DOLLARS AND CHANGE:
THE EFFECT OF ROCKEFELLER FOUNDATION FUNDING
ON CANADIAN MEDICAL EDUCATION AT
THE UNIVERSITY OF TORONTO, McGILL UNIVERSITY,
AND DALHOUSIE UNIVERSITY

by

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A thesis submitted in conformity with the requirements
for the degree of Doctor of Philosophy
Graduate Department of the
Institute for the History and Philosophy of Science and Technology
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I dedicate this work to Stephen Fedunkiw,
Anna (Borak) and William Tataryn
who understand what it is like
to make a lengthy journey to begin life anew.
ABSTRACT

Dollars and Change: The Effect of Rockefeller Foundation Funding on Canadian Medical Education at the University of Toronto, McGill University, and Dalhousie University

by Marianne Pauline Fedunkiw Stevens, Ph.D. 2000
Institute for the History and Philosophy of Science and Technology, University of Toronto

The Rockefeller Foundation gift of five million dollars in 1920 had a lasting effect on the scientization of medical education in Canada. By examining three medical schools – the University of Toronto, McGill University and Dalhousie University – this work will show the differences and similarities in the way in which the individual grants were received, used to change curriculum, and used to bring in other government and private funding. Central to this is the adoption of the full-time system of clinical teaching and this dissertation will set the efforts to put the full-time system into place in Canada within the context of full-time clinical teaching, as funded by the Rockefeller Foundation and General Education Board, in North America.

Furthermore, this dissertation examines the resistance, particularly in Toronto, to the full-time system and the criticisms of private donors, including the Rockefellers and the Eatons, who were seen to be dictating curriculum and educational policy.

In addition to the role the funding played in introducing full-time teaching, the Rockefeller money also led to increased public and private support for medical education, helped to define the medical profession, and contributed to making the emerging medical research ideal a reality.
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My time at IHPST was enriched by my colleagues, old and new, some of whom deserve special mention: Tara Abraham, Gordon Baker, Beverley Eadie, Jennifer Keelan, Jill Lazenby, Steven Walton and Joanne Woiak, as well as Muna Salloum and ‘Zag’. The women of Annesley Hall (1993-1996), my fellow residence dons at Victoria University, especially Sue Behari, Richard McMaster, Wendy Rowney and Mark Worrell, and my ice hockey and lacrosse teammates were also instrumental in making my graduate career at University of Toronto a well-rounded experience. I owe a special note of gratitude to Adrienne D. Galway, my confidante, doctoral colleague, and someone who kept me laughing.

My family deserves credit for fostering in me a passion for learning and an undimmed inquisitiveness. To Leona, Stephen and Lasha Fedunkiw, and Mary Tataryn -- I truly appreciated your acceptance of my decision to “give up a perfectly good job to go back to school”, even though this decision seemed to some of you incomprehensible and fiscally irresponsible. As Piaf sang, “Je ne regrette rien!”

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Introduction

Medical education in Canada changed dramatically in the years between the two World Wars. These changes were built upon ideological shifts in education and professionalization, a growing sense of Canadian nationalism, and a continually expanding body of scientific information. But each of these individual elements existed before 1919. It was the catalyst of millions of dollars in private funding and subsequent public support that put the wheels of reform into motion at three of the most prominent Canadian medical schools, namely those at University of Toronto, McGill University, and Dalhousie University. By examining these three cases and how each came to receive and use their millions, one may see how the teaching of medicine in Canada was forced to deal with the challenge of trying to introduce the full-time system of clinical education, jockeying for international acclaim in the medical education and burgeoning medical research fields, and walking the tightrope of accepting government and private support while not wanting to relinquish any control over how the money was to be used -- not even surrendering any control to the Universities without which the faculties of medicine could no longer exist in twentieth-century Canada. Each school also serves as a case study in American financial intervention into Canadian university education, an area that has yet to be explored in the history of medicine or history of philanthropy.
The study of philanthropy is a growing research area, although Canadian material is almost non-existent in comparison to the volume of material devoted to American studies. The Autumn, 1997 issue of the journal *Minerva*, "Philanthropy and Institution-Building in the Twentieth Century", contains no articles which focus on Canadian recipients of private patronage. John Farley is one of the few who are working on philanthropy and Canadian recipients. His unpublished examination of the Rockefeller Foundation’s support of the School of Hygiene and nursing at the University of Toronto is part of the post-Flexnerian period (post-1910) which followed the initial concentrated gifts supporting university medical education.

This dissertation builds upon the scholarly literature of three fields: (1) the history of philanthropy; (2) the history of university education in Canada, specifically medical education as an applied science; (3) and the history of medicine, all set within the history of Canada as an emerging nation in the post World War I era. I will argue that the Rockefeller Foundation gift of five million dollars to aid Canadian medical education had a significant effect on reforming the teaching of medicine. Not only did it encourage substantial matching gifts from both government and private sources, it also offered medical schools an opportunity to re-evaluate their curriculum, faculty and applicant pool. Finally, the Rockefeller money also represented a way to pay for the continuing scientization of medicine as either the Foundation money or matching funds paid for the expansion of laboratory space, equipment and full-time instructors.

The pattern of giving and perhaps more aptly described, fundraising, changed dramatically in the decade after the First World War. Although others have examined
giving in the American context only¹ or the discipline-based context only². There is no
lengthy study of the effect that millions of private American dollars had upon Canadian
donors or recipients so meticulously examined and chosen by the Rockefeller
Foundation³. This effect was not just one of spending the dollars given. These dollars
were used as leverage to get the provincial governments to increase their levels of
financial support as well as to call for private donations from university alumni in support
of medical education. This was still a relatively new proposition for Canadian medical
schools. The nineteenth-century Toronto medical schools had a history of being
privately run with operating costs coming from tuition fees. The last of the private
medical schools in Toronto, Trinity Medical College, merged into the University of
Toronto in 1906 and provincial support replaced fees. The needs were, however,
desperate: modern ‘scientific medicine’ required laboratories, equipment and clinical
teaching facilities and Canada was at risk of falling far behind Britain, Europe and the
United States in medical education.

¹ Howard S. Berliner, A System of Scientific Medicine (New York: Tavistock Publications, 1985) looks at
philanthropy in the Flexner era and Steven Charles Wheatley, The Politics of Philanthropy (Madison:
University of Wisconsin Press, 1988) restricts his study to the United States. Berliner clearly states that
although “exact amounts are unattainable”, Canada received more than ten million dollars from the
Rockefeller Foundation alone to help put the full-time clinical system into practice while emphasizing the
“research ideal in medical education” (p. 167, A System of Scientific Medicine). This money was more than
the six million dollars Berliner estimates the Foundation gave to Britain for the same purpose, and far more
than the four and a half million dollars given to Belgium or one and a half million to France.
² Robert E. Kohler, Partners in Science: Foundations and Natural Scientists, 1900-1945 (Chicago:
University of Chicago Press, 1991). Kohler has also written From Medical Chemistry to Biochemistry:
The Making of a Biomedical Discipline (New York: Cambridge University Press, 1982), although the
former includes much more on the role of the Rockefeller Foundation in supporting a fledgling scientific
discipline.
³ William Spaulding’s article, “Why Rockefeller Supported Medical Education in Canada: The William
Lyon Mackenzie King Connection”, in Canadian Bulletin of Medical History, 10 (1993), pp. 67-76 began
to unravel some of the issues, but unfortunately, Spaulding died before further work could be done. A
considerable amount of material on the personal relationship between King and John D. Rockefeller Jr. can
be found in Chapter 7 of John Ensor Harr and Peter J. Johnson, The Rockefeller Century (New York:
Charles Scribner’s Sons, 1988).
As the Autumn, 1997 issue of Minerva bears out, much of the existing literature on the role played by philanthropic gifts in shaping the medical and other sciences is written by American scholars about American institutions. There is little written about the influence of philanthropy specifically on Canadian medical education and the leverage major donors had upon provincial governments’ support of university medical education itself.3

The existing literature may be divided into two main subject areas: history of medical education and the medical profession of the inter-war years; and the history of the role played by philanthropy in developing academic disciplines such as the medical sciences during the inter-war years. Both of these areas may be subdivided into the small amount of material dealing with Canadian medicine and academic disciplines and the much more researched and written-about American material.

Canadian History of Medical Education and Research to 1930

Within the Canadian body of research, this work fits between the work of Sandra McRae (1987) and Alison Li (1993). McRae’s dissertation outlines the climate of “zealous scientific, education and political reform” which led to the growth of the ‘scientific spirit’ in medicine at the University of Toronto from 1880 to 1910. During

3 Among the articles which, although not Canadian in content, offer interesting facets of areas other than medicine which were supported by the Rockefeller Foundation in Minerva. XXXV. 3 (Autumn 1997) are Marcos Cueto, “Science Under Adversity: Latin American Medical Research and American Private Philanthropy, 1920-1960”, pp. 233-245; Paul Weindling, “Philanthropy and World Health: The Rockefeller Foundation and the League of Nations Health Organisation”, pp. 269-281; and “Minerva: Previous Articles on Private Patronage of Scientific Research”, p. 320. Lily E. Kay, “Rethinking Institutions: Philanthropy as an Historiographic Problem of Knowledge and Power”, pp. 283-293, presents an argument for the power of philanthropic support to raise a “chosen” discipline, such as biology, to the same “peaks” attained by medicine decades earlier as part of a formal agenda.
these thirty years. Toronto saw the amalgamation of its medical schools and provincial support for medical education grow from almost nothing to a point where the Government of Ontario became the “patron” of the Faculty of Medicine. In turn, the Faculty of Medicine at the ‘Provincial University’ came to win international praise using the research ideals of experimental biology as applied to medicine by Ramsay Wright and A.B. Macallum.

Li’s unpublished dissertation covers the period after mine. She examines the role played by biochemist James Bertram Collip in establishing medical research in Canada. Li traces Collip’s career from his studies at Toronto (1908-1916) to his more than twenty-year association with the National Research Council. In addition to his contributions to the discovery of insulin, Collip experienced first-hand the challenges of

---


2. Gidney and Millar examined four professions in *Professional Gentlemen: The Professions in Nineteenth-Century Ontario* (Toronto: University of Toronto Press, 1994), one of which was medicine. They show how, during the nineteenth century, Ontario provincial government support of university-trained physicians, lawyers and clergy was individual to each case: little money was given until the Conservatives took power in Ontario in 1905. Other works to look into the relationship between the Ontario provincial government and the university include a pair of unpublished doctoral dissertations: David John Ayre, *University and the Legislature: Political Aspects of the Ontario University Question, 1868-1906* (University of Toronto, unpublished Ph.D. dissertation, 1981); and Edward E. Stewart, *The Role of the Provincial Government in the Development of the Universities of Ontario, 1791-1964* (University of Toronto, unpublished Ph.D. dissertation, 1970).

3. Sandra McRae’s *The Scientific Spirit in Medicine at the University of Toronto, 1880-1910* (University of Toronto, unpublished Ph.D. dissertation, 1987) offers valuable background, albeit concentrating on just one school, on the period immediately preceding the one discussed here. A.B. Macallum is a seminal figure in both McRae’s work and this research because he spans more than three decades at two of the medical schools being examined in this study: after graduating from University of Toronto in 1880, he went on to take his doctorate in physiology at Johns Hopkins and then returned to Toronto to complete medical school. His teaching career included serving as lecturer then head of the physiology department and subsequently Chair of the new Biochemistry Department at Toronto before moving on in 1920 to become the professor of biochemistry at McGill University. With this experience, Macallum had a perfect vantage point from which to observe the reforms in medical education. In fact, Macallum’s confidential letters to directors of the Rockefeller Foundation offer first-hand insight into the reactions of administrators and physicians alike to the millions of dollars of Rockefeller investment (see more on this in Chapters Two, Three and Four).
being one of the first clinical researchers to woo both private and public sources for research dollars.  

In addition to his work on the discovery of insulin, Michael Bliss examines the changes in medical education at Toronto brought about by financial gifts in his biographies of Joseph Flavelle and Frederick W. Banting. Flavelle, Bliss says, played "an important but not decisive role in the modernization of the University of Toronto". Gidney and Millar look at Ontario in the nineteenth century and offer considerable background for the evolution of medicine as an autonomous profession. Like McRae, their work sets the context for the situation in which Toronto, McGill and Dalhousie found themselves after World War I. McKillop, too, deals only with Ontario: in his seventh chapter, "The Gospel of Research", he makes the point that as recently as the 1890s, provincial funding was directly tied to a sense that the people of the province were getting something for their money. The School of Practical Science, later to become the Faculty of Applied Science and Engineering, was created at the University of Toronto because it represented "a science harnessed directly to the needs of the State". When it appeared that medicine, too, could be such a practical science -- and after the last of the

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8 Alison I-Syun Li, J.B. Collip and the Making of Medical Research in Canada (University of Toronto, unpublished PhD dissertation, 1993).
9 As Michael Bliss points out in The Discovery of Insulin (Toronto: McClelland and Stewart, 1982). Collip was on sabbatical leave from his position as full professor, at the head of the new Department of Biochemistry at University of Alberta, when he joined Banting and Best in 1921. Collip's financial burden was eased by a Rockefeller Traveling Fellowship. (p. 98).
proprietary schools folded into the Provincial University's faculty in 1906 -- money began to flow into the medical school to support the "research ideal".

**Beneficiaries of Major Donors: An Agenda of Discipline Building**

The first half of the twentieth century saw rapid growth in the number of disciplines existing within the universities of North America. This had a profound effect on the timetable in the medical schools where scientific disciplines such as Bacteriology and Biochemistry began to vie for prominence and teaching hours.

On a less practical note, the establishment of specific disciplines also became an opportunity for branches of science to flex their own intellectual and institution-based administerial power. Yves Gingras has looked at the growth of engineering and physics as disciplines and engineering in particular offers parallels to medicine as both were viewed as applied sciences within the university.\(^1\) Gingras and Richard A. Jarrell have also examined the history of the National Research Council as a Canadian body dedicated to supporting, financially and ideologically, advanced scientific research.\(^2\)

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\(^2\) Gingras was co-editor, with Richard A. Jarrell, of a special issue of *Scientia Canadensis*, the journal of the Canadian Science and Technology Historical Association that examined the role played by the National Research Council in fostering Canadian scientific research: *Building Canadian Science: The Role of the National Research Council* (Ottawa: Canadian Science and Technology Historical Association, 1992). *Scientia Canadensis* 15, 2 (1991). Others who have written histories of the National Research Council include: N.T. Gridgeman, *Biological Sciences at the National Research Council of Canada: The Early Years to 1952* (Waterloo: Wilfrid Laurier University Press, 1979) and Mel W. Thistle, *The Inner Ring: The Early History of the National Research Council of Canada* (Toronto: University of Toronto Press, 1966).
recently, Li and Terrie Romano are researching the history of the Medical Research Council’s early years.\textsuperscript{15}

Another approach to discipline building is the institutional history of the establishment of a discipline at a particular institution.\textsuperscript{16} Other sources of material in which philanthropy’s role in the new Canadian medical curriculum is examined are general institutional histories and biographies of the key players. There are existing institutional histories for each of the Canadian universities with which this dissertation deals. The triumphs and tensions caused first by the need to woo donor dollars and then to effect change accordingly becomes part of the history of the schools in Toronto, Montreal and Halifax.\textsuperscript{17} Biographies of those involved in both faculty administration and philanthropy abound. In his 1988 biography of Falconer, James G. Greenlee shows how

\footnotesize
\textsuperscript{15} Li and Romano jointly presented a paper titled, “Canadian Medical Research and Its Public Relations: The Discovery and Rediscoveries of Insulin” at the 10th Kingston Conference of the Canadian Science and Technology Historical Association (CSTHA) in Kingston, Ontario, Canada in October 1997.  
\textsuperscript{16} There are histories of botany, engineering, forestry and graduate studies— all as they apply to the University of Toronto, all written between 1958 and 1977: C.R. Young, \textit{Early Engineering Education at Toronto, 1851-1919} (Toronto: University of Toronto Press, 1958); John W. B. Sisam, \textit{Forestry Education at Toronto} (Toronto: University of Toronto Press, 1961); \textit{Graduate Studies in the University of Toronto: Report of the President’s Committee on the School of Graduate Studies} (Toronto: University of Toronto Press, 1965); and Dorothy F. Forward, \textit{The History of Botany in the University of Toronto} (Toronto: University of Toronto Press, 1977).  
\textsuperscript{17} In volume two of Stanley Brice Frost, \textit{McGill University: For the Advancement of Learning} (Kingston and Montreal: McGill-Queen’s University Press, 1984), Frost explains that there was emotionally charged resentment from other Canadian universities in 1920 when a grant of one million dollars for McGill University from the Carnegie Corporation was announced, in part acknowledging McGill’s wartime sacrifices. Other Canadian universities, particularly Toronto, were quick to point out that they, too, had lost alumni, faculty, and students in the First World War. P. B. Waite, \textit{The Lives of Dalhousie University: vol. 1: 1818-1925 - Lord Dalhousie’s College} (Montreal: McGill-Queen’s University Press, 1994) is the most recent history of the three universities with which this dissertation deals. Although Joseph Hanaway and Richard Cruess’ \textit{McGill Medicine: The First Half Century, 1829-1885}, \textit{Vol. 1} was published in 1996 (Montreal: McGill-Queen’s University Press), it only deals with the medical faculty at McGill. Other institutional histories as resources include \textit{University of Toronto and Its Colleges, 1827-1906} (Toronto: The University Librarian, 1906) which includes a chapter on the Faculty of Medicine and a financial history of the university to that time; and W.S. Wallace, \textit{A History of the University of Toronto} (Toronto: University of Toronto Press, 1927) which outlines the process of medical school amalgamation after Trinity folded into the Toronto faculty in 1906. This is the most recent institutional history of U of T. In
Falconer risked his own university presidency by supporting the change to the full-time system of clinical teaching at the University of Toronto. In fact, it was Falconer who was driven to push Toronto to keep pace with American universities, even if it meant upholding a commitment to the new clinical teaching system in the face of the unbridled anger of the existing faculty.

The resistance to the full-time system is also central to the biographies of Duncan Graham, who held the first Eaton Chair of Clinical Medicine at the University of Toronto and, to a lesser degree, Sir William Osler. In their profile of Graham, Kerr and Waugh explain how the major financial gifts of the Rockefeller Foundation and Eatons were used to implement the full-time system in medicine and pediatrics. Graham and the full-time system were the targets of a government inquiry which grew out of the resistance of the Toronto medical establishment: this medical “old guard” had been happy to teach part-time at the university while maintaining their private practices and resulting fees and saw no need to relinquish either the professorial prestige or their professional wealth and status. Osler’s initial resistance to the full-time system was vocal as was his support for philanthropic aid for his alma mater, McGill. Although he died before the 1919 Rockefeller Foundation gift was announced, his influence on the Foundation was long-

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1998. Martin Friedland began researching a new history of University of Toronto scheduled for completion in 2002, to coincide with the university’s 175th anniversary.  

18 James G. Greenlee, Sir Robert Falconer: A Biography (Toronto: University of Toronto Press, 1988). There are also commemorative biographies, one of which is In Memoriam -- Sir Robert Alexander Falconer, K.C.M.G. (Toronto: University of Toronto Press, 1944), published the year after Falconer died: it includes a lengthy bibliography. Unfortunately, Falconer instructed his son to destroy his personal papers after his death and to the best of my knowledge, this directive was indeed carried out.

19 Robert B. Kerr and Douglas Waugh, Duncan Graham: Medical Reformer and Educator (Toronto: Dundurn Press, 1989), Canadian Medical Lives Series, published by the Hannah Institute for the History of Medicine. Kerr and Waugh have included, in their appendices, a reprint of the Eaton Fellowship agreement which accompanied the gift of $500,000 to the Toronto medical school.
standing. Advice and influence were sought from Osler during his tenure at Johns Hopkins and Oxford and Osler’s influence on Rockefeller support for Canadian medical education remained long after his death.

In terms of discipline building as supported by the Rockefeller Foundation, Robert E. Kohler has examined the establishment of biology and biochemistry as disciplines in two monographs. In his 1991 *Partners in Science*, Kohler offers a breakdown of the systems of patronage that existed in the late-nineteenth century and how the managed foundations of the early twentieth-century applied their agenda to the programs which they supported with millions of dollars. Kohler deals only with the seven foundations set up by Carnegie and Rockefeller between 1901 and 1923, together responsible for eighty-five to ninety percent of "foundation expenditures on science in the interwar period".

In her analysis of the discipline-building agenda of the Rockefeller Foundation, Lily E. Kay examines the case of Caltech and the rise of the "New Biology". Kay saw the "social goals" of the private sector interacting with the research goals of the biologists at Caltech with the Rockefeller Foundation acting as supporter, even initiator, of this

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“Science of Man” agenda. Ultimately, the work done by Kohler and Kay has since been supplemented by other scholars such as Gerald Jonas and Pnina Abir-Am. Jonas examines the career of Warren Weaver and his influence on new biological disciplines including molecular biology and plant genetics. Weaver, who served as the Rockefeller Foundation’s director of natural sciences, oversaw support of the Foundation’s scientific programs from 1932 to 1959. Jonas cites examples of Weaver’s influence on a generation of investigators while stressing quantitatively precise biological research methodology. Abir-Am’s article also discusses Weaver’s influence, specifically on the discipline of molecular biology.

On Philanthropy, Medical Education Reform and the Full-Time System of Clinical Education

The secondary literature on philanthropy and non-profit organizations is growing. Although much of it is by no means specific to medical education, the work of scholars such as Peter Dobkin Hall and Ellen Condliffe Lagemann offers an historiographic

26 Weaver’s love of quantitative precision likely grew out of his training as an engineer at the University of Wisconsin and his passion for mathematics. He is even credited with coining the term “molecular biology” in 1938. From Jonas, Circuit Riders (1989), pp. 181-182.
27 Abir-Am, “Discourse of Physical Power” (1982), pp. 367-368. Using three case studies from the 1930s, she concludes that Foundation policy regarding biological progress favoured supporting physical scientists who were interested in tackling biological research and supporting established scientists working out of prestigious institutions. This led to emphasizing technology transfer from the physical sciences to the biological sciences even while the research questions belonged solely to the biologists, making “new” sciences like molecular biology a hybrid of both methods and personnel.
context for this work. Hall’s “Inventing the Nonprofit Sector” and other essays outline some of the pitfalls in doing research on philanthropic organizations. There are a number of others who have contributed to the literature on philanthropy and its influence on education and society, although the bulk of material examines influence by American philanthropists on various groups of the American population.

Special note must also be taken of Raymond B. Fosdick’s insider history of the Rockefeller Foundation. Fosdick was, as president of the Rockefeller Foundation from 1936 to 1948, privy to much of the information on the directional changes the Foundation took over its first four decades and the history of Foundation’s influence throughout the world.

A number of scholars have contributed to the history of American medical education and the role of philanthropy in shaping academic disciplines at American universities. As Kenneth Ludmerer says in his history of American medical education.

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30 Raymond B. Fosdick, *The Story of the Rockefeller Foundation* (New York: Harper, 1952). There are files held at the Rockefeller Archive Center which outline how this project came to be. The principal
"the financial requirements of modern medical training had become awesome". The financial requirements of modern medical training had become awesome. Fortunately enough, the means to aid medical education existed, particularly via philanthropy: Ludmerer states that, in 1914, there were 4,500 millionaires in the United States and by 1926 that number had more than doubled to 11,000. According to Ludmerer, although philanthropy is just part of the history of American medical education, he points out it was this outpouring and institutionalization of financial support which swept educational ideals into a new era. Although Abraham Flexner is often given credit for devising the full-time system, Ludmerer disagrees: "The full-time system in clinical departments arose because clinical science had become a true scientific activity, not because anyone had arbitrarily decreed that such a system should exist." Ludmerer goes on to explain the challenges of implementing the full-time system. Those who supported the system, had not only to try to overcome the status quo upheld by conservative aspects of the profession, but also the tension among faculty within the universities. The full-time clinical faculty were to earn $10,000, "twice as much as full professors in the basic science departments were making, but considerably less than the $25,000 or $30,000 the top consultants in practice were earning." In addition to Ludmerer, scholars like Brown and Berliner have examined the history of the full-time system and history of clinical teaching, using Abraham Flexner researchers on the history and even memoranda on feedback from Rockefeller Jr. since the book was as much a public relations exercise as anything.


13 Ludmerer, Learning to Heal (1985), p. 206. Although there was not the same need or desire to "organize modern medical schools across the land" in Canada as Ludmerer says of the United States, the effect of the major benefactions was nonetheless significant in Toronto, Montreal and Halifax.

and his 1910 report as a touchstone. Richard Brown’s standard text on the influence of corporate capitalism and major philanthropic gifts on twentieth century medicine addresses Rockefeller and Carnegie giving to medical education in North America from a Marxist perspective. Although the corporate class, via large philanthropic gifts, helped American medicine acquire prestige and economic power, the profession of medicine eventually gained enough momentum to achieve autonomy and rise from earning a median net income of $3,758 in 1929 to what Brown calls the “top rungs of America’s class structure”, earning $63,000 in 1976. But this was not before. Brown notes, a heated conflict arose. To initiate the reforms favouring scientific medicine and the full-time clinical system, considerable investment from outside the medical profession was needed. Brown says that the full-time system was a way for corporate philanthropy to enter the realm of control over medical education and medical care. The goal was to set up the notion that society’s needs, having been defined by the corporate class, would triumph over the medical profession’s interests; in turn, this would be the first, large-scale attempt to rationalize American medical care.

Brown goes on to argue that the Rockefeller philanthropies forced the full-time system on schools despite resistance from the medical professionals. Gates, Brown says, emphasized the fact that medicine should serve capitalist society. He went on. Brown

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17 Brown, Medicine Men (1979), pp. 5-6. Brown notes that the 1929 figure was above the average for college professors but below the faculty at Yale University and less than the average for mechanical engineers. Forty-seven years later, physicians’ earnings put them in the top few percentiles for income. Furthermore, Brown says that physicians are at the top of the occupational status hierarchy and that they were trusted more than any other American institution, including government, higher education and organized religion.
continues. to note that medicine must be controlled by capitalist foundations and universities, through medical schools that "manufacture" the professionals and "innovate" their techniques." It is simple enough to see many elements of Gates' idea in the reforms that led to the scientization of medicine and even the implementation of the Full-time system. The costly scientization of medicine, supported by philanthropic money, led to a shift toward machines for interpretation of data and illness. With time, these diagnostic tools became more and more complex, and comprehensible only to a select few specialists. The medical knowledge base, expanding faster than any single individual could possibly keep up, which resulted in the growth of medical specialties, making certain parts of medical knowledge comprehensible to an even smaller sub-group, within the profession. This is reflected, both in economic and status realms within the profession: specialists eventually took over the top earning potential and status that was once held by renowned clinicians like Osler while general practitioners became a lesser means of referrals to the specialists. As medical knowledge grows, the entire profession must struggle to keep up with the latest innovations or risk losing their edge in an ever competitive medical marketplace. Although medical schools can be said to "reproduce its professional personnel" this is only a static evaluation of their role because with each ensuing generation, new diagnostic techniques are developed and each generation has the potential to develop further than the last.

"Brown, Medicine Men (1979), p. 11.
Berliner’s *A System of Scientific Medicine* examines the shift from individual philanthropic gifts to organized foundation-based giving and philanthropy’s role in reforming medical education in the United States. His last two chapters concentrate on the full-time system as it was introduced by the Rockefeller Foundation to North American medical schools. Berliner states that it was the philanthropic foundations, including the Rockefeller Foundation, General Education Board and Carnegie Foundation, that were responsible for major reforms in medical education and research carried out at the beginning of the twentieth century. Among the challenges faced by those trying to implement the full-time system, was the pay cut some of the most respected clinicians would have to take to become a full-time clinician: Berliner notes that although Johns Hopkins set up full-time positions in its departments of medicine, surgery, and pediatrics in 1913, the first choice for full-time chair of medicine, Lewellys Barker, turned down the offer because he could not afford to give up his lucrative practice. In fact, Theodore Janeway, who was the third choice, took up the position and held it for only three years. Then he, too, gave it up because, as Berliner explains, “of financial need and in part because of disillusionment with the full-time system.”

Although the system was criticized, it did serve as a way to put scientific medicine into practice. With the foundation millions to support the reform, research was given a higher priority than ever before in North American medicine. Berliner’s monograph culminates with his conclusion that the potential for research by American scientists exploded at the

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same time as a gospel of scientific medicine was spread across the country, all because of a redirected system of teaching scientific medicine.41

I agree that the Full-time system had a powerful effect in Canadian medical schools as well, particularly for the way it changed the teaching of medicine and how the teaching of clinical medicine was regarded. For example, when the Full-time system was introduced at University of Toronto, it was not implemented as strict full-time but as what was called ‘geographic full-time’, allowing for some time each day to be used for private consultation. Furthermore, the new full-time Chair of Medicine, Duncan Graham, instituted an organizational system that anticipated the future, with junior researchers progressing up a departmental hierarchy and being paid as they trained. This raised the status of clinical researchers and also allowed them more time to train and perfect their skills before moving on to take up positions at other teaching facilities. Interestingly enough, unlike the system at Hopkins where it was difficult to get and hold a full-time clinician, Toronto’s first choice was not a clinician but a young bacteriologist who stayed on as Chair of Medicine for twenty-eight years. As a non-clinical medical scientist, he did not mind earning an annual salary of $10,000 and was not required to give up two to three times that amount in patients’ fees to take up the position.

