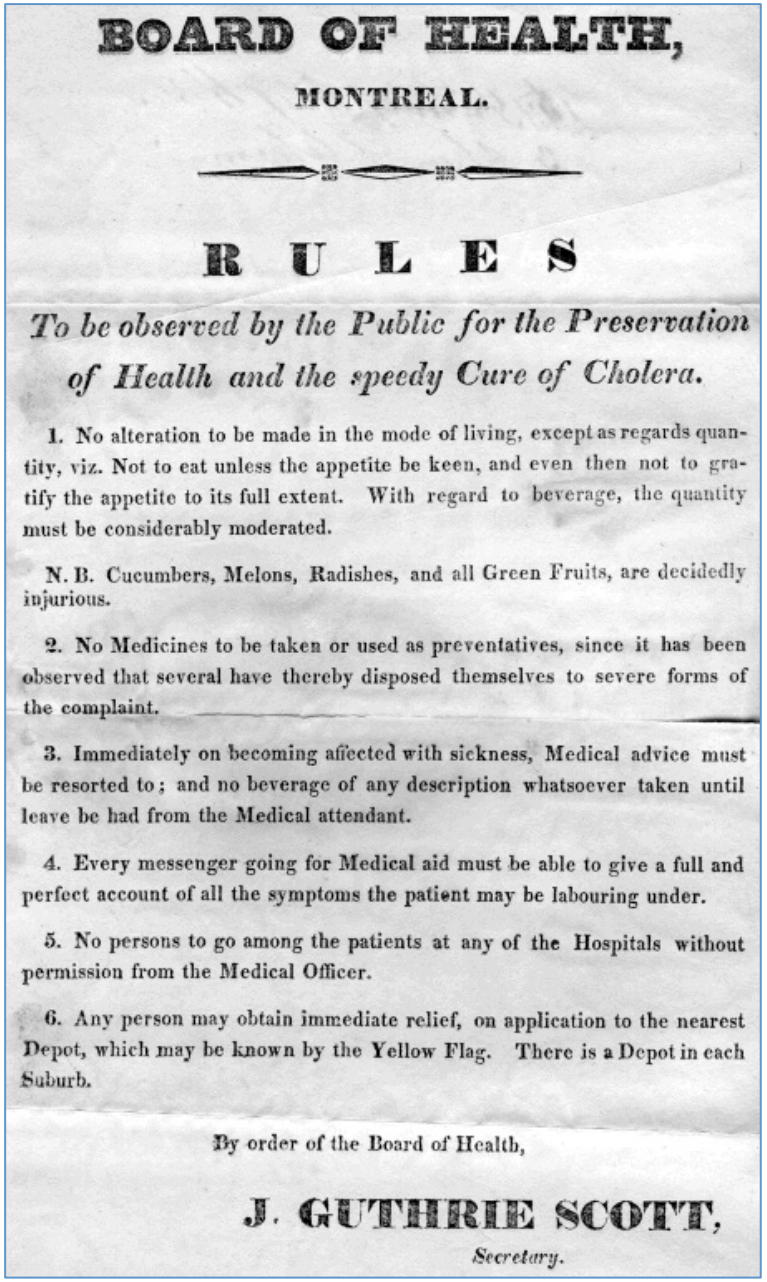
- Cholera is an infection of the small intestine caused by the bacteria known as *Vibrio cholerae*
- The symptoms of cholera can range from mild to severe, most notably watery diarrhea that lasts for several days, the most severe cases suffering severe dehydration and death
- Cholera outbreaks first occurred in the Indian subcontinent, but began spreading globally during the early 1800s through expanding trade routes and the contaminated water supplies of growing cities
- Today, cholera still affects some 2-5 million people worldwide, causing up to 130,000 deaths each year, mostly in Africa and south-east Asia
- Yemen is enduring a major cholera epidemic as we speak…





Cholera and Public Health Building

- **1830s** - Cholera's threat, fuelled by waves of poor British immigrants, galvanized the establishment of local boards of health in the British North American colonies, but initially only temporary boards
- **1832** – Quarantine station was built on Grosse Isle, a small island east of Quebec City, for inspecting and cleansing the arriving immigrants; nevertheless, cholera spread west into Upper Canada



BOARD OF HEALTH,

MONTREAL.

RULES

To be observed by the Public for the Preservation of Health and the speedy Cure of Cholera.

1. No alteration to be made in the mode of living, except as regards quantity, viz. Not to eat unless the appetite be keen, and even then not to gratify the appetite to its full extent. With regard to beverage, the quantity must be considerably moderated.

N. B. Cucumbers, Melons, Radishes, and all Green Fruits, are decidedly injurious.

2. No Medicines to be taken or used as preventatives, since it has been observed that several have thereby disposed themselves to severe forms of the complaint.

3. Immediately on becoming affected with sickness, Medical advice must be resorted to; and no beverage of any description whatsoever taken until leave be had from the Medical attendant.

4. Every messenger going for Medical aid must be able to give a full and perfect account of all the symptoms the patient may be labouring under.

5. No persons to go among the patients at any of the Hospitals without permission from the Medical Officer.

6. Any person may obtain immediate relief, on application to the nearest Depot, which may be known by the Yellow Flag. There is a Depot in each Suburb.

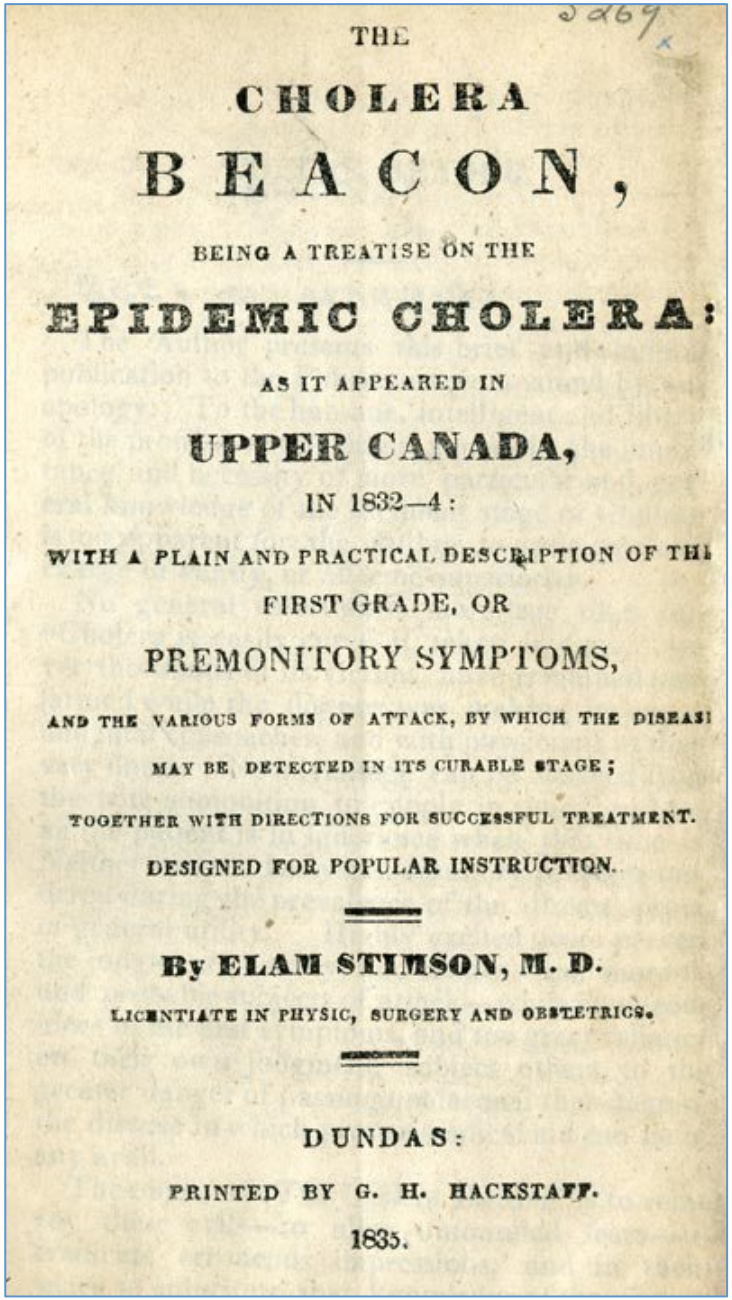
By order of the Board of Health,

J. GUTHRIE SCOTT,

Secretary.

Cholera and Public Health Building

- **1832/34** - Cholera struck Toronto in the midst of the city's official incorporation, which came into effect on March 6, 1834.
- The first cholera cases occurred in the summer of 1832, soon after immigrant ships arrived on the shores of Lake Ontario; Toronto was then called York and had about 5,000 residents
- The death toll rose quickly, reaching 200 after a 3-month outbreak; a second outbreak followed in early 1834
- The experience of cholera in 1832 prompted a more urgent public health response by Toronto's new city government
- New by-laws focused on cleaning up garbage, human waste and standing water, planning for a sewer system, and establishing a board of health
- At the time, the cause of cholera was not understood beyond an association with "miasma" (bad air) and filth, and the disease seeming to spread through the air



THE

CHOLERA

BEACON,

BEING A TREATISE ON THE

EPIDEMIC CHOLERA:

AS IT APPEARED IN

UPPER CANADA,

IN 1832—4:

WITH A PLAIN AND PRACTICAL DESCRIPTION OF THE

FIRST GRADE, OR

PREMONITORY SYMPTOMS,

AND THE VARIOUS FORMS OF ATTACK, BY WHICH THE DISEASE

MAY BE DETECTED IN ITS CURABLE STAGE;

TOGETHER WITH DIRECTIONS FOR SUCCESSFUL TREATMENT.

DESIGNED FOR POPULAR INSTRUCTION.

By ELAM STIMSON, M. D.

LICENTIATE IN PHYSIC, SURGERY AND OBSTETRICS.

DUNDAS:

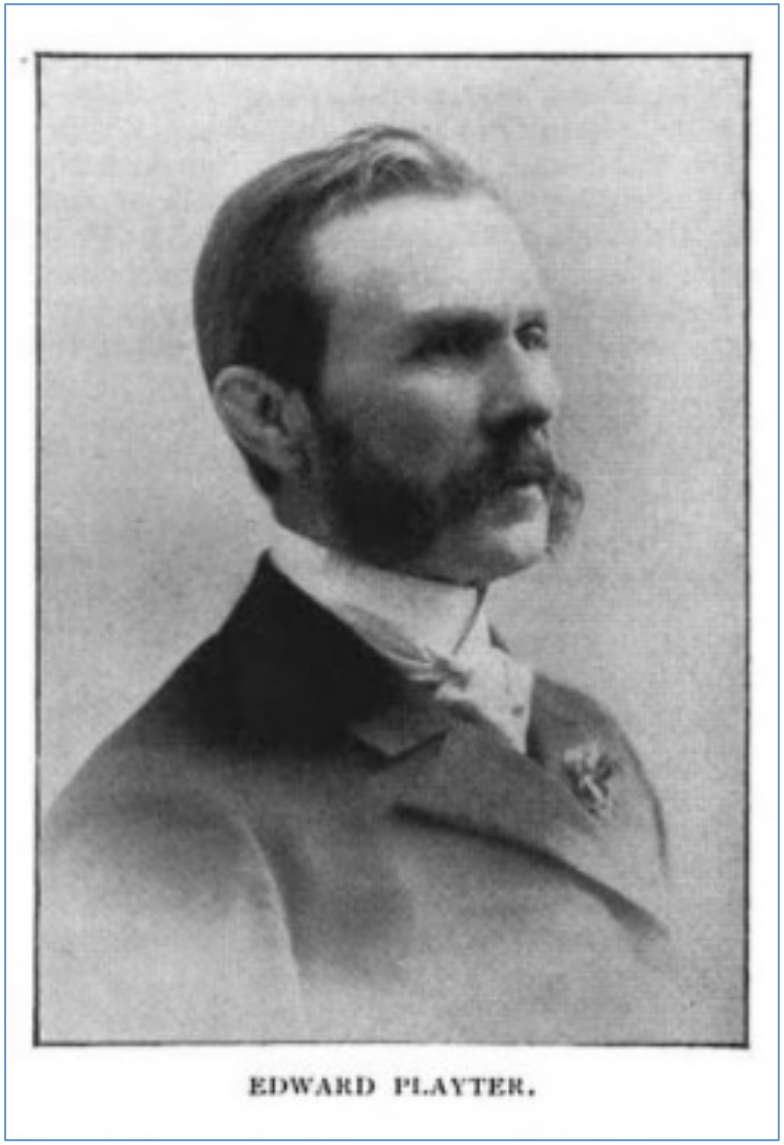
PRINTED BY G. H. HACKSTAFF.

1835.

Cholera and Public Health Building

- Fortunately, Toronto would not experience another major cholera outbreak, but ongoing experience with the disease, especially in London, led to advances in understanding its cause and how it spread
- **1854** - British physician, John Snow, discovered, through the new science of epidemiology, that a water pump, and the contaminated drinking water it distributed, was the source of cholera illnesses and deaths in London
- **1854** – At about the same time, after a major cholera outbreak in Italy, Filippo Pacini, while examining tissues from the intestinal tract of cholera victims using a microscope, first identified the *Vibrio cholera* bacterium
- However, Pacini's discovery was not recognized until Robert Koch did similar work 30 years later in Germany

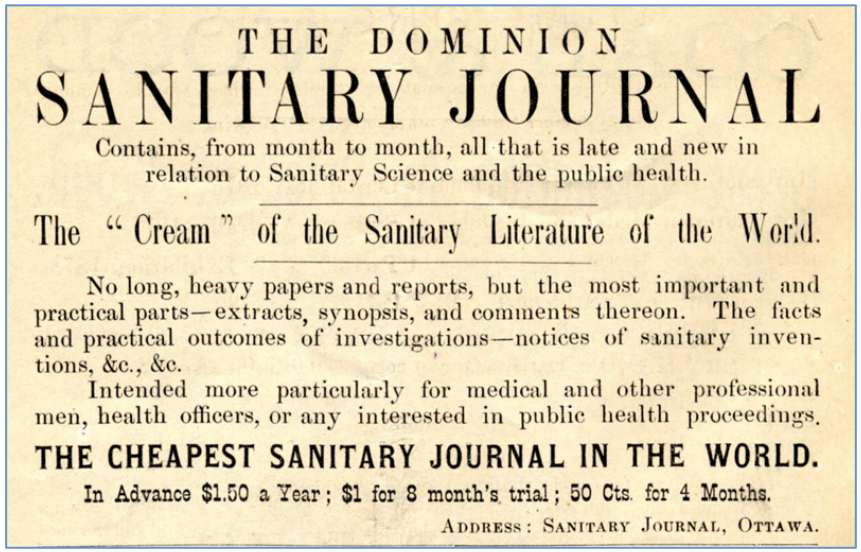
Edward Playter:
Giving Voice to Public Health in Canada


EDWARD PLAYTER.