Finally, in a collection of essays edited by Barbara Barzansky and Norman Gevitz, contributors strive to use aspects of Flexner’s 1910 report as a set of filters

42 Berliner, System (1985), pp. 159-160. Berliner estimates that leading practitioners made far more than the $7,500 salary allotted to them under the full-time system. Osler, for example, made $40,000 in private practice in 1902.
through which subsequent medical teaching reforms can be evaluated. There are three essays that touch upon funding medical education and the legacy of the full-time clinical reforms. The first, Robert Hudson’s “Flexner in Historical Perspective”, makes the noteworthy point that it would be erroneous to attribute all reforms in medical education to the influence of the Flexner Report. Reforms had been underway since the 1880s, but, in many cases, were slow to take effect because of the cost of reform. As Ludmerer notes, the lack of money became the factor which determined the pace of reform: he tells how, by the time the Flexner Report was published in 1910, more than thirty medical schools were operating under deficits so they might offer better training and facilities. Although philanthropy applied to medical education did exist before World War I, not all schools were as fortunate as Harvard University, which had benefactors like J. P. Morgan and Arabella Huntington.

Edward C. Atwater’s “Clinical Education Since Flexner or Whatever Became of William Osler?”, asks the question: what problems would Abraham Flexner see eighty years after his Carnegie Bulletin was published? Atwater proposes that Flexner’s support for the full-time system has resulted in overuse of technology. hospitals which threaten to “engulf” their owners both economically and professionally, young physicians choosing

46 Kenneth M. Ludmerer, “Reform at Harvard Medical School, 1869-1909”, in Bulletin of the History of Medicine, 55 (1981), p. 370. Morgan gave $1,135,000 and Huntington gave $250,000. Harvard Medical School ran two successful fundraising drives for its medical school, in 1874 and 1901, long before the Rockefeller Foundation was even founded, dispelling the myth that large-scale philanthropy only began after World War I (pp. 366-367).
lucrative subspecialties over more time-consuming general medicine. and ultimately, medicine becoming "an elite activity" in modern society. On this point, Atwater agrees with E. Richard Brown. In his monograph, Brown argues that the knowledge generated by medical science and the use of medical technology help to give physicians a monopoly of authority over the practice of medicine, thereby making medicine an elite activity. In addition to technology, there is also the issue of a vocabulary which, since the medieval period, has historically isolated all but those who are members of this elite group.

Finally, DeWitt Baldwin's article examines the changes in the medical curriculum since the Flexner report. Baldwin credits Flexner with giving an organizational structure to modern medical education. This structure, he notes, was based on Flexner's ideal school, Johns Hopkins. Baldwin also attributes the emphasis on the life sciences for a new foundation in twentieth-century medical education to Flexner's analysis. Like many of the other contributors to this monograph, Baldwin concentrates on the period after 1950, but he does acknowledge some historic milestones, such as pediatrics gaining "an unique clinical and scientific base in the 1920s and 1930s", which can be linked to the adoption of the full-time system. Some issues, such as overcrowding the curriculum, burgeoning scientific knowledge, new technology, and academic isolation in the face of

practical relevance of "scientific exotica derived from faculty research interests" continue to challenge medical educators, Baldwin says.

Overall, the recent secondary literature on the influence of the Flexner Report has examined Flexner's influence more closely. Historians now acknowledge Flexner's role in expressing the state of medical education in North America and in pushing the full-time system as the ideal. It is, however, no longer accepted that educational reform began with Flexner's report nor that the full-time system was his original idea. The move toward full-time clinical faculty began, Atwater notes, with a decrease in the number of schools (down from a high of 162 in the United States in 1906 to less than one hundred in 1920), an increase in the per-student income of medical schools, the introduction of the clinical clerkship, and better educational preparation for those wishing to enter medical school. "The proposed changes did, in fact, come. In part they were the results of forces already in motion when Flexner appeared on the scene." Flexner and his financial backers helped accelerate the reform, and I believe that Flexner himself was a product of the very changes which he advocated.  

To date, there have been no comparative studies of changes in medical education brought about by philanthropy at the predominant Canadian medical schools between the

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2 Atwater, "Clinical Education" (1992), p. 37. Atwater notes that already by 1918, eighty of eighty-nine American medical schools had raised their entrance requirements to include two years of college preparation, up from five of 162 schools in 1906. He argues that this, coupled with the fact that fees rose
World Wars. The goal of this work is not only to explain how Rockefeller millions were used in Toronto, Montreal and Halifax, but also to show how the perception and practice of medical science changed after World War I, largely as a consequence of putting long-desired teaching improvements into action using the sizable financial support provided by donors. Despite the fact that Toronto, McGill and Dalhousie represented different geographic regions, they each set out with a common nationalistic ideology -- each sought to teach medicine using the latest in laboratory and clinical techniques and to build a postgraduate medical program and specialties so that first-rate medical professors could be trained in and stay on in Canada.

The goal of this dissertation is to fill a void in Canadian medical history. There has been little written on the Canadian and American gifts that were significant in defining a pedagogical and professional identity, with the exception of passing references in institutional histories and select biographies like those of Sir Robert Falconer and Duncan Graham. I have chosen to examine the impact of the gift and the changes wrought at three different types of schools: Toronto is a state school, under-funded by the state and struggling to maintain its good reputation; McGill is the nation's medical school, buoyed up by private, Montreal money; and Dalhousie is the Maritimes' school, responsible for training all of the regional physicians while trying not to drain all of Dalhousie University's operating budget in a single year. I hope to contribute to the scholarship of Canadian philanthropy, in terms of both giving and getting funds from seventy-five dollars per year to seven hundred dollars per year during the period from 1910 to 1925. It meant that finally schools could afford full-time clinical faculty and well-equipped clinical laboratories.
specifically to further medical education. There are lessons to be learned from the way in which the Foundation offered to help Canadian schools.

My research will also augment the available literature dealing with Canadian medical education during a period of serious reform and add to the material by Berliner, Hudson and Ludmerer on the implementation of the Full-time system. Like the Flexner Report, these reforms affected all North American medical teaching facilities, and analyses of how the Canadian schools changed has been minimal. Furthermore, I shall endeavor to offer a comparison of how the Rockefeller Foundation dollars were used in Canada versus the United States, building on the work of Bonner, Jonas, Lepore, Ludmerer, and Rothstein.

Finally, I propose to add to the work of scholars such as Michael Bliss, Yves Gingras, Alison Li, and Sandra McRae on the growth of Canadian research endeavours. Examining the reforms that underscored the laboratory revolution preceding research. I hope to offer some insight into the maturation of the research ideal in Canada.
Chapter 1 - Setting the Stage for Change: Funding Medical Education in Canada to World War I

The Rockefeller Foundation's gift of five million dollars in 1919 marked a turning point in Canadian medical education. I would like to argue that it represented a "way" to reform, finally catching up to the "will" which had existed since the late nineteenth century. The impact was magnified by matching funds and the promotion of research and the scientization of medicine. It is as much a tale of history of higher education and the making of the profession of medicine in Canada as it is an overview of the politics and demographics of professional education.

To understand the impact of the Foundation's gift, it is useful to examine first the situation that existed in funding Canadian medical education in the decades before World War I. Medical schools operated on the fees collected from their students. Until about 1905, neither the University of Toronto, McGill nor Halifax Medical College, received any substantial support from their respective provincial governments; after 1905, when

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1 Kenneth Ludmerer expresses a similar sentiment in "Reform at Harvard Medical School, 1869-1909". *Bulletin of the History of Medicine*, 55 (1981), p. 370. He argues that Harvard had a distinct advantage in trying to implement the teaching reforms because it was adept at fundraising. The school raised $3,000,000 in its fundraising drive of 1901 and hence, had a headstart on many other American and Canadian schools in implementing the new scientific and research medicine ideal. Ludmerer acknowledges that there were dedicated faculties elsewhere who were aware of what needed to be done, but who did not have the resources to carry out their plans. By the time Abraham Flexner published his evaluation of all 155 North American schools, Ludmerer says there were more than thirty schools running deficits in an attempt to offer better training. "Everywhere in the nation," he writes, "lack of money became the limiting factor in how far the reform of medical education could proceed."

2 Included among the matching funds are provincial government monies, other private gifts and major private gifts in kind from the Carnegie Corporation and the Eaton family. The impact of these gifts will be discussed in later chapters.

the Conservative government led by Premier James Whitney came to power in Ontario. the University of Toronto medical program began to receive grants, but McGill and Halifax continued to rely upon a combination of fees and private endowments.4

Furthermore, it is important to underline the relative non-effect of the Flexner Report5 in Canada and to reiterate the point made by a number of American historians6 as well as Gidney and Millar that “the history of medical education in nineteenth-century Ontario, and especially in Toronto, is not that of the United States writ small”. As precarious as the Halifax Medical College’s position was, it was not as insecure as a number of the smaller American proprietary schools which were closing even before

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4 Donald Smith, Lord Strathcona, gave McGill University an endowment of $150,000 for chairs in pathology and hygiene and a general medical faculty endowment fund. William Macdonald, upon his death in 1917, bequeathed $500,000 to the Faculty of Medicine. From Stanley Brice Frost, McGill University for the Advancement of Learning, vol. 11, 1895-1971 (Montreal: McGill-Queen’s University Press, 1984), pp. 11-14.

5 Abraham Flexner, Medical Education in the United States and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching (Boston: D. B. Updike, Merrymount Press, 1910). Commonly known as “the Flexner Report” or “Carnegie Bulletin Number Four”; hereafter, this document will be referred to as “the Flexner Report”.


Flexner's 1910 report was published and which continued to close after the report was published. As Flexner noted in the first chapter of his report, up to and including the 1880s many American medical schools which had been affiliated with universities were caught up in the wave of commercial exploitation which swept the entire profession so far as medical education is concerned. For years they managed their own affairs, disposing of professorships by common agreement, segregating and dividing fees, along proprietary lines. In general, these indiscriminate and irresponsible conditions continued at their worst until well into the eighties. To this day, it is as easy to establish a medical school as a business college, though the inducement and tendency to do so have greatly weakened.

This situation was not that of the Canadian schools of the period. Canadian institutions such as the University of Toronto, albeit proprietary, consistently sought out university affiliation, with which came funding from the Provincial Government. For those schools such as McGill and Dalhousie Universities, which received little to no provincial funding, the conditions were never consistently as precarious as some of the American schools and, in fact, McGill was highly regarded.

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* Sheila M. Penney, "'Marked for Slaughter': The Halifax Medical College and the Wrong Kind of Reform, 1868-1910", in *Acadiensis*, 19, 1 (Fall 1989), pp. 27-51.

* Abraham Flexner, *Flexner Report* (1910), p. 8. Rather than highlight the oft-quoted evaluations of some of the worst schools examined by Flexner, here he is speaking of an historical trend at the medical faculties associated with Harvard, Yale and Pennsylvania.

* George Weisz, in "The Geographical Origins and Destinations of Medical Graduates in Quebec, 1834-1939", *Histoire Sociale/Social History*, XIX, 37 (May 1986), pp. 93-119, says that McGill University stood out from other Canadian medical schools as early as the mid-nineteenth century. There were no Canadian schools which could compare to McGill; the Ontario schools operating during the nineteenth century were proprietary schools, with a loose affiliation to a university at best and without adequate hospital teaching facilities. In contrast, McGill offered a university medical education that was comparable to that found in Boston, New York or Philadelphia. This only changed in 1887 when the University of Toronto Medical School was opened, thereby ending McGill's monopoly over university medical education in Canada (p. 105).
To understand the context for the eager anticipation of the Foundation gift of 1919, one must examine the history of the establishment of medical colleges in Canada beginning with the first organized proprietary school, Montreal Medical Institution, in 1824. The funding challenges faced by the Canadian medical schools of the first two decades of the twentieth century grew out of the scientization of medical teaching which began in the nineteenth-century.

Hence, this chapter will outline four phases which led up to 1919 and the news of Rockefeller millions being made available to aid Canadian medical teaching: the early years and the funding of the first medical schools; the cost of mid-nineteenth century efforts to use science to combat the “irregulars”; the absorption of private schools into university medical faculties; and, finally, the early twentieth-century need to fund the “new medical curriculum” and Full-time system.

**The Early Years: The Challenge of Population and Politics in Establishing Medical Colleges**

The issue of funding medical education did not come into play in the early decades of the nineteenth-century. This is because most physicians received their training in Europe or Great Britain where training centred around the less formal apprenticeship method. Many Canadian doctors served as apprentices or received their practical training through the army or navy as had been the practice in the eighteenth century.  

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There were, however, two pressing issues that set the stage for the establishment of formal schools. The first was a combination of Canada’s geographic size and its small population. The second issue was a sense of the need for a professional identity coupled with a desire to oust competitors. This competition took the form of non-traditional medical practitioners such as homeopaths, Thomsonians (also known as botanics), and eclectics, as well as American practitioners. As a consequence of the low density population in most areas, competition for services was keenly felt by physicians in the first half of the nineteenth century.12

Because of economic necessity, most physicians, civilian or military, lived and practiced in the populated towns and cities in the new colony13. There was no medical school, university-based or private, until 1824 when the Montreal Medical Institution opened. Upper Canada had no medical school until 1832. As William Canniff notes in his history of the medical profession of Upper Canada, by 1815 there were only thirty-six or forty medical men “possessing some qualification”.14 Canniff cites the details of a survey done, just two years later, by Robert Gourlay of several townships in Upper Canada. Gourlay asked the settlers how many medical practitioners there were in their township. For a population in four districts, for example, of 26,977, he found twenty

12 Kenneth Ludmerer notes in “Reform at Harvard” (1981), pp. 345-346, that the Thomsonian movement discouraged reforms in early medical schools like Harvard. Because the Thomsonians believed that the principles of medicine were simple enough to be understood by any man, Ludmerer argues that Harvard, which was a proprietary school at the time, was slow to change. The medical program seemed adequate the way it was being taught, in part because medical knowledge remained relatively limited. It took until 1870, with the introduction to North America of the European advances in clinical training and laboratory experimental medicine and research before Harvard Medical School felt the need to take up major teaching reforms.


medical practitioners. But this was a difficult way to earn a living in a land where
distances between settlements could be great and payment difficult to collect:

‘While I was in Canada,’ Gourlay writes, ‘men of education, talent, and experience, came from home to settle there, but it would not do, and many of them have left the Province. A country surgeon at home had hard work of it. What may he be supposed to have where the population does not amount to seven bodies to the square mile (?) and where fees must be received per the barrel, or the bushel: perhaps in lumber.’

Although formal medical education was limited until the 1830s and 1840s, the existing medical profession showed early concern to restrict those who might legally practice. In Upper Canada, one such attempt at licensure was made in 1792. As MacNab outlines in *A Legal History of the Health Professions in Ontario*, subsequent attempts ‘to regulate the practice of physic in this Province’ were made throughout the early nineteenth century. This was done as much to keep politically dangerous American practitioners out of Canada as it was to discourage quackery. Most bills were, however, short-lived and too difficult to administer. There was the question of the profession being divided between newly-trained physicians and those senior members of the profession trained under a different model years before, who did not meet the formal training requirements as set out in the new guidelines. There were logistical challenges in

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17 What is now known as the province of Ontario has also historically been called Upper Canada or Canada West. Similarly, Quebec has been referred to as Lower Canada or Canada East.
18 Elizabeth MacNab, *A Legal History of Health Professions in Ontario*, (Toronto: The Queen’s Printer, 1970), p. 4. MacNab’s text, part of the 1970 Study for the Committee on the Healing Arts, is a first-rate
requiring that those who applied for a license to practice from a given day forward would have to submit to an examination. This left a group of physicians with established practices who considered it insulting to submit themselves to a peer examination. Furthermore, as MacNab points out, "the problems of a scattered population and an inadequate supply of qualified doctors still existed."19

In reference to the shift from apprenticeship to classroom learning which occurred in the first half of the nineteenth century, it is important to remember that classroom instruction was followed by clinical instruction in the ward of a teaching hospital. Here, a form of group apprenticeship was carried out as senior medical students shadowed a clinical instructor on hospital rounds. As Gidney and Millar point out, students wanted to train in the larger hospitals where they might have access to patients on the wards as well as the dissecting room. New methods of diagnosis and surgical advances made greater exposure to a variety of cases almost indispensable. As a consequence, physicians and hospital trustees saw that there were economic rewards to be had in offering students courses in anatomy and other subjects. The result was that they organized classes and, soon after, entire schools of medicine.20 As a result, Gidney and Millar explain that a "new pedagogy" was born, one which combined small-group instruction with large class lectures, and hospital work with classroom learning.21

Throughout the first half of the nineteenth century, doctors worked toward establishing a professional identity. Contributing to this were not only government-

source summarizing the major legislative acts to regulate the practice of medicine and other health sciences.

supported licensing efforts and the establishment of medical schools but also the establishment of individual, provincial medical associations. The Medico-Chirurgical Society of Upper Canada is among the earliest, formed in York (now Toronto) in 1833, ten years before King’s College in Toronto established its medical faculty. Not long after, there was interest in a national medical association; two years after discussions began toward that end, in 1847, the forerunner of the Canadian Medical Association was formed. All provincial medical associations became divisions of the Canadian Medical Association, the national organization itself coming into being in 1867. These associations represented a concerted effort on the part of the physicians of each province to establish themselves as professionals.

As Gidney and Millar outline in their book, Professional Gentlemen: The Professions in Nineteenth-Century Ontario, physicians, lawyers and the clergy were striving to establish their identity as the century wore on. Integral components of their strategy were education, some form of examination and licensing, and peer censure. The story of nineteenth-century medical practice is rife with wars between the traditional or allopathic physicians and those considered to be on the fringe of legitimacy, namely the osteopaths, chiropractors, homeopaths and eclectics. As the physicians gained more and more professional autonomy, the other groups were pushed further onto the fringes. In Ontario, for example, with the Act of 1869, the College of Physicians and Surgeons of Ontario was established and given the power to administer licensing examinations to

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22 Other provincial associations of the period included the Medical Society of Nova Scotia (1854) and Prince Edward Island Medical Association (1855). Six provinces followed later: New Brunswick (1880); British Columbia (1900); Saskatchewan (1905); Alberta (1906); Manitoba (1908); and Newfoundland (1924). From J.W. Grove, Organized Medicine in Ontario (Toronto: Queen’s Printer, 1969), Appendix IX, “Chronology of Major Landmarks in the History of Organized Medicine in Canada”.
those wanting to practice medicine in the province as well as being responsible for medical education, including curriculum and the required matriculation standards for entry into Ontario medical schools.\textsuperscript{23} It was important to maintain control of who entered the profession by setting admission standards to the schools and to regulate who stayed in the profession via licensing and professional disciplinary committees.

In the first decades of formal, "school-based" medical education in Canada, funding education was not difficult. Instructors shared their expertise with a small class of students. Lectures and lecture-demonstrations were the predominant methods used to convey knowledge, followed by an apprenticeship period with one of the instructors in the hospital. For example, in their monograph on the first half century of medicine at McGill University, Hanaway and Cruess note that in the second session of the Montreal Medical Institution (1824-25) twenty-five students attended lectures on Materia Medica and Dietetics: Practice of Physic; Chymistry (sic) and Pharmacy: Anatomy. Physiology and Surgery: Midwifery and Diseases of Women and Children: and Botany. with "visiting hours at the Montreal General Hospital" in the Edinburgh tradition.\textsuperscript{24}

Instruction was by lecture "almost exclusively" and students spent from four to seven hours each day listening to lectures. McGill was renowned for its teaching of practical

\textsuperscript{23} MacNab, \textit{Legal History} (1970), pp. 13-14. MacNab's book outlines all of the major legislative changes, and attempted changes, to medical practice since 1792 in Ontario. Since the publication of \textit{Professional Gentlemen}, Gidney and Millar have been researching the medical school experiences of the late-nineteenth and early twentieth centuries.

\textsuperscript{24} Hanaway and Cruess, \textit{McGill Medicine} (1996), p. 13. The Edinburgh tradition encouraged teaching at the bedside of patients. The history of this pedagogical method goes back to Giovanni Battista Da Monte (Montanus) of Padua (1498-1552). Montanus believed that students could learn only by supplementing their theoretical lessons with bedside observation of patients. His ideas on ward teaching were brought first to Leyden then, in the eighteenth century, to the Edinburgh University School of Medicine, where emphasis on anatomy and physiology was also added. The Edinburgh influence was so strong that Hanaway and Cruess write, "McGill medicine was, in essence, a clone of Edinburgh in the New World." (p. 19).
anatomy. Cadavers were readily available for instruction and this attracted many students from eastern Canada and the United States. The only reservation, still a factor well into the 1870s, was that dissections of the brain, chest, pelvis and abdomen were rarely carried out for the edification of the students because surgery on these areas was almost never done, for fear of certain death from infection. Although many students enrolled for one or two years, few actually finished the course and qualified for a license to practice.

In terms of financing, students paid, in 1832, three pounds (Halifax Currency) for a term's ticket for each course except anatomy and chemistry which cost three pounds, fifteen shillings. The total course was five years: students were required to attend lectures for three years and then get bedside training in the hospital for two years. The total enrolment at McGill remained in the range of twenty-five students even into the early 1840s (see Table 4). The costs of primarily lecture-based instruction, therefore, were minimal and the revenues generated by student fees were enough to sustain first the private school and then the medical faculty at McGill University.

But by 1841, the school developed financial problems. Although up to five hundred pounds in aid was given by the Québec government, it did not prove to be enough and only moving to the rent-free, newly erected McGill buildings in 1845

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28 Although physiology was being taught at McGill as far back as 1849, the man who held the Chair of Physiology from 1849 until 1872, William Fraser, came to his position with minimal laboratory experience. In fact, as instructor of physiology, histology and pathology, subjects which collectively were known as the Institutes of Medicine, he brought only a didactic tradition and textbook knowledge to the position. When, by end of Fraser's tenure, schools in Europe offered laboratories and equipment such as kymographs (developed by German physiologist Carl Ludwig) for experimental physiology, and schools in Edinburgh and London used microscopes, Fraser continued to use lectures only in teaching his classes. Fraser's successor as Professor of Institutes of Medicine was Joseph Morley Drake (1872 to 1874) who, in
alleviated the financial pressure. The school was, therefore, facing financial difficulties long before science-based reforms were introduced.

Although the chronology of the McGill school is easy to document, it is not so simple for other institutions. There is no simple way to list all Canadian medical schools in the chronological order in which they were established. This is because the history of Canadian medical education is as much a history of private schools with specific relationships to nearby universities and licensing bodies as it is a history of university-based medical teaching as we know it today. Many of the medical faculties, therefore, may be listed in order, but with more than one date of founding. This situation is made even more challenging by the fact that the predecessors of some Canadian university medical faculties, such as that at the University of Toronto, included more than one private school, in part because of Toronto’s denominational college system. At various times throughout the nineteenth-century, Trinity College (Anglican), Victoria College (Methodist), King’s College (eventually non-denominational) each had its own medical school in addition to the proprietary schools run by individuals like John Rolph.

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Footnotes:
2. Many Canadian medical faculties of the nineteenth-century were established, first as private schools, hence in the following chronological list the first date is the year of founding of the school and the second the year it became part of the University with which it is associated today: McGill (1824/1829): Toronto (1843-- closed in 1853; 1843 The Montreal School of Medicine and Surgery or l’École de Médecine et de Chirurgie de Montréal opens as competition to McGill’s Faculty of Medicine and eventually becomes the medical faculty of Victoria College (Cobourg, Ontario): 1856 Toronto School of Medicine founded: 1871 Trinity re-founded: 1874 Victoria closes; 1887 “Toronto” re-opens as Victoria and Toronto School of Medicine; 1904 Trinity is the last of the private schools to join the University of Toronto medical faculty): Laval (1848); Queen’s (1854); Halifax Medical College/Dalhousie (1867: closed in 1911); Bishop’s University of Lennoxville, Quebec (1871, taken over by McGill in 1905); University of Western Ontario (1881/1913); Manitoba Medical College (1883/1918); University of Alberta (1921); University of Montreal (1923); University of Saskatchewan (1926); University of Ottawa (1945); University of British
Although this may seem a trivial point of fact, it does play into the story at the point of raising funds to support the new, scientific medicine. With no longstanding, unified base of alumni from which to draw financial support, the University of Toronto became anxious about funding and poised to meet whatever conditions the Rockefeller Foundation might stipulate in its bid to be a world-class medical teaching and research facility.

**Scientific Medicine Useful for Combating Irregulars but Costly to Teach**

There are those, such as John Harley Warner\(^1\) and J.T.H. Connor\(^2\), who argue that the arrival of the medical sects not only represented economic competition, but also helped traditional physicians to unite and forge a common professional identity grounded in systematic training and professional licensing. While the competition for patients was low, there were few cries for stringent school-based training or examinations. But as Gidney and Millar point out, “while the regulars had always routinely condemned the dangers of quackery, it is only around mid-century that the chorus of complaints rises to a crescendo.”\(^3\) Physicians not only had to compete with other traditional physicians, but with the botanics, eclectics and homeopaths.\(^4\) The solution was to reduce the number of

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\(^2\) James T. H. Connor, *Minority Medicine in Ontario, 1785-1903: A Study of Medical Pluralism and Its Decline* (Unpublished Ph.D. dissertation, University of Waterloo, 1989). Connor estimates that, in just over a decade from 1840 to 1851, the number of licensed practitioners in Upper Canada grew from 160 to 520 making competition much stiffer. This figure did not include members of the medical sect.


practitioners licensed to practice. But it would not be until the last decades of the nineteenth century that the infrastructure to do this would be in place. School-based training was required with examinations and licensing after completion. In a movement that would continue throughout the twentieth-century, the entrance requirements for medical students would be raised as well, keeping the number of successful applicants in check. Finally, by the 1880s, the way that medicine was taught changed, influenced by the work being done in European laboratories. Students were now required to spend time in the laboratory as well as at the bedside, in the dissecting room, and in lecture. This was the scientization of traditional medicine which, in turn, helped to differentiate it from the medical sects or "irregulars".

One of the reasons for the eventual demise of the private medical schools in Toronto, for example, was the cost of equipment. Although it was relatively easy to procure part-time clinical instructors -- many Toronto-area physicians enjoyed the prestige of teaching in a medical school -- the student fees could not adequately cover the cost of microscopes and laboratory equipment for chemistry and physiology experiments.

Medicine: Essays in Canadian History (Toronto: Clarke Irwin, 1984), pp. 105-122, notes how in Nova Scotia in the 1860s and 1870s, some practitioners experimented with unorthodox remedies in an effort to have medicine appear to do more. Conservative physicians, or the medical elite as Howell calls them, fought this with their support of medical colleges, hospital development, formation of societies to discuss germ theory, and even with their struggle to set up the Anatomy Act of 1869 (pp. 106-107). Although their efforts were not in vain, Howell notes that it would take decades before arguments among Nova Scotia's medical elite ended. Even in 1880, he tells of how they could not agree on germ therapy and Listerism. One physician, Edward Farrell, Howell says came to accept the principle of antiseptic management and surgical cleanliness but continued to practice bloodletting. Only through the efforts of men such as Dr. A. W. H. Lindsay and Dr. John Stewart, the latter who had studied under Lister himself, that, spreading the word at medical society meetings, managed to convince colleagues of the merits of the germ theory. By the mid-1880s, the germ theory dominated the profession (p. 119).

Paul Starr, The Social Transformation of American Medicine (New York: Basic Books, 1982) is one source which outlines the economic challenges faced by traditional practitioners in the nineteenth century which contributed to the changes in training and practice.

as the turn of the century drew closer. Not having the equipment needed for the emerging laboratory meant that schools were losing their competitive grip on the student market. This coupled with the growing interest in the science of medicine, brought back to North America by graduates studying abroad in Germany, led to the feeling that Canadian medical schools were falling behind the German lead. For those schools affiliated with universities, the situation was only marginally better. In addition to laboratory equipment, dissection specimens were still a challenge to procure in the necessary numbers and facilities which were adequate in the 1850s were overcrowded by the 1890s.17 For an example of the rate of growth, see Table 4 on McGill’s growth in student enrolment, 1890 to 1920, at the end of this chapter.18

There were serious economic challenges for those who wanted to scientize the medical curriculum.19 Unlike the older curriculum, laboratory medicine was costly. Schools needed laboratory space, costly equipment such as microscopes and experimental devices for physiology tests, as well as instructors experienced in the new science of

17 Hanaway and Cruess, *McGill Medicine* (1996), discuss the situation at McGill University (pp. 92-93) while Penney examines the shortage of material at Halifax Medical College in “Marked for Slaughter” (1989), pp. 43-47.

18 This information is taken from McGill University calendars for the dates noted. For a more comprehensive analysis of the McGill medical school experience in its early years, see Hanaway and Cruess. *McGill Medicine*, (1996).

19 Financing the scientization of medicine played a role in Queen’s lagging behind McGill and Toronto in medical education. In Hilda Neatby’s *Queen’s University: To Strive, To Seek, To Find, and Not to Yield*, vol. 1, 1841-1917 (Montreal: McGill-Queen’s University Press, 1978), Queen’s Principal (1877-1902) George Munro Grant is said to have viewed the medical course in Kingston as “peripheral to the essential purpose” of the university. As late as 1886, Grant was writing, “I attach little importance to the Medical School. Our medical students are a wonderful, hard-working lot, but the mass of medical students will go and ought to go to Montreal and Toronto.” (p. 211). In 1892, however, it was Grant who advanced $750 to Dr. A.P. Knight for new laboratory equipment. Knight, professor of animal biology and physiology at Queen’s, had asked for that amount after touring Europe and Britain in the summer of 1892 to determine what materials were needed to bring Queen’s labs up to date. (p. 213). Incidentally, Neatby notes that the amount Knight requested represented three-quarters of his professorial salary.
medicine. In return, the traditional medical profession could boast that only its members were rigourously trained in scientific investigation.40

One of the major factors at the heart of private medical schools becoming affiliated with universities was this question of money. Throughout the nineteenth century, post-secondary education in the Arts was funded by the government41, but professional training was seen to be apart from a liberal university education. The medical schools operated on income generated almost exclusively from student fees. Unfortunately, the cost of laboratory equipment and facilities was growing with the advent of the research ideal and laboratory medicine. It had been considerably less expensive to lecture to an entire class than to equip laboratories explaining, in part, why the early, proprietary efforts fared quite well in the first half of the nineteenth century. The proprietary schools are credited with taking a successful initiative, in the 1880s, toward “extending the range of clinical instruction, in adding laboratory work in physiology and pathology, and in seeing that all students received more practical instruction in basic and surgical anatomy”42. By Gidney and Millar’s account, in the

40 Bruno Latour, in The Pasteurization of France (Cambridge: Harvard University Press, 1988), argues that acceptance of laboratory methods by the medical profession was gradual. Clinicians were suspicious of new methods that took them away from the patient’s bedside. The approach of the bacteriologists in attacking and preventing disease was “too biological” and “never took the individual sick person as a unity” as the clinician did (p. 116). Physicians’ resistance was also economic. They feared being shut out of the new medicine, one which used vaccinations to prevent disease, thereby robbing them of potential patients. As Latour says, “The conflict between health and wealth became for each physician a matter of how to earn a living while treating people.... with such problems the physician could have nothing more than a polite but distant interest in the acrobatics of microbes in laboratories.” (pp. 119-120). One factor which finally motivated physicians to accept the scientization of the medicine was that it would narrow the competition, both by shutting out the charlatans and by requiring an extension to the medical school course: “... the sciences would limit the number of colleagues ...” (p. 135).

41 In Section 93 of The British North America Act, 1867, the responsibility for legislation respecting education is assigned to each individual province. There is no specific mention, in this section, made regarding professional training of any sort.

1880s the Toronto School of Medicine and Trinity Medical College had combined annual revenues of about $40,000 from the fees paid by more than five hundred students. In turn, the courses offered at the Toronto School of Medicine grew to include botany, chemistry, normal histology, medical psychology, pathology, toxicology and zoology.41

When enterprising physician educators like John Rolph of the Toronto School of Medicine and Walter Bayne Geikie of Trinity Medical College were faced with the costs of modernizing their facilities in the 1880s, they had a formidable challenge. Toronto, unlike Montreal, was still a city with more than one medical school for prospective students. Support from the provincial government remained non-existent. The education of professionals was still seen to be beyond the realm of the province -- professional schools continued, therefore, to operate on fees collected from the students. But laboratory costs and building expansions could not be borne by student fees alone. And without up-to-date laboratories and instructors in the biomedical sciences, students would go elsewhere.

Ultimately, the story in Toronto played out with one clear winner. Although Trinity had operated, since 1853, solely as a privately-funded medical school, by the 1880s Geikie could see that the same was not true of the Toronto School of Medicine. When the latter became a professional faculty of the University of Toronto in 1887, appeals were made to the Provincial Government for aid to this new addition to the provincial university. It was not long before the new faculty did indeed benefit -- medical

41 Gidney and Millar, Professional Gentlemen (1994), p. 159
students were welcome to use the newest building on campus, the new biology building erected in 1888 and expanded in 1890. This facility included dissection rooms.44

Geikie's cries of favouritism fell on deaf ears at the legislature. Although Trinity Medical College managed to avoid federation with the University of Toronto until 1903, its fate was sealed. This last independent medical school in Toronto could not compete with the more modern, better funded and equipped, provincially-supported medical faculty. Dependent upon student fees, Trinity would have priced itself out of the medical education market to keep its training methods and facilities up to date. When it was absorbed into the provincial university, an era in medical education ended. As McKillop notes, Geikie was not "an anachronistic old curmudgeon intent on holding onto his personal academic fiefdom" but a "self-imposed champion of the older, humanistic notion of the medical 'arts'".45 Geikie was lost in the new age of the research ideal. He saw the biological sciences as subjects that complemented medicine but not fundamental to teaching it. By 1887, the provincial government disagreed and showed its support of the research ideal by offering financial aid to build new facilities to encourage research and laboratory teaching. Hence, McKillop notes that "the proprietary schools met their fate not because they had failed but because they were seen to represent a different kind of medicine and medicine man."46

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Commercial Schools Collapse into University Medical Faculties but Funding Problems Continue

The Toronto situation was somewhat unusual since Geikie and Trinity managed to survive without full affiliation with the University until 1903. This was almost twenty years after the research ideal began to gain momentum. Halifax Medical College, which had been incorporated in 1875 was reabsorbed into Dalhousie University in 1885. The College reopened in 1887 and, although students took some premedical science courses at Dalhousie, remained the site where medical education took place until 1911. This was despite the fact that the College’s facilities were far below standard and the research ideal found a poor home in crowded, poorly-lit, dank quarters. In becoming the medical faculty of Dalhousie University, medical education finally stood a chance of thriving in Halifax, especially since it would be the only Canadian medical school east of McGill until Memorial University’s medical faculty opened in 1969 in St. John’s, Newfoundland.

Although affiliation with an established university seemed to be the solution, funding the research ideal remained a challenge. McGill medicine, for example, enjoyed the longest association as a professional faculty of a university. Unlike Toronto, there was minimal competition from other schools. McGill had the advantage, too, of one of the most well-respected instructors on its staff in Osler at a time when medical teaching was changing. As Hanaway and Cruess describe it, Osler recognized the need for a properly equipped laboratory where students could “learn by doing” after he saw this in

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48 Among Osler’s legion of admirers was Frederick Taylor Gates (1853-1929), philanthropic advisor to Rockefeller Sr.. It has become legend that when Gates read Osler’s 1892 text, The Principles and Practice
practice at Harvard in the mid-1870s. Symbolically, a lecture room was refitted to become the first physiology laboratory in Lower Canada: “In addition to the special table, benches, sinks, and the eleven microscopes, there were microtomes, warming stages, hemocytometers and hemochronometers, a spectroscope, a kymograph, batteries, induction apparatus, animal head and body holders …” Unfortunately, Hanaway and Cruess do not mention how this transformation was funded. It was undeniable, however, that in moving toward the research ideal, traditional medicine was distancing itself quickly from the “irregulars” and marking a niche in medical training that would be difficult for the sectarians to fund and follow. By 1879, lecture hours decreased as time in the laboratory increased. This also created a new role for research-oriented junior scholars as laboratory demonstrators.

Hanaway and Cruess attribute Montreal’s positive response to the enthusiasm of McGill’s medical faculty. The public responded to the exciting changes being wrought by science with financial support. As these historians note, the public could now see “that medicine had a future in the university setting” and the public began to support medical education in earnest. Lord Strathcona, a longtime benefactor of McGill University, gave $50,000 to the medical faculty in 1882; this figure was matched by the faculty in 1883 and the public and alumni of medical education at McGill gained a solid foundation that set the tone for the needs of the school in 1919. Hanaway and Cruess go

\[\text{of Medicine. Gates was inspired to persuade Rockefeller Sr. to focus millions on improving medical education for the benefit of mankind.}\]

\[47 \text{Hanaway and Cruess, } \textit{McGill Medicine} (1996), \text{p. 93.}\]

\[48 \text{This included the growing body of work being done in the laboratory in the nineteenth century to combat tuberculosis, tetanus, and diphtheria.}\]
as far as to state, "The high standards Abraham Flexner found on his visit to Montreal in 1909 were the direct result of the scientific reorientation which had started in the 1870s."³ A large part of this success was McGill University's ability to finance the shift toward the "scientific" or "research ideal".⁴

The Effects of the Laboratory Revolution on Medical Education Reform and the Full-Time System

If the "research ideal" as applied to the pre-clinical sciences was the first major pedagogical change in medical education, then the "full-time system" of clinical teaching was the second. As revolutionary as turning lecture rooms into laboratories seemed in the 1880s, so did accepting only full-time instructors.

The full-time system of clinical education was a natural outgrowth of the scientization of medicine. Full-time instructors of the pre-medical subjects such as biology, chemistry and physics were already in place in the latter half of the nineteenth century. For example, John William Dawson (1820-99) taught zoology and botany to McGill University medical students as well as serving as the Principal of the university.

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³ Hanaway and Cruess, *McGill Medicine* (1996), p. 101. Changes continued to take place at McGill. In 1886 a new wing was added to the medical building with the most up-to-date laboratory space for medical students.


⁵ Unlike the situation which Abraham Flexner would find at Queen's in 1909, McGill University's transition to scientization was aptly and ably funded. This would play out in 1920 when McGill and Toronto would be chosen as "peaks to be made higher" and which would exclude Queen's from receiving any part of the five million dollar gift, despite the pleas of Queen's faculty.
from 1855 to 1893.  

Laboratory work in the second tier of medically-related sciences such as anatomy, physiology, histology, and pathology was introduced and employed to varying degrees in North American schools. Flexner held up the laboratory, particularly the physiological laboratory, as being “of immense educational importance to the prospective physician. Physiology is, in a sense, the central discipline of the medical school.”

The reform of the teaching of physiology has a long history upon which many scholars have commented. Among them are Pauline Mazumdar, Richard Kremer and John Harley Warner. Mazumdar argues that the physiology taught in early nineteenth-century London could be divided into two schools of thought: as part of clinical surgery, taught by hospital surgeons, based on “the holistic physiology of sympathy” and the other, simply as a way to justify and outline the anatomy being demonstrated as taught by surgeon-anatomists. As Mazumdar succinctly states, “In the hospital, it explained the

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4 Hanaway and Cruess, *McGill Medicine* (1996), pp. 57-59. Dawson advocated using the laboratory as a teaching tool as did Robert Palmer Howard (1823-1889), Professor of Medicine at McGill University, 1860-89, and later Dean of the Medical School from 1882 to 1889. Howard graduated from McGill medicine in 1848 and then traveled to Europe to further his education. He was revered by Osler, whom he taught, and, in turn, was instrumental in hiring Osler upon the latter’s return from studying in London, Berlin and Vienna. This is just another example of how so many of the men who were to help set up the scientization of the curriculum had been influenced by their time in Europe. From the mid-1870s to mid-1880s, during what Hanaway and Cruess call a period of “progress and enlightenment”, all four men who were hired to teach at McGill had spent considerable time studying in Europe. In addition to Osler, there was Gilbert Prout Girdwood (1832-1917), Professor of first Practical Chemistry (1872) and then Chemistry who had been educated in London; Francis Buller (1844-1905), first Lecturer (1877) and then Chair of Ophthalmology and Otology (1883) who followed three years in Germany with four years in London; and Francis John Shephard (1851-1929), first Demonstrator of Anatomy (1875 to 1883) then Chair of Anatomy (1883) who studied in Europe and then returned to McGill with innovative teaching methods for his courses, including full, systematic dissection of cadavers, laboratory examinations, and with a growing emphasis on the relations of anatomy to physiological and biochemical sciences (pp. 184-185).

“Flexner laments that, “An utterly mistaken notion prevails as to the extent to which animal experimentation is practised in this country (U.S.). Only a very small minority of our medical schools use animals at all; as a matter of fact, ordinary medical teaching suffers seriously from the failure to employ them.” (Flexner, *Flexner Report* (1910), p. 60). Flexner attributes the first laboratory to Purkinje, a physiologist, in Breslau, Germany in 1824. (p. 62).
condition of the patient; in the school, the anatomy of the cadaver. In the decade 1825 to 1835, the tradition of anatomical physiology began to fade away, in part, she argues because of the establishment of University of London. The new university competed with the established anatomy schools run by the surgeon-anatomists for students and the university won the battle. Soon after, standards were raised, new subjects introduced and local physiology instructors without formal university training were shut out of the new curriculum. The medical profession began to experience a rise in status even as private anatomy schools began to close their doors. There are parallels to the tribulations experienced by the proprietary schools in Toronto and Halifax which were only ameliorated by university affiliation.

Kremer, in discussing the building of the first physiology institutes in Prussia, 1836 to 1846, offers another model for the teaching of physiology. Long before Carl Ludwig's institute (1869), physiology was seen as important enough to be deemed an independent subject, although a relationship with anatomy continued. In Prussia, all forms of physiology were studied and integrated, including chemical, physical and anatomical/microscopical methods within a framework of teaching practical skills to medical students as well as what Kremer calls the anti-reductionist concepts. Unlike the anatomy schools in Mazumdar's articles, Kremer says that the Prussian institutes faced

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"Flexner, Flexner Report (1910), p. 63. He went on to note that some 450 hours of instruction are devoted to physiology "in the best schools".
little real competition from university laboratories in teaching physiology in this period. The Prussian institutes found their niche and offered entrepreneurial faculty the opportunity to pursue research which university laboratories did not." They succeeded. Kremer argues, because medical faculties supported the idea of independent institutes and already, by 1843, recognized a need for physiological research using experiment and observation. In fact, many Prussian anatomist/physiologists were supplementing their lectures with experiments and visual materials by the 1840s."

In his article "The Rise and Fall of Professional Mystery", Warner acknowledges the effect of "the intellectual excitement of the experience" of studying in Germany had on the visiting American students. They formed allegiances to the German laboratory methods which they transported back to North America along with the idea that the laboratory replaced "speculation with fact, impressions with exact method, superstition with positive knowledge". Warner cites the "mystification" of medical knowledge as a necessary element in changing the American attitude toward knowledge and the medical profession in general. Medical knowledge became special which, in turn, set medical knowledge apart from that of the lay community. Gone was the Thomsonian ideal that medical principles should be simple enough to be understood by any man. In turn, this brought with it a rise in status for the profession with corresponding pecuniary rewards.

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and a rise in authority and clinical power. America was ready. Warner argues, for the reforms advocated by Abraham Flexner.\textsuperscript{63}

Armed with training taken in Germany, the reform-minded educators arrived with knowledge of diseases that came from the laboratory, not from case histories.\textsuperscript{44} Howard Berliner credits the German physiology laboratory of Carl Ludwig in Leipzig, Germany with inspiring the full-time plan and Franklin P. Mall, an American anatomist with bringing it to North America.\textsuperscript{45} Mall spent a year with Ludwig in the mid-1880s. When he returned, he took up a position as professor of anatomy, first at University of Chicago

\begin{itemize}
  \item \textsuperscript{63} Warner, "Fall and Rise of Professional Mystery" (1992), p. 141. In another article, "Physiology", in Ronald Numbers, ed., The Education of American Physicians: Historical Essays (Berkeley: University of California Press, 1980), pp. 48-71. Warner says that as the discipline of physiology matured at the beginning of the twentieth century, professors responsible for teaching the subject to medical students became less inclined to relate basic physiology to clinical application. The professors' own research reflected the growing specialization within the discipline and "two cultures emerged within the field, and within medicine generally: the scientific and the clinical". Hence, physiology underwent a transition or what Warner describes as a change in status from the nineteenth century to the early twentieth century: it grew from an important but not integral subject in the medical school curriculum to hold the point where basic physiology was the "epitome of medical science", and readily identified as the singular subject in all of the basic medical sciences, relevant to the training of physicians. (pp. 70-71).
  \item The degree to which North American physicians were exposed to the German laboratory research methods was substantial. Robert Hudson notes that 15,000 American students travelled to Germany and Austria to study between 1870 and 1914. Hudson, "Abraham Flexner in Historical Perspective", in Barbara Barzansky and Norman Gevitz, eds., Beyond Flexner: Medical Education in the Twentieth Century (New York: Greenwood Press, 1992), p. 3-4. The students benefited from the early work of Rudolf Virchow, who established the first pathological institute in Berlin in 1856 and later the study of bacteriology. Another source for this information is Gerald L. Geison, ed., Physiology in the American Context, 1850-1940 (Bethesda: American Physiological Society, 1987).
  \item \textsuperscript{44} With the introduction of laboratory science to medicine came the challenge of maintaining scientific rigour, a tool in first diagnostics and then clinical research, and a way to further professionalism in medicine. Regarding the rigours of the laboratory bench, the laboratory introduced the idea of replication and peer evaluation. Scientific truth could be reached, but only after results were replicated to the satisfaction of the professional community at large. As Bruno Latour says in Pasteurization of France (1988), p. 121 and 126-127, physicians were forced to accept the scientization of medicine or risk being left behind, with no more professional respect than the charlatans and quacks whom they wished to eradicate. Although the benefits of bacteriology and laboratory medicine may have seemed anathema to physicians at first -- treating microbes made no use of their marketable skills as clinicians, they believed -- beginning in the 1890s, "This physician is ready to admire science only in order to crush the charlatans ... At the cost of a little laboratory equipment, they gained the means of diagnosing and treating diphtheria, a terrible childhood disease."
\end{itemize}
and then at Johns Hopkins. He spoke to many of his colleagues about the idea of a full-
time clinical faculty, both in Chicago and Baltimore. One such colleague, Llewellys
Barker, went so far as to give an address on the full-time idea in 1902. Barker’s speech
was reproduced in the contemporary medical journals of the day where it was read by
Frederick T. Gates. Gates, who was chief advisor to John D. Rockefeller. Sr. and a
member of Rockefeller’s General Education Board saw merit in the idea of full-time
clinical faculty and soon was looking for a place to put it into practice. Gates’ first
application of the ideal of the full-time researcher originated with a hospital for the
Rockefeller Institute. The hospital, which opened in 1910, was the first American
institution to apply the full-time clinical system. Johns Hopkins was the first medical
school to adopt full-time in 1913. Washington University was next, followed by Yale.
Rochester. Vanderbilt, University of Chicago, Harvard. Cornell. Columbia. and
University of Iowa.

Eventually. most North American medical schools would turn to the full-time
system in one form or another. The question of when often depended upon money.

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*William G. Rothstein. American Medical Schools and the Practice of Medicine: A History (New York: Oxford University Press, 1987), pp. 160-161. Rothstein notes that German medical research was done in government-supported institutes. Although informal training may have been carried out, the professors and researchers in these institutes did not hold faculty appointments and had no formal teaching duties.

*Howard Berliner, A System of Scientific Medicine (New York: Tavistock, 1985). pp. 141-142. The Rockefeller Institute opened in 1901. Berliner notes that it even had the plan written into its charter: “No person on the salaried staff of the Institute should receive pay for any outside practice, that the Institute should itself send no bills for service to any patients within or without its walls, or accept any remuneration: .... The penalty for violation of these provisions by the Institute was the forfeiture of the endowment given by Mr. Rockefeller.”

*Hudson, “Historical Perspective”, pp. 3-4. Hudson says the result of the 15,000 American students studying in Germany and Austria was threefold: first, it elevated the research ideal; secondly, it promoted specialization; as knowledge grew exponentially, students could only realistically attempt specific research problems of a particular body system and not general problems; and thirdly, it focused attention on the Johns Hopkins school where the Full-time system of clinical teaching was being applied, making it the benchmark.

time clinicians, as was the case with the scientization of medicine, would be costly as well as necessary. To attract the best men, Full-Time Chairs in Medicine, Pediatrics and Surgery would be established.\textsuperscript{70} All of this would occur, largely, on the basis of philanthropic support.

The same drive of competition existed as it did in the push for well-equipped laboratories. The only difference was, perhaps, in scope: in the 1880s, there was still some inter-city competition between remaining proprietary schools. Of course, competition from American schools existed even then, but by 1910 it was even more pronounced. Flexner's evaluation of all 155 medical schools in North America only enhanced the reputation of Johns Hopkins as the ideal institution\textsuperscript{71}. Hopkins, and before that the University of Pennsylvania, had already lured Osler from Canada. The question

\textsuperscript{70} To outline the disparity in remunerating full-time men, one only needs to look at the case of Johns Hopkins. In an attempt to hire its first full-time professor of medicine in 1913, Hopkins first made an offer to Lewellys Barker. This was the same man whose speech of 1902 advocating full-time clinicians caught the attention of Frederick T. Gates and set the wheels in motion. Barker declined. With a lucrative practice, he could not afford to give up his annual earnings of $30,000 to $40,000 to take a salaried position of between $7,500 and $10,000. The position was then offered to William S. Thayer. He also said no. Finally, the position was taken up by Theodore Janeway, then professor of medicine at Columbia University. Janeway, however, only held the position for three years. Even he found it too much of a cut in earnings and left, disillusioned, Berliner says, with the full-time system. These difficulties would eventually lead the Rockefeller Foundation to yield on their policy of absolutely no outside consultations for their full-time men and adopt the more flexible, geographical full-time system in 1919. This allowed the clinical instructors to have a few hours each day during which they could see patients. (Berliner, System, p. 159-160).

\textsuperscript{71} Flexner visited eight medical schools in Canada: Manitoba Medical College; Halifax Medical College; Medical Department of Queen's University; Western University Medical Department; University of Toronto Faculty of Medicine; McGill University Medical Faculty; Laval University Medical Department (Montreal and Quebec City). The greatest number of students were enrolled at Toronto (592) with McGill a distant second (328) and Halifax Medical College last (63). See Table 2 at the end of this chapter. Interestingly, although Toronto led the group in number of professors (twenty-seven to McGill's nineteen and Halifax Medical College's sixteen), McGill was far and away the leader in the number of "other instructors" or part-time teachers with eighty to Toronto's forty-one and Halifax Medical College's seventeen. Flexner offers a summary of these details in chart form, for all of the North American schools he evaluated, in an Appendix to his 1910 report. By this data, Toronto had the second largest enrolment of all the North American medical schools: only University of Louisville. Medical Department, Kentucky had more students with six hundred. The University of Louisville medical department also employed forty professors and fifty "other instructors". McGill ranked eighteenth in student enrolment in North America.
was how to fund the highly-touted full-time system in Canada. Historically, the medical schools had employed a core of full-time instructors, particularly in the premedical sciences but those who offered their professional expertise on a part-time basis, particularly in clinical medicine, received only a small stipend as financial remuneration. Beyond money, they welcomed the prestige of a university teaching affiliation and hospital admitting privileges. These part-time or "other instructors" as Flexner referred to them, far outnumbered the full-time faculty professors, particularly in Montreal.

Canadian medical school administrators were aware of both the competition represented by American medical schools -- for students as well as for instructors -- and the competition for operating dollars to supplement student fees. Since the Rockefeller philanthropies did not hide their bias toward the full-time system, it was obvious that schools wishing to receive Rockefeller money would have to employ the full-time system. Canada watched the American debates over the pedagogical pros and cons of the full-time system unfold with interest.\(^2\) Although those in favour argued that clinical instruction would benefit from full-time faculty's devotion to teaching and university-based research, those against the system, including Osler, said that a physician with no private practice "would lose touch with the real practice of medicine and be a poor example for medical students."\(^3\)

On the financial side, in the United States Brown argues that student fees were the first source of funding for pedagogical change: In 1910, eighty-one percent of all medical school fees were less than $150 a year; by 1925, eighty-five percent of schools were

forced to charge more than $150 a year. But a limit was set by the market's desire to pay. The schools could not increase their fees beyond students' willingness to pay them. To supplement student fees, schools became dependent upon philanthropic endowments. By 1927, endowments became the second-largest source of support, behind student fees, and represented the difference, as Brown notes, "between making it as a class A school or not making it at all". It was now necessary to be a solid, scientific school because students were seeking a 'scientific medical education', to get the requisite medical training to pass the licensing examinations. Although more expensive to provide, it was the only method of teaching for the future.

Canadian medical education was different in many ways from medical education south of the border, yet there were few barriers to Canadian graduates seeking either an opportunity to practice or postgraduate training in the United States. This became a problem of almost epidemic proportions in the eyes of some of the Canadian university presidents and medical school deans. As the American medical colleges went on to strengthen their faculties and new colleges opened, Canadian graduates were being lured to permanent positions throughout the United States. This phenomenon was slowed by World War I, but not stopped and the exodus of many bright young Canadian physicians was a factor in the push for full-time professorial appointments at Canadian medical schools.

There were two goals in advocating full-time medical school teaching. One was to strengthen the basic sciences -- physiology, and later bacteriology and biochemistry --

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upon which the first years of medical school were based. For graduates of a medical school who excelled in laboratory research, there was little incentive to abandon a medical practice with its prestige and unlimited income for a fixed income as a medical school professor with no time to practice.

The other goal was to initiate full-time clinical teaching. Although what would become known as the full-time system had its supporters in the early years of the twentieth-century, it took twenty years to put it into practice. Of course, part of the delay can be attributed to World War I. Another aspect of the delay was money, both for top-notch facilities and equipment and in terms of professorial salaries. Like the basic medical sciences, it was acknowledged by many that until the merits were made obvious, it would be difficult to convince bright, Canadian clinicians to leave their practices -- and paying patients -- to teach in medical faculties and teaching hospitals on a fixed instructor’s salary. The notion that the best clinical instructors could only be those who were full-time instructors went against the long-time practice of neighbourhood physicians, teaching on a part-time basis, maintaining hospital privileges and the prestige of what they perceived to be a university appointment.

The situation was markedly different from that of the nineteenth century wherein a select group of entrepreneurial physicians set out to establish private medical schools, unencumbered by denominational restrictions laid down by university colleges and supported by students fees, structured to make a profit in the realm of private medical instruction.

Furthermore, one of the longstanding criticisms of Canadian medical education was the overemphasis on lectures and consequent dearth of clinical hours. Although
students spent considerable time in the dissection room taking Practical Anatomy. Laboratory instruction and clinical training required more attention. As early as 1890, a Special Committee of the General Council of Medical Education and Registration (Ontario) was gathered together. Their assignment was to compare the Ontario medical schools' curricula to that of leading British, European and other Canadian schools. The committee reported that there was not enough emphasis on practical training, with too much effort spent on lectures. The recommendations led to new curriculum requirements in 1891 and subsequently lecture hours were halved in each course -- from one hundred to fifty hours -- and a fifth, practical year was added to the four-year medical course.76

Ultimately, prescient medical educators and administrators were aware by the end of the nineteenth century that to remain among the best in medical education, schools would not only have to increase their entrance requirements and standards of education, but also their laboratory facilities and equipment and quality and quantity of teaching staff. from those teaching the basic medical sciences to those in charge of clinical teaching. This would later expand to postgraduate opportunities and doctoral opportunities for Canadian physicians interested in teaching and research opportunities.77

76 MacNab, Legal History (1970), pp. 31-32. As MacNab notes, these changes followed the adding of a fourth year to the original three-year course (changed in 1880), the addition of a ten-week summer academic term (1889); and unsuccessful attempts to decrease the number of applicants in 1890 by raising matriculation standards and making the course longer. There was concern about overcrowding the profession in Ontario in the waning years of the nineteenth-century, but the matriculation standards were not changed in 1891. The five-year course was officially adopted, first by McGill University in 1907/08. University of Toronto followed the next year and Dalhousie University adopted a five-year medical course in 1911/12.

77 It was funding that set the pace for the reforms. As Ludmerer said in “Reform at Harvard” (1981), p. 370, “few schools had the capital resources to implement their ideals adequately”. For many, it likely seemed as though progress had reached a plateau given the equipment and knowledge-base of the day. Perhaps this explains the viewpoint expressed by American cardiovascular researcher Carl J. Wiggers in 1960: “When in 1903, I began to look for a research problem in the field of circulation, I could not cull from the literature any significant problem that either remained unsolved or seemed solvable by available
This was an expensive recommendation and goal. The Rockefeller Foundation announcement of 1919 came at just the right time.