- Closely tuned into and promoting the challenges and advancements in Canadian and global public health was Dr Edward Playter, who, coincidentally was, like Toronto, born in 1834, but in Newmarket
- **1868** – Playter received his MD from the University of Toronto and later served as medical officer of health in the Toronto suburb of Parkdale
- He was born into a prominent Upper Canadian family; his great-grandfather, George Playter, was one of the original United Empire Loyalists
- Playter was one of Canada's most important sanitary or public health reformers, tireless in pressing governments to implement the scientific advances being made in hygiene and infectious disease control, particularly during the 1870s-1900s

Edward Playter:
Giving Voice to Public Health in Canada

- A gifted and prolific writer, Playter single-handedly published Canada's first professional public health journal from 1874 to 1892
- First known as *The Sanitary Journal*, "Devoted to Public Health and Individual Hygiene," his journal underwent several changes in title and format as he searched for readership and relevance, especially among his fellow physicians and Ontario's and Canada's political leadership



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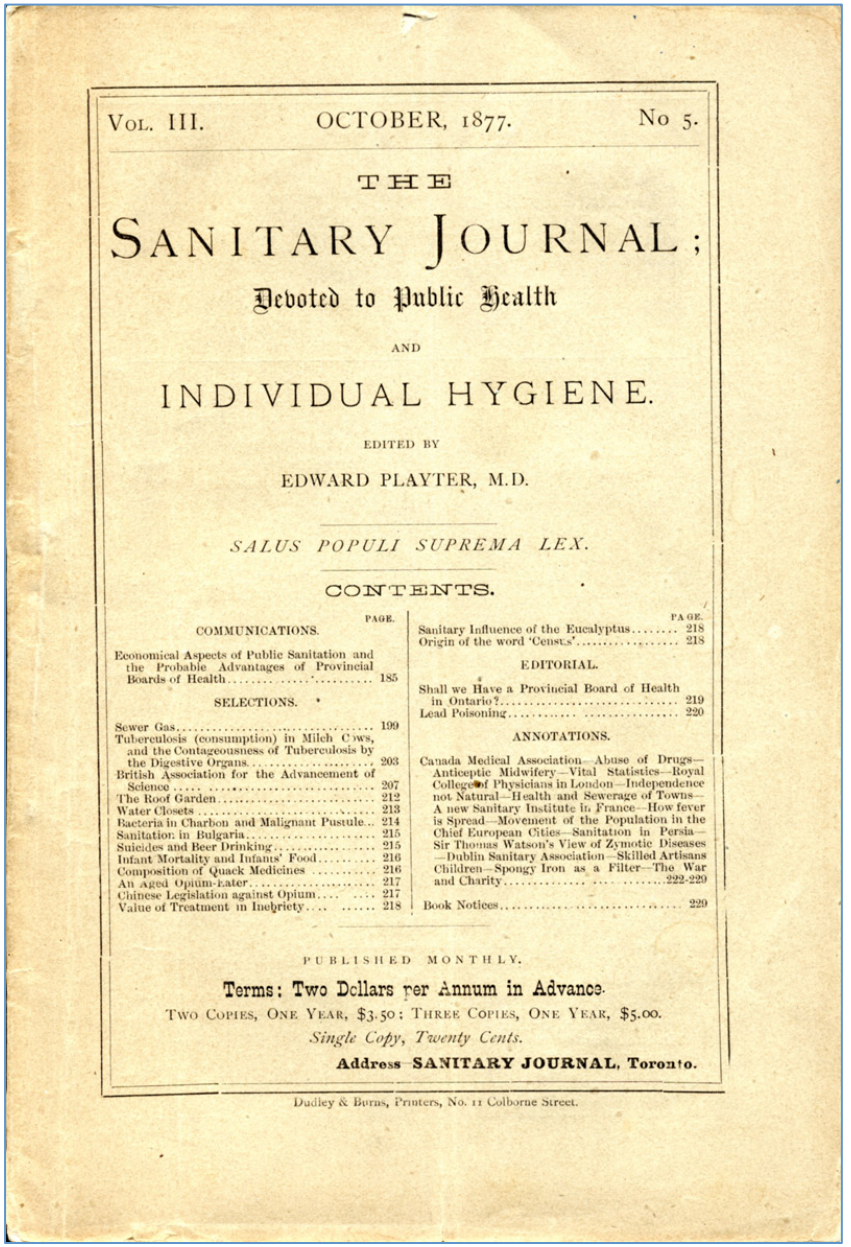

VOL. III. OCTOBER, 1877. No 5.

THE

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Devoted to Public Health

AND

INDIVIDUAL HYGIENE.

EDITED BY

EDWARD PLAYTER, M.D.

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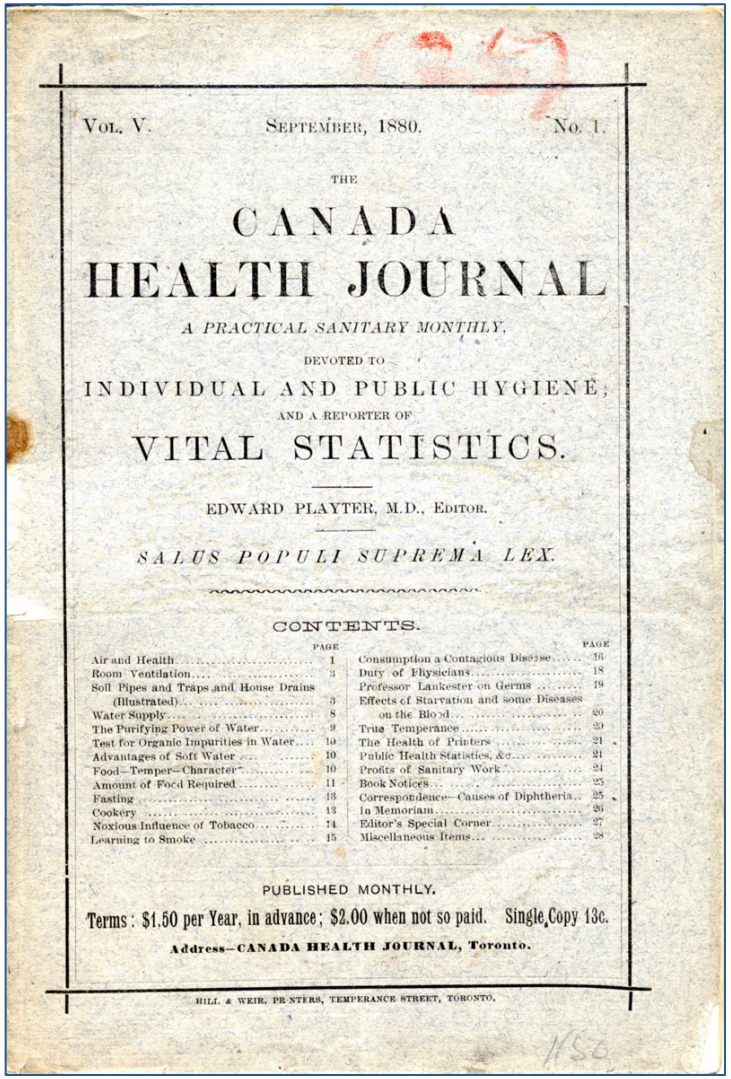
Edward Playter:
Giving Voice to Public Health in Canada

- Playter's journal documents the early development of public health in Canada, and in particular, emphasized practical steps that local, provincial, and especially the federal governments, could take to statistically track, control and prevent infectious diseases.
- His work reflected the transition from the sanitarian to the scientific era with the development of the new sciences of bacteriology and physiology
- He was an early member of the American Public Health Association and facilitated its annual meeting in Toronto in 1886
- Playter also published pamphlets on cholera and tuberculosis and wrote two textbooks on hygiene used in Ontario schools



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THE

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EDWARD PLAYTER, M.D., EDITOR.

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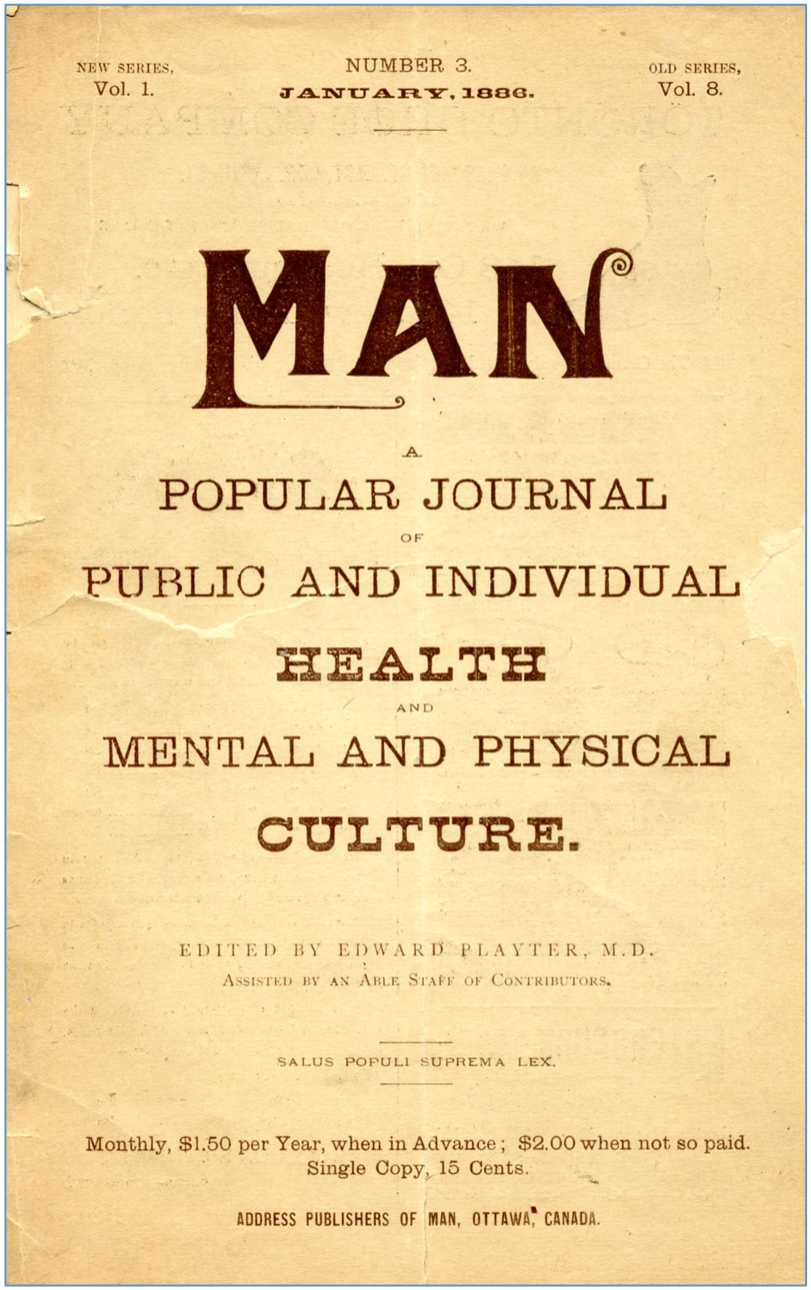
- Canada's most famous physicians, Dr. William Osler, credited Playter with putting public health on the agenda of late 19th-century Canada

Edward Playter:
Giving Voice to Public Health in Canada

- Playter was a member of Canada's first lobby group to pressure provincial and federal politicians to adopt public health programs
- **1882** - One of the most significant successes of this lobbying was the establishment of the Ontario Provincial Board of Health
- After moving to Ottawa, Playter pressed for the establishment of a federal department of health, although this proved unsuccessful within Playter's lifetime; he died in 1909, a decade before such a department was finally established
- **1892** – Playter spearheaded the creation of the short-lived Dominion Health Institute – a precursor to the Canadian Public Health Association – and he also called for the organization of a national laboratory and a permanent national system of vital statistics on births, deaths and diseases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MAN

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Building a Bacteriological Arsenal: Pasteur Rabies Vaccine

- While Playter's efforts yielded mixed results in Canada, in his journal he was eager to report on the considerable public health progress happening elsewhere, especially in Europe
- **1884-85** – A key event in sparking the bacteriological revolution was the work of Louis Pasteur in France on rabies and his development and dramatic testing of a rabies vaccine treatment

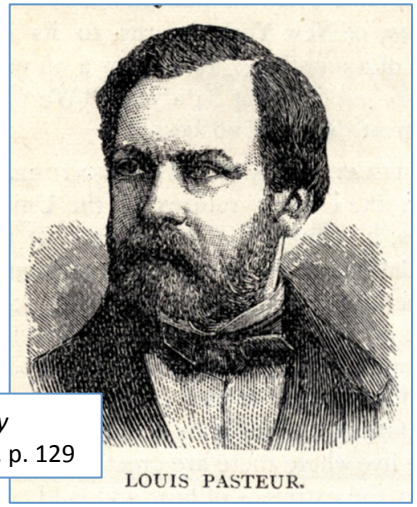
Dominion Sanitary Journal, July 1884, p. 271

PASTEUR AND RABIES—By invitation of M. Pasteur, a commission has been appointed to test the validity of his claims, about which there has been some misunderstanding owing to the zeal of reporters for the daily papers (Phil. Med. Times). In a recent communication, Pasteur has denied the sensational statements of the public press that he had discovered and iso
of rabies, and tha
grant immunity
from natural rabie
lation. His claim
the results of mar
found that the br
eminently contair
and that, inoculate
becomes successive
while on the contr
instead of apes, the
virulent; by comb
be obtained virus

Dominion Sanitary Journal, Oct 1884, p. 18

VACCINATION AND RABIES. — At the International Medical Congress at Copenhagen, August 11th, 1884, M. Pasteur delivered a lengthy address on his experiments in relation to rabies. He said, when an animal dies of rabies (and we know that the disease invariably ends in death), it is absolutely certain that one will be able to obtain from the animal's *bulb*, the uppermost portion of the spinal cord, which forms the point of transition between the cord and brain, rabies-virus, will produce the disease by
on on the surface of the brain in
cranoid cavity, after previous
ng. If you take any street-dog
se and inoculate rabies in this
by trephining, using as inoculat-
rial a portion of the bulb of an
which has died of the disease,
ll invariably convey rabies.
s to which the disease has been
icated in this manner are to be
by hundreds. The method has
led. The same operation has been
d on hundreds of guinea-pigs
yet greater number of rabbits,
without a single failure.