Wiggers (1883-1963), trained as a physician at the University of Michigan and spent from 1918 to 1953 teaching in the Department of Physiology at Western Reserve University in Cleveland, Ohio. From Allen B. Weisse, *Medical Odysseys: The Different and Sometimes Unexpected Pathways to Twentieth-Century Medical Discoveries* (New Brunswick: Rutgers University Press, 1991), p. 220.
TABLE 1: Income from Fees and Teaching Ratios at Toronto, McGill and Halifax Medical College, 1909

<table>
<thead>
<tr>
<th>University of Toronto</th>
<th>Faculty of Medicine</th>
<th>Annual Income from Fees</th>
<th>No. of Students</th>
<th>No. of Profs.</th>
<th>No. of Other Instructors</th>
<th>Student Fees per Student</th>
<th>Professor/Student Ratio</th>
<th>All Instructors &amp; Professors/Student Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>McGill</td>
<td>Faculty of Medicine</td>
<td>$43,750</td>
<td>328</td>
<td>19</td>
<td>80</td>
<td>$133.38</td>
<td>1:17</td>
<td>1:3</td>
</tr>
<tr>
<td>Halifax Medical College</td>
<td>Dalhousie University</td>
<td>$5,000</td>
<td>63</td>
<td>16</td>
<td>17</td>
<td>$79.36</td>
<td>1:4</td>
<td>1:2</td>
</tr>
</tbody>
</table>

This comparison of the three schools to be discussed in this dissertation shows a number of interesting points:

1) By far the smallest medical school, and the least expensive to attend, was Halifax Medical College. It was also the most poorly equipped in everything but its teaching staff.

2) Although it is significantly smaller, in enrolment and its operating budget based upon fees, Halifax Medical College's overall instructor/student ratio is closer to that of McGill University. Comparing McGill to University of Toronto, one sees that larger classes raise the student/teacher ratio to triple that of McGill.

3) If, instead, we compare the Professor/Student ratio, Halifax Medical College had the best record at 1:4 with it rising steeply for both of the other two schools.

4) Much of this is a factor of the enrolment. Toronto had close to 600 students, almost double that of McGill. Perhaps this reflects the strong sense of being the Provincial University, obliged to serve the people of the province. Another reason could be that the standards were higher at McGill University because it had a high number of American students who planned to return to the United States to write the licensing examinations.

5) Flexner notes that, with regard to additional operating income for these medical schools, the situation was radically different in each case: while University of Toronto medical school received an undisclosed amount "from general university funds", McGill University's medical program, in addition to a share of general university funds, was well-endowed with $350,000; finally, all Halifax Medical College had in additional income was a grant of $1,200 from the Nova Scotia government.

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TABLE 2: **Canadian University Medical Schools Fees Compared to Top American Schools, 1909**

<table>
<thead>
<tr>
<th>Student Enrolment</th>
<th>Annual Fees (1909)</th>
<th>Average Fees</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Harvard, MA</td>
<td>285</td>
<td>$ 72,037</td>
</tr>
<tr>
<td>2. College of Physicians and Surgeons, NY (Columbia)</td>
<td>312</td>
<td>$ 75,500</td>
</tr>
<tr>
<td>3. Johns Hopkins, MD</td>
<td>297</td>
<td>$ 60,542</td>
</tr>
<tr>
<td>4. University of Pennsylvania</td>
<td>546</td>
<td>$104,612</td>
</tr>
<tr>
<td>5. University and Bellevue Hospital Medical College, NYU</td>
<td>408</td>
<td>$ 76,115</td>
</tr>
<tr>
<td>6. Jefferson Medical College, PA</td>
<td>591</td>
<td>$102,995</td>
</tr>
<tr>
<td>7. Northwestern University, IL</td>
<td>522</td>
<td>$ 89,076</td>
</tr>
<tr>
<td>8. Rush Medical College, University of Chicago, IL</td>
<td>488</td>
<td>$ 82,452</td>
</tr>
<tr>
<td>9. American School of Osteopathy, MO</td>
<td>560</td>
<td>$89,600 est.</td>
</tr>
<tr>
<td>10. College of Physicians and Surgeons, IL</td>
<td>517</td>
<td>$ 80,155 est.</td>
</tr>
<tr>
<td>11. Tulane University of Louisiana</td>
<td>439</td>
<td>$ 67,500</td>
</tr>
<tr>
<td>12. McGill University, PQ</td>
<td>328</td>
<td>$ 43,750</td>
</tr>
<tr>
<td>13. University of Louisville, KY</td>
<td>600</td>
<td>$ 75,125</td>
</tr>
<tr>
<td>14. University of Toronto, ON</td>
<td>592</td>
<td>$ 64,500</td>
</tr>
<tr>
<td>15. Halifax Medical College, Dalhousie University, NS</td>
<td>63</td>
<td>$ 5,000</td>
</tr>
</tbody>
</table>

It is interesting to note that while the University of Toronto ranks second only to University of Louisville in enrolment, Toronto is teaching its 592 students on a budget from fees of $64,500. In terms of annual fees taken in, University of Toronto ranks twelfth, ahead of only Johns Hopkins and the other two Canadian schools. The reason that we are evaluating the cost of a medical school education based solely on annual fees is that Flexner does not offer a comprehensive summary of any operating grants or gifts: hence, we are using a baseline of fees.

It is obvious, therefore, that a Johns Hopkins education costs twice as much as one at University of Toronto, and almost fifty percent more than that to be had at McGill University.

Halifax Medical College looks to be such an anomaly in the company of these American schools. I have added it here to show the juxtaposition and the highlight how unusual it was that it was ever saved from being closed. If not for its relative geographic isolation it would likely have been.

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TABLE 3: Tuition Fees for the Medical Programs at University of Toronto, McGill and Dalhousie, 1894 to 1925

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1 Data taken from Calendars of the University of Toronto, McGill University, and Dalhousie University for the years: 1894/95; 1904/05; 1914/15; 1924/25.
**TABLE 4**: Enrollment at the Universities of Toronto, McGill and Dalhousie, 1890 to 1920\(^1\)

\(^1\) Data taken from Calendars of the University of Toronto, McGill University, and Dalhousie University for the years: 1890/91; 1894/95; 1899/1900; 1904/05 (McGill calendar unavailable); 1909/10; 1914/15; and 1919/20.
### TABLE 3 - The Presidents and Deans of Medicine at the Universities of Toronto, McGill and Dalhousie

<table>
<thead>
<tr>
<th>University of Toronto</th>
<th>McGill University</th>
<th>Dalhousie University</th>
</tr>
</thead>
<tbody>
<tr>
<td>President</td>
<td>Dean</td>
<td>Principal</td>
</tr>
<tr>
<td>(1880-92)</td>
<td>(1855-93)</td>
<td>(1887-93)</td>
</tr>
<tr>
<td>James Loudon</td>
<td>William Peterson</td>
<td>Uzziel Ogden</td>
</tr>
<tr>
<td>(1892-1906)</td>
<td>(1895-1919)</td>
<td>(1893-96)</td>
</tr>
<tr>
<td>Sir Robert Falconer</td>
<td>R. A. Reeve</td>
<td>C. K. Clarke</td>
</tr>
<tr>
<td>(1907-32)</td>
<td>(1896-1908)</td>
<td>(1908-21)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Auckland Geddes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1919-1920)</td>
</tr>
<tr>
<td>Alexander Primrose</td>
<td>Sir Arthur Currie</td>
<td>Alexander Primrose</td>
</tr>
<tr>
<td>(1921-32)</td>
<td>(1920-33)</td>
<td>(1921-32)</td>
</tr>
<tr>
<td>J. G. Fitzgerald</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1932-36)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Halifax Medical College's turbulent period; in 1911, reabsorbed by Dalhousie University as its medical faculty
** A. D. Blackader, Acting Dean of Medicine (1915-18)
"Philanthropy is a serious and difficult business. The Rockefeller Foundation is not a general philanthropic agency. It tries to attack problems which are fundamental and important; it tries to be patient and persistent, realizing that long-term results are usually more significant than immediate ones; it tries to avoid contributions that merely replace other support. Partly because the world itself changes and partly because the Foundation has learned something through long experience, the Foundation program has changed during the years. In the first decade the Foundation made many large contributions for building and endowment; in the last two decades contributions have usually been made for current support. In the early years, Foundation programs covered rather broad fields; latterly, the Foundation has shown an increasing tendency to concentrate. As Mr. Rockefeller, Junior once said, 'you can't split a boulder unless you keep hammering on one line.'" 

Thomas B. Appleget. 
"Brief History of the Rockefeller Foundation"

The story of Rockefeller Foundation involvement in North American medical education has been told, in varying degrees of depth and from different perspectives, by past presidents and board members of the Foundation and historians. One of the favourite areas of support was medical research and medical education, at first restricted

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1 Rockefeller Foundation (RF), Program and Policy papers (P&P), Record Group (RG) 3. Series (S) 900 History, Box 6, Folder 62, Rockefeller Archive Center (RAC). Appleget served as vice president of the Rockefeller Foundation from 1929 to 1949.
to the United States. These endeavours in America have been well-documented.⁴ There has been, however, no study to date that specifically analyzes the effect or intended purpose of the Foundation millions which finally came to Canada after World War I.

The Rockefeller Foundation received its charter under the laws of the State of New York on May 14, 1913. It was the third organization set up by John D. Rockefeller, Sr. following the Rockefeller Institute for Medical Research (1901)⁵ and General Education Board (1903). The mandate of the Foundation was general: “to promote the well-being of mankind throughout the world”. and for the first five years of its existence, more than $22 million⁶ was distributed to various organizations and causes throughout the world, particularly as financial aid to those suffering as a consequence of World War I. As Foundation President George Vincent wrote in a statement to the trustees in 1924, “As was natural at the outset before Foundation policy had taken form, many miscellaneous gifts were made for objects admirable in themselves but falling outside the fields in which work is now being carried on. During the critical years 1914 to 1918 the Foundation responded to the demands of the situation.” But this meant that Rockefeller Jr.’s “boulder” would never be split because the Foundation was hammering all over the

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⁴ The millions given to American medical colleges, via the General Education Board, included: Vanderbilt, $17.5 million; University of Chicago, $14.4 million; Johns Hopkins, $11.1 million; Meharry, $8.7 million; Cornell, $8.2 million; Washington University at St. Louis, $7.3 million; Yale, $6.9 million; Rochester, $5.8 million; Tulane, $3.4 million, as noted in John Enson Harr and Peter J. Johnson, The Rockefeller Century (New York: Scribner, 1988), pp. 80-81. For perspective, the entire amount pledged to all of Canada via the Rockefeller Foundation totaled less than the amount given to Rochester’s medical school and a small fraction of the $833 million total of just the above-listed nine American colleges: yet the effect of the Foundation gift to Canada was significant even if the amount was relatively small.

⁵ Rockefeller Sr.’s contributions to the Institute bearing his name totaled more than $61 million. Financial support was continued by successive generations including Rockefeller Jr. and his five sons, particularly the youngest, David Rockefeller, as noted by Enson Harr and Johnson, The Rockefeller Century, p. 70.

⁶ RF General Program, RG 3.1, Series 900, Box 22, Folder 165, p. 3.

⁷ RF General Program, RG 3.1, Series 900, Box 22, Folder 165, p. 3.
rock, and not along any particular line. The end of World War I and appointment of Vincent as president -- he succeeded Rockefeller Jr., who was the first President of the Foundation -- marked a turn toward setting that line.

Beginning with the origin of the idea of giving aid to Canadian medical education and research, one can move on to examine how the choice of schools was made, and note the long-term influence of Rockefeller millions upon the specific school. The method of choosing schools and sensitivity to perceptions of hidden agendas or ulterior motives also factored into the debate. I would argue that, although the large-scale Foundation investment in Canadian medical education lasted only five years and five million dollars was a small amount in the Foundation's relative scheme of giving, it was a considerable amount relative to existing Canadian funding, public and private, and medical school expenditures. Furthermore, the influence and lessons learned from initiatives

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1 RF, P&P, RG 3, S900 History, Box 6, Folder 62, RAC. Appleget served as vice president of the Rockefeller Foundation from 1929 to 1949. From this chapter's opening quotation on page 59.
2 The Rockefeller Foundation continued to invest in other medical projects in Canada, on a more regional and project-specific scale. Efforts after 1925 concentrated on public health initiatives, a full-time school of nursing associated with the University of Toronto, the Montreal Neurological Institute at McGill University, and individual fellowships to Canadian researchers. After thirty years with the Rockefeller Foundation, Alan Gregg, Director of the Medical Sciences Division of the Foundation, hailed the Neurological Institute at McGill as the ideal. "If I was asked to name a single grant that the Medical Sciences Division of the Foundation has made since 1931, that I consider ideal in purpose, in performance, in local response and in national and international influence ... I would say without a moment's hesitation the grant to the Neurological Institute of McGill University." in Wilder Penfield, The Difficult Art of Giving: The Epic of Alan Gregg (Boston and Toronto: Little, Brown, 1967), p. 355.
3 Although the amount was only a fraction of what the Rockefeller Foundation gave overall, it represented a major gift to Canadian medical schools. Each U.S. million was worth the equivalent of $8,922,807 in October, 1996, as calculated using the following: Franz Pick, Pick's Currency Yearbook, (New York: Pick's World Currency Report, 1951-1988/89); United Nations, Monthly Statistical Bulletin, (New York: United Nations, 1947); International Monetary Fund, International Financial Statistics, (New York: IMF, 1948-); League of Nations, Monthly Statistical Bulletin, (Geneva: League of Nations, 1926-1944/45). For the record, the U.S./Canadian exchange rate in 1920 was such that one U. S. dollar equaled $1.1211143 Cdn.. Furthermore, one million U. S. (or Cdn.) dollars in 1920 can be said to equal $7,958,874 dollars (U. S. or Cdn., respectively) in October 1996. Hence, applying both the exchange rate and rate of inflation (CPI), each Foundation million represents almost nine million (Cdn.) in 1996 (Cdn.) dollars, if the foreign exchange conversion is calculated for the time of gift (ie. 1920). Thanks to Prof.
encouraged by the Foundation, such as the push for full-time clinical teaching, helped reshape how medicine was taught for decades to follow. It also set the pace for independent and government support for medical education, factors which remained long after the original Foundation endowment had been spent.

The role played by major private gifts in helping a number of Canadian medical schools carry out long-awaited reforms was a significant one. The early twentieth century saw the establishment and growth of philanthropic foundations that existed to hand out millions of dollars’ support to various organizations. Two of the best known benefactors were two of the wealthiest men in America, namely Standard Oil’s John D. Rockefeller Sr. and Andrew Carnegie. Other benefactors who followed their lead in either supporting education or establishing foundations to administer their philanthropic wealth were Canadians Joseph Flavelle of Canada Packers, John Craig Eaton of Eaton’s department stores and the Massey family of Massey Harris farm equipment manufacturers.

Campbell R. Harvey. Fuqua School of Business, Duke University, Durham, NC for his help in calculating this figure.

11 The full-time system of clinical education was advocated strongly from the start, for example, in Toronto. It meant, in practice, a sort of hybrid. This “geographic full-time” was still, undeniably, more full-time than the previous system of many part-time appointments, the holders of which received annual honoraria ranging from $50 to $1000 for their teaching efforts but whose days were mostly spent in private practice. These honoraria were abolished in 1920 and clinical medicine was put under a single Chair of Clinical Medicine, Duncan Graham. He was paid an annual salary of $10,000 to oversee the department of medicine, and for this had to devote a full day, or eight hours, to clinical teaching and administration of the department. He was allowed the equivalent of two hours per day for private consultations, hence it was not entirely “full-time”.

12 In fact, it was George E. Vincent, a cousin of Raymond and Vincent Massey, who used his experiences as President of the Rockefeller Foundation from 1917 to 1939, to advise Chester Massey of the benefits of
Growing Interest in Philanthropy and the Birth of the Foundation Idea

The idea of giving to a church, charity or an individual less fortunate is by no means a new notion. During the nineteenth century, however, there were a select group of individuals whose wealth grew so quickly, and who believed so strongly in sharing that wealth, that led to the idea of systematic or "scientific giving". Two of the earliest foundations established in the United States were the Peabody Fund (1869) and the John F. Slater Fund (1882), the mandate for both of which was educating African Americans. Andrew Carnegie, at the same time, was committed to the idea of using his millions to benefit mankind but there was an ideological tension between setting restrictions which foundation administrators had to follow and leaving the guidelines for spending open-ended. This was the difference, as Peter Dobkin Hall notes, between "retail giving" and "wholesale philanthropy" - wholesale philanthropy had professionals, such as Rockefeller Sr.'s advisor Frederick Gates, whose job it was to decide how best to administer millions of dollars. By relinquishing the burden of weighing each individual request, and yet retaining some say and influence on a plan of giving, Rockefeller Sr. learned from Carnegie and his predecessors in philanthropy and expanded the scope of giving with each successive foundation: first there was the Rockefeller Institute for Medical Research (1901) in New York City, and then the General Education Board (1903).


11 Peter Dobkin Hall, Inventing the Nonprofit Sector and Other Essays on Philanthropy, Voluntarism and Nonprofit (Baltimore: Johns Hopkins Press, 1992), p. 46. Hall points out that Carnegie and Rockefeller began their philanthropic giving by "parcelling out their fortunes" -- to specific types of institutions such as churches, libraries and universities. Carnegie is well known, for example, as the giver of organs to churches and libraries to countless North American cities including Toronto.
A foundation can be defined as a "nongovernmental, nonprofit organization, having a principal fund of its own, managed by its own trustees or directors, and established to maintain or aid social, educational, charitable, religious or other activities serving the common welfare."¹⁴ The Rockefeller Foundation was not the first charitable foundation established in North America. The Carnegie Corporation was set up in November, 1911, two years before the Rockefeller Foundation, and the Russell Sage Foundation was established in 1907 with an endowment of $15,000,000. But being first was not the issue for Rockefeller Sr. -- being efficient in benefiting humankind was his goal. By 1913, Rockefeller Sr. wanted to broaden the geographical scope of his giving outside the United States and found that American laws would not allow it within the established Charters of existing organizations.

Although there is a growing body of scholarly study on the subject of philanthropy, most of it deals with American donors and recipients.¹⁵ There is little on Canadian groups or institutions receiving major gifts or establishing foundations. As Arnold Zurcher notes in his Management of American Foundations, philanthropic

foundations are largely a twentieth century phenomenon in North America. This is largely a reflection of the fact that it was only after the American Civil War that there were enough millionaires to justify the notion of a businessman as wealthy as Rockefeller Sr. hiring a full-time administrator such as Gates to evaluate how best to spread Rockefeller's wealth. Zurcher defines the period from the beginning of the twentieth century to the mid-1930s as the "heroic period of American foundations". A time when the philanthropists were at their most creative in setting policies for giving, and he credits Rockefeller Sr. with, among other things, revolutionizing medical education.

**Origin of the Idea to Aid "Our Neighbours to the North"**

The sheer magnitude of Rockefeller money dedicated to philanthropy is staggering. In the first five years of the Foundation's existence, Rockefeller Sr. gave $182 million. This was in addition to major endowments to the other existing Rockefeller organizations. Rockefeller Institute for Medical Research, founded in 1901, and the General Education Board, set up in 1903. By December 1919, Rockefeller Sr. had given another fifty million to the Foundation. Hence, although selected Canadian medical schools were allotted a substantial sum of five million dollars, this was just a fraction of

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16 Zurcher, *The Management of American Foundations*, p. 7. Zurcher argues that the proliferation of charitable foundations in the twentieth century resulted from the combination of four factors: the creation of great fortunes; a generous government policy of tax exemption for donations; the maturing of the American economy; and a continuing tradition of voluntarism.


19 All values are given in historical U.S. dollars (those of the time) unless otherwise stated.
Rockefeller Sr.'s total $182 million given to the Foundation in just the first five years of its existence.²⁹

By 1940, the Rockefeller Foundation had an endowment value of $145,068,365.56. By the end of the fiscal year of December 31, 1940, the Foundation had paid out more than eight and a half million dollars in grants and was listed as the top-ranked foundation, representing just over 21 percent of the total grants reported for that year, more than double that of the General Education Board and even the Carnegie Corporation of New York.²¹

The idea of extending support for the improvement of medical education north of the American border was served by the Foundation charter and encouraged by a few influential Rockefeller friends. Rockefeller Sr. was also touched by Canadian losses in World War I which had just ended. On December 18, 1919, Rockefeller Sr. wrote to the Foundation:

My attention has been called to the needs of some of the medical schools in Canada, but as the activities of the General Education Board are by its charter limited to the United States, I understand that gift may not be used for Canadian schools. The Canadian people are our near neighbors. They are closely bound to us by ties of race, language and international friendship.

²⁹ In his 1952 history of the Foundation, Raymond Fosdick gives the following figures, "figured at the market price of the day on which each was made", for Rockefeller Sr.'s gifts: Foundation, $182,851,480.90; General Education Board, $129,209,167.10; Laura Spelman Rockefeller Memorial (established in Rockefeller Sr.'s wife's memory in 1918), $73,985,313.77; and Rockefeller Institute for Medical Research, $60,673,409.45. The majority of the assets and projects being supported by the Spelman Memorial were consolidated into the Foundation in 1928. Finally, the International Education Board, able to fund education initiatives outside the United States, was established in 1923 with an endowment of $20,050,947.50. Fosdick, Story of the Rockefeller Foundation (1952), p. ix.
and they have without stint sacrificed themselves, their youth and their resources, to the end that democracy might be saved and extended. For these reasons, if your Board should see fit to use any part of this new gift in promoting medical education in Canada, such action would meet with my cordial approval. ²²

One of the most interesting questions is who may have been responsible for bringing the Canadian needs to the attention of Rockefeller Sr. On a grander scale, there are the myriad ties between the Rockefeller family and a number of influential Canadians as well as to the country itself. This is important, not just in a quest to find the genesis of the idea of aiding Canadian medical education, but also because many of the Canadian connections continued to be influential in the decision-making process of which medical schools were to receive the funds.

The first mention I have found suggesting general financial assistance for Canadian education is attributed to Dr. C.A. Eaton. In a summary of applications for Foundation aid from colleges outside the jurisdiction of the General Education Board charter, it was noted that:

special consideration was given in 1917 to an application from a group of twelve educational institutions in western Canada, the foundations of which had been so weakened by the war that several of the colleges seemed likely to collapse. ... The matter was first brought to the attention of Mr. Rockefeller, Jr. by Dr. C.A. Eaton who had been the pastor of Mr. Rockefeller Sr. in Cleveland some years before. ²³

²³ RF RG Source Material, vol. 5, pp. 1238-1242. Although the mention was not specifically restricted to aid for medical schools, it did put Canadian education and Canadian wartime sacrifice on Rockefeller Sr.'s mind. Ultimately, aid for this specific request was refused and one of the reasons cited was, "questions of Provincial policy with regard to education, which, in any event, would make the Foundation hesitate to intervene," wrote Foundation President George Vincent. "It is the policy of the General Education Board and The Rockefeller Foundation carefully to avoid any action which might be interpreted as an attempt to dictate or unduly influence public educational policies." This very challenge would have to be faced again
The Rockefeller family moved to Cleveland in 1853, when Rockefeller Sr. was fourteen years old, and the city gained from his philanthropic giving, even as early as 1856. The Erie St. Baptist Church, which was later renamed Euclid Ave. Baptist Church, received Rockefeller financial gifts as well.

The Cleveland Eaton ties go deeper -- Rev. Dr. Charles Aubrey Eaton, pastor of Euclid Ave. Baptist Church, was uncle to financier Cyrus S. Eaton of Pugwash fame. In fact, Cyrus Eaton, who was born in Pugwash, Nova Scotia met Rockefeller Sr. while visiting his pastor uncle in Cleveland and soon went to work for Rockefeller. It was Rockefeller Sr. who helped finance Cyrus Eaton's business venture in 1907 and years later, Cyrus followed Rockefeller Sr.'s lead in supporting Dalhousie University in Halifax, Nova Scotia.

The Rockefellers were also aware of another Canadian Eaton, unrelated to the Nova Scotia Eatons, as the Foundation prepared to send millions to Canadian medical schools. Timothy Eaton, the founder of the Canadian retailing empire, was like Rockefeller Sr., a man who strongly believed in philanthropy. A staunch Methodist, Eaton advocated tithing long before he made his millions and the tradition was kept up as his wealth grew. Timothy Eaton's son, John Craig, also believed that medical education and research were worthy of financial support. Hence, in 1919, the Foundation noted with great interest the terms of an agreement whereby the University of Toronto medical

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in the early 1920s, when the University of Toronto medical school tried to introduce the full-time system of clinical teaching, in part using Foundation financial support.

school was to receive half a million dollars from the T. Eaton Co. Limited. in payments of $25,000 per year for twenty years. This “Eaton Endowment” was, in part, to support a full-time chair in clinical medicine, the first such appointment in the British Commonwealth.\(^{25}\)

Two other well-known Canadians also encouraged Rockefeller Sr. to support Canadian medical education. The first was clinician Sir William Osler. Although, with his death in 1919, Osler would never see the fruits of his labours regarding the maturation of Canadian medical education, he lobbied early and hard for Rockefeller support. Osler himself received $15,000 over the period October 1914 to May 26, 1915 and served as a member of the War Relief Commission of the Rockefeller Foundation, headquartered in Oxford, England.\(^{26}\) Osler made a plea to maintain McGill’s preeminence as a first-class school in a letter written from Oxford to Dean of the Medical Faculty, General Herbert S. Birkett, in Montreal. In a letter dated August 29, 1919, Osler called for “sympathetic and active co-operation of University and Hospitals” which in turn, he said, required more personnel and a re-structuring of the reporting relationships between “two of the best equipped hospitals on the Continent (Montreal General and Royal Victoria)” and the McGill Medical School.\(^{27}\) Money was needed to accomplish this, and Osler suggested “an appeal to the public” while adding that, “Possibly the Rockefeller Board might help. but this is a citizen’s affair which should appeal to all who are anxious to see Montreal

\(^{25}\) A copy of the legal document outlining the terms of the Eaton Endowment is included as Appendix A in Robert B. Kerr and Douglas Waugh’s, Duncan Graham: Medical Reformer and Educator (Toronto: Hannah Institute and Dundurn Press, 1989). It is also in the holdings of the Archives of Ontario, “Special Committee to Inquire into the Organization and Administration of the University of Toronto” (1922-23). Record Group 49-107. Graham was the first to hold the full-time chair of clinical medicine endowed by Sir John Craig and Lady Eaton.

\(^{26}\) Office of Messrs. Rockefeller, RG III 2 O, Series 30.1, Box 25, Folder 256.
Osler's position as the most celebrated clinician of his time was not his only calling card with the Foundation. He was also one of the four original staff members of Johns Hopkins medical school, the benchmark against which all other North American schools were measured. Abraham Flexner helped to promote Hopkins as the model medical school and its prominence was acknowledged by the Foundation. Osler wanted only the same status for his alma mater in Montreal.

The other public figure who likely kept Canada in the minds of the Rockefellers and the Foundation was William Lyon Mackenzie King, who eventually became Prime Minister of Canada. The King connection, as noted by William Spaulding, grew from King's role as adviser and ally to Rockefeller Jr. during the labour-management crisis associated with the 1914 "Ludlow Massacre" in Ludlow, Colorado. King met Rockefeller Jr. and Sr. on June 6, 1914 and within a week had an offer to join their Foundation to make a study of the challenges present in industrial relations. This was the beginning of a lifelong friendship between the man who would be Canada's longest

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32 The massacre involved the burning of a miners' camp by the National Guard. Many of the miners were on strike and worked for the Rockefeller-controlled Colorado Fuel and Iron Company. Sadly, two women and eleven children were killed while trying to hide in the day-long stand-off between the federal forces and the miners on April 20, 1914. After the tragedy, the fighting between the National Guard and the miners escalated. Mass rallies were held, and Rockefeller Jr. was even, as noted by Harr and Johnson in The Rockefeller Century (1988), "the target of unsuccessful bomb attempts." (pp. 128-129).
serving Prime Minister and Rockefeller Jr. King coached Rockefeller Jr. through the U.S. Commission on Industrial Relations hearings dealing with the Colorado mines problem\(^1\), and traveled with Rockefeller Jr. to meet with the miners and get their support for a new industrial relations plan. With King's help, Rockefeller Jr. turned a crisis into a public relations and business triumph. When it was all over, King remained in New York City until 1919\(^2\) when he returned to Ottawa as the new leader of the Canadian federal Liberal Party. King's return to Ottawa, although disheartening to Rockefeller Jr., meant that the Foundation had an ally and trusted advisor in matters concerning the millions to go toward Canadian medical education beginning in 1920. The degree to which King's advice was sought will be explored in the pages that follow.

At the same time that King's opinion was solicited by Foundation executives, so was the opinion of a cousin of the new Foundation President. In 1917, Rockefeller Jr. stepped down as the Foundation's first President and took over the position of the Foundation's Chairman of the Board. Replacing Rockefeller Jr. as president on May 1, 1917, was the President of the University of Minnesota, George Edgar Vincent. Vincent, a renowned administrator, orator and member of the General Education Board since 1914, was also a cousin to the preeminent Toronto Massey family. Vincent's aunt married Chester Massey, the second son of Hart Massey who had made a fortune in farm

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\(^2\) Harr and Johnson outline the success that King enjoyed while working for Rockefeller Jr., both professionally and personally. During the four years he spent with the Foundation, King published, *Industry and Humanity* (Boston, New York: Houghton Mifflin, 1918), a book which further enhanced his reputation. King also enjoyed a flourishing consulting career, counting General Electric, Bethlehem Steel and International Harvester among his clients and was even offered a lucrative position to head up all of the Carnegie philanthropic organizations by Andrew Carnegie himself. On a personal level, Rockefeller Jr. and his wife are credited with introducing King to an eligible single woman, "Miss X", but despite King's
equipment manufacturing with Massey-Harris Company. Chester Massey was also the father of Hollywood actor Raymond Massey and the first Canadian-born Governor General of Canada, Vincent Massey. It was to his distant cousin, Vincent Massey, that the President of the Rockefeller Foundation would turn for trusted advice on how to best disperse Foundation funds. This became a sensitive issue after press reports and internal university squabbles regarding appointments threatened to cancel the Foundation gifts to Canadian schools.

Finally, the Rockefellers were no strangers to Canada on a personal level. After their wedding ceremony in Cleveland in 1864, Rockefeller Sr. and his bride, Laura Celestia Spelman, took a trip to Niagara Falls, Montreal, and Quebec before returning to Cleveland via New England and New York City. Interestingly enough, the ties to King and to Canada remained strong enough for King to send Rockefeller Jr., in 1935.

advances, the romance did not lead to marriage. Harr and Johnson, Rockefeller Century (1988), pp. 142-144.

It is interesting to note that King and Vincent Massey were connected politically as well. In 1926, Massey went to Washington, D.C. after being appointed the first Canadian Minister to the United States. And from 1930 to 1935, like King's period with the Rockefeller Foundation before World War I, Massey "traveled", returning only after King won the federal election again, when King was in a position to offer Massey the post of High Commissioner in London.

This advice went both ways. In her biography of the Massey family, The Masseys: Founding Family (Toronto: Ryerson Press, 1965), Mollie Gillen tells how it was George E. Vincent who advised Vincent Massey in 1918 to set up the Hart Massey Foundation to avoid "undiscriminating distribution of the estate’s assets too rapidly" (pp. 153-154). Vincent, using the Rockefeller Foundation as a model, suggested the Masseys create a "continuing benefaction". His advice was heeded and a federal charter was used to set up the Massey Foundation, with Chester Massey serving as Chairman until his death in 1926 at which time his elder son, Vincent Massey, took over. One difference between the Rockefeller Foundation and the Massey Foundation was in aims: where the much wealthier Rockefeller Foundation concentrated much of their resources on medical science and education, the Massey Foundation is best known in the period for building Hart House, the recreational and cultural centrepiece for students at the University of Toronto.

How The Foundation Chose Which Canadian 'Peaks to Make Higher'

The stage was set for philanthropic dollars to flow into Canada even before 1919. Abraham Flexner’s 1910 report on the state of North American medical education, which was funded by the Carnegie Corporation, included an analysis of all Canadian medical schools. As Gidney and Millar point out, the Canadian medical school situation was not as dismal as that of the United States: “It never paralleled the excesses of the American experience, where free trade in medicine reigned more or less supreme and where the multiplication of small schools and short courses gave medical education itself a bad name.” It is, therefore, surprising that the impact of the Abraham Flexner’s report was far less striking in Canada than it may have seemed to be in the United States.

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18 Rockefeller Jr. tells his father of King’s discovery in a letter dated January 4, 1935. This letter is part of a series which show the close relationship between father and son collected in Joseph W. Ernst’s “Dear Father” / “Dear Son”: Correspondence of John D. Rockefeller and John D. Rockefeller, Jr. (New York: Fordham University Press, 1994), pp. 199-200.

19 Raymond Fosdick attributes this phrase to Wickliffe Rose, who served as a trustee of the Rockefeller Foundation from its founding in 1913 to 1928. Rose was also Director of the International Health Division of the Foundation from 1913 to 1923. As Fosdick points out in The Story of the Rockefeller Foundation, Rose used the phrase to express the idea that, “as the standards in first-class institutions were progressively raised, the radiating effect would spread not only through an entire region but across an entire country.” (p. 100).


22 In fact, Flexner himself writes in his 1910 report on medical education, “In Canada conditions have never become so badly demoralized as in the United States. There the best features of English clinical teaching had never been wholly forgotten. Convalescence from a relatively mild overindulgence in commercial medical schools set in earlier and is more nearly completed,” p. 13. Among the scholars who argue that reforms were underway long before Flexner’s report was published in 1910 are Robert Hudson. “Flexner in Historical Perspective”, in Barbara Barzansky and Norman Gevitz, eds., Beyond Flexner:
The announcement regarding a financial gift being made to aid Canadian medical education was made on December 25, 1919. In the official Foundation press release of that date, it was noted that the latest gift to the Foundation alone was one of fifty million dollars, bringing the total in just five years, to $182,000,000. The Foundation press release included the quotation from Rockefeller Sr. regarding his “attention [having] been called to the needs of some of the medical schools in Canada” and ended with his reiteration of the Canadian sacrifice in World War I. In reply, Vincent noted:

In order to carry out Mr. Rockefeller’s suggestion concerning Canadian Medical Schools, the Trustees of the Foundation will be asked by the officers to set aside approximately $5,000,000 for the improvement and development of the leading medical schools of the Dominion. From this sum appropriation will be made by the Foundation to medical schools on conditions that they raise additional funds from other sources. It is hoped that $5,600,000 thus employed by the Foundation at this time will give a distinct impetus to the development of medical education in Canada. 43

Interestingly enough, whenever possible Vincent and Richard M. Pearce, who had been appointed Director of the newly formed Division of Medical Education of the Foundation, sought the advice of influential Canadians, among them George Vincent’s

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Medical Education in the Twentieth Century (New York: Greenwood Press, 1992), p. 2; Steven Jonas, Medical Mystery: The Training of Doctors in the United States (New York: Norton, 1978), p. 201; and Kenneth Ludmerer, “Reform of Medical Education at Washington University”, Journal of the History of Medicine, 35 (1980), p. 151. In his evaluation of the Flexner Report, Jonas argues that reforms were underway, or at least being advocated, since the mid-nineteenth century. All cries for reform shared in their recommendation for more laboratory work, better preparatory education, and improved clinical work under supervision. But many of these ideas remained at the proposal state for want of adequate financing. Furthermore, Jonas states that not only was the Report not as influential as many have described it to be, but also that the model medical school which has come to be known as “Flexnarian” actually bears few similarities to what Flexner’s Report recommended. (pp. 201-202).
cousin Vincent Massey, soon-to-be Canadian Prime Minister Mackenzie King44 and medical educator A. B. Macallum45. The Foundation executives were strikingly aware of the fact that, by their own admission, to receive Foundation aid, schools had to not only have a plan but be prepared to raise matching funds as well.46 At McGill, where there was a strong tradition of alumni giving, this proved to be less of a problem. But in Toronto and Halifax, the history of the university medical school was not as solid.47

Vincent and Pearce often met or corresponded with various individuals whom they trusted to get a sense of the political and academic climate. These solicitations began almost immediately. Five days after the formal announcement of the Canadian gift, George Vincent wrote his cousin, Vincent Massey, for "counsel and co-operation".

"Before we can deal with any one medical school in Canada," the Foundation President

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44 King became the Canadian federal leader in 1921 and would go on to be Canada’s longest-serving Prime Minister holding the office from 1921 to 1930 and again from 1935 to 1948.
45 A. B. Macallum was instrumental in promoting the ideals of experimental biology and applying them to medicine to make medical education more "scientific". See Sandra F. McRae, The ‘Scientific Spirit’ in Medicine at the University of Toronto, 1880-1910 (unpublished Ph.D. dissertation, 1987).
46 As Kenneth Ludmerer points out in “Reform at Harvard Medical School, 1869-1909”, Bulletin of the History of Medicine, 55 (1981), pp. 343-370, there were willing donors for medical school reform a full generation before is readily acknowledged. Harvard Medical School received $200,000 in 1874 and $3,000,000 in 1901, long before the Rockefeller Foundation was even established in 1913. This dispels the myth that there was no philanthropic support before World War I; another example are the gifts given to McGill University by Donald Smith (Lord Strathcona) and Sir William MacDonald. The one difference. Ludmerer argues, is that the agenda for reform with these early fundraising efforts was set by the recipient. Donors gave passively. As the foundations grew, the situation changed. Donors took an active role by developing “the potential to manipulate medical schools by virtue of the criteria they used to apportion their gifts.” (p. 369). It is precisely this point which would come back to haunt the Rockefeller Foundation and the Eatons after the full-time system was implemented at the University of Toronto medical faculty in 1920. For more on this, see Chapter 3.
47 Toronto had, until 1906, a number of medical schools with affiliations to various colleges federated with the Provincial University, as Toronto became known. Hence, there was no single medical school with generations of alumni from which they could solicit matching funds. This coupled with provincial government control of the university until 1906 made the task of matching thousands of dollars seem daunting to university officials. The Dalhousie University Medical School story context is outlined by Sheila M. Penney in her article, "Marked for Slaughter: The Halifax Medical College and the Wrong Kind of Reform, 1868-1910", Academiensis, 19 (Fall 1989), pp. 27-51. Dalhousie actually used their scathing review by Flexner in his 1910 report to appeal to Haligonians for funds and one decade later made a remarkable turnaround.
wrote on December 30, 1919. "we shall of course have to work out a Dominion-wide policy." This did not, however, mean that all schools would receive the same amount of support, nor that all schools would be supported. "Instead of distributing what funds we have available to all the medical centers in Canada, we shall try to select a few strategic institutions."

Vincent carefully explained that the general Foundation policy of matching financial support was to be in place for the Canadian gifts. He did not specify whether the matching sums were to be raised privately or from "governmental sources". Vincent was, however, aware of the difficulties in giving so much money to schools in another country and yet not appearing to dictate how medicine should be taught while giving the funds with certain conditions attached. "For an outside agency to come in and assume standardizing functions might well be resented." Vincent wrote. "We need, therefore, so far as possible to throw the responsibility upon a group of Canadians. What I hope you will do is to suggest a method of procedure."

In his reply, Massey agreed that "the responsibility of allocating funds must, subject to the general policy which you lay down, be delegated to a group of Canadians." Massey also saw this as an advantage. Not only did it not look as though the Foundation was interfering in another country's education, but it also lessened the ultimate dependence on the Foundation that might result from taking such a sizable gift. In his own words, Massey explained to Vincent: "This will relieve the Rockefeller

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88 RF, RG 327A Canada Series, GEV to Vincent Massey, December 30, 1919.  
89 RF, RG 327A Canada Series, Vincent Massey to GEV, January 3, 1920.  
90 One example of this was the early dependence that resulted nonetheless, of the young McGill Dean of Medicine, C.F. Martin. Martin frequently asked the Rockefeller Foundation executives for advice and
Foundation of inevitable criticism from sectional interests, and will throw the onus of making difficult decisions on a local body." Massey was not above giving his opinion on medical schools worthy of Foundation assistance. He named the medical faculties at McGill, Toronto, and Manitoba University -- "about which I don't know much" -- and "possibly" Queen's at Kingston, Ontario as the only "really important Medical Schools in Canada". Although not a medical man himself, his letters are filled with advice and, although he did furnish names for a Canadian committee which never came to be, was careful to make his concerns for potential political pitfalls clear to the Foundation President.\footnote{RF, RG 327A Canada Series, Vincent Massey to GEV, January 3, 1920.} \footnote{For Vincent Massey's committee suggestions, see Massey to GEV, January 15, 1920. Also see W. L. Mackenzie King's suggestions to GEV for prominent Canadians to visit while in Montreal, Quebec City and the Maritime provinces, King to GEV, January 21, 1920.}

On January 5, 1920, before Vincent and Pearce began their own inspection of Canadian schools, Vincent wrote to King in Ottawa. Vincent frankly told King that "it is a delicate matter for us to deal with the medical education situation as a Dominion policy", and that the only way to "be of real service" was "to select certain medical schools that are strategically located and give reasonable assurance of future usefulness". Vincent went on in his letter to ask King two important questions. The first was whether King thought a formal advisory group should be named or whether meeting personally with "outstanding individuals" was the better course to take. The second issue was to ask King for the "names of individuals who would be recognized throughout Canada as men who have the welfare of the whole Dominion at heart." Vincent conceded the list might even pleaded to meet them when difficult personnel situations presented themselves. He was gently but firmly guided to seek other counsel or to trust his own judgment.
be short and possibly no individuals "would be regarded as wholly detached from local and institutional influence".91

King's reply was swift. He advised against establishing a formal advisory group and suggested, instead, a preliminary survey by the Foundation of the Canadian medical schools. "If you yourself," King wrote to Vincent,

or someone specially designated by the Foundation, could personally see and confer with the Presidents of the leading universities, and the Deans of their respective Faculties of Medicine, and at the same time meet informally and talk with a few outstanding persons whose names you might receive from different sources, that, I believe would be the most prudent way of beginning.92

This was, in fact exactly what Vincent and Pearce chose to do.

King continued to correspond with Vincent throughout the month of January, 1920. He alerted the Foundation President to the fact Canadian newspapers had reported that a select group of men had been chosen as an advisory board to assist in the disbursement of Foundation medical education funds. Five Toronto men were named in the article, and as King told Vincent in his letter, all were members of the Unionist Party, recently defeated in the Ontario provincial elections. King warned that such a report would lead Canadians to believe the Foundation endowment was to be controlled by a "small Unionist group in Toronto ... and as such is certain to occasion some feelings of disappointment, if not prejudice as well."93 King, as he had promised, continued in a

91 RF, RG 327A Canada Series, GEV to WLM King, Jan. 5, 1920.
92 RF, RG 327A Canada Series, WLM King to GEV, Jan. 8, 1920.
93 RF, RG 327A Canada Series, WLM King to GEV, Jan. 9, 1920.
letter to Vincent the following day, to offer some names for individual consultation, among them Vincent Massey. King excluded himself from consideration, by virtue of being "actively engaged in politics and [having] no special knowledge of matters pertaining to medical education and research." 6

King's advice was timely and accurate. In fact, the newspaper accounts he alluded to were just the tip of the iceberg. The source of Vincent's woes was an interview with student delegates Roy McLeod and Marshall D. McPherson, both representing Western University at a Student Volunteer Convention held in DesMoines, Iowa in January, 1920. The delegates reported that Vincent confirmed a Canadian Committee would be named and the story of the gift was reported in four Toronto newspapers as well as the New York Herald and New York Tribune. On January 16, 1920, Vincent had to issue a formal statement denying the rumoured appointment of a formal Canadian commission to act on behalf of the Foundation Board. "Many inquiries are reaching the offices of the Rockefeller Foundation with respect to the policy to be adopted in connection with the aid to Canadian medical education." Vincent denied reports of the Foundation Trustees meeting and stated: "The Foundation is not likely to appoint in any formal or official way a special committee for administering the gift to Canada" although Foundation representatives would delay final decisions until "after conference with a large number of prominent Canadians representing all the significant institutional and geographical interests in the Dominion." 7

6 RF. RG 327A Canada Series, WLM King to GEV, Jan. 10, 1920.
7 RF. RG 327A Canada Series, January 16, 1920.
Finally, one of the individuals to whom Vincent was referred by King was not a politician or businessman, but Toronto medical professor A.B. Macallum. At the time, Macallum was Chairman of the Honorary Advisory Council for Scientific and Industrial Research in Canada and King suggested the Foundation delegation speak to Macallum when visiting Ottawa. This would become one of the most interesting documented correspondences and one which would keep Vincent informed of all manner of political and departmental intrigues which, at various times, seemed to threaten progress in medical education at Toronto and at McGill.

On one of the return visits, Pearce met with Macallum in Ottawa. Among Macallum’s suggestions were using the fear of losing the annual grant -- the money was not, in policy, to be given to a school in one lump sum -- as pressure to maintain progress at some of the schools. Macallum also suggested that the balance of funds be invested in Canadian government bonds at five and a half percent “to show that the balance is actually being held for Canada” and not to be given outright on endowment.

By February 25, 1920, the executives of the Foundation had a plan to evaluate the requisite schools which was presented by Vincent to the Board of the Foundation. In it, Vincent outlined that clear communication of the intent of the gift be maintained throughout and that care be taken to “confer with a large number of Canadians representing various geographical and institutional interests in the Dominion”. After a

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8 For Macallum’s contributions to the scientization of medicine, see Sandra F. McRae, The ‘Scientific Spirit’ in Medicine at the University of Toronto, 1880-1910 (unpublished Ph.D. dissertation, 1987).
9 RF. RG 427A Canada Series, WLM King to GEV, January 21, 1920.
10 RF. RG 427A Canada Series, RMP Notes on conference with A. B. Macallum, Ottawa August 11, 1920. Macallum also told Pearce at this meeting that although he, Macallum, was being considered for the Chair of Physiological Chemistry at McGill he would also welcome the opportunity to go to China on a
preliminary visit to the “chief medical centers”, a Dominion-wide policy was to be formulated. Vincent reported to the Foundation Board that the task of choosing ‘peaks to make higher’.

will involve delicate situations in which political, racial, and possibly ecclesiastical considerations will be involved. It is extremely important to avoid, so far as possible, complications which will impair the good will which this gift is designed to promote. At the same time educational principles must not be sacrificed.\footnote{RF, RG 427A, Canada Series, RF Board Minutes, February 25, 1920.}

Ultimately, Vincent concluded, how the money was to be used would be evaluated individually, and named progress in building and equipment, hospital and clinical facilities, methods and personnel as parts of a general development program.

“Every effort will be made to avoid any appearance of domination or of desire to impose a pre-conceived and inflexible scheme.” Vincent told the Foundation Board. The only firm stipulation was that recipients were to seek other sources for additional, if not matching, sums.\footnote{RF, RG 427A, Canada Series, RF Board Minutes, February 25, 1920.}

Although Flexner’s 1910 report did not serve as the definitive evaluation of the Canadian situation a decade later, it acted as a reference point for a delegation from the Foundation when it was determined that money was to be made available to aid Canadian medical education. In true Foundation form, aid would not be spread equally to all medical schools existing in Canada in 1919/20. The money was to be used to “make the

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Rockefeller Foundation appointment, even if for just a year. Macallum had just finished a decade as Chair of Biochemistry at McGill in 1918.

\footnote{RF, RG 427A, Canada Series, RF Board Minutes, February 25, 1920.}
peaks higher" and the identification of these "peaks" was the job of the delegation which visited eleven universities, from Halifax to Vancouver, during five months in 1920.

Just like Abraham Flexner did a decade before, Vincent and Pearce made a tour of Canadian medical schools. Ultimately, March 1920 was spent visiting Winnipeg, Toronto, Montreal, Quebec City and Halifax. Their first stop was Winnipeg, Manitoba on March 6, 1920. After visiting the University of Manitoba medical school and general hospital. Vincent and Pearce also met with the Manitoba's Minister of Education and governor of the university. When a particular school, such as the University of Alberta, Western University of Ontario or Queen's University (Kingston) could not be personally inspected, the Deans of the University would call on the Foundation delegation when they arrived at a nearby city. This was the case, for example, when University of Alberta President H. M. Tory came to Winnipeg for a conference with Vincent and Pearce.

Vincent and Pearce spent six months visiting and revisiting Canadian medical schools to determine which should receive Foundation aid. In their summary of the medical school visits, Pearce took care to note details such as "The morning [March 9, 1920 in Toronto] was spent with the medical faculty of the University of Toronto discussing a plan which had been prepared, typewritten and bound, pointing out the improvements desired and representing a program of development to cover the next ten years."\(^1\) When the Toronto medical faculty heard that the Foundation was interested in spreading its wealth north of the border, a series of faculty meetings was held in which each department head was asked to document its current operating budget and to draw up

an annotated "wish list" for personnel and equipment. Without such a prepared
document, the Toronto faculty feared it might suffer the same fate as Western Reserve
University medical school, taking Foundation support for granted and "losing" money
they had erroneously considered theirs for the taking by not drawing up a detailed, long-
term plan. As Appleget wrote in the opening quotation of this chapter, long-term results
were "more significant than immediate ones". The Toronto medical faculty drafted their
document more than twenty times before Vincent and Pearce's March, 1920 visit."

Another point noted by the delegation was Sir John Eaton's support for full-time
clinical teaching. With the Eaton Endowment of $500,000 (Cdn), the provincial
government's promised support for a new anatomy building worth $300,000, $200,000
said to be forthcoming from the newly-elected provincial government, and the faculty's
ten-year plan outlined in their report, Toronto was deemed to be worthy of Foundation
investment. As Pearce noted, "With the gradual development of the ten year program
outlined by the faculty this school will be second to none in North America.""^^

It should be noted that Vincent and Pearce did not set out upon their Canadian
tour without favourites. Although they would not dismiss any school without a visit, they
did report that Foundation support for the medical schools at Queen's University in
Kingston and University of Western Ontario in London, for example, were "doubtful

"^^ University of Toronto Archives, Draft Report of the Committee, March 1, 1920. Sixteen medical school
departments were present and the Committee, chaired by faculty Dean Alexander Primrose and including
Professor Duncan Graham, met twenty times, as recorded in the minutes, for an average of three hours at
each meeting.

p. 8
propositions ... The chief argument for their continuance is that they serve definite centers of population.”

Vincent Massey continued to be a valued source of opinion for the Foundation. For example, it is recorded that on March 10, 1920, while visiting Toronto on the Canadian medical school tour, Massey told his cousin and Pearce that Queen's University graduates had “a good deal of influence” throughout Canada and suggested Queen’s be considered for aid again. Massey went on, however, to express a “pessimistic view of French-Canadian education”, telling the Foundation representatives that the French school question would have to be addressed since “French-Canadian doctors ... must be trained and that they will not resort to English Protestant institutions”. such as McGill."

When Vincent and Pearce visited with Mackenzie King in Ottawa the next day, King agreed that “something should be done for a French Catholic medical center.” not on political grounds but “because the large population needs medical men.” This statement was illustrated in a table prepared to summarize data and the situation which showed that, in 1918, Quebec was twice the size, in area, of every province but Ontario, but that there were only 1,984 physicians to serve a population of more than two million.

The process of evaluating Canadian medical schools, therefore, continued throughout 1920 with subsequent visits to Halifax, Toronto, Montreal, Kingston, London, Quebec City, Winnipeg, Saskatoon, Edmonton, Calgary, Vancouver and Ottawa from

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" RF. RG 427A Canada Series. p. 4.
" RF. RG 427A Canada Series. p. "March 11 - Ottawa”. After the meeting with the man who would soon become Canadian Prime Minister, the delegation and King made a fifteen minute. 'formal call' on the Governor General, The Duke of Devonshire. The Governor General was not unacquainted with medical schools in Canada -- he served as a Governor of the Royal Victoria Hospital in Montreal.
April until August, 1920. This is testimony to the policy of the Foundation to be as comprehensive as possible in determining the needs of an entire country and how these needs, and projected future needs, could be optimally met by select medical schools.

**The Influence of the Rockefeller Gift on Medical Education**

The money which was allotted to aid Canadian medical education came from a transfer from Rockefeller Sr. to the Foundation of four sets of securities: 49,000 common shares, Standard Oil Company of New Jersey; 10,000 preferred shares, Standard Oil Company of New Jersey; 366,517 shares Anglo-American Oil Company, Limited; and 35,000 common shares, Virginia-Carolina Chemical Company.70

In a final gesture of goodwill, Vincent told Rockefeller Jr. that since the Canadian dollar was at a discount of twelve to fifteen percent, the initial amount of five million dollars would purchase five million and a half in Canadian currency. Vincent went on in his letter of April 6, 1920 to suggest that if this sum were invested in Canadian Dominion bonds, as Macallum suggested, “such a purchase of Canadian Government securities for this purpose [of endowing Canadian medical schools] would be regarded as a friendly act.”71

Ultimately in their summary, Vincent and Pearce concluded that:

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70 RF, RG 427A Canada Series, Table 3, “Summary of Reports on Medical Education in Canada”.
71 RF, RG 427A, Canada Series, “Canadian Medical Program, December 19, 1919”, letter from Rockefeller Sr. to the Rockefeller Foundation.
71 GEV to Rockefeller Jr., April 6, 1920, Canada Series, RG 427A, RF, RAC. The reply came from Rockefeller Jr.’s office on May 14, 1920 and concluded that Canadian medical schools receiving the aid would receive it as dividends from Standard Oil Company of New Jersey 7% Preferred Stock and that dividends would be paid to Canadian schools in New York funds. At this point, advantage could be taken of the greater buying power of the American dollar.
The most satisfactory school is the University of Toronto with McGill a close second. These have very definite programs for improvement and should be helped to the greatest possible extent financially. Winnipeg comes next in order and with the rapidly developing school at Alberta should be assisted in order to take care of the western provinces. Halifax, isolated as it is, but doing its best under adverse circumstances should be aided in order to take care of the eastern end of the Dominion. 

The summary went on to advise more detailed study before a decision could be made regarding French-language medical school support in Quebec and they reserved judgment on whether “a real need” existed for any other medical schools in Ontario, namely those in Kingston and London, Ontario. Interestingly enough, this echoes the judgment of Flexner in his report of 1910. 

It took less than six months for the first appropriation of funds in the specified Canadian gift to be made. It was Dalhousie University medical facility in Halifax, Nova Scotia which, on May 26, 1920, received the first gift. It totaled half a million dollars.

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72 RF, RG 121, Series Diaries, Richard M. Pearce (1916-21), Bound Volume, Report on Canadian Schools, pp. 6-7. The Council on Medical Education had rated the Canadian medical schools and Toronto and McGill were the only two given Class A ratings when Vincent and Pearce prepared their report. These two schools were also by far the largest, in terms of enrolment. In the school year immediately following World War I, 1918/1919, Toronto had 619 men and 79 women enrolled in a five-year program, while McGill had 463 men and 8 women. The next largest, Montreal School of Medicine and Surgery, trailed behind at 241 students, all men. The same order for the top three held true for number of faculty. Interestingly enough, in his 1910 evaluation of all 155 medical schools in North America, Flexner’s summary data reveals that only University of Louisville, Kentucky had a higher student enrolment at 600. Toronto, in 1909, had 592 enrolled, McGill had 328 and Dalhousie had 63 students.

73 With regard to Queen’s, Flexner wrote in his 1910 report that the medical school’s future “depends on its ability to develop halfway between Toronto and Montreal, despite comparative inaccessibility” (pp. 150-151) and Western was among a group of existing medical schools with “no present function” (p. 150). 

74 When Dalhousie was approved to receive this money from the Rockefeller Foundation, the Foundation was already aware that the Carnegie Corporation had “practically promised” an equal amount to Dalhousie in the Fall of 1920. This was, as reported in the Rockefeller Foundation Board Minutes of May 26, 1920, in addition to local support. Hence, although a “B-rated school”, Dalhousie became the first Canadian school to receive Rockefeller Foundation money as part of Rockefeller Sr.’s gift.
On September 9, 1920 three more schools were authorized to receive their gifts: both McGill and Toronto were to receive one million dollars, and University of Manitoba half a million dollars. University of Alberta and Université de Montréal medical faculties each received $25,000 to be paid out of the income from the remaining two million dollars. The Foundation reserved the option of future aid to Canadian medical education with this surplus. Queen’s and Western Universities were left out. They were deemed to be “in the same area with Toronto” and lacking “adequate clinical and other facilities”.

Thus, what the Rockefeller Foundation grants did was to give the preeminent and struggling Canadian medical schools of the day the push they needed to put specific educational reforms into practice. The full-time system of clinical instruction, which would be modified but the essence of which would be kept as “geographical full-time”. was allowed to be put to a test. Buildings were built, and if not with Rockefeller funds, then with private matching donations or with provincial government funding. Without the major Rockefeller funds the medical schools would not have possessed the leverage to get government and additional private money to support medical education and research. The leading medical schools in Canada would have been hard-pressed for space, world-class instructors and laboratory facilities and equipment, and have remained

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"RF. RG 427A. Canada Series. RF Board Minutes, May 26, 1920."
sorely dependent on students' fees as medical schools did in the nineteenth and early twentieth century. 76

The Rockefeller Foundation process of choosing the "peaks" ended in the 1920s. The five million dollars given to Canada helped select medical schools to meet the needs of the new scientific medicine of the twentieth century and helped keep up the momentum long after the grant money was spent. By 1925. the Rockefeller Foundation had moved on to find new projects to support. 77

76 Proof of this continuing practice is evident in data listed in Flexner's 1910 Report. In addition to his evaluation of each medical school. he noted the amount and source of financial "resources available for maintenance". Of the eight Canadian schools he visited. only two had any source of government or endowment money to supplement the main resource of student fees. These monies were used for everything from buildings and equipment to professorial salaries and maintenance of the faculty.