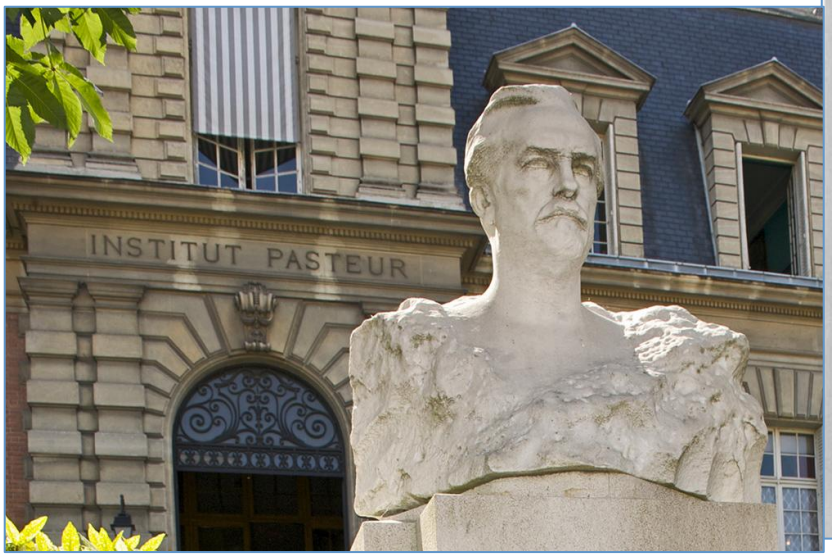

Furious Rabies: Late Stage.

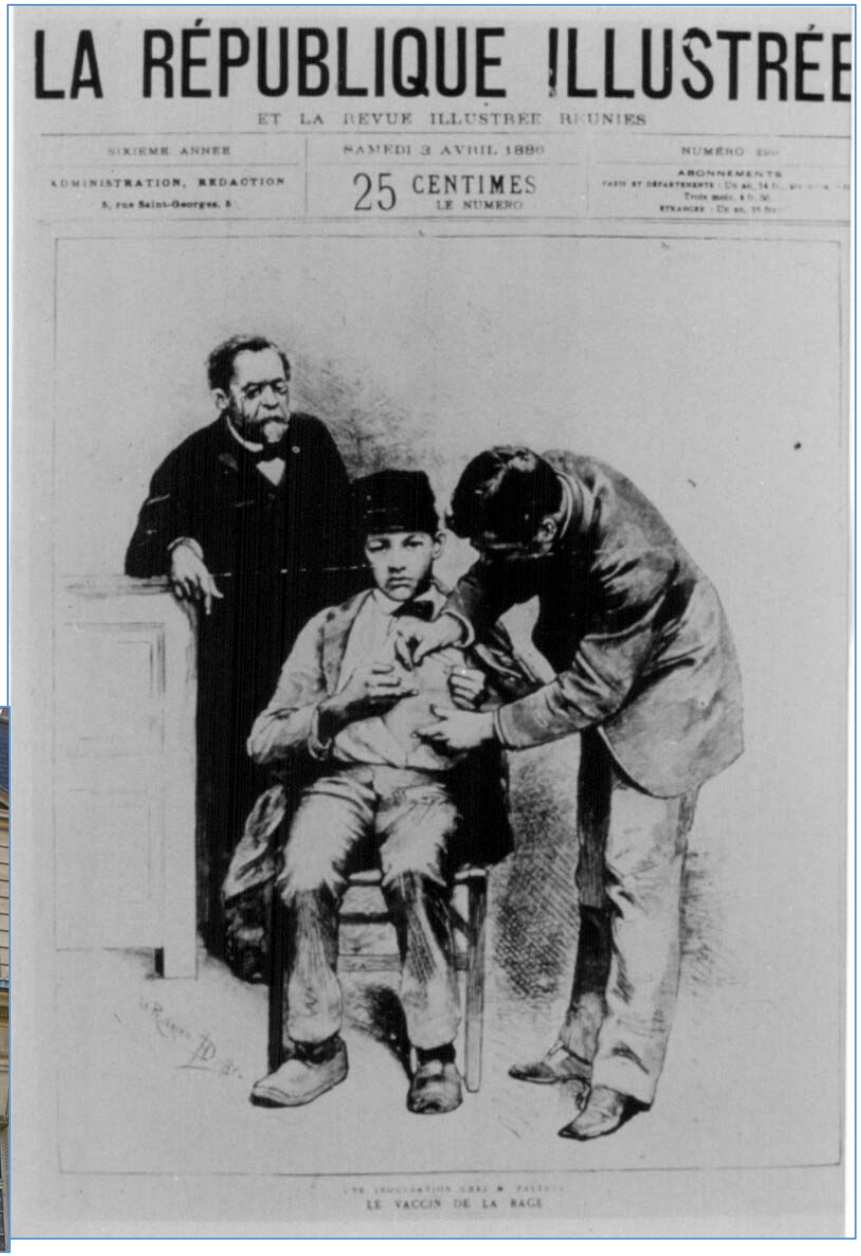

LOUIS PASTEUR.

Dominion Sanitary Journal, Jan 1884, p. 129

Building a Bacteriological Arsenal: Pasteur Rabies Vaccine

- **1888** - The discovery of the Pasteur Rabies Treatment and the subsequent founding of the Pasteur Institute in Paris sparked a wave of institution building around the world focused firstly, on preparing the new rabies treatment, and secondly, beginning in the early 1890s, producing the newly discovered diphtheria antitoxin.

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ET LA REVUE ILLUSTRÉE RÉUNIES

SIXIEME ANNEE | SAMEDI 3 AVRIL 1880 | NUMÉRO

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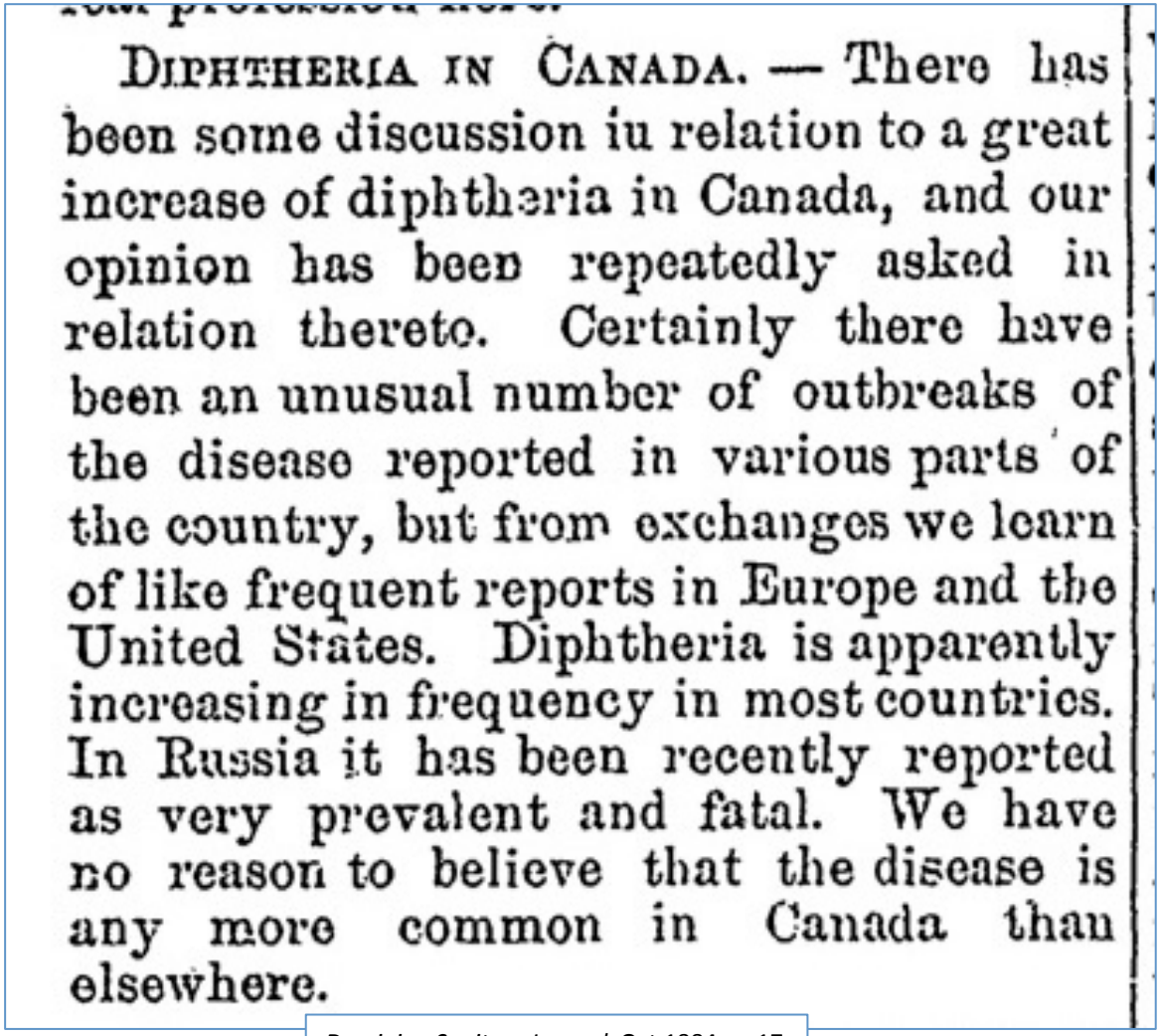
LE VACCIN DE LA RAGE

The Diphtheria Threat

- Known as "The Strangling Angel of Children," diphtheria was the #1 killer of children until the 1920s
- A bacterial infection caused by *Corynebacterium diphtheriae* and transmitted through respiratory secretions spread through the air.
- As the disease advances, the toxin produced by the diphtheria bacteria causes a film to develop in the throat that makes it difficult to breathe, ultimately strangling the patient in many cases.
- If left untreated, diphtheria fatality rates range between 5% and 10%, and in children under 5 and adults over 40, it can be as high as 20%.

The Diphtheria Threat

- Diphtheria incidence rose sharply in many countries during the late 19th century, with some 5 times as many diphtheria deaths in Ontario in 1878 as there were in 1870.



DIPHTHERIA IN CANADA. — There has been some discussion in relation to a great increase of diphtheria in Canada, and our opinion has been repeatedly asked in relation thereto. Certainly there have been an unusual number of outbreaks of the disease reported in various parts of the country, but from exchanges we learn of like frequent reports in Europe and the United States. Diphtheria is apparently increasing in frequency in most countries. In Russia it has been recently reported as very prevalent and fatal. We have no reason to believe that the disease is any more common in Canada than elsewhere.

Dominion Sanitary Journal, Oct 1884, p. 17

The Diphtheria Threat

- Diphtheria incidence rose sharply in many countries during the late 19th century, with some 5 times as many diphtheria deaths in Ontario in 1878 as there were in 1870.

PUBLIC HEALTH STATISTICS IN ONTARIO, 1880.

Showing the total number of deaths, and the number from the twelve principal causes, in the cities and largest towns, twenty in all.

	Population in 1879 as returned by the Assessors.	No. of Deaths returned in the year 1880.	Ratio to 1,000 of the Population.	Diphtheria.	Dysentery.	Diarrhoea.	Typhoid Fever.	Scarlet Fever.	Other Fevers.	Consumption.	Brain Disease.	Heart Disease.	Pneumonia.	Lung Disease.	Old Age.
Toronto	73813	1510	...	29		65	35	11	...	149	31	62	110	46	31
Hamilton	34268	592	...	18		16	13	18	3	47	18	18	63	16	13
Ottawa	24015	562	...	33		8	2	5	6	60	21	15	15	17	3
London	19666	393	.	3		9	3	12	2	29	5	15	22	5	6
Kingston	14358	299	...	...		5	4	4	1	43	11	7	12	8	15
Brantford	10587	196	...	5	...	6	1	19	...	26	4	3	22	4	9
St. Catharines	10475	185	...	1	...	2	9	18	4	19	4	10	18	2	3
Guelph	10072	123	...	2		4	....	1	...	15	5	3	7	13	6
Belleville	9789	188	...	3		....	....	18	3	31	4	7	11	14	4
Stratford	8885	67	...	5	.	1	2	3	....	6	4	4	1	2	2
Chatham	7572	125	...	6		3	5	2	6	17	3	2	6	4	3
Brockville	7468	107	...	....		6	1	....	....	8	4	9	5	1	6
St. Thomas	7217	75	...	...		2	5	2	2	5	2	2	6	4	3
Peterborough	6606	78	...	1		3	..	3	1	7	. .	2	4	3	9
Windsor	6022	..	..	....	....	....	..	....	....	....	....	....	..	..	...
Lindsay	5521	48	...	....	...	1	3	....	....	3	....	2	4	....	3
Port Hope	5380	52	...	2	...	2	...	1	....	7	2	1	4	1	1
Cobourg	5178	64	...	2		1	1	1	...	6	2	6	2	3	3
Woodstock	5123	61	...	6		....	....	1	....	10	2	5	4	1	1
Barrie	4818	61	..	7	...	1	1	1	....	5	6	2	3	..	6
Parkdale	1000	12	...	....	...	....	..		....	1	....	1	2	....	....
TOTALS	276,833	4798	17·7	123	3	135	85	120	28	484	128	176	311	144	123

Not being able to obtain the population in 1880 we have not given in the above table the number of deaths per 1,000 living, excepting in the totals, in which Windsor is omitted. The four largest cities—excepting Hamilton,—Toronto, Ottawa, London and Kingston, give a return of about 20 or over per 1,000; Ottawa giving about 22, and returned 75 deaths from small-pox. Hamilton returns about the average only 17, per 1,000. Brantford, St. Catharines and Belleville return a little less than 20 per 1,000. Many of the other places are far short of this.

Canada Health Journal, Feb 1881, p. 132

The Diphtheria Threat

- **1878** – As reported in Playter's *Sanitary Journal*, there was considerable public attention focused on diphtheria after Princess Alice, the 35-year-old daughter of Queen Victoria, died from the disease after it affected her children and spread through a "kiss of death."

- The spread of the disease in Canada and elsewhere during the 1880s was frequently reported in Playter's journal, raising alarms and prompting research efforts into its cause, treatment and prevention

THE DEATH OF THE PRINCESS ALICE.

DIPHTHERIA—THE KISS OF DEATH.

Three or four years ago, in the pages of the Sanitary Journal, reference was made to the communication of diphtheria by means of a kiss. It will now, since the lamented death of the Princess Alice, hardly be doubted that this terrible disease may be communicated in this way. The death of one so beloved and exalted, in the prime of her womanhood, from this scourge, alike of the high and the low, cannot fail to attract to it and to its etiology more attention than has heretofore been given in this direction.