77 Greer Williams. "The Rockefeller Foundation and How It Operates". The Atlantic Monthly. 213. 4 (April 1964). pp. 106-118. Williams describes how the fundamental value of foundations is to seek out what needs to be done and yet what is being overlooked. unpopular or. perhaps. too controversial and to help create a demand for its product. Foundations. Williams argues. should also start projects which local governments can later continue. permanently. on their own (p. 113). Applying Williams' argument to the case of aiding Canadian medical education. indeed. via requiring matching funds. the Rockefeller Foundation indeed gave medical educational reform a push whose momentum was maintained by other private and public money. Relative to the first point. one can say that the Foundation did. in medical education reform. find a cause that was being overlooked. Reform had been advocated for years. but with little financial aid. not much had been done. Controversy. in the case of the adoption of the Full-time system in North American schools (see Chapter 3) did play a role and did cause the Rockefeller Foundation to distance itself from determining policy in later years.
Chapter 3 – University of Toronto: The Provincial University

The Rockefeller Foundation chose to support Canadian medical education by allotting a total of five million U. S. dollars. This was to be distributed among select Canadian schools. When the final decision was made, two schools received one million U.S. dollars each: University of Toronto and McGill University. The Foundation’s gift to Toronto followed on the heels of a substantial endowment from Sir John Craig Eaton of $500,000 (Cdn.). Both sums were expressly intended to aid the transition to and implementation of the full-time system of clinical education. In this chapter, the sequence of events leading up to the Foundation’s decision to put considerable support behind Toronto medicine, the shift to the Full-time system and consequences of the change, and the way in which Toronto used its endowments will be outlined and the longer-term significance of the gifts examined. Ultimately, although the Foundation’s gift was not huge in comparison to the gifts given to some American schools2, the impact of support from the Rockefeller Foundation was felt in both matching financial support and in the cachet of this well-known philanthropic organization choosing Toronto as one of the medical education “peaks” to be made higher, precisely at a time when new methodologies in medicine and medical research were primed to be put into practice.

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1 Each Foundation million represents almost nine million (Cdn.) in 1996 (Cdn.) dollars, if the foreign exchange conversion is calculated for the time of gift (ie. 1920). See Chapter 2, Footnote 10 for the method of calculation.

2 Vanderbilt University received more than $17.5 million to aid its medical school program from the Rockefellers in the years from 1914 to 1960, from Raymond B. Fosdick, Adventure in Giving (New York: Harper and Row, 1962), p. 328.
The Status of The Provincial University in 1919

The first two decades of the twentieth century saw substantial changes at the University of Toronto. Among the significant administrative changes were the affiliation of Trinity Medical College with the Faculty of Medicine of the University of Toronto in 1904, making the university faculty the only remaining school for medical training in the city and the transition of control and management from the Provincial Government to an independent Board of Governors (1906). This transition was accompanied by increased financial support from the newly-elected Conservative Provincial Government and a recommendation that the faculty of medicine be supported by public funds rather than having to rely solely on student fees and what Wallace refers to in his history of the

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1 William Osler, then at Johns Hopkins University, gave the inaugural address to the new combined Faculty on October 1, 1903. Newly-constructed laboratories for pathology and physiology were formally opened that same day. The added space was absolutely necessary since, with the amalgamation of the Toronto and Trinity faculties of medicine the number of Toronto medical students grew from 494 in 1902/03 to 721 in 1903/04, as noted in The University of Toronto and Its Colleges, 1827-1906 (Toronto: The University Library, 1906), p. 178.

2 Among those selected to sit on the inaugural Board of Governors were Joseph Flavelle (a major benefactor of Toronto General Hospital); Chester Massey (a cousin of Rockefeller Foundation President George E. Vincent and father of Vincent Massey); Sir E. B. Osler (older brother of clinician Sir William Osler); and E. C. Whitney (brother of Ontario's Conservative premier in office, James Whitney).

3 It may seem ironic that the Provincial government was offering greater financial support to the University of Toronto while at the same time preparing to relinquish control over the Provincial University. In fact, David John Ayre in Universities and the Legislature: Political Aspects of the Ontario University Question, 1868-1916 (Toronto: University of Toronto, unpublished Ph. D. dissertation. 1981), views it more as a controlled weaning of the institution from legislative authority, as orchestrated by Premier Whitney. For it was Whitney who issued a Royal Commission in 1906 to discuss a reorganization of the university, putting the matter outside of the realm of Cabinet-appointed Board of Governors for a sort of arms-length connection to the legislature. Ayre argues that "although the 1906 legislation greatly increased the University's income through the provision of an annual grant based on a percentage of succession duty income, Whitney envisaged that the institution would exist on this money and that there would be little, if any, further demands upon the Government." (p.299). Benefiting from succession duties, it was believed that the University's income could grow even as the Province prospered; (in fact, by 1914 the Provincial Government made changes to the University Act such that income from succession duties was limited to $500,000 per year.) Ayre explains that, at the time, the Act of 1906 offered a stellar compromise upon which the University of Toronto could build: "It provided a state connection which justified state support, while at the same time it ensured the University's effective independence from political interference." (p. 300). It is Ayre's opinion that by putting some distance between itself and the university, the Provincial Government freed itself from a major burden, passing the responsibility on to a combination of the Board
University as "the self-sacrifice of members of the medical profession". The relations between the University and Toronto General Hospital were formally defined and the hospital moved to new buildings in 1912, closer to the University campus. In addition to this, new buildings for medicine (1902), and pathology (1903) were built to accommodate the growing number of students and need for improved facilities. Finally, in 1906, Robert Falconer was appointed University President, a job that he held for the next twenty-four years.

Wallace also notes that as early as 1908, an agreement was reached between the university and the teaching hospital, Toronto General Hospital, that each man heading up a clinical department in the Toronto Faculty of Medicine had "a service in the hospital" and subsequent appointments "were to be made by the Board of Trustees of the Hospital only on nomination by a joint committee of the Board of Governors of the University and the Board of Trustees of the Hospital". This last point would be tested just over a decade later with the appointment of Duncan Graham as the first full-time clinical Chair of Medicine.

Within the Faculty of Medicine, the first two decades of the century saw a number of administrative and curriculum changes. Dr. R. A. Reeve resigned as Dean in 1908. Reeve had been dean of the Faculty since 1896 and was succeeded by Dr. C. K. Clarke (1908-20), who also served as professor of psychiatry. When Clarke resigned in 1920.

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of Governors and President of the university, the latter of whom had his powers increased as a consequence of the Act of 1906.


* "Bill: An Act respecting the Toronto General Hospital", RFA, RF, 1.1 Projects, 427 Canada. Box 10, Folder 79, U of T Medical Faculty.

Dr. Alexander Primrose, a long-time faculty member, took over as Dean. The length of the medical course changed from four to five years (1908/09) and then to six years (1919/20); part of the reason for this was the steady expansion of the curriculum to include new laboratory-based subjects such as bacteriology, introduced in 1909/10 and biochemistry, introduced the following school year (1910/11).

At the same time, the University of Toronto received a number of significant private donations. Among those earmarked for medical teaching and research were the Connaught Anti-toxin Laboratories, including a fifty-eight acre farm with a value of more than $75,000 by Col. A. E. Gooderham (a governor of the University) in 1917; a laboratory for the zymology research department, also by Gooderham, in 1918/1920; and various fellowships for specific studies.¹⁰

Finally, the influence of World War I on the University and the Faculty cannot be underestimated. It affected enrolment, teaching, policy and endowment patterns. As Wallace notes, "when war broke out in August, 1914, the members of the University were scattered far and wide."¹¹ Nowhere was this commitment to service more apparent than within the Faculty of Medicine. As quickly became the custom, a specific stationary hospital was set up and staffed by Toronto staff, alumni and students who had interrupted their instruction. The Number 4 General Hospital was the University of Toronto facility and saw service from May 1915 to July 1919 in four sites: Shorncliffe, Salonika.

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¹⁰ For a quick summary of the changes within both the university and the Faculty of Medicine specifically, see Wallace's history of the university, pp. 207-212 or Robin S. Harris, A History of Higher Education in Canada. 1663-1960 (Toronto: University of Toronto Press, 1976), pp. 266-269.

¹¹ Appendix B, "Recent Benefactions to the University of Toronto", Wallace, pp. 299-302. Wallace cites a total of more than $6,000,000 in gifts in the twenty years from 1907 to 1927.

Kalamaria, and Basingstoke.\textsuperscript{12} The commander was Lt.-Col. J. A. Roberts and the staff consisted of 38 officers, 73 nurses and 206 men, many of whom were undergraduates. The hospital handled an average of 1,300 patients daily.\textsuperscript{13} This may seem only a trivial point of interest, but the hospital will figure in both the details of Duncan Graham's appointment as the first full-time chair of medicine in the British Commonwealth, and as an example of Canadian sacrifice that would inspire Rockefeller Sr.'s gift to aid Canadian medical education. The staff and students of the Faculty of Medicine were led by Captains E. S. Ryerson\textsuperscript{14} and W. R. McPhedran and comprised two of the nine companies of the university.\textsuperscript{15} In total, 1,217 University of Toronto staff, students and alumni took part in the Army Medical Corps of either the Canadian, Imperial or Allied Forces. Add to this seventy-nine men in the Naval Medical Service and the number of those associated with the medical school, particularly those who were in the early years of training and

\textsuperscript{12} Shorncliffe is 35 kilometres east of London, England while Basingstoke is 75 kilometres southwest of London. Salonika, also known as Thessaloniki, is on the Greek mainland, approximately 320 kilometres northwest of Athens. Kalamaria, presumably Kalimerianoi in modern-day atlases, is about 100 kilometres northeast of Athens on the Greek island of Euboea.

\textsuperscript{13} Appendix, “Canadian General and Stationary Hospitals”, in G. Oswald Smith, ed. \textit{University of Toronto Roll of Service, 1914-1918 (with supplement up to 1934)} (Toronto: University of Toronto Press, 1921/1934). Among the other hospitals with specific university affiliations were: No. 3 General (McGill); No. 6 General (Laval); No. 7 Stationary (Dalhousie); No. 9 Stationary (St. François Xavier); No. 10 Stationary (Western); No. 7 General/No. 5 Stationary (Queen's); and No. 8 Stationary (Saskatchewan College of Physicians and Surgeons). In all, there were sixteen general hospitals and ten stationary hospitals manned by the Canadian troops. Smith includes a brief history of No. 4 General Hospital in the preface to the text (pp. xxx-xxxiii).

\textsuperscript{14} E. Stanley Ryerson became Secretary of the Faculty in 1918, after ten years as Assistant Secretary.

\textsuperscript{15} Companies were organized by Christmas 1914, and were divided by Faculty and College. The Medical Faculty was assigned to Companies F and G. W. R. McPhedran is not to be confused with Alexander McPhedran (1847-1934), who received his medical degree at Toronto and returned to his alma mater to become Professor of Medicine from 1900 to 1919. Alexander McPhedran also served as President of the Canadian Medical Association in 1905 and 1906 (source, W. Stewart Wallace, \textit{The Macmillan Dictionary of Canadian Biography}, (Toronto: Macmillan, 1963), p. 486). There were, in fact, a number of McPhedrans associated with the Toronto medical faculty. In 1920/21, in the Department of Medicine alone, there was A. G. McPhedran, J. H. McPhedran, and W. F. McPhedran, all of whom were "Clinicians in Medicine" under Professor Duncan Graham, with Alexander McPhedran listed in the Calendar as ‘Emeritus Professor of Medicine’. See \textit{University of Toronto Calendar, 1920-1921} (Toronto: University of Toronto Press, 1920), p. 400.
abandoned their schooling to enlist in other branches of service, and more than 1,300 participated in the war effort. In total, 608 of the 5,681 staff, graduates and undergraduates of the University of Toronto were killed in action or died on service and another 884 were wounded.

As strikingly as enrolment dropped during the War, it rose to unprecedented levels when the conflict ended. The number of registered students almost doubled from 1917/18 levels of 2,799 to 5,237 in 1919/20. In Medicine alone, in 1918/19, there were 746 men enrolled as well as 82 women; this total of 828 students was the largest of any of the six Faculties or five federated colleges (University College was second with 340 men and 400 women that year).

The Full-Time System

The full-time system of clinical education was a natural outgrowth of the scientization of medicine. From 1880 onwards, laboratory medicine had grown as the dominant element of modern medical teaching. New subjects, such as bacteriology (1909/10) and biochemistry (1910/11), with strong laboratory components had entered the University of Toronto curriculum and with these demands on students’ time, the program had grown to include a fifth year (1908/09) and then a sixth (1919/20) of study.

The medical professors of 1880 to 1920 represented the emergence of a new type of instructor. Armed with training taken in Germany, they arrived with knowledge that

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16 Smith, Roll of Service (1921/1934), pp. 530-531.
17 "President’s Report is Published", in University of Toronto Monthly, 20, (January, 1920), p. 130.
19 "President’s Report is Published", in University of Toronto Monthly, 20 (January 1920), p. 129.
came from the laboratory, not from case histories. They applied their expertise in the laboratory to a greater degree than had previously been the case. Soon, they followed in the footsteps of the professors of the pre-clinical subjects, spending more and more time with science. This was a necessity given that the science knowledge was growing exponentially to the point where not only full-time instructors in the pre-clinical subjects were needed but also full-time clinical instructors were proposed.

Howard Berliner gives credit for the origin of the full-time plan to the German physiology laboratories of Carl Ludwig. One of the thousands of students who visited Ludwig’s laboratory was Franklin P. Mall. Mall, who spent 1885/1886 with Ludwig, went on to become a professor of anatomy, first at the University of Chicago and then at Johns Hopkins. He began to push for full-time clinical faculty, first in Chicago and then in Baltimore. A colleague, Llewellys Barker, gave a speech on the subject in 1902 and it was written up in the medical journals of the day. Frederick Gates, of the General Education Board, heard about the speech and gave the idea of full-time clinical faculty his support. Berliner says that Gates’ first application of the ideal of the full-time researcher came with the planning of a hospital for the Rockefeller Institute, which had been established in 1901. The hospital opened in 1910 and was the first American

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20 The scope of the degree to which North American physicians were exposed to the German laboratory research tradition cannot be underestimated. Robert Hudson writes that 15,000 American students traveled to Germany and Austria between 1870 and 1914. Hudson, “Abraham Flexner in Historical Perspective”, in Barbara Barzansky and Norman Gevitz, eds., Beyond Flexner: Medical Education in the Twentieth Century (New York: Greenwood Press, 1992), p. 3-4.

21 William G. Rothstein, American Medical Schools and the Practice of Medicine: A History (New York: Oxford University Press, 1987), pp. 160-161. Rothstein notes that medical research was carried out, in Germany, in government-supported institutes. The professors and researchers did not have faculty appointments and were not responsible for training students, although some informal training did go on. While the research institutes were located in smaller towns, the major medical schools were to be found in cities.
institution to work under the full-time clinical system. It even had the plan written into its charter:

No person on the salaried staff of the Institute should receive pay for any outside practice, that the Institute should itself send no bills for service to any patients within or without its walls, or accept any remuneration; ... The penalty for violation of these provisions by the Institute was the forfeiture of the endowment given by Mr. Rockefeller. 22

Johns Hopkins, often seen to be the benchmark, was the first school to adopt full-time in 1913. 23 Washington University followed, as did Yale, Rochester, Vanderbilt, University of Chicago, Harvard, Cornell, Columbia, and University of Iowa. 24

In Canada, the University of Toronto was among the first schools to embrace this first in principle in The Toronto General Hospital Act, 1911 and then in Duncan Graham’s appointment. As Ludmerer notes, however, the transition from part-time to full-time was not an easy one. Although knowledge of background science and its application to medicine was becoming increasingly important, the salaries of full-time professors were in no way commensurate 25. Hence, one had to hope that the pursuit of the research ideal 26 was enough to make a physician choose the full-time position.

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23 Hudson, “Historical Perspective”, pp. 3-4. Hudson notes that the result of the thousands of American students studying in Germany and Austria was threefold: first, it elevated the research ideal; secondly, it promoted and pushed specialization because, as knowledge grew exponentially, students could only realistically delve into specific research problems of a particular body system; and thirdly, it helped to focus attention on Johns Hopkins where the Full-time system of clinical teaching was being tried.
26 Michael Bliss cites the facilities available to Banting, Best, Collip and Macleod, at the University of Toronto one of a number of important “conditions” that enabled the discovery to take place at Toronto. Specifically, Bliss cites the facilities available for “major animal research” in 1921 as a key to the project and “testimony to the important work done in the preceding 15 years or so in modernizing the University
Another question was how much patient contact would suffice? William Osler, for example, thought that these new clinical instructors risked being too far removed from medical practice to be effective. Of course, one must remember that Osler was a member of another generation of physicians; he once said that if he had to perform a physiology experiment, he would not be able to operate the equipment. He was sceptical of this shift toward science in teaching and would remain a member of the 'old guard'. Berliner tells of how Osler argued against the Full-time system. Osler wrote to Ira Remsen, President of Johns Hopkins, from Oxford University where he held the position of Regius Professor of Medicine. Among Osler’s criticisms were that using the university hospital as a research institution would only “subvert the goals of training practitioners” and that by only allowing physicians access to hospital patients would deny them the necessary exposure to varied cases causing a decline in their clinical skills. Osler also acknowledged the professional jealousy of the “laboratory men”: he contended that while they accused the clinicians of being too prosperous, they did not understand the clinical situation. For example, while laboratory scientists were paid a fixed salary and worked regular hours, clinicians were on call and available to patients around the clock.

Eventually, most North American medical schools would turn to the full-time system in one form or another. The question of when often depended upon money. Full-time, scientifically-trained clinicians would be costly as well as necessary. To attract the

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best men. full-time chairs in medicine, pediatrics and surgery would be established. All of this would occur, largely, on the basis of philanthropic support. In fact, this was the design of Abraham Flexner. He saw the efforts of the Rockefeller Foundation and other philanthropies as subsidizing the creation of a national standard in clinical research to keep up with the work being done in Germany. A new age of clinical instruction had begun.

Preliminary Correspondence, Announcement of the Gift, and Visits from Representatives of the Rockefeller Foundation

The announcement regarding the five million (U.S.) dollar gift earmarked for aid to Canadian medical education was made on December 25, 1919. The University of Toronto was in the throes of adjusting after the War, and one of these adjustments was

29 See Chapter One, Footnote 70 (page 48).
30 Raymond Fosdick, The Story of the Rockefeller Foundation (New York: Harper & Brothers, 1952), pp. 96-97, describes how Flexner, soon after joining the full-time staff of the General Education Board in 1913, put forth the idea, with Frederick Gates and William Welch at John Hopkins, of full-time clinical departments in select schools which had “adequate facilities” for this “innovation”. Initially, “full-time” meant that clinical departments in the final two years of a medical program were to be under the administrative control of physicians who would give one hundred percent of their time to teaching, research and patient care in the associated teaching hospital. If private consultations were carried out as part of their teaching or research, any fees collected were to go to the university. It was through the unfaltering support of Flexner and a few key innovators at schools such as Johns Hopkins, Washington University, Yale, Chicago and Vanderbilt University that initial difficulties were surmounted to institute the full-time system. As William Rothstein notes in American Medical Schools and the Practice of Medicine: A History (New York: Oxford University Press, 1987), pp. 168-169, by 1919, the General Education Board was questioning the considerable cost of the full-time plan and began to relax its definition of “full-time” to include “geographic full-time” appointments. “Geographic full-time” was more flexible than “full-time”; also known as the “Harvard Plan”, it made an allowance for full-time clinical professors to keep a small percentage of their time for independent consultations (Berliner, System, p. 163). By 1925, Rothstein notes that the Board gave Columbia University the choice of strict full-time (with salary top-ups from the Board), geographic full-time, or part-time clinical appointments, and two years later the Board “relieved those schools who had signed binding agreements with it of their strict full-time obligations”.
re-establishing pedagogical order while integrating almost double the number of students. Although it was an ideal time to introduce new ways of teaching, such as the full-time system, many of these changes involved considerable financial investment, and provincial government support was not enough. In 1919, therefore, University of Toronto decided to follow in the footsteps of other North American universities and appeal to alumni for support. As R. A. Cassidy noted in a paper published in 1919, the same principles used by “specialists” to raise thousands of dollars in a short time for the war effort could be used to raise money for education quickly. Cassidy pointed out that both American colleges and Canadian colleges had also set up capital endowment campaigns, a number of which were quite ambitious: for example, Harvard University was asking for fifteen million dollars; Cornell sought five million dollars; and Fordham University and Phillips Exeter Academy both projected two million dollar campaigns. In Canada, Cassidy tells how several years before, McGill University asked the citizens of Montreal for one million dollars and collected more than one and a half million within one week and Haligonians responded to Dalhousie University’s call for half a million dollars for campus buildings in less than ten days.

The University of Toronto’s campaign of 1919, named the Memorial Campaign, was a challenge. Alumni were scattered and little effort had been made to keep track of students after they had graduated. In fact, it was only because undergraduates, staff, and alumni had been together in specific military units for service during World War I that any strong alumni ties established. These ties, coupled with the desire to honour those

who died with scholarships and endowments, offered a unique opportunity to gather funds together for the rebuilding and expansion of the university. In his November, 1919 editorial in *University of Toronto Monthly*, W. N. McQueen (Class of 1912) picks up on Cassidy's observation of the success of Harvard, McGill and Dalhousie in noting that the progress of Toronto's campaign was steady but slow (by November 7, 1919, the monies raised came to $199,799)\textsuperscript{13}. "The University of Toronto," McQueen wrote, "has never known well-organized, united alumni support. ... The alumni have been widely scattered: until recent years the University has not been a unit in itself." McQueen noted that the post-war situation offered the unique opportunity for alumni to "[join] hands in the sacred cause of perpetuating the memory of the University men and women who laid down their lives in the war."\textsuperscript{14}

As the slow but steady progress in the Memorial Campaign continued,\textsuperscript{15} the news of the Rockefeller Foundation gift, following soon after the Eaton endowment, was timely and uplifting for the overcrowded yet ambitious Faculty of Medicine. The progress of these gifts was followed in newspapers and alumni publications. When a brief mention was made of the Foundation's gift to Canadian medical education, the editors of *University of Toronto Monthly* could not even cite how much of the five million dollars was allocated to Toronto. The two-paragraph news brief did, however, go on to note that for the number of students enrolled, Toronto had "fewer instructors than

\textsuperscript{13} "The Campaign's Progress", in *University of Toronto Monthly*, 20 (November 1919), p. 50.
\textsuperscript{14} W. N. McQueen, "Editorial", in *University of Toronto Monthly*, 20 (November 1919), p. 45.
\textsuperscript{15} University President Robert Falconer spent weeks travelling throughout North America in an effort to secure funds from alumni groups. For example, in November 1919 alone, he visited Brantford, Ontario, New York City, Hamilton, Welland, and Montreal. In addition, distinguished alumni such as Professor W. P. Mustard of Johns Hopkins University and Prof. R. J. Bonner of Chicago University were invited to address Toronto alumni during major fundraising drives of the Memorial Campaign.
any other medical college of the better grade on the Continent”. and hypothesized that much of the Foundation grant would be put towards “the advancement of research work”.

For all of this speculation, those in charge did not want to take any chances and lose the money before they received it. Despite the unfathomable wealth of the Rockefeller Foundation, many projects and individuals seeking financial aid were turned away. There was no guarantee that solicitation would yield success.

Before Vincent and Pearce traveled to see the Toronto facilities. they were careful to prepare for themselves background notes on the status of medical education and public health at Toronto. Some of the material was available to them even before the announcement of the gift toward Canadian medical education was made: among these documents were the 1910 Flexner Report, The Toronto General Hospital Act. 1911, and the July 1918 detailed financial statement for the Toronto Faculty of Medicine.

Communication between Toronto and New York had existed before the gift was announced and months before any personal visits took place. For example, there was a request by Vincent made of Dr. Alexander McPhedran on December 11. 1919 with regard to an error in the Toronto faculty’s financial statements sent November 27. 1919 (the budget for what was listed as thirty “whole time” staff in the Department of Medicine was listed as $10.250 when in fact there were no “whole time” faculty in Medicine at all). There were, in fact, no full-time clinical instructors in any department, yet the staff

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17 RAC. RF. RG 1.1 Projects. 427 Canada Series. Box 10, Folder 79, “Statement of July, 1918”. p. 19. This figure likely came from the eleven heads of clinical departments plus any “assistants” each of these department heads had. Because they did not truly represent full-time staff, and the Faculty did not wish to
numbered 129, with a total amount paid out to these staff of $36,045: by comparison, there were fifty-six staff in the departments of anatomy; pathology and bacteriology; chemical pathology; and pharmacy and pharmacology, of which nine were “whole-time” positions, and the total amount paid these faculty was $30,182. Although these sums do not seem frightening in themselves, 1919 was to be a year of change in Toronto. There were plans to change the course from a five-year program to a six-year program. Enrolment exploded with the return of many World War I veterans eager to return to or embark upon their medical education, and although the laboratories were well-equipped, already in July, 1918 the need was identified for yet another. Finally, there was a concerted drive to begin some form of graduate instruction in medicine. Therefore, the 1918 report ends with the plea: “It is manifest that there is great need for increased income to make it possible to carry on, not only the more efficient undergraduate instruction, but also to develop graduate work, a matter of the greatest importance.”

This was in keeping with both Falconer’s desire for more graduate work within the university and the expansion of the research ideal that had taken hold in Toronto in the last decades of the nineteenth century. As Falconer’s biographer James Greenlee notes, it would only be through the reform of the faculty of medicine and the establishment of a “reputable school of graduate studies” that Falconer believed the “intellectual drain to the

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be accused of misrepresenting itself and jeopardizing their application to the Rockefeller Foundation, the correction was made.

'"Statement of July, 1918", p. 19. This brought the total remuneration for staff to $66,227.00. Secretarial expenses added an additional $3,500.00 and “miscellaneous expenses” (which included $15,215.00 for “a building”) brought the reported total to $94,994.00. Tuition fees for the five-year course with 600 students enrolled yielded $82,155.00.

'"Statement of July, 1918", p. 20.
south” could be quelled and, at the same time, the “fabric of Canadian culture” might be strengthened.\textsuperscript{40}

The resulting report on the University of Toronto medical school, dated February 7, 1920, took in the faculty’s history, personnel and courses: in 1918/19 there were 698 students registered, each of whom paid $150 for the year’s tuition in a five-year course. 56 graduates, and 216 faculty members\textsuperscript{41}. This report also noted that the clinical teaching facilities counted upward of 1,500 beds, spread out among four downtown hospitals.\textsuperscript{42}

The teaching hospital situation was of particular interest to the Foundation, in part because of its pedagogical and professional relationship to the Full-time system. One of the documents requested by the Foundation was a copy of the 1911 Act respecting the Toronto General Hospital.\textsuperscript{43} The Act was made up of three parts: by-law number 5454, passed April 25, 1910, to provide for the issue of debentures up to $250,000 for a grant to be made to Toronto General Hospital and to acquire lands to extend Christopher Street; a by-law with respect to the medical staff of the hospital, passed January 25, 1911; and the Act, generally respecting the Hospital, to which assent was given on March 24, 1911, part of which included Schedule 1, upon which agreement was made December 1, 1910. It was introduced by James P. Whitney, on February 8, 1911 and achieved its third reading


\textsuperscript{41} RF. RG 1.1 Projects, 427 Canada Series, Box 10, Folder 79, “U of T Medical Faculty” Notes, p. 31.

\textsuperscript{42} “U of T Medical Faculty” Notes, p. 32. The clinical beds included Toronto General Hospital (with more than 700 beds and a large out-patient department): Hospital for Sick Children (250 beds); St. Michael’s Hospital (400 beds); and Toronto Western Hospital (120 beds). The notes also cite an x-ray facility at Toronto General Hospital that was “said to be one of the most complete on the continent”.

\textsuperscript{43} Statutes of Ontario, “The Toronto General Hospital Act, 1911”, Chapter 80, 1911, pp. 531-538.
just over a month later, on March 13, 1911. Although little information exists on the Act, it features prominently in the Toronto story. It seems as though it was passed, in part, to give some administrative structure to the new Hospital, particularly after the 1906 Act which gave the power of governance over the Provincial University to the University Board of Governors. Prior to 1906, the Provincial Legislature had held the reins of power.

The financial commitment required by the University, as outlined in the Act, was considerable: $300,000 to be put toward purchasing a parcel of land “fronting on Avenue Street” and toward building the new hospital, and $100,000 to build adjacent buildings intended to serve as the Departments of Pathology, Bacteriology and Pathological Chemistry, at the corner of University and Christopher Streets.