Seven members of the Grand Ducal family of Hesse-Darmstadt were prostrated by this disease in November, two of whom died. The British Medical Journal asserts, that all the cases—though the first should no doubt be excepted—were caused by direct infection, doubtless by kissing.'

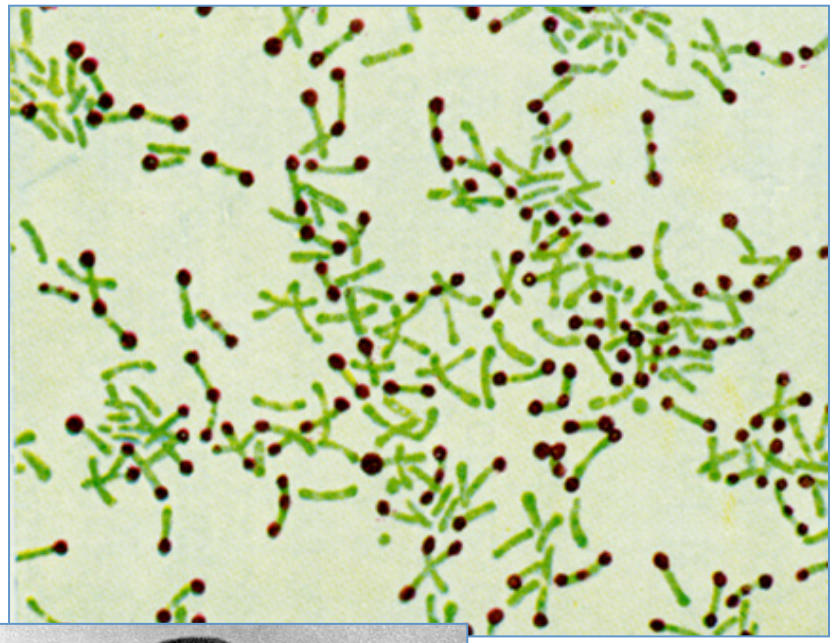
It is very well known that diphtheria in adult persons is often so mild as to be mistaken for an ordinary sore throat; and yet the specific disease may be communicated to a child, and by a kiss. The greatest care and thoughtfulness should be exercised in these cases of simple sore throat, as in the severer cases; and it should be constantly borne in mind that the kissing of children at such times is most dangerous.

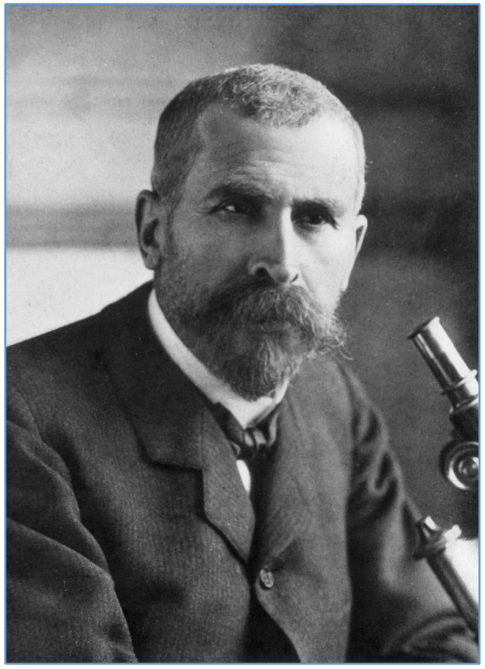
The Sanitary Journal (Jan 1879), p. 384

The Diphtheria Threat

- **1883-84** – Infectious bacterial cause of diphtheria identified.

- **1888** – Diphtheria toxin's role in the disease discovered by Emil Roux (left) and Alexandre Yersin (right) at the Pasteur Institute in Paris





Building a Bacteriological Arsenal: Diphtheria Antitoxin

- **1890** – Diphtheria Antitoxin discovered by Emil von Behring (below) in Germany as a means to treat the disease; Behring won the Nobel Prize for discovery

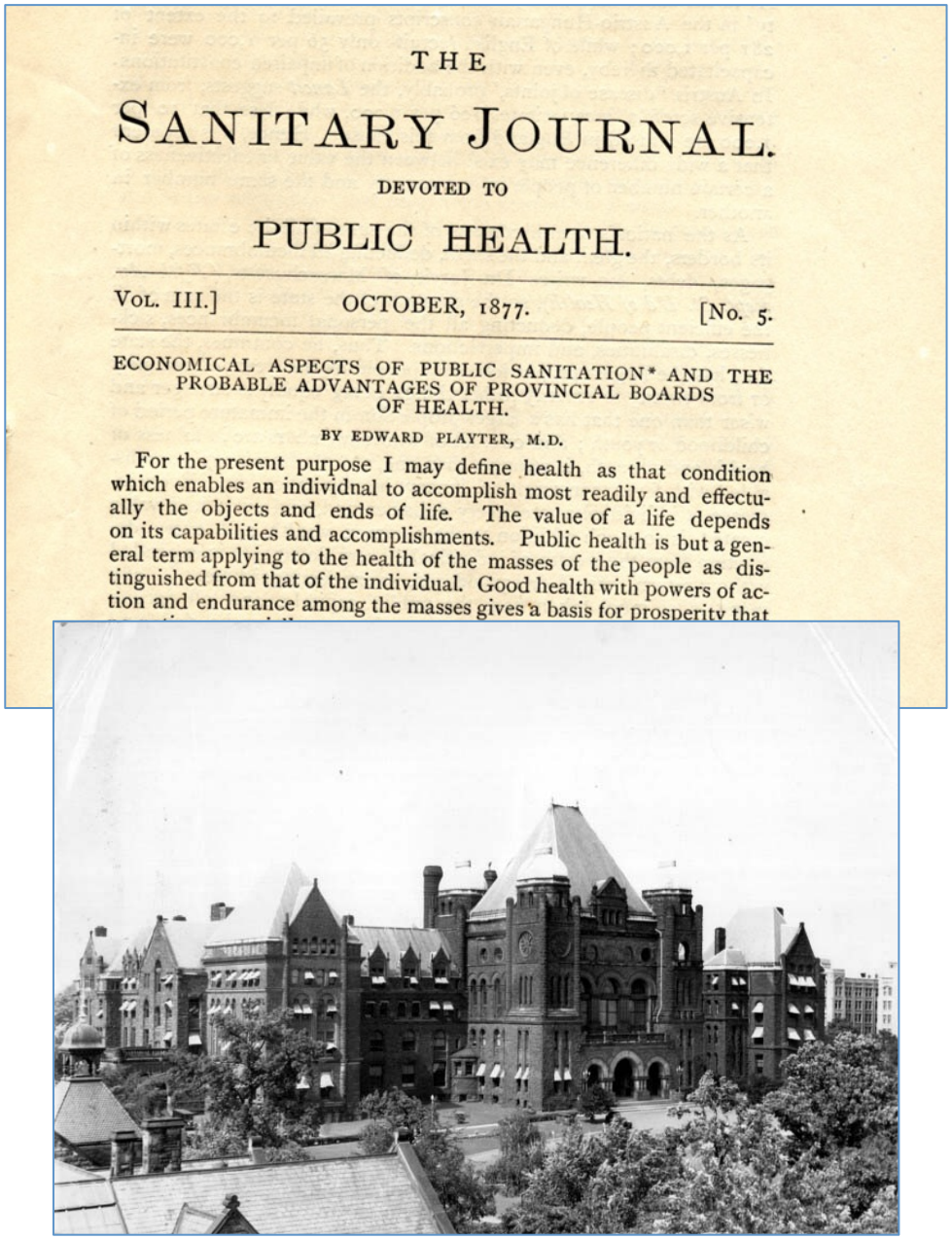
- Antitoxin was prepared by immunizing horses with diphtheria toxin in a series of injections over time, and then after drawing some blood, the white blood cells are processed into antitoxin

- **1895** – Diphtheria antitoxin produced by several state and city laboratories and drug companies, but not in Canada.
- **1895-1914** - Antitoxin was imported into Canada from commercial firms, but it was not widely available and often too expensive for families most affected by the disease

I. Die Gewinnung des Diphtherieserums aus Pferdeblut im Behringwerk zu Marburg
Nach der Natur gezeichnet von Fritz Gehrke

Ontario Takes The Public Health Lead

- Meanwhile, progressive steps were being taken by the Ontario government, which as noted, were promoted by Dr. Playter
- **1878** – Major yellow fever epidemic in the U.S. prompts Toronto's leading sanitarians to convince the Premier to appoint special Sanitary Committee
- The Committee's Survey reveals that almost nothing was being done towards prevention of disease or improvement of public health in the province
- Only 20 of 1,000 municipalities had medical officers of health, one of which was Playter



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SANITARY JOURNAL.

DEVOTED TO

PUBLIC HEALTH.

VOL. III.] OCTOBER, 1877. [No. 5.

ECONOMICAL ASPECTS OF PUBLIC SANITATION* AND THE PROBABLE ADVANTAGES OF PROVINCIAL BOARDS OF HEALTH.

BY EDWARD PLAYTER, M.D.

For the present purpose I may define health as that condition which enables an individnal to accomplish most readily and effectually the objects and ends of life. The value of a life depends on its capabilities and accomplishments. Public health is but a general term applying to the health of the masses of the people as distinguished from that of the individual. Good health with powers of action and endurance among the masses gives a basis for prosperity that

Ontario Takes The Public Health Lead

- **1882** – Ontario the first province to establish a full time Provincial Board of Health; it serves in advisory role towards local boards
- Dr. Peter Bryce (below) appointed the first Chief Medical Officer of Health
- Provincial Board prepared public health exhibits and gathered information about disease prevention for local boards

THE PUBLIC HEALTH BILL.

We have received from the Provincial Secretary a copy of the public health bill, entitled an "Act to establish a Provincial Board of Health." We have examined it carefully, and so far as it goes approve of its provisions. It consists of twenty sections. The first ten provide for the establishment of the Provincial Board, and the last ten are to be read in connection with, and form a part of, or an amendment to, the present existing public health act—which confers powers upon the municipalties to deal with causes of disease, when they see fit to act upon it.

Section one provides that the board shall consist of not more than seven members, four of whom shall be duly registered medical practitioners, appointed by the Lieut.-Governor in Council.

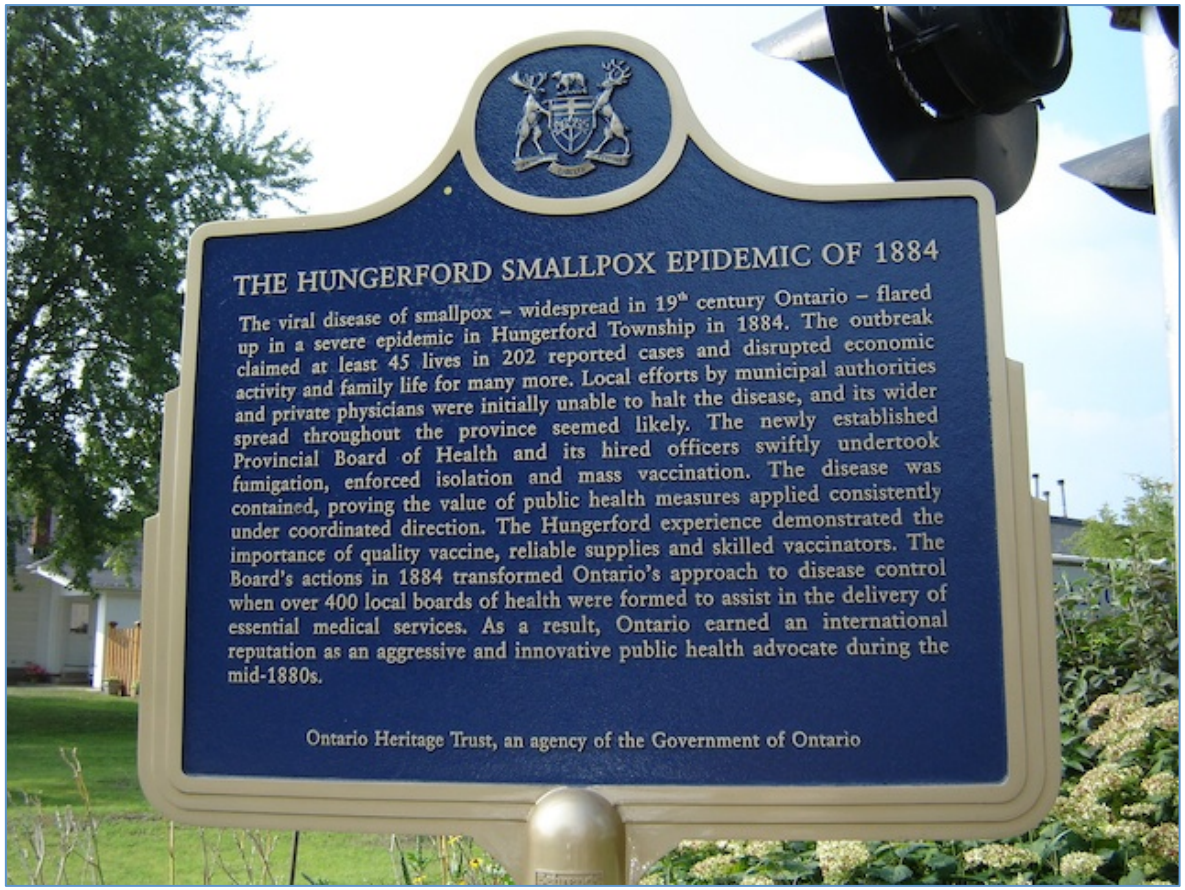
Section two provides that the chairman shall be appointed by the Lieut.-Governor in Council, and shall receive a salary; and that the services of the other members of the board, except the Secretary, shall be honorary, though traveling and other necessary expenses are to be paid. It is not stated how long the Chairman shall hold office, nor does it define, nor say anything about, his duties.

The Sanitary Journal, March 1882, p. 220

Ontario Takes The Public Health Lead

- **1884** - A serious smallpox outbreak in eastern Ontario, in Hungerford Township (Hastings County), gave the Provincial Board of Heath its first opportunity to manage a serious infectious disease threat.