It was, however, the by-law with respect to the medical staff of the hospital, passed on January 25, 1911, which outlined the most striking conditions: that there was to be no remuneration to members of the Visiting Staff; that there were to be three coordinate services in medicine, including dermatology and neurology, and four coordinate services in surgery; that there was to be a single service in each of gynaecology, obstetrics, ophthalmology, and otology, rhinology and laryngology: that the retirement age should be fifty-five in surgery and sixty in medicine, unless otherwise negotiated with the Board of Trustees; and that the Heads in Medicine should not take

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44 Schedule I was signed by B. E. Walker and J. W. Flavelle, Chairmen, as well as by F. A. Mouré, Bursar, and A. F. Miller, Secretary of the Hospital in addition to A. M. Gail and W. T. White.
45 "The Toronto General Hospital Act, 1911", pp. 532-533.
part in general practice and they should confine their efforts to consultation outside of the hospital. 40

With regard to personnel, the January 25 by-law was specific in its requirements of both heads of departments and visiting staff: heads in medicine, for example, were not permitted to "engage in general practice but shall confine their work outside of the Hospital to consultation" while the head of Gynecology "may outside engage in Surgery but not in general practice." 47 The only departmental head exempt from such restriction was the contemporary Head of Surgery. Although others were restricted in what they could practice, the head professor of Surgery in the Faculty of Medicine of the University of Toronto was specifically exempted. No reason for this exemption was given in the Act.

Finally, it did divide the clinical work from the laboratory or science-based positions by deeming that Departments of Pathology and Bacteriology as well as Pathological Chemistry be under the supervision, not of an independent Head of Department, but under Professors of the University of Toronto. This by-law was signed by J. W. Flavelle, as Chairman, and A. F. Miller as Secretary.

Interestingly enough, this by-law was passed before the Act, almost two months to the day. What it did was to create Heads in a number of clinical specialties while also placing research or laboratory positions under members of the university faculty. Even more striking was the fact that it made a provision for a Full-time system, with some concessions for consultation, long before the Eaton Gift mandated the system. The one

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40 "The Toronto General Hospital Act, 1911", pp. 535-536. This meant that consultations by the department Heads in Medicine should be done off hospital property.
major difference, when the Eaton Gift was made, was that the later system of 1920 consolidated all of the eleven services into two. Medicine and Surgery, and soon after, Pediatrics, were the full-time services under the Eaton initiative. This was probably because the 1911 division of labour was premature: it was unlikely that there was enough work for three Heads of Medicine and four Heads of Surgery. Furthermore, organizationally, it would have been a nightmare to try to ensure that all of these heads of departments were of like mind and working toward the same goal. Methodologies and techniques would have differed, providing unbalanced training for students. Finally, there is no mention of money paid to the heads of departments in 1911. Given that these positions would be held by some of the best clinicians who might expect to make $25,000 to $30,000 a year⁴, it would be quite the act of charity to give that up to make less than $10,000 plus whatever token fees could be had from consultation. By 1920, it had become obvious that higher remuneration was required to keep excellent men, and so Graham received $10,000 per year, and was given an afternoon a week to tend to his own cases. But maintaining eleven full-time clinicians was impossible.⁵

⁴ "The Toronto General Hospital Act, 1911", p. 536.
⁵ Ludmerer, Learning to Heal (1985), p. 211. Compare this range to the $40,000 which Osler is said to have earned in 1902 (Berliner, System [1985], p. 156).
⁶ There are some interesting comments on the failure of the full-time system to take hold as well as the Rockefeller Foundation had anticipated in Ludmerer’s Learning to Heal (1985). The full-time system, and the misunderstanding regarding Abraham Flexner’s influence on medical education, are also discussed in Howard S. Berliner, A System of Scientific Medicine (New York: Tavistock, 1985) and Barbara Barzansky and Norman Gevitz, eds., Beyond Flexner: Medical Education in the Twentieth Century (New York: Greenwood, 1992).
The Influence of the Eaton Gift

Although it represents an entirely separate gift, the 'Eaton Endowment' is worth examining here for two reasons. First, the Eaton gift of 1919 was substantial: totalling $500,000, it was almost\(^{10}\) equal to the amount given by the Foundation to Dalhousie's Faculty of Medicine and, like the Foundation's gift to Toronto it supported the full-time system of clinical teaching. Secondly, the almost immediate reaction to the terms of the Eaton gift led to a professional backlash within the Toronto medical profession that threatened to mire the Foundation's efforts in bad press and return the entire University to the pre-1906 era of strict Provincial governmental control.\(^{11}\) Hence, first we will examine the terms of the Eaton gift, how the first clinical chair of medicine was chosen and how change was ill-received by Toronto physicians; this was all observed with great interest by those at the Foundation, even as the first Rockefeller thousands poured into Toronto.\(^{52}\)

In an effort to be thorough, Vincent and Pearce sought information, not only on the teaching relationship between Toronto General Hospital and the University of Toronto Faculty of Medicine but also on the circumstances and conditions of one of the

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\(^{10}\) Excluding the foreign exchange of the stronger American dollar in 1920.

\(^{11}\) The reason the Eaton gift could affect the Rockefeller Foundation gift was that the Foundation was paying out its gift to Toronto in installments. By the time that the third allotment had been paid, the Eatons and the Rockefellers were being named by various physicians as interfering in the running of the medical school, setting policy, and illegally changing the organization of the medical school with their push for the Full-time system. The Rockefellers were particularly sensitive to this "bad press" as a consequence of the writings of journalist Ida M. Tarbell and the idea that they were trying to buy into the good graces of the North American people with tainted money. Remember that this is part of the reason that the Foundation could not get a federal charter: there were those in Washington who were suspicious about how the philanthropic millions were to be used and saw the initiative as just another way for Rockefeller to exercise control over the American people with his substantial wealth.

\(^{52}\) The genesis of the idea to bring together a major gift, a full-time professorship in medicine and a general reorganization of the faculty of medicine is not clear. Greenlee, in *Sir Robert Falconer* (1988), p. 266, narrows it down to Falconer or Eaton. Greenlee says Falconer was in negotiations with Eaton as early as the spring of 1918, for a major new endowment. What resulted was a plan of action which accompanied Eaton's gift of $500,000.
items mentioned in the July, 1918 statement of the Toronto Faculty of Medicine sent to
the Foundation: the intention was raised, in the statement, to use the 'Eaton Endowment'
as stated by the donor, for a new Chief in Clinical Medicine and four assistants to serve
full-time. The half million dollar gift was broken down into twenty annual payments of
$25,000, the first to be paid out on January 9, 1919 and ending with a final payment in
the same amount on January 9, 1938. An annual contribution of $20,000 was earmarked
for Medicine and an additional $5,000 was allotted for the Chief of Pediatrics who "gives
half of his time".41

Although the conditions set down by the Eaton gift were not directly linked to
The Toronto General Hospital Act, 1911, they no doubt built upon them. The change
from eleven Heads of department to two was fundamental. Furthermore, the fact that the
Pediatric appointment began more slowly, with only $5,000, implies that a number of the
original Department heads could not be supported given the limited funds and resources.
Instead, one head of Medicine was enough, but with four full-time assistants so that a
core group of laboratory-trained, clinical men would be able to take over the next
generation of positions.

The terms of the Eaton Endowment were examined with great interest by Vincent
and the appointment of Duncan Graham as the first full-time chair of clinical medicine in
the British Commonwealth was noted in New York City. A few of the terms of the Eaton
gift are worth noting here, before proceeding to examine the appointment itself and the
stir the Full-time system created in Toronto: the annual sum of $25,000 was to be spent

41 RF. 1.1 Projects, 427 Canada, Box 10, Folder 79, University of Toronto Medical Faculty, p. 20.
in the Department of General Medicine; the Head of the sub-department of Pediatrics be
required to "give at least half of his time to such sub-department": and:

The Head of the Department of General Medicine shall recommend to the
President for appointment and dismissal all men in his Department whether
under salary and giving their whole time to the work in which they are
engaged or whether receiving an honorarium and giving part only of their
time or whether giving their time without honorarium or salary.4

It was this last point of the agreement that established the Full-time system of clinical
education and put it into practice. In less than five years, this same system brought the
university to the brink of a revolution in governance.5

In their biography of Duncan Graham, Kerr and Waugh credit a quintet of five
influential Canadians with establishing this new system of teaching or what they call the
'Flexnerian model of medical education'. These pedagogical revolutionaries were: Sir
John and Lady Eaton, Falconer, businessman Joseph Flavelle, and Dr. William Goldie.

The Eatons enjoyed a long-standing philanthropic interest connected to both Sick
Children's Hospital and the medical school, and Sir John had served on the University of
Toronto Board of Governors6; Goldie was the Eaton family physician.7 Falconer saw the

5 Signing the indenture for the Eaton Endowment, dated January 9, 1919, on behalf of the donors were Sir John C. Eaton; Flora McCrae Eaton; The T. Eaton Co. Ltd.; R. Y. Eaton, 1st Vice-President; and J. J. Vaughan, Secretary-Treasurer. Signing on behalf of the Governors of the University of Toronto were S. A. Lash, Vice Chairman and Ferdinand J. Moure, Bursar. The document was signed, sealed and delivered in the presence of A. M. Gall.
6 Eaton's term on the board ended in 1920, the year after his gift to the medical faculty.
7 In her autobiography, Memory's Wall: The Autobiography of Flora McCrea Eaton (Toronto: Clarke, Irwin & Company Limited, 1956), Lady Eaton describes both Drs. Goldie and Graham as "our good friends as well as our medical advisers", and notes that it was "with them, some time before" that she and her husband set up the Chair of Medicine at the University of Toronto. (p. 140). She goes on to describe how, when Sir John Eaton fell ill with the pneumonia in January 1922, Goldie and Graham suggested that a pair of specialists be brought in from Johns Hopkins Hospital. Unfortunately, the unnamed specialists could only confirm Goldie's initial diagnosis and Eaton died at the age of forty-five on March 30, 1922.
rejuvenation of the medical school as part of a process of helping the university to achieve greater prestige on a national scale. And Flavelle had become the Chairman of the Board of Trustees of Toronto General Hospital, the main clinical teaching facility, and oversaw the fundraising and building of the new 670-bed hospital in June, 1913 (making it the largest teaching hospital in Canada).^8.

Credit for bringing together the idea and the man who could finance the reorganization is given to Goldie. In 1918, he was teaching in the medical department of Toronto General Hospital and approached Eaton with the idea of establishing an endowment to set up a full-time "geographic" chair in medicine. This professor would take up his position and be fully responsible for the definition and organization of medical teaching, with an attending staff, using the Toronto General Hospital as the teaching clinic. This was a radical departure from the part-time clinical instructors who maintained their own practices while teaching part-time in the hospital. For this, they received honoraria commensurate with departmental standing and seniority: the annual sums ranging from $1,000 for the part-time head of a department to $50 for a junior member.\(^9\)

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\(^8\) Flavelle, like Eaton, served on the University of Toronto Board of Governors, retiring from that position in 1924.

\(^9\) Kerr and Waugh, *Duncan Graham* (1989), pp. 30-31, describe Goldie as a "strong advocate" of the full-time clinical system proposed by Abraham Flexner. They attribute Falconer's taking up the cause to Goldie's persuasiveness although I believe that it would not have been difficult to convince Falconer given his drive to elevate research and higher academic ideals at the University of Toronto. I would argue that Goldie's most important role was as an intermediary: first to link the "idea" to the lead administrator (Falconer) then to introduce both the idea and the President to those who had the money to fund its implementation (the Eatons) and then to point out a suitable candidate (Graham) and to facilitate his acceptance. Goldie was involved each step of the way and hence can be seen to be the mastermind in introducing the full-time system to Toronto.

Kerr and Waugh outline the circumstances that brought Graham back to his alma mater to take up the chair at Toronto.\textsuperscript{61} It should be noted that the search for the best possible candidate, which began in May 1918, was not taken lightly. Among those proposed for the position was Goldie himself; he declined.\textsuperscript{62} Falconer even travelled to England to talk with some of the potential candidates. One thing is for certain, however: while Falconer and Goldie were looking at many possible chair holders, the notion that whoever held the chair would have to effect considerable change in the clinical teaching status quo was already a given. Falconer and Goldie agreed that clinical services in medicine should fall under the direction of one head of department and that this man would hold the position whole- or full-time, where whole-time was defined as eight continuous hours per day.

Falconer met with the Eatons on November 15, 1918\textsuperscript{63} and the next day wrote to Goldie at the Number 4 Canadian General Hospital, which was then stationed in Basingstoke, England. Graham was stationed there, too, working as chief of the medical division.\textsuperscript{64} By this time, Graham was the unanimous choice of the selection committee


\textsuperscript{62} Kerr and Waugh, \textit{Duncan Graham} (1989), pp. 41-42. It was Alan Brown, who would receive part of the Eaton Endowment as Professor of Pediatrics, say Kerr and Waugh, who put forth Goldie’s name. Among others whose names were mentioned were Englishmen Dr. Henry H. Dale, Director of the Wellcome Physiological Research Laboratory and later Director of the National Institute for Medical Research and Dr. T. R. Elliott, who instead decided to take up a faculty position at University College Hospital in London, England. Kerr and Waugh note that there were no serious American candidates in the running, quoting Goldie as saying, “The outlook for first class men from the U. S. is very poor, though a search will be kept up until the spring [of 1919], at least”. (p. 41).

\textsuperscript{63} Among Sir John Craig Eaton’s other major benefactions, which totalled more than four million dollars at the time of his death in 1922, were: the Surgical Wing at Toronto General Hospital named for his father, Timothy Eaton Memorial Wing ($365,000); Methodist National Campaign ($100,000); and the Halifax Disaster during World War I ($66,000). In terms of giving his time, Eaton was an honorary Governor and Member of the Board of Trustees of Toronto General Hospital; Member of the Board of Governors, University of Toronto; and Honorary Governor and Member, Board of Trustees, Victoria College.

\textsuperscript{64} Graham had graduated from the University of Toronto medical school in 1905. His postgraduate career included work in bacteriology and pathology in Canada and the United States, two years of post-graduate
and Falconer pressed Goldie to persuade Graham to return to Toronto to accept the position:

... will you talk to [Graham] about it; get his views and try to persuade him to accept .... Very probably we shall be able to secure a change in the matter of services and have them under the direction of one man.\textsuperscript{65}

Goldie agreed heartily with the choice of Graham, as he did with the use of the Eaton gift as a catalyst for change. Goldie acknowledged that the shift to the full-time system would be a considerable one, but he unhesitatingly replied to Falconer. "It has been a great pleasure to me to know that you have determined to carry out the principle involved in such a radical move, and also that in doing so that you have selected Graham."\textsuperscript{66} The Eaton Endowment became reality on January 9, 1919 and Falconer suggested Graham return to Toronto early in 1919 to take up the Eaton chair. The Basingstoke hospital would, Falconer surmised, soon be disbanded, but Goldie could take over Graham's duties there until that was the case.

Graham took up his position in Toronto on July 1, 1919 and less than two weeks later the Advisory Committee on the Department of Medicine\textsuperscript{67} met to define full or whole-time work ("the day to consist of eight continuous hours"); to set aside five thousand dollars for the development of the sub-department of paediatrics: and to appoint Dr. Alan Brown as head of Paediatrics, devoting "half time to this work".

\textsuperscript{65} Falconer to Goldie, November 16, 1918, UTA, A67-0007, Box A88-0010/001.

\textsuperscript{66} Goldie to Falconer, December 10, 1918, UTA, A67-0007, Box A88-0010/001.

\textsuperscript{67} The members of the committee were: Falconer, who served as Chair of the Committee: C. K. Clarke; Goldie and Graham. Sir John Craig Eaton and Lady Eaton received reports of committee meetings if they did not attend.
Although the Eatons were not present at the meeting, the final paragraph of the minutes was clear to note that any resolutions arrived at during the meetings would not be adopted until they were approved by the Eatons or their representative, Mr. Wyly.  

More changes were to follow. In September, 1919 Graham put forth a series of recommendations for reorganization within the Department of Medicine at Toronto that included ending part-time clinical instruction. Ironically enough, Graham did not foresee that discontinuing the policy of part-time clinical instruction would create any problem. "With reference to the discontinuing of the present annual honorariums to part-time men," he wrote to Falconer, "I may say that I have discussed this question with the men I have interviewed re: appointments in the Department and explained the reason for advising this. I do not look forward to any particular trouble should this be acted on favourably by you." But there was an uproar. As Kerr and Waugh note, by the end of September, 1919, "with the stroke of a pen, Graham had revoked the appointments of nearly forty percent of the Department’s staff". And the politics of the outcry by those part-time men who were “dismissed” would lead to a provincial inquiry that threatened to destroy the Eaton endowment, the medical faculty, and frighten away the publicity-shy Rockefeller Foundation.

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68 Minutes of July 12, 1919 Meeting, UTA, A67-0007, Box A88-0010/001. Note that Kerr and Waugh, Duncan Graham (1989), p. 31, quote a letter sent by Falconer to Eaton, in which Falconer refers to a "Mr. Walter Wyly". I am not sure but presume that Mr. Wyly and Mr. Wiley are one and the same person.  
69 Graham to Falconer, September 8, 1919, UTA, A67-0007, Box A88-0010/001.  
71 There was a history of fighting between university administration and physicians in Toronto. In 1908, when new regulations were implemented which set limits on outside consultations for staff physicians at the Toronto General Hospital, established mandatory retirement age limits and attempted to reorganize departments, there was a hue and cry from the physicians. Many believed that the university should control staff appointments and the subject was debated in the pages of the Toronto press. From Bliss, Canadian Millionaire (1978), pp. 204-205.
Graham established himself as head or physician-in-chief of a previously tripartite clinical department. He also used part of the Eaton Endowment to fund full-time salaries of $2,400 for six young physicians who would devote all their hours to research and clinical training in bacteriology, biochemistry, internal medicine, pathology, and physiology. Graham kept these physicians as full-time researchers and teachers for three or four years and then began to wean them off the full-time commitment by giving them two hours per day to build up their own practices. Eventually, when they were self-supporting, they were cut loose and new, young researchers took their places as full-time clinical fellows. This system encouraged promising researchers not to move on to a lucrative practice simply because of economic duress. Hence, there were full-time clinicians at the top and bottom of the organization. Looking back from 1959:

The combined stress on clinical and chemical knowledge paid off. When Insulin was discovered, Dr. Graham had a team of men specially trained in clinical practice and the chemistry of diabetes to help with the first treatment of human patients. Another team was ready when liver was found to be effective in the care of pernicious anemia. In heart and chest ailments, metabolic disorders and skin diseases, the research groups also played an important part.

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2 A similar sort of influence is described by Allen B. Weisse, Medical Odysseys: The Different and Sometimes Unexpected Pathways to Twentieth-Century Medical Discoveries (New Brunswick: Rutgers University Press, 1991), pp. 220-221. Weisse says that the greatest contribution of American clinician Dr. Carl J. Wiggers was his training of new cardiovascular researchers. Among this new generation of specialists were thirty-seven of his students who went on to become departmental chairs or directors of research institutes. This reproducing of oneself is one of the most striking affects of the Full-time system. In The New Dimensions of Medicine (London: Hodder and Stoughton, 1969), p. 230-231, Alan Norton points out the effect. He says that clinical teachers create, in their own image, more of themselves: namely skilled specialists. In outlining his criticisms of British medical education, Norton goes on to point out that by 1968, there was only a single professor of general medicine in all of Britain.

The Repercussions of the Eaton and Rockefeller Gifts: 
The Special Committee of 1923

In Toronto, the Rockefeller money was a strong incentive in and of itself. University officials used the leverage of the condition of matching funds to campaign for government and private funds. But it would be the adoption of the full-time clinical system coupled with a strong, conservative core of part-time instructors, that would push the changes made possible by the Eaton and Rockefeller endowments to the brink of infamy. 74

When Duncan Graham assumed the Chair of Clinical Medicine, funded by the Eaton endowment, he quickly began to reorganize the medical school. As A. B. Macallum reported to Vincent, when Vincent visited Montreal in August, 1922.

The dismissal of a number of part-time clinical men and the installing of Graham as full-time head of medicine made trouble. Some of the men displaced had been in service overseas and one or two were very popular. A public agitation for the restoration of these men was begun and in one or two cases the University authorities seemed likely to yield. ... The medical row led to a general attack on university administration. ... It is possible that [President Robert] Falconer may weather the storm; but in many ways he has been weak and it is not unlikely that he may lose his post. In the long run the University and the Medical School are likely to maintain their status and prestige, but there may be an unfortunate

74 A brief account of the inquiry and its effect is given in Wallace's A History of the University of Toronto, 1827-1927, pp. 197-199. Wallace makes no mention of Graham, the Eatons or the Rockefeller Foundation in his account; he simply summarizes the objections some individuals had to the establishment of full-time professorships in medicine. A. B. McKillop also summarizes the inquiry and its effects in Matters of Mind: The University in Ontario, 1791-1951, (Toronto: University of Toronto Press, 1994), pp. 352-354. McKillop sets the context for the criticism of Graham's actions within the emotional aftermath of World War I. Because the physicians dismissed by Graham were war veterans, a charge of discrimination against returning soldiers was levelled at the Faculty and University, and the soldiers' cause taken up by Ontario Premier E. C. Drury in the ensuing inquiry, McKillop notes.
period of agitation and discord.\textsuperscript{53}

The "agitation and discord" to which Macallum referred was played out in both the trade press and general press. The merits and pitfalls of the Full-time system and the situation at the University of Toronto were the subjects of discussion in \textit{Canadian Practitioner and Review}\textsuperscript{54} and in \textit{Saturday Night}, two of the best contemporary sources for comment.

Long before any formal investigation into the changes effected at Toronto, \textit{Canadian Practitioner} was reporting on a situation at McGill University in which Dr. J. M. Elder, a surgeon and World War I veteran, resigned his position on the medical faculty to protest the hiring of "a German" as Professor of Pathology. Even more powerful than the anti-German sentiment of the appointment being "a direct insult to every McGill graduate, to every returned soldier, to every patriotic citizen, and to the community in general", is the resentment of the "German methods":

For years it has been feared by many people in Montreal as well as elsewhere that McGill, like Toronto, was growing too fond of Germans and German methods....One of McGill's most highly gifted sons is Francis Shepherd\textsuperscript{7}, who, some years ago…

\textsuperscript{53} RF. RG 427A, Canada Series, GEV Notes, Macallum on Toronto situation.
\textsuperscript{54} \textit{Canadian Practitioner and Review} changed its name to \textit{Canadian Practitioner} in January 1922. Describing itself as "a monthly journal of medicine and surgery, established 1876", each issue contained a mix of editorials, medical news from across Canada as well as from the United States and Europe, and select articles on medical research, new treatments and the politics of medical teaching and practice. It was published in Toronto.

\textsuperscript{7} Francis John Shepherd (1851-1929) graduated from McGill in 1873 and went on to Europe for postgraduate clinical training and advanced anatomical techniques before joining the faculty of McGill as Demonstrator of Anatomy in 1875. He was appointed to the Chair of Anatomy in 1883. He encouraged dissection and introduced a laboratory examination. He was also a surgeon at Montreal General Hospital and was one of Canada's first dermatologists. This quotation is at odds with his enlightened views, described in Hannaway and Cruess' \textit{McGill Medicine, Volume 1: The First Half Century, 1829-1885} (Montreal: McGill-Queen's University Press, 1996), pp. 183-186. Hannaway and Cruess tell of how Shepherd taught anatomy, incorporating knowledge of the new physiological and biochemical sciences in the late 1890s and how his work in dermatology built upon that of Kaposi, a Viennese physician with
expressed his views in the following words: ‘In many of our modern hospitals with their laboratories, students are not taught to observe so carefully the evident symptoms of disease, and they are becoming mere mechanics.... The higher and more intellectual means of drawing conclusions by inductive reasoning are almost neglected.’

Immediately following this editorial of April 1920 was one addressing the German methods problem at the University of Toronto. Again, the editor’s bias is clear as he chooses to excerpt a paragraph from a speech made to the Canadian Medical Association in 1912:

The German method of medical education is to tie the medical student to a microscope, as opposed to the English method of cultivating knowledge through the unaided eye. In Germany the aim is to make scientists first, and then doctors, whereas the primary purpose for which students learn science is to become physicians not scientists. For years American medical teaching has been dominated by the German plan of instruction. It is claimed we have been guilty of a fetish worship of laboratories in medical instruction and in medical practice.

The issue of “German methods” would continue to be discussed sporadically during 1920 and 1921 in the pages of The Canadian Practitioner and Review. At times.

whom Shepherd studied. A well-respected colleague of William Osler and Thomas Roddick, Shepherd became Dean of the Faculty of Medicine in 1908 and held the position until 1914. This quotation has been incorporated, perhaps even out of context, to support the editor’s opinion.

79 “Editorial: Echoes from Toronto University”, The Canadian Practitioner and Review, XLV. 4 (April 1920), pp. 116-118. These words were part of an address given by Dean Hugh McCallum of Western University who criticized the Carnegie Foundation’s overemphasis on “the laboratory side of medical instruction”. No doubt, this refers to Abraham Flexner’s evaluation and preference for schools in which the “German methods” were featured. The editorial names fifteen faculty members, including Fred Marlowe, H. B. Anderson and H. A. Bruce, who were opposed to “the German methods of teaching medicine”. They likely could see what was to come and the end of their part-time clinical appointments. In its parting words, this editorial asks what could Dr. John T. Fotheringham who “sacrificed much from a financial standpoint” to serve in the Great War and who had the ambition to work for his alma mater expect in the form of recognition from University of Toronto?
it would be merely a point of elucidation\[60\] and at other times a discussion of the method of governance of the Provincial University\[61\] or even a comment on the evils of worshipping laboratories in medical teaching and practice.\[62\] The unambiguous support for the returning soldiers who no longer had a place in the Toronto medical faculty continued throughout the summer of 1921 in The Canadian Practitioner and Review with phrases such as “the gross injustice” done to men who had “sacrificed much” in serving in the Great War and “the maltreatment of these University servants”.\[63\] There continued to be a personal tone to the debate\[64\] which only later was displaced by open criticism of the Full-time system. For example, an editorial titled “The Teaching of Medical

\[60\]“Full Time Clinical Teachers”, The Canadian Practitioner and Review, XLV, 7 (July 1920), p. 238.

\[61\]merely outlines five possible interpretations of the term, ranging from “no private practice and no outside employment” to “unlimited private practice within the hospital”. The source of the explanation is a ‘Dr. Darrach’ of New York.


\[63\]makes a case for the dissolution of the Board of Governors and greater graduate representation. No doubt the journal is making this point, in anticipation of the Drury commission investigation into the changes following the Eaton-funded full-time clinical Chair of Medicine.

\[64\]In what is ostensibly an obituary notice for Dr. Hugh McCallum, The Canadian Practitioner and Review, XLVI, 3 (March 1921), pp. 94-95, the editor, again, takes aim at German methods of teaching. He cites, as he did in “Echoes from Toronto University”, the excerpt from McCallum’s 1912 address to the Canadian Medical Association saying that North Americans “have become guilty of a fetish worship of laboratories”. The editorial then goes on to take up the cause of John T. Fotheringham, who like McCallum, disdained too much emphasis on laboratory work. The editor notes how McCallum’s work at Western University was appreciated but Fotheringham had been forsaken by Toronto. “This latter”, concluded the editor, “may now be considered almost an old story, and, perhaps, the authorities of the University of Toronto think it should be relegated to oblivion. But that will not happen for a long time. A mean act of injustice is not soon forgotten.” And so it was not forgotten, but was only the beginning of a series of events that threatened to topple the Faculty of Medicine and the University of Toronto itself. It is interesting to note that the same lack of initiative with regard to the lack of laboratory facilities and science teaching at Western which was being lauded in this editorial was responsible for that medical school’s poor evaluation by Flexner in 1910.

\[63\]The Canadian Practitioner and Review, XLVI, 8 (August 1921), p. 318.

\[64\]The Canadian Practitioner and Review, XLVI, 8 (August 1921), pp. 313-317. Included in the editorial titled, “Report of Legislative Committee on the University” are excerpts of articles written by three University of Toronto alumni. Angus MacMurchy, President of the Alumni Federation; Lt.-Col. T. Gibson (who represented those medical faculty members who were dismissed from their part-time teaching appointments); and D. B. Gillies, a member of the University Senate. The editorial points out that Gillies believes the “whole ruction” in the medical faculty came about “because some members of the staff in medicine are out and others are in.” The editor goes on to agree that the “personal element” was indeed at
Students" criticized the growing amount of time in the curriculum devoted to botany, chemistry, comparative anatomy and physics. The editor felt that the growing emphasis on these subjects was only a result of "teachers who have never been engaged in active practice" and who were clamoring for more hours in the already crowded and yet growing schedule. Furthermore, the author of this article goes on to argue that scientific subjects are not the foundation of a good medical education and that the University of Toronto was "making a fatal mistake" in dismissing experienced, part-time clinical instructors in favour of a full-time professor with a group of assistants:

Any system that pays the head of a department, say $10,000, and his assistants, who may be as competent, or even more competent teachers, nothing, is sure to fail. The final result of such a method is that the only assistants will be young and inexperienced men who wish to learn, and are willing to give up a few years without pay, with this end in view. It may be truly said of such under-teachers that there is neither pay, praise, or promotion in store for them. A most experienced teacher quite recently said: 'Thank God, I have nothing to do with the present ruinous system'.