- Peter Bryce responded aggressively, including with enforced isolation and house-to-house smallpox vaccination

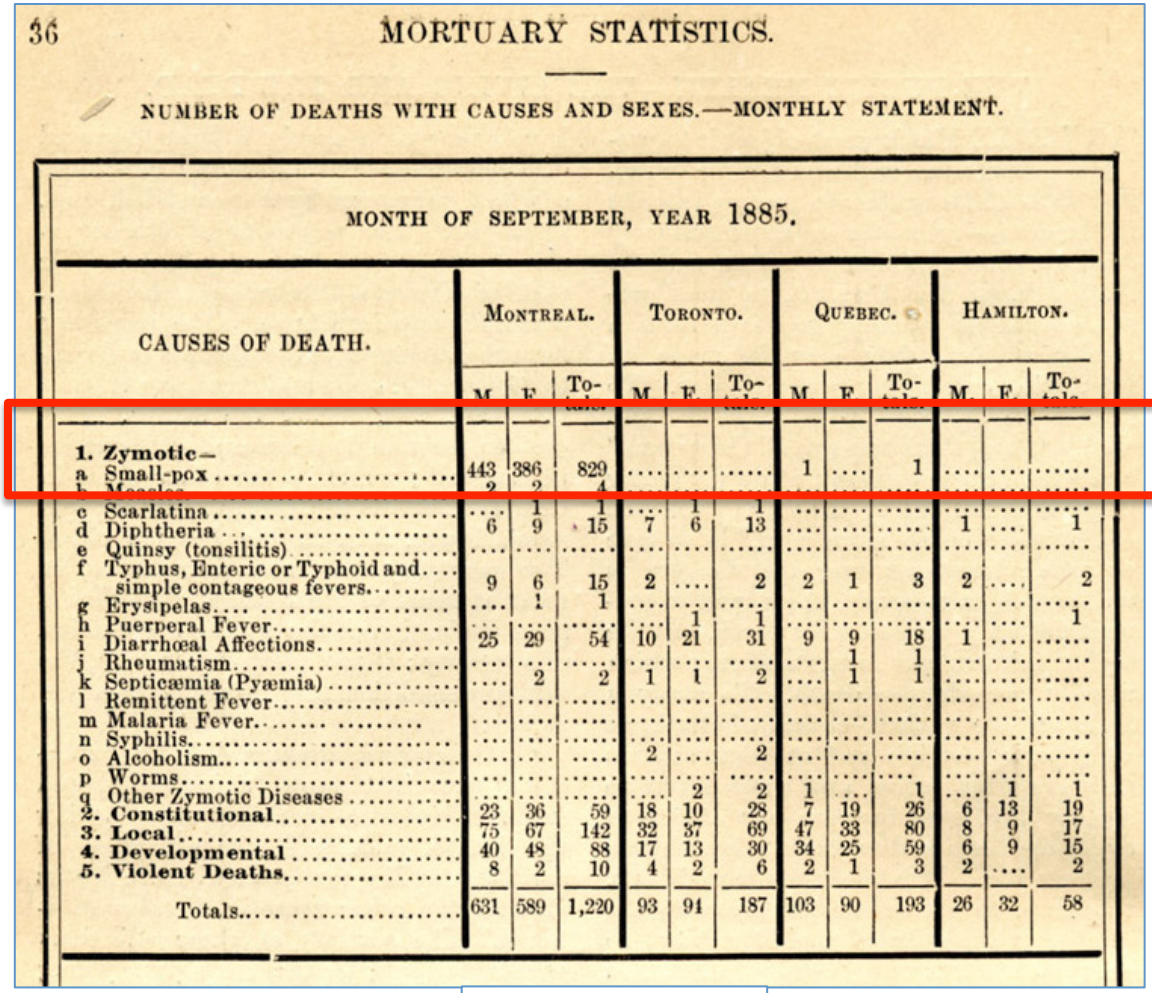


- By Jan 1885, and after 202 cases and 45 deaths had occurred, Bryce had successfully contained and stamped out the smallpox fire and kept it from spreading outside the township

Ontario Takes The Public Health Lead

- **1885** - Quite the opposite occurred in the Montreal area, with one of the greatest smallpox epidemics, which left more than 3,000 people dead

- A bold strategy implemented by the Ontario Provincial Board of Health limited smallpox's spread from Quebec



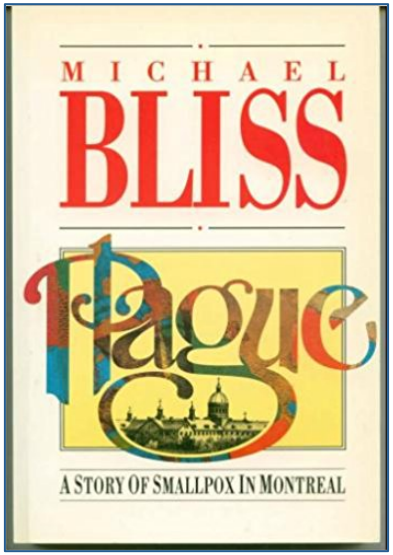
36 MORTUARY STATISTICS.

NUMBER OF DEATHS WITH CAUSES AND SEXES.—MONTHLY STATEMENT.

MONTH OF SEPTEMBER, YEAR 1885.

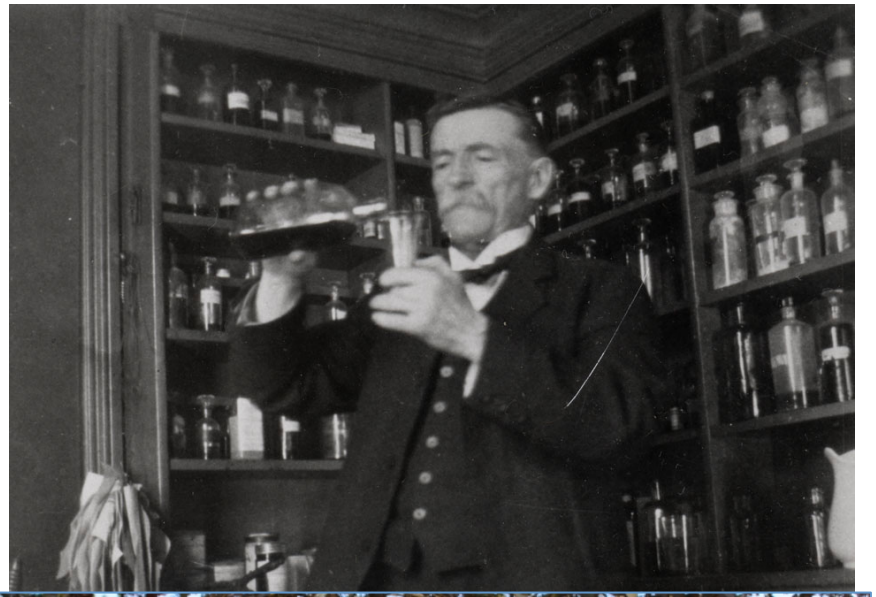
CAUSES OF DEATH.	Montreal.			Toronto.			Quebec.			Hamilton.		
	M.	F.	To-	M.	F.	To-	M.	F.	To-	M.	F.	To-
1. Zymotic—												
a Small-pox	443	386	829	....	....	.....	1	....	1	....	....	.....
b Measles	2	2	4									
c Scarlatina	....	1	1	....	1	1	....	....	.....	....	....	.....
d Diphtheria	6	9	15	7	6	13	....	....	.....	1	....	1
e Quinsy (tonsilitis)	....	....	.....	....	....	.....	....	....	.....	....	....	.....
f Typhus, Enteric or Typhoid and simple contageous fevers	9	6	15	2	....	2	2	1	3	2	....	2
g Erysipelas	....	1	1	....	....	.....	....	....	.....	....	....	.....
h Puerperal Fever	....	....	.....	....	1	1	....	....	.....	....	....	1
i Diarrhœal Affections	25	29	54	10	21	31	9	9	18	1	....	.....
j Rheumatism	....	....	.....	....	....	.....	....	1	1	....	....	.....
k Septicæmia (Pyæmia)	....	2	2	1	1	2	....	1	1	....	....	.....
l Remittent Fever	....	....	.....	....	....	.....	....	....	.....	....	....	.....
m Malaria Fever	....	....	.....	....	....	.....	....	....	.....	....	....	.....
n Syphilis	....	....	.....	2	....	2	....	....	.....	....	....	.....
o Alcoholism	....	....	.....	....	....	.....	....	....	.....	....	....	.....
p Worms	....	....	.....	....	2	2	1	....	1	....	1	1
q Other Zymotic Diseases	23	36	59	18	10	28	7	19	26	6	13	19
2. Constitutional	75	67	142	32	37	69	47	33	80	8	9	17
3. Local	40	48	88	17	13	30	34	25	59	6	9	15
4. Developmental	8	2	10	4	2	6	2	1	3	2	....	2
5. Violent Deaths	631	589	1,220	93	94	187	103	90	193	26	32	58
Totals												

MAN, Nov 1885, p. 18



Ontario Takes The Public Health Lead

- **1885** - Dr. Alexander Stewart (right) of Palmerston, establishes the Ontario Vaccine Farm, which supplies smallpox vaccine to the Provincial Board
- Vaccine is also shipped to other parts of the country, including to B.C. after a major epidemic there in 1892



MEDICAL SCIENCE

Ontario Vaccine Farm

D. A. STEWART, M.D., Manager)

Palmerston, Ont. -

OUR FARM, now established for three years and placed under the inspection of the Provincial Board of Health, has large, airy stables filled up with all appliances for supplying

First-class Ivory Points

to any extent that the emergency may demand.

Large orders are being daily shipped to Medical Health Officers and Local Boards of Health.

Discounts allowed on large orders.

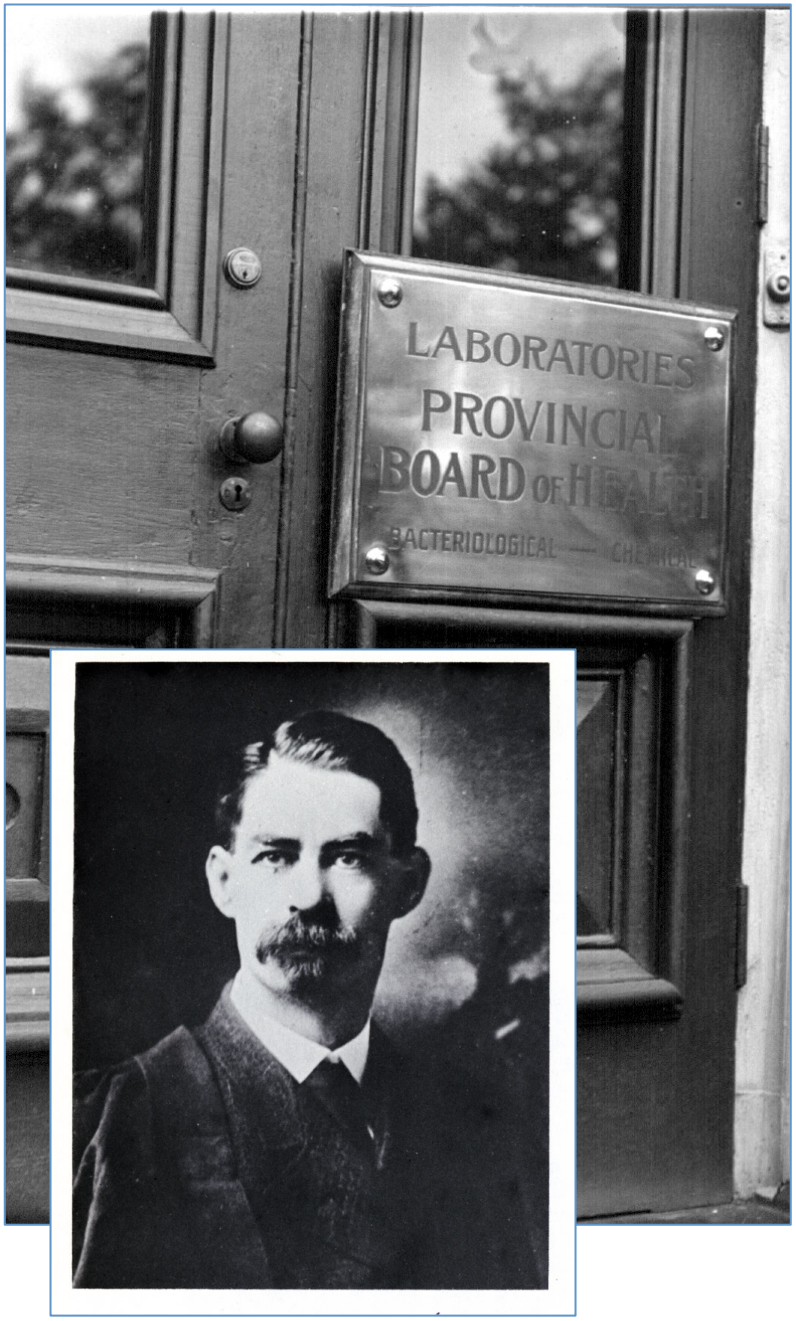
P.S.---The quality is always better when the demand is steady.

Ontario Takes The Public Health Lead

- **1890** - Ontario established the first public health laboratory in North America and pressure for bacteriological labs in Canada grew

- The origins of the Provincial Lab reflected the converging interests of key members of the Provincial Board of Health and professors of medicine and sanitary science at the nearby University of Toronto

- **1890-1911** - The Lab shares space in the U. of T's Biological, and then Medical Buildings
- **1900** – Dr. John A. Amyot (right) appointed Director of Provincial Labs
- **1910** – Amyot also appointed Professor of the new Department of Hygiene & Sanitary Science at the University of Toronto.



Tuberculosis: Facing Consumption in Canada

- Another growing public health threat that consumed much of Dr. Playter's attention was Tuberculosis, but unlike diphtheria and smallpox, there were no specific antitoxins or vaccines available to treat or prevent "consumption."

XXI.

ON THE PREVENTION AND RESTRICTION OF TUBERCULOSIS IN MAN.

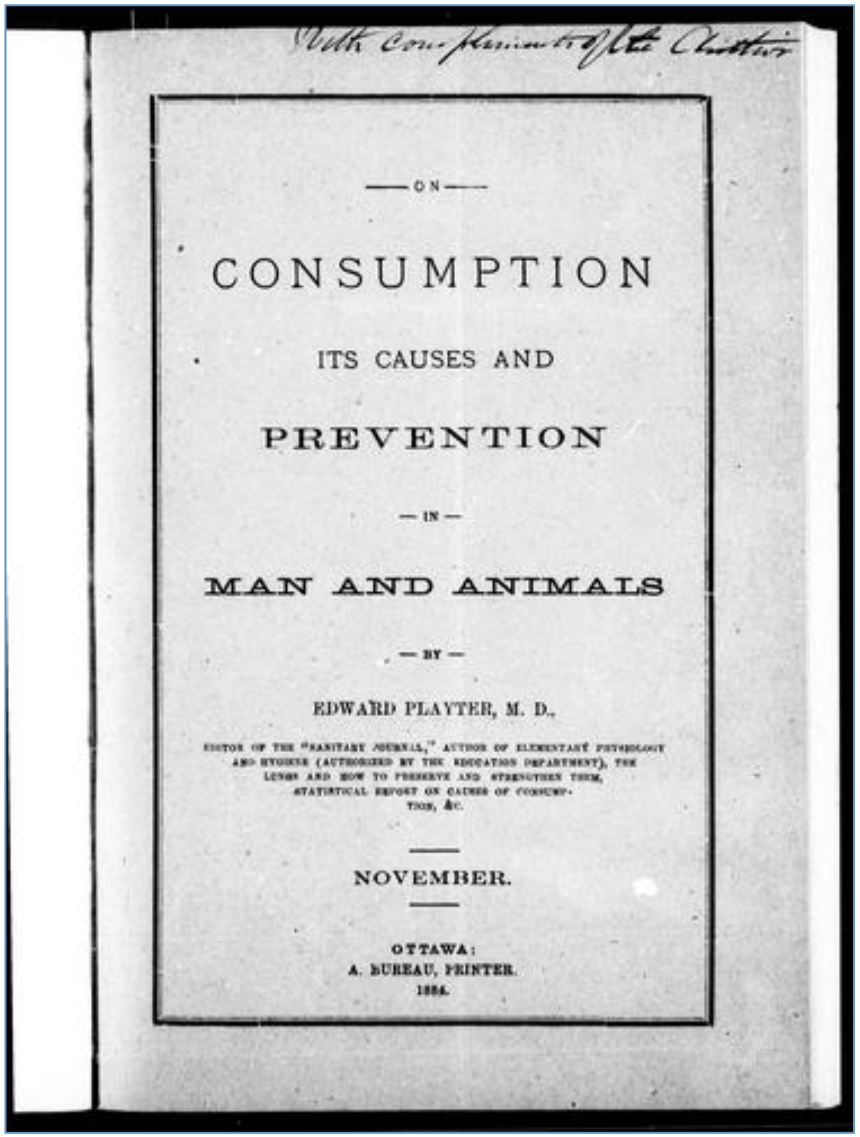
By EDWARD PLAYTER, M.D., Ottawa, Ont.

As there are two classes of causes of tuberculosis in man, as of all other diseases,—the remote or predisposing, and the immediate or exciting,—so there are essentially two classes of measures for the prevention and restriction of the malady, both of which must be understood and practised in order to successfully combat it.

While but a few years ago many causes were classed as exciting, I think there is now an almost universal consensus of opinion among authorities that there is but one exciting cause—the bacillus tuberculosis of Koch. In whatever way the bacillus may excite and give rise to the symptoms of the disease, it is at once, practically, the infection and the exciting cause, and it is sufficient for my purpose here to but name it.

It appears to be also universally conceded that this bacillus will not develop into, nor become in the body, an exciting cause at all, unless predisposing causes have already been in operation, and, as it is said, prepared the soil; which, I may note, means that these predisposing causes in some way give rise to breaks in the defences or fortifications of the body,—in the membrane which covers the surface of the cavities within the organism, as well as invests it without,—through which breaks the bacillus is enabled to enter in; or else they so depress the vitality of and weaken the defensive army of cells in the bodily fluids as to render them unable to cope with and destroy the inv giving rise, indeed, probably to both these predisposing well as to others, such as weakened digestive powers, haps, not yet understood.

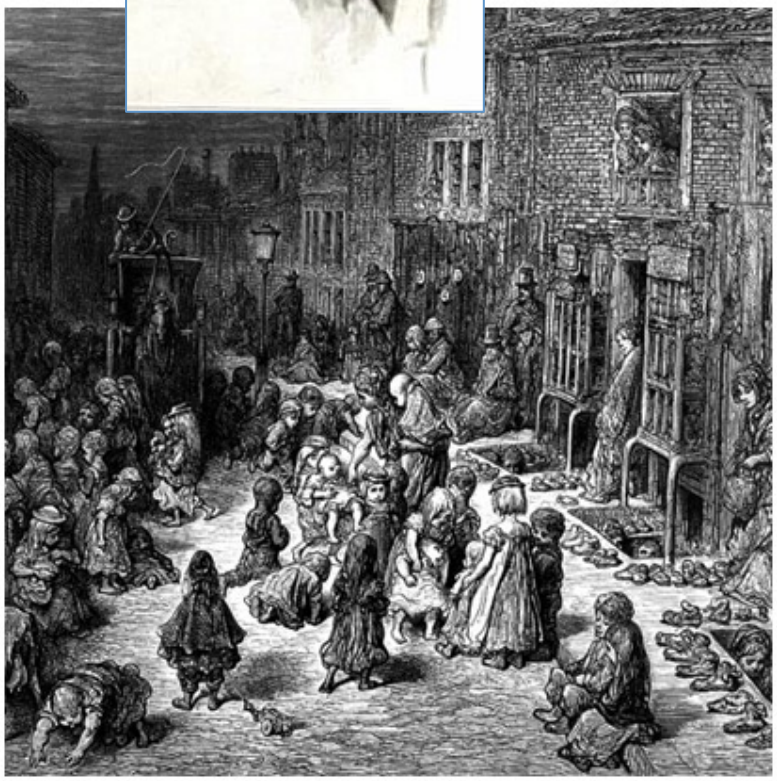
American Public Health Association Papers, 1889, p. 122



Tuberculosis: Facing Consumption in Canada

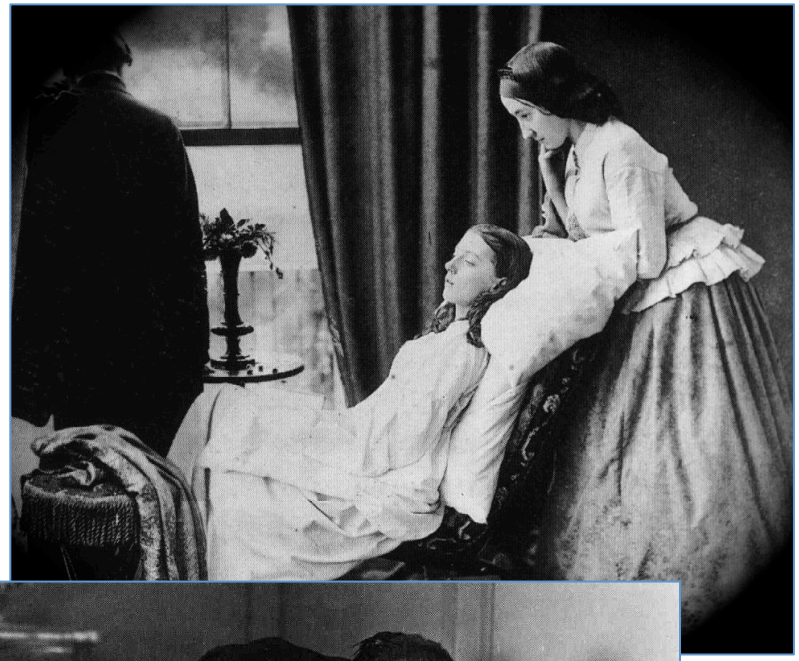
- Tuberculosis is an ancient disease, known by several names over time – “consumption”, “phthisis”, “scrofula,” “the white plague” – and has affected humans for at least 6,000 years
- There is evidence of the disease in Egyptian mummies, in Old Testament Biblical passages, in Indian and Chinese texts dating from 3300 and 2300 years ago, respectively, and it was well known in classical Greece
- In Western Europe, TB reached its peak during the industrial revolution of the late 18th and early 19th centuries, with death rates as high as 900 per 100,000, fueled by the poorly ventilated housing, primitive sanitation and malnutrition of rapid urbanization
- By the end of the 1800s, 1 in 7 people in Europe died of tuberculosis

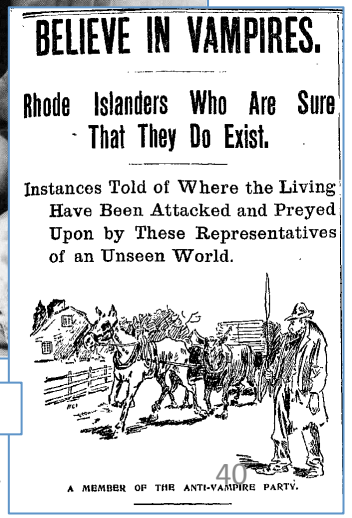
TB of the spine (Pott’s disease) in an Egyptian mummy, c. 1000 BC)



Tuberculosis: Facing Consumption in Canada

- Into the 19th century, death by TB was considered by many among the upper classes as a romantic, even fashionable, way to perish
- Drawn out death from "consumption" became an increasingly common feature in the literature and arts of the era
- Some women became so fascinated by the morbid romanticism of "the white plague" that they powdered their faces to attain the striking pallor of the fading TB victim
- In Eastern Europe, and especially in 19th century New England, TB became associated with vampires, and felt by some to be caused by them
- With TB patients slowly "consumed" by the disease, it was thought that vampires – perhaps undead TB victims - were feeding on their blood





BELIEVE IN VAMPIRES.

Rhode Islanders Who Are Sure That They Do Exist.

Instances Told of Where the Living Have Been Attacked and Preyed Upon by These Representatives of an Unseen World.

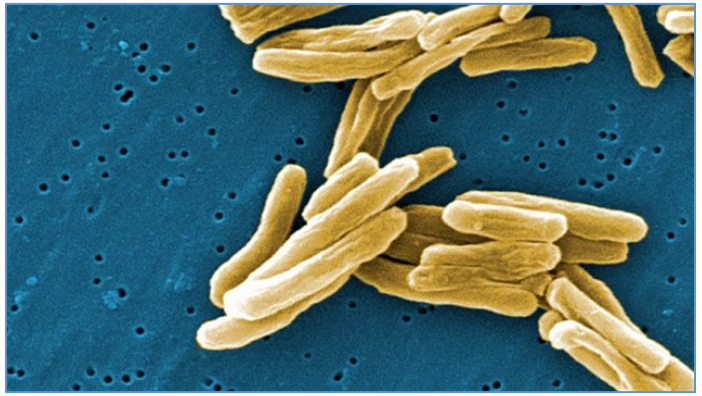
A MEMBER OF THE ANTI-VAMPIRE PARTY.

Boston Globe, unknown date

Discovering TB's Biology

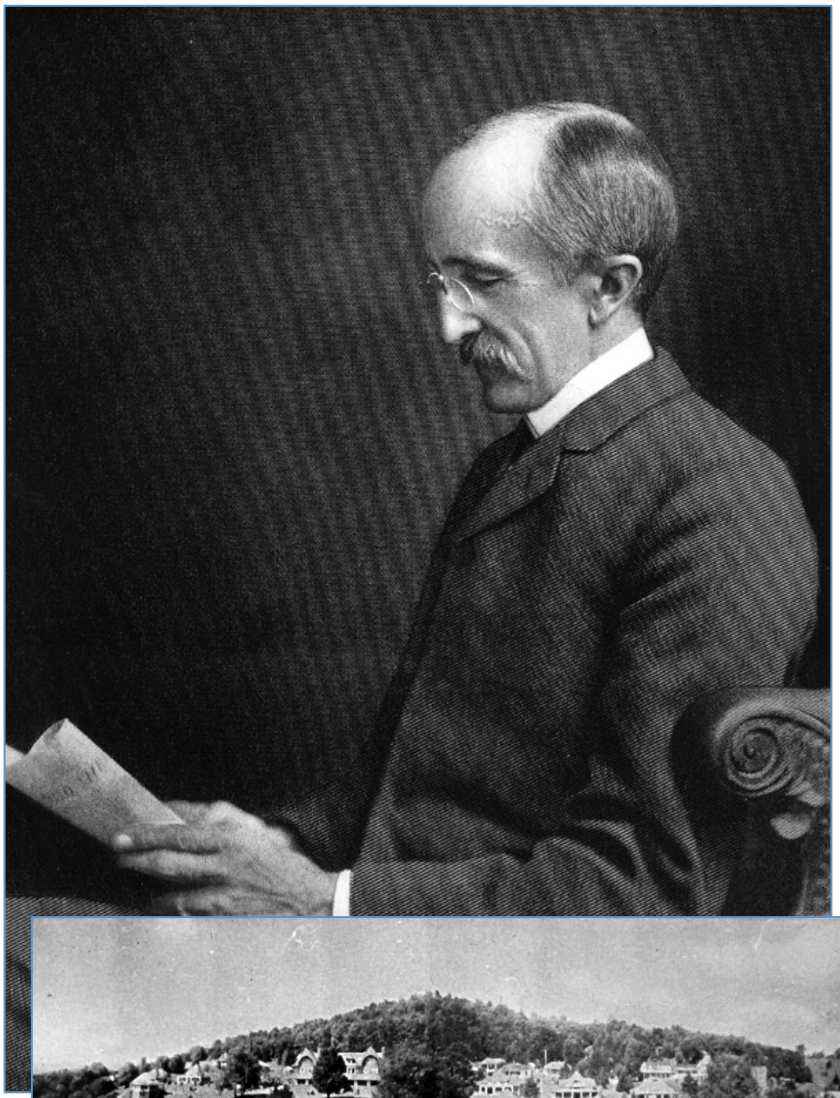

DR. ROBERT KOCH.

- **1882** – The TB story changed significantly when Robert Koch demonstrated that the tubercule bacilli was the causative organism of tuberculosis
- Koch used a new biological staining method that revealed the tubercule bacilli in the sputum of TB patients
- *Mycobacterium tubercuolosis*, or "Koch's baccilus," had a unique protein coat that had made it difficult to be seen without the use of the new stain
- **1890** – Koch developed tuberculin, a purified protein derivative of the bacteria, first thought a potential immunizing agent, but in 1908 was shown to be effective for diagnostic testing



Sanatoria: The Cottage Age

- **1854** – Hermann Brehmer established the first anti-tuberculosis sanatorium in Germany. He thought TB was linked to the heart not irrigating the lungs properly and suggested patients convalescing in regions well above sea level would help the heart function more efficiently
- **1877** – Based on a prescription of high altitude, fresh air and good nutrition, TB sanatoria spread in Europe and beyond
- **1884** – New York City physician, Edward Trudeau, establishes the Adirondack Cottage Sanatorium as a research facility and a safe haven for TB sufferers
- Infected himself, Trudeau had been advised to spend time in the Adirondack Mountains to benefit from the fresh air



Dr. Edward Trudeau and the Adirondack Cottage Sanatorium, Sarnack Lake, NY

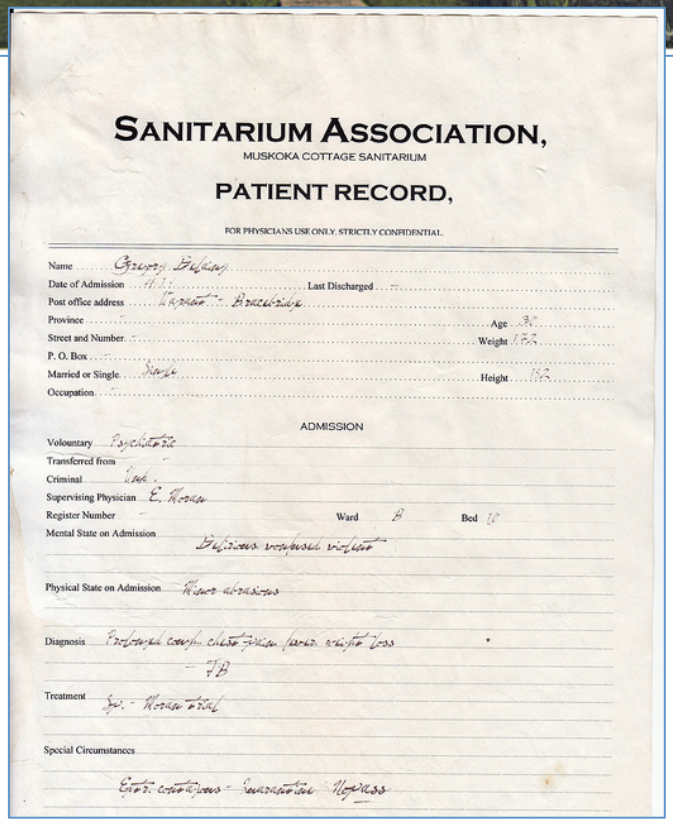
Sanatoria: The Cottage Age

William James Gage (1849-1920)

- **1880** – TB mortality rate in Canada was about 200 per 100,000; 180 in **1901** and about 165 in **1908**, although disease classifications varied and reliable national statistics did not start until 1926
- Nevertheless, TB was relentless during the late 19th century, especially in Toronto
- **1893** - inspired by Trudeau's Adirondack Cottage Sanatorium, Toronto publisher and philanthropist, William J. Gage, decided to commit himself to the sanatorium movement
- **1894** – Gage offered $25,000 to fund a TB hospital in Toronto, but was denied due to popular and political fears of the disease in the city
- **1896** – Led by Gage, the National Sanatarium Association established to examine possible sites for Canada's first sanatorium, which would be tailored according to patients' social class (paying or free patients) and disease status (early or late stage)

Sanatoria: The Cottage Age

- The first sanatorium was built for private (paying) patients with incipient (early-stage) TB; the NSA then expanded its building program to include sanatoria for free (non- or partial paying) early stage patients, free advanced-stage patients, and private advanced stage patients
- **1897** – NSA received a bold offer of $10,000 from the town of Gravenhurst, ON, inviting the establishment of the 35-bed Muskoka Cottage Sanatorium on a peninsula on Lake Muskoka, which opened on July 13, 1897
- With the area's proliferation of vacation cottages, the dramatic and rocky landscape of Muskoka provided an ideal setting for the fresh-air cure prescribed during this period
- MCS patients, who stayed an average of 98 days, were charged $6 per week, the main focus of treatment on rest and good nutrition



SANITARIUM ASSOCIATION,

MUSKOKA COTTAGE SANITARIUM

PATIENT RECORD,

FOR PHYSICIANS USE ONLY. STRICTLY CONFIDENTIAL.

Name

Date of Admission — Last Discharged

Post office address

Province — Age

Street and Number — Weight

P. O. Box — Height

Married or Single

Occupation

ADMISSION

Voloutary

Transferred from

Criminal

Supervising Physician

Register Number — Ward — Bed

Mental State on Admission

Physical State on Admission

Diagnosis

Treatment

Special Circumstances

Sanatoria: The Cottage Age

- The Muskoka Cottage Sanatorium followed the "cottage plan" layout established by Trudeau, with a central administration building for shared patient services, surrounded by smaller separate cottages to accommodate patients
- To satisfy paying patients expecting long stays, accommodations were comfortable and home like, the views picturesque and the care of a high quality
- The cottage plan layout posed practical challenges, particularly during the winter as patients and staff had to trek between the cottages and main building to use washroom and communal dining facilities
- There were also concerns about TB transmission, particularly as the home-like furnishings and features easily collected dust, which was considered particularly hazardous

BREATHING EXERCISES, MALE PATIENTS, MUSKOKA COTTAGE SANATORIUM.

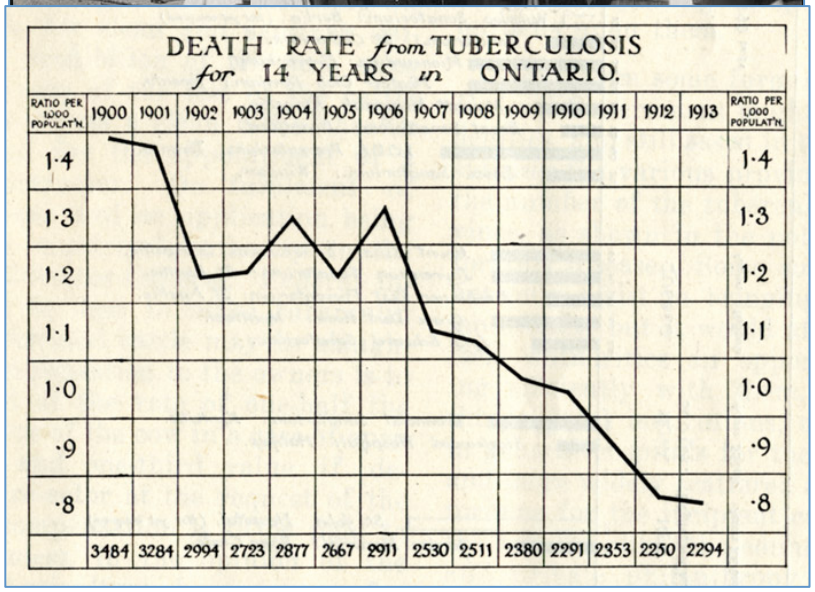
Life at the Muskoka Cottage Sanatorium, c. 1899

Sanatoria: The Cottage Age

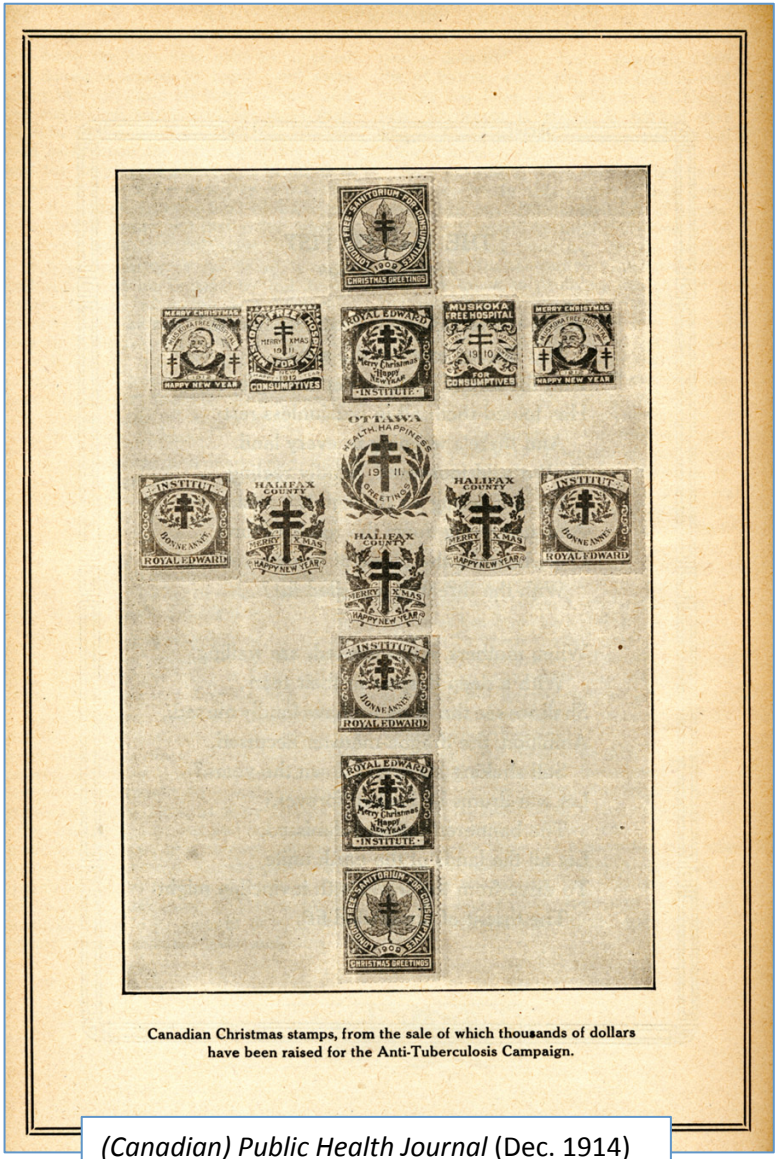
- **1900** – With leadership from Gage, the "Toronto Association for the Prevention and Treatment of Consumption and Other Forms of Tuberculosis" was created, as was the Canadian Tuberculosis Association; it became the Canadian Lung Association in 1977

- **1902** – Gage also helped lead the establishment of the Muskoka Free Hospital for Consumption (top) (the first free sanatorium in the world)

- **1904** – The Toronto Free Hospital for Consumptives opened (later West Park Hospital) (middle)



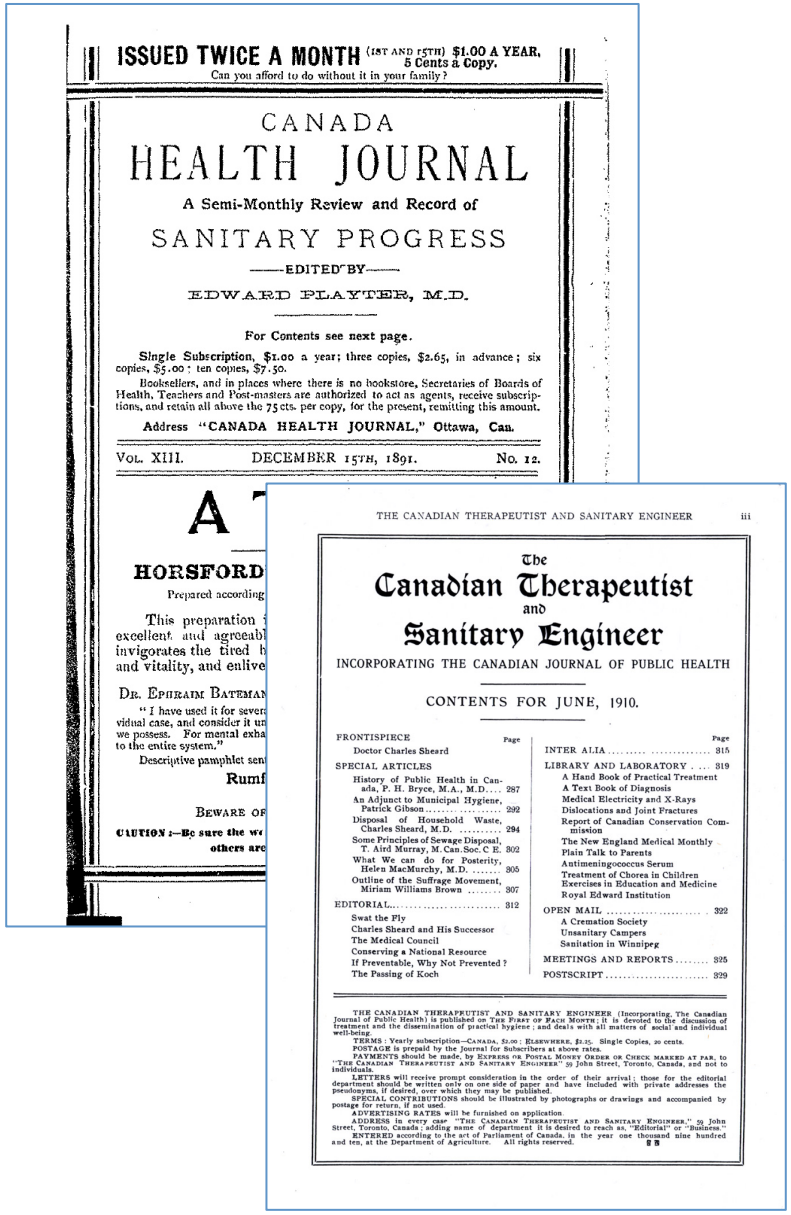
Canadian Tuberculosis Association



(Canadian) Public Health Journal (Dec. 1914)

- **1900** – Building on the Toronto and Ontario TB voluntary momentum, the creation of the Canadian Tuberculosis Association, led by concerned laypersons and medical professionals, had a significant impact on the development of a distinctively Canadian response to TB by provincial governments
- The CTA advocated tirelessly on behalf of tuberculosis patients for sustainable infrastructure, government responsibility, education and research
- This effort intuitively grasped the significance of Sir William Osler's prophetic words, "Tuberculosis is a social disease with a medical aspect"
- **1908** – The annual "Christmas Seals" campaign became the major fundraising focus of the CTA, inspired by an international initiative started in Denmark in 1903

Public Health Transitions



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CANADA
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SANITARY PROGRESS
—EDITED BY—
EDWARD PLAYTER, M.D.

For Contents see next page.

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VOL. XIII. DECEMBER 15TH, 1891. No. 12.

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DR. EPHRAIM BATEMAN

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THE CANADIAN THERAPEUTIST AND SANITARY ENGINEER iii

The
Canadian Therapeutist
and
Sanitary Engineer

INCORPORATING THE CANADIAN JOURNAL OF PUBLIC HEALTH

CONTENTS FOR JUNE, 1910.

THE CANADIAN THERAPEUTIST AND SANITARY ENGINEER (Incorporating The Canadian Journal of Public Health) is published on THE FIRST OF EACH MONTH; it is devoted to the discussion of treatment and the dissemination of practical hygiene; and deals with all matters of social and individual well-being.
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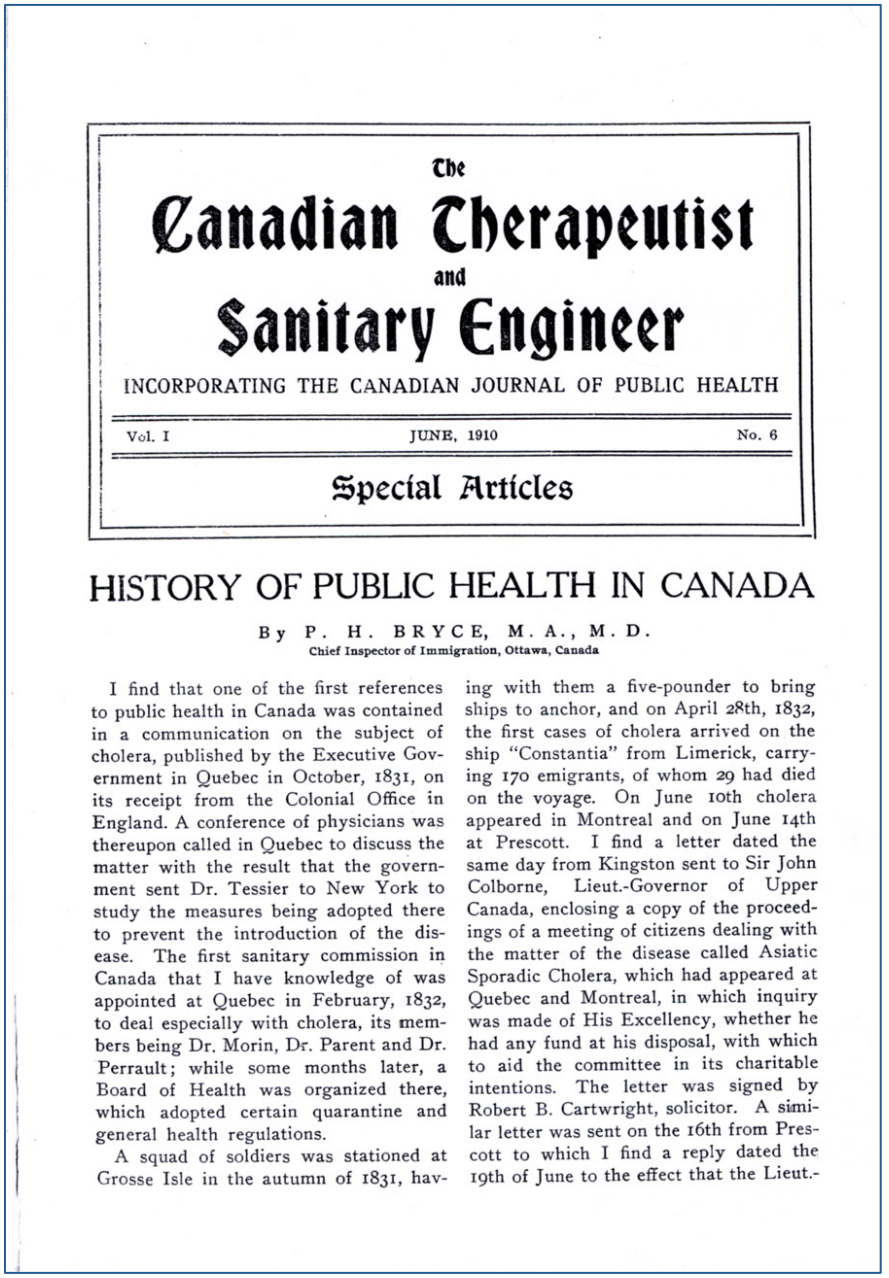
ADDRESS in every case "THE CANADIAN THERAPEUTIST AND SANITARY ENGINEER," 59 John Street, Toronto, Canada; adding name of department it is desired to reach as, "Editorial" or "Business."

- **1909** – By the end of the first decade of the 20th century, public health in Canada had reached a significant transition, symbolized by the death of Edward Playter in September 1909
- Playter's death happened at about the same time as a pair of physician-publishers, Duncan Mackenzie Anderson and Lester McDonnell Coulter, followed in Playter's footsteps to launch the *Canadian Journal of Public Health*, its first issue appearing in January 1910, some 18 years after the last issue of Playter's *Canada Health Journal*
- Unlike Playter's short-lived "Dominion Health Institute", Anderson & Coulter's new journal, coupled with several other developments in public health at the national level, catalyzed the formal establishment of the "Canadian Public Health Association" in September 1910; the CPHA remains vital 107 years later
- Lecture #2 will continue the story…

Conclusion

- *"Such in outline is the story of public health work as it developed in the several Provinces of Canada, and, while not all we look for to-day, it may be said without hesitation, that compared with a similar number of neighboring states of the American Union, the health work of Canada is at least as far advanced, and of as high a scientific character.*
- *"And owing to the genius of our institutions the Provincial Health organizations have had permanent officers, who have had therefore the opportunity of developing whatever their abilities and energy, under the legislative, administrative and financial conditions, have made possible in the several provinces"*



The
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INCORPORATING THE CANADIAN JOURNAL OF PUBLIC HEALTH

Vol. I JUNE, 1910 No. 6

Special Articles

HISTORY OF PUBLIC HEALTH IN CANADA

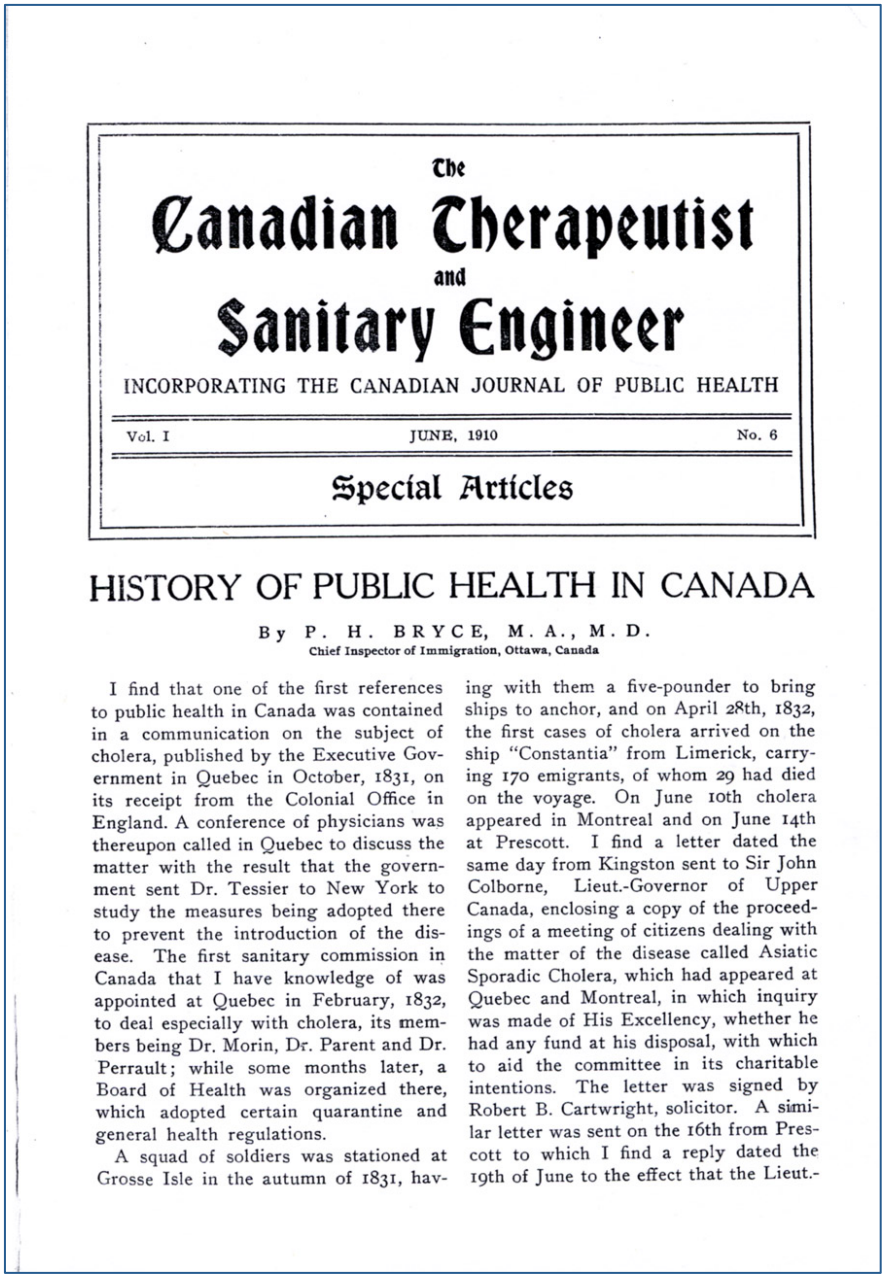
By P. H. BRYCE, M. A., M. D.
Chief Inspector of Immigration, Ottawa, Canada

I find that one of the first references to public health in Canada was contained in a communication on the subject of cholera, published by the Executive Government in Quebec in October, 1831, on its receipt from the Colonial Office in England. A conference of physicians was thereupon called in Quebec to discuss the matter with the result that the government sent Dr. Tessier to New York to study the measures being adopted there to prevent the introduction of the disease. The first sanitary commission in Canada that I have knowledge of was appointed at Quebec in February, 1832, to deal especially with cholera, its members being Dr. Morin, Dr. Parent and Dr. Perrault; while some months later, a Board of Health was organized there, which adopted certain quarantine and general health regulations.

A squad of soldiers was stationed at Grosse Isle in the autumn of 1831, having with them a five-pounder to bring ships to anchor, and on April 28th, 1832, the first cases of cholera arrived on the ship "Constantia" from Limerick, carrying 170 emigrants, of whom 29 had died on the voyage. On June 10th cholera appeared in Montreal and on June 14th at Prescott. I find a letter dated the same day from Kingston sent to Sir John Colborne, Lieut.-Governor of Upper Canada, enclosing a copy of the proceedings of a meeting of citizens dealing with the matter of the disease called Asiatic Sporadic Cholera, which had appeared at Quebec and Montreal, in which inquiry was made of His Excellency, whether he had any fund at his disposal, with which to aid the committee in its charitable intentions. The letter was signed by Robert B. Cartwright, solicitor. A similar letter was sent on the 16th from Prescott to which I find a reply dated the 19th of June to the effect that the Lieut.-

Conclusion

- Such were the concluding lines of the one of the earliest histories of public health in Canada to be published.
- Symbolically, it was the lead article in the June 1910 issue of what later became known as the *Canadian Journal of Public Health,* and which appeared a few months before the foundation of the Canadian Public Health Association
- The article was by Dr. Peter H. Bryce, who at the time was the Chief Inspector of Immigration within the federal government, but who had previously served as first Chief Medical Officer of Health of the first Provincial Board of Health in Canada, which was established in Ontario in 1882 under the first comprehensive *Public Health Act* to be passed in the country.



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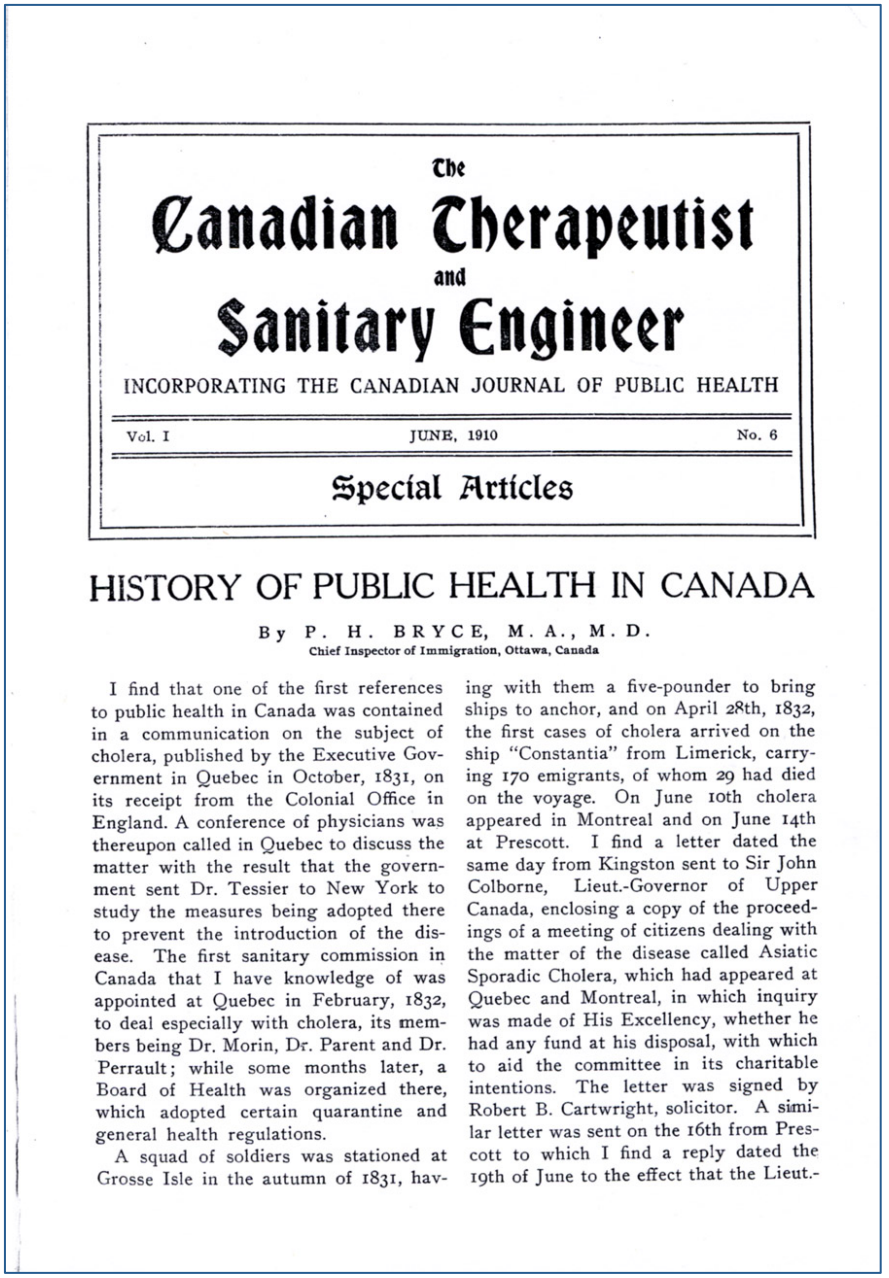
Conclusion

- Quoting Bryce's conclusions serves to reflect several fundamental elements that not only defined the development of public health in Canada up to 1910, but have continued to shape how it has evolved ever since, particularly with respect to infectious disease prevention and control:
  - High scientific standards;
  - Importance of strong and innovative public health institutions;
  - Leadership role of governments;
  - Favorable comparison with other nations;
  - Critical creative role played by pioneering individuals in getting the job of public health started and maintaining the constant vigilance that is necessary, despite the scientific, financial and political obstacles often encountered…



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