By January 1922 the debate over the Full-time system was in full flower. It was no longer a personal or local issue. With the Rockefeller Foundation announcement of its gift to Canada, and examples of the implementation of full-time clinical teaching already implemented in the United States, it was obvious that the scope of this new pedagogy was growing. In their first issue of 1922, The Canadian Practitioner and Review printed an

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the centre of the situation and that only when this personal element is "sufficiently understood" can the situation be resolved.

"The Canadian Practitioner and Review, XLVI, 9 (September 1921), p. 277. The editor also frankly stated his dislike of the six-year program at the University of Toronto, particularly because the added years were taken up with "purely scientific" courses.
editorial, "Full-time Professorships", which summarized the early attempts to institute full-time teaching at Johns Hopkins, as funded by the Rockefeller Foundation. The editor describes full-time positions as a "fad" and hopes that soon medical schools will "return to a sane and rational system of medical teaching". A barely veiled hint of interference from the Rockefeller Foundation is found in the excerpted words of Dr. Deaver, President of the American Surgical Association:

It is our profound belief that the system for full-time salaried chairs for the clinical branches which has been forced upon a number of our foremost institutions by powerful influence is not only contrary to the spirit of American institutions, and contrary to the proper working of the human mind, but is sure to result in degeneration of that art which is the true flower of science, and in the deterioration of the instruction of the student how to deal effectively with the problems which he must confront in his chosen life work.

Finally, for any who had somehow missed any of these debates to this point, by April 1922, the key points were summarized in an editorial which offered both points of view. Among the advantages noted "By One in Favour of It", were: the instructor who had no demands of a practice to meet, could spend more time keeping abreast of research as

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86 The Canadian Practitioner and Review, XLVI. 9 (September 1921), p. 278. The editor went so far as to describe the Full-time system as not sane, and lamented the classes who would graduate into practice without the guidance of instruction from experienced teachers and experienced clinicians.
87 The Canadian Practitioner, XLVII. 1 (January 1922), p. 15.
88 The Canadian Practitioner, XLVII. 1 (January 1922), p. 16. This excerpt was taken from the presidential address given by Deaver at an annual meeting of the American Surgical Association in October 1921. Deaver was a distinguished surgeon and professor of surgery in Philadelphia. An even more scathing indictment of Rockefeller Foundation involvement in medical education was published as a news item in the March 1922 issue The Canadian Practitioner and Review, XLVII. 3, p. 103. Originally published in the January 21, 1922 issue of Medical Record, it read as follows: "To the members of the medical profession: The public and professions are being sold out to (1) foundation control of 'full-time' medical education, (2) lay board domination and the 'closed-up' hospital, (3) socialized state medicine, subsidized community health centres, and hospitals under university of political control, (4) legislature dictation of therapy and fees, (5) demoralization of medical standards by the expansion of cults, (6)
reported in journals; would never miss a class because of an urgent call to a patient: would be part of an organized and co-ordinated system which made for fewer gaps in the program and little duplication of covered material; and, would have, at his fingertips, a wealth of clinical material to make use of in the hospital. Among the “Fundamental Weaknesses of the Full-time system” listed “By One Opposed to It” were: too much research is undertaken along abstract lines and would serve no useful purpose to the ailing patient; too much emphasis is put on mastering the technology of medicine and too little on bedside manner and patient contact; and, modern medicine was drifting too close to the work of quacks, “untrained pretenders”, and Spiritualism."

The coverage of the full-time debate in Toronto was picked up in the public press by the local newspapers and the national weekly newsmagazine, Saturday Night. In its May 6, 1922, the story ran on the front page. The Rockefeller Foundation gift to the University of Toronto was singled out as one of the “munificent gifts to be loaded up with conditions which make them liabilities [and] embarrassing conditions. No such handicap was placed on the donation to McGill University.” The article lays the blame for the situation within the medical faculty, not at the feet of the Foundation or its representatives, but with the absenteeism on the Board of Governors at the University and with “a small and irresponsible clique which has its ear”.∞

On October 25, 1922, a special committee appointed by the provincial government of Ontario began its investigation into the administration of the University of

exploitation of the specialties by lay technicians.” The autonomy of the medical profession was under siege, on a number of fronts.

∞ Saturday Night, May 6, 1922, p. 1.
Toronto. They were to discuss the effect of the Eaton and Rockefeller gifts on the teaching of medicine at the Provincial University. The nine member committee was chaired by E. C. Drury and included: Edgar Watson, Herbert Hartley Dewart, Charles Fletcher Swayze, Frank Howard Greenlaw, Joseph McNamara, Thomas Marshall, George Howard Ferguson, and Charles McCrea. These nine men, all Members of Provincial Parliament, represented the Liberals, Conservatives and the Independents who made up Drury's coalition provincial government; in fact, the leader, Premier Drury, was an independent himself. The committee also included Ferguson who would go on to win the next election and become Premier of Ontario from 1923 to 1930.

The relationship between the University and Toronto General Hospital was one of three aspects of university affairs discussed during the inquiry. Fourteen meetings were held and forty-three witnesses were called upon to testify. Falconer attended all of the meetings and the relationship between the university and its main teaching hospital was

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91 They also represented various ridings: Toronto, Grenville, St. Catharines, Sudbury, Riverdale, Lincoln, Niagara Falls, Victoria North, and Halton, and the average age was fifty as compared to the physicians who were ousted as a result of Graham's changes, many of whom were older and voluntarily retired or were dismissed. The sole exception was Joseph McNamara. Only thirty-five, he was a war veteran who had lost an arm at the Battle of the Somme and may, therefore, have been more sympathetic to the physicians who returned from the war only to find their hospital appointments had been taken away.

92 The other two were general administration of the University as laid out in the University Act and "the question of the divorcement of the Faculty of Education from Queen's University, Kingston and the establishment of the College of Education at Toronto". Report of Special Committee Appointed by the Legislature to Inquire into the Organization and Administration of the University of Toronto. (Toronto: Clarkson W. James, 1923), p. 6.

93 These meetings were held in Toronto on the following days: November 16 and 17, 1922; December 12 and 13, 1922; January 10, 11 and 12, 1923; January 17 and 18, 1923; January 30, 1923; February 15, 1923; February 22, 1923; and the final meeting on April 27, 1923. Among those who testified were: Sir William Meredith; Sir Joseph Flavelle; Mr. C. S. Blackwell, Chairman of the Board of Trustees of Toronto General Hospital; Dean Alexander Primrose; Dr. George Naismith; Dr. Clarence Starr; Dr. Irving H. Cameron; Dr. Bruce; Dr. McIwrath; Dr. Anderson; Dr. Ross; Dr. Marlow; and Col. Gibson, who asked at the preliminary organization meeting on October 25, 1922 to act as counsel on behalf of a number of physicians. Ross and H. B. Anderson had their appointments as Demonstrator in Clinical Medicine and Associate Professor in Medicine, respectively, revoked by Graham as part of the
one of the most hotly-debated issues. The committee reviewed The Toronto General Hospital Act, 1911 which, for example, set forth that all appointments to the hospital staff, including the number and kind of services, were to be governed by a Joint Hospital Relationships Committee made up of four Governors and four Trustees. This was in direct opposition to Graham making appointments or dismissing individuals single-handedly.

The Committee encouraged information from a variety of sources to set Graham's reorganization into a wider geographical, pedagogical context. They requested and collected various reports on American and British education, including a Royal Commission report on Cambridge and Oxford\textsuperscript{44} and thirteen bulletins\textsuperscript{45}. One of these was a report by Dr. N. P. Colwell\textsuperscript{46}, entitled \textit{Medical Education, 1918-1920.},\textsuperscript{47} published by the United States Department of the Interior, Bureau of Education. One of the items Colwell addresses was the shift from part-time clinical instructors to full-time teachers. He

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\textsuperscript{44} Royal Commission on Oxford and Cambridge Universities: \textit{Report}, (London: His Majesty's Stationery Office. 1922) and \textit{Royal Commission on Oxford and Cambridge Universities: Appendices to The Report of the Commissioners}, (London: His Majesty's Stationery Office, 1922). The report is 256 pages and the appendices oversized 372 pages. In terms of medical education, medical education at Oxford was broken down into the B.M. (Bachelor of Medicine) and B. Ch. (Bachelor of Surgery) degrees. In 1920-21, the number of candidates for both first and second examinations in these combined degree streams were: 156 (First Examinations) plus 110 (Second Examinations) for a total of 266. Medical education at Cambridge began in 1883 and the number of candidates for the three years of the M.B. degree totalled 456 (I. M.B.) + 357 (II. M.B.) + 254 (III. M.B.) in 1921 (Appendix 6, pp. 241-243).

\textsuperscript{45} AOO, RG 49-107-0-10. These reports addressed various aspects of post-secondary education from correspondence study and university summer schools to university and college salaries and analysis of education in specific faculties including engineering, forestry and medicine.

\textsuperscript{46} This is the same Dr. Colwell who, as Secretary of the Council on Medical Education of the American Medical Association, accompanied Abraham Flexner on his visits to evaluate all 155 North American medical schools in 1909/1910.

\textsuperscript{47} N. P. Colwell, \textit{Medical Education, 1918-1920}, Bulletin, 1921, No. 15, Department of the Interior, Bureau of Education (Washington: Government Printing Office, 1921). This 15-page booklet examines a number of issues including needs in medicine revealed by World War I, limiting enrolment, and both graduate courses for specialists and continuing education for physicians. The author of this report was, at
acknowledges that since the 1890s, “teaching positions in the clinical branches were eagerly sought for and frequently held a high financial value.” Colwell cites the gradual increase since 1905 of “all-time” or full-time clinical instructors in American medical schools, in part, due to grants from the Rockefeller General Education Board and Carnegie Foundation for the Advancement of Teaching. These grants were given on condition that those who held Chairs of Medicine, Surgery and Pediatrics would be salaried instructors who were not permitted to receive fees for private practice. Their sole pursuit was medical teaching. “Four medical schools [in the United States] are now definitely on that basis and two others are now making provision for such teachers.” Colwell reported. Although this shift to the full-time system was on its way, progress was slow because there were few individuals who had both the requisite medical training and were interested in teaching full-time in either the pre-clinical years or as full-time clinical instructors. If there was an assurance of better salaries, more qualified individuals might be attracted to full-time teaching:

With the development of improved methods of clinical teaching there is a growing need of full-time teachers in the clinical departments also. Some of these would in time develop the skill and reputation which would make them eligible later to occupy the full-time professorships in medicine, surgery, and pediatrics which are becoming more and more available. The university Committee also called for material dealing with university education in Ontario, and specifically with the University of Toronto. The Eaton and

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the time he wrote it, Secretary of the Council on Medical Education and Hospitals of the American Medical Association and a physician. Included in AOO, RG 49-107-0-10.

" Colwell, Medical Education (1921), p. 7.

"" Colwell, Medical Education (1921), p. 8.

""" Colwell, Medical Education (1921), p. 8.
Rockefeller endowments were noted in, for example, the 1921 Report of the Royal Commission on University Finances. This report took the position that Graham’s appointment was a positive one — “already the good results [of the full-time appointment in Medicine] are becoming manifest” \(^{101}\). Like Colwell’s summary of the American state of affairs in medical teaching, the Royal Commission on Finances lamented the lack of teaching staff: “There should be enough instructors to allow time for original investigation. Unless the University leads in original thought, medical science will retrograde, and special research institutes can never exonerate a university from this duty.” \(^{102}\) In addition to increasing the teaching staff, the Royal Commission suggested that laboratories be improved at the Toronto school and noted that although the laboratory facilities in the Hygiene Department were “moderately” equipped, the laboratory facilities in the Departments of Anatomy and Pharmacology were poor and in Clinical Departments they were non-existent. This situation had to be rectified if “the student is to get the habit of independent observation and understand the functions of organs and tissues”. \(^{103}\) a habit which, the authors of the report hoped would carry on long after the student had left medical school.

The provincial committee got into the question of Graham’s appointment slowly. Drury and his fellow committee members began their public hearings on November 16.

\(^{101}\) AOO, RG 49-107-0-13. *Report of Royal Commission on University Finances*, vol. II, Appendices (Toronto: Clarkson W. James, 1921), p. 9. The report examined financial matters at University of Toronto, Queen’s University, and Western University (London). The committee was chaired by H. J. Cody. The other members were J. S. Willison, J. Alexander Wallace, T. A. Russell, A. P Deroche, and C. R. Somerville. Their report was filed February 10, 1921. As a matter of note, three physicians who were vocal in their opposition to the reorganization led by Duncan Graham also appeared before this Royal Commission of 1921: Drs. Herbert Bruce, H. B. Anderson and F. Marlow.

\(^{102}\) *Royal Commission on University Finances* (1921), p. 10.

\(^{103}\) *Royal Commission on University Finances* (1921), p. 10.
1922 and used that first day’s interviews to establish some sense, generally, of how the Toronto university was governed. They also touched upon the financial responsibilities of the Provincial government, municipal funding, and private citizens toward not only the university but also Toronto General Hospital and a new Psychiatric Hospital advocated for Toronto.104

Falconer, who attended all meetings, was called upon to explain his role in decision-making and specifically the level of power which he, as President, held over Committee, Faculty Deans and any other university associates. Although Graham was not mentioned in this preliminary discussion, it was apparent that the committee was establishing a line of attack to be used in later questioning.105 Much of the decision-making regarding new appointments was made by committee, or at least the advice of a select group within the faculty was sought by the President before anyone was chosen. The choice could be vetoed by the President of the University, Falconer admitted, but due to the scrutiny of the process, the President had to have an excellent reason to choose a candidate supported by a minority over one supported by a majority. One of the points that Falconer made repeatedly was that if he, as President, went against all advisement, whether that advisement came from a formal committee or informal advice, the President risked losing his own position by making an ill-conceived appointment.106 The question was put to Falconer by Charles McCrea in the hearing: what if an Advisory Committee supported one candidate, the Board of Governors concurred and only the President was

105 Falconer was called before the committee on the morning of the first day of public testimony. His testimony is recorded in AOO, Blue Book 1, pp. 47-63.
behind another candidate? Falconer replied that even the united Board of Governors could not appoint, despite being in agreement with the Advisory Committee, a candidate "over the head" of the President. As Falconer noted in the Drury hearing.

If there were an important appointment, and the Board of Governors agreed, as they understood, with the Advisory Committee, and the one man interested was the President, I do not see what else he could do. The point is, I have to stand the responsibility, or I have to resign.¹⁰⁷

In the days and weeks that followed, Falconer stood almost alone defending Graham's appointment and reorganization of the medical faculty. Although Falconer's resignation was not called for, many believed that his reign as President would be cut short by this controversy.

After Falconer spoke, Colonel Gibson began his address. He asked to speak to the Committee on behalf of a group of alumni. He began with general concerns and quickly moved to the President's powers in appointing and dismissing staff. Gibson outlined his observations of the English and American systems and was quick to suggest that the current Toronto system put too much of the onus on the President. Gibson was careful to show diffidence and couch his statements in a tone of sympathy for a President obviously burdened by an Herculean task:

the Royal Commission made a fundamental mistake, not only have they made a mistake in laying down the method of appointment, which cannot help but lead to friction and trouble, but they have imposed on the President of the University a duty which, if he will allow me to say so, is beyond the power of the President of the Toronto University, or of any other human being.¹⁰⁸

¹⁰⁶ Historically, Falconer needed only to look to his predecessor James Loudon and the storm of controversy which led to Loudon's effective resignation some two decades earlier.
¹⁰⁷ AOO, Blue Book 1, pp. 53-54.
Veiled or general references to the reorganization of medical faculty soon gave way to specific insults hurled at the Full-time system, those who supported it, and university administrators who let benefactors dictate how medicine was to be taught at Toronto. Ironically enough, after one day of public hearing, Drury had to ask if there were any other individuals who wanted to come before the Committee. For a moment, it appeared as though the Committee would be finished its business quickly. But the call for more information was soon answered. There would be a steady stream of willing witnesses, a number of whom were physicians displaced by the implementation of the Full-time system.

During the second full day of Committee hearings, among those who appeared before the parliamentary representatives were F. A. Mouré, University Bursar, who addressed salaries and the retiring allowance contributions made by the Carnegie Fund, and benefactions to Toronto and McGill. It was Mouré who testified that although the highest salary received by a Full Professor was usually $6,000, the Professors of Medicine (Duncan Graham) and Surgery each received $10,000. Falconer interjected to add, “It should be remarked that those $10,000 salaries are paid one from the Eaton Fund...”

AOO, Blue Book, p. 98.
AOO, Blue Book 2, pp. 178-192. Mouré pointed out that the university budget was spent on academic and administrative staff (fifty-eight to sixty percent); maintenance and operating costs (twenty percent); departmental costs, such as laboratory supplies, apparatus, library books (fifteen percent); and interest on capital charges and miscellaneous overhead costs (five percent). During the academic year 1920/21, there were twenty-six full professors in the Faculty of Arts. The Faculty of Medicine was second with fifteen Full Professors, followed by thirteen in University College, ten in Applied Science and one in Forestry. In terms of private benefactions, the Provincial University received close to $100,000 in 1921 (there was an existing $100,000 in “old endowments”, chiefly used for the purpose of using the interest for scholarships.)
and one from the Rockefeller Fund." Falconer added more on the issue of private support for the Provincial University, engaging a number of the members of the Committee in a debate defending the University of Toronto against schools such as McGill, Princeton and Yale, all private schools which seemed to receive larger donations more easily. Hence, even after the second day, the testimony was still focused on getting opinions from key players on the general question of university government and financial support. Some mention was made of the Eaton and Rockefeller gifts, but the anger directed at the full-time system and reorganization of the Faculty of Medicine was not yet vented in public.

It would be during the public hearings held December 12 and 13, 1922 that the merits and havoc created by full-time appointments would be debated. Dr. Anderson, President of the Medical Alumni Association Board, argued for involvement of the Board of Governors and Senate in any departmental appointment. Colonel Gibson followed with the position that terms of gifts "offered to the University for the endowment of a Chair or the foundation of a scholarship" should be examined by a Senate committee. Gibson noted that endowments were as much academic issues as they were financial ones: "a gift might very well be offered from a benefactor of the University on conditions which would make it impossible of performance, or if not impossible.

110 AOO, Blue Book 2, p. 181.
111 AOO, Blue Book 2, pp. 187-190. Falconer went so far as to say, "I think the more you can get the people to contribute to the University the better. On the other hand I do not believe a University that depends upon a few rich donors is quite as healthy....A wealthy man might have undue influence if he paid for the chair. So I took the view, and I still hold to it, that a University is in a sounder position if it rests on the good will of the whole Province rather than depending on a few individuals." (pp. 191-92).
112 AOO, Blue Book 3, pp. 275-278.
113 AOO, Blue Book 3, p. 283.
inadvisable in the teaching part of the University."114 When pressed to give specific
details, Gibson, who was clearly referring to the Eaton endowment, replied that he would
outline what he was talking about and elaborate on this point later in the inquiry. Instead.
Dr. A. C. Hendrick, an elected member of the University Senate, was the first to deal with
specifics when he registered his disapproval of the way in which Graham was appointed
to the Chair of Medicine at University of Toronto. Hendrick acknowledged that
appointment to the University’s Faculty of Medicine effectively included an appointment
to Toronto General Hospital. Conversely, dismissal from the University meant dismissal
from the Hospital. Hendrick criticized the higher salaries received by full-time clinical
instructors Graham and Brown, and hypothesized that if the Provincial Government paid
salaries of $10,000 or $15,000 per person, there would be even more full-time instructors.
Hendrick acknowledged that “it is a very great advantage to certain medical men to
receive those appointments [to hospitals]” since faculty appointments yield Hospital
privileges, making the appointee a “competitor”.115

Furthermore. Hendrick criticized the medical curriculum’s growing focus on
laboratory work:

We have got ourselves surrounded with the scientific spirit so much that
we will have the opinion, after a while, that we are really very brilliant. ... 
Gentleman of the Faculty of Medicine, we feel that you are pressing a little too
much the scientific side of the studies, so that when our students go out they are
not practical men.”116

114 AOO. Blue Book 3, p. 284.
115 AOO. Blue Book 3, p. 311.
116 AOO. Blue Book 3, p. 315-16. Hendrick not only argued against too much laboratory work, but was
against the six-year curriculum and railed against specialization (pp. 331-32).
Sir Thomas White, a former member of both the Board of Governors and the Senate of the University of Toronto, also asked to address the Committee (on December 12, 1922). White was part of a committee responsible for making organizational changes to Toronto General Hospital a decade earlier. One point he made during his testimony was that of declining private financial gifts which, with their conditions, might “fetter the hands” of University governors and administrators:

I say if a man wants to give $100,000 to the University of Toronto, or a million dollars, I don’t care what it is. I would not allow that man to fetter the hands of the Board of Governors of the University by attaching conditions to that gift which might raise dissatisfaction or be contrary to the interests of the University. It is unsound. and I say it is beneath the dignity of the University of Toronto to accept a gift, I don’t care how much it is, provided it is fettered by conditions which might cause dissatisfaction in the Faculty, or among the public, or which may be, in any way, detrimental to the educational interest concerned.117

White went on to say that he was not referring to any specific gifts, but that he had heard “that there have been one or more gifts of that kind”. When questioned further, White relented somewhat: he admitted that some qualifications might accompany a gift and that “unconditional gifts” were unrealistic.

White also told of the situation a decade earlier whereby recent graduates complained that the part-time clinical positions were jealously guarded by senior and even post-retirement “old guard”. Younger men had little chance of breaking into the clique and these valuable positions were not available to them. White helped in the subsequent reorganization and, as such, felt qualified to comment on the situation of 1921. White defended the position of the President to gather information from as many

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117 AOO, Blue Book 3, p. 341.
individuals as he saw fit and then to name appointees not being hindered by a dictatorial Board.  

Dean of the Faculty of Medicine, Alexander Primrose, gave the Committee the summation of a meeting held November 27, 1922. Among the points discussed was whether the onus of appointment and dismissal recommendations rested with the President and should the President be aided by a Council-appointed Committee with regard to appointments of department heads within the Faculty of Medicine. Primrose reported that both parts of the resolution were unanimously carried.  

The Drury Committee also welcomed information and testimony from members of the medical profession in a series of public hearings. A number of those dismissed by Graham submitted multiple-page letters which were compiled into the Exhibits file and considered by the Committee in its deliberations.

Dr. F. W. Marlow was one of the many physicians opposed to the reorganization of clinical teaching. Like many of those who had strong opinions for or against full-
Objections to the full time professor (so-called) in the clinical departments at Toronto University are mainly these:-

1. It tends to a degree to commercialize the teaching of medicine.

2. It replaces the preceptor plan of acquiring knowledge by the pedagogic art.

3. It must reduce the staff and eliminate senior teachers of valuable clinical experience who are capable of imparting instruction emanating from knowledge gained by experience.

4. It deprives the students of the great benefit of contact with such men and promotes the “spoon-feeding” system so much in evidence now.

5. It tends to over standardization of teaching and methods as well, thereby tending to obliterate individuality in both the teacher and the student.

6. It eliminates fair competition amongst teachers of medicine in its various branches.

7. It dispels the idea of service which has been handed down from generation to generation in medicine and lowers the ideals set up by our predecessors, inasmuch as the greatest pleasure that one gets from teaching in any branch of medicine is the feeling that comes to one when passing on to students the knowledge that one has acquired by actual experience, with the hope that through them, and still further developed by them, it may be the means of relief of suffering humanity. — a service which cannot be paid for in the coin of the nation.

8. It involves vastly increased and unnecessary expenditure to maintain even a decreased staff with higher remuneration, and especially to pay full time professors and assistants.

9. It tends to so much centralization of authority that a true democratic spirit and organization can hardly exist.
10. An ideal autocrat is about as common as the "dodo" and even if the head of a clinical department were ideal it is obviously wrong to confer upon him autocratic power in respect of his associates and assistants who are all possessed of the same license to practice as himself and some of whom are of equal or more outstanding ability. Although his responsibility may appear great he cannot unburden his most junior assistant of any responsibility when he permits him to operate or even to prescribe a medicine in his hospital service. Outside of organization and administration his responsibility has been wonderfully magnified.\(^{122}\)

G. W. Ross, who had voluntarily retired from the Faculty at the time of Graham's re-organization, also expressed his dissatisfaction with a number of aspects of the change in teaching. Ross, who had almost ten years of teaching experience, wrote a twelve-page letter outlining his objections to the "obscure influence" governing medical education both before and after the Eaton and Rockefeller gifts were made. Ross took exception to the reorganization of the Departments of Obstetrics and Gynaecology, Medicine and Surgery, each of which, he charged, was an "illegal act", contrary to the existing governing statute.\(^{123}\)

Ross also gave an anecdotal account of the meeting wherein the reorganization was announced. Although there had been talk of reorganization before, it took until early 1919 before action was taken:

At a meeting held then of a number of teachers in Medicine a gentleman in authority informed us that the plans for re-organization had been completed and that re-organization would proceed forthwith. I pointed out that such senior men as General Fotheringham, Col. Chambers, Col. Rudolf (as well as many others less senior who had occupied important posts

\(^{122}\) AOO, RG 49-107-0-3, Exhibit Number No. 19. This represents the full ten-point summary by Dr. F. W. Marlow.

\(^{123}\) AOO, RG49-107-0-3, Exhibit 25, Letter from Dr. G. W. Ross to Special Committee, no date given, p. 3. The statute cited is Ontario Statute 1 Geo. V, Chapter 80 (Section 6 of By-Law, Schedule 1 to Statute) providing for separate services within Medicine, Surgery, and Gynaecology and Obstetrics departments of the Provincial University.
before proceeding overseas) were absent on military duty and suggested the impropriety of proceeding to re-organization until their return, especially since it might mean re-organizing some of them out of their academic existence. My objection was characterized as "pure sentiment" and the opinion expressed that sentiment must not be permitted to block plans already completed.\textsuperscript{124}

Finally, Ross outlined his suspicion of interference by persons in the Faculty of Medicine via the large gifts made by the Eatons and the Rockefeller Foundation. Ross wrote that the Eaton Endowment was unlike Sir John Craig Eaton's typical benefactions. "Sir John was in the habit of determining the worthiness of a cause, then he gave freely and liberally as we all know, but he also was in the habit of leaving to others in whom he had confidence, the filling in of what one might call 'operating details'."\textsuperscript{125} Ross concluded that Eaton had, as had been his custom, given without condition and that it was Eaton's "advisors for the time being" who had applied the conditions to the gift. No obvious "advisors" are listed at the end of the four-page indenture, dated January 9, 1919.\textsuperscript{126}

\textsuperscript{124} Ross to Special Committee, pp. 4-5. This letter, which has been edited presumably by Ross, goes on (p. 5) to note the "injustice" of dismissing "at least four eminent physicians"; in the original copy, instead of simply anonymously saying "at least four eminent physicians" it lists J. T. Fotheringham, Graham Chambers, Col. Anderson and Major Thistle. There is a separate memo, dated April 25, 1923 and submitted to the Committee as Exhibit 34 (AOO, RG49-107-0-3), which lists, in addition to Fotheringham and Chambers, J. A. Roberts, Andrew Moorhead, John McCollum, and Herbert A. Bruce as others who had been on military duty and whose services to the Faculty were terminated. "It should be noted," the memo continues, "that all of the above were well-tried and efficient teachers and no suggestion had ever been made that they were not competent to carry on. They were summarily dismissed without notice and all except perhaps Dr. Bruce have suffered materially and in prestige." The author of the memo is not known.

\textsuperscript{125} Ross to Special Committee, p. 6. Ross cited Eaton's gift of the Surgical wing at the Toronto General Hospital as representative of Eaton's way of giving: no conditions were attached to that gift. As Ross wrote, "he just gave his cheque to cover that estimated cost of the building. That was all."

\textsuperscript{126} AOO, RG49-107-0-3. The signatories of the indenture known as the Eaton Endowment were Sir John C. Eaton, Flora McCrae Eaton, The T. Eaton Co. Ltd., R. Y. Eaton, 1st Vice-Pres., J. J. Vaughan, Secy-Treas., S. A. Lash, Vice Chairman, and F. J. Mouré, Bursar (see Footnote 33). There is no mention of Falconer, Graham or any other member of the Toronto Medical Faculty.
There was also a corresponding storm over the recent appointment of a new head of Surgery, Dr. Clarence Starr. As with the reorganization in Medicine, Starr replaced four coordinate chiefs with a single service, and more long-standing instructors were dismissed.127

The Drury Committee continued to hear testimony until the end of Day Nine, January 18, 1923. After hearing from a number of individuals, including Dr. Bruce on the merits of “old-style training” and Drs. Primrose and W. E. Gallie on the advantages of the Full-time system, the Committee adjourned until January 30, 1923. The subsequent meetings were spent solely in Committee deliberation. No more evidence or testimony was taken.

Public opinion sat squarely with the dismissed physicians, at least in the media. Following the end of the public hearings, Saturday Night published an evaluation of the proceedings which lauded the work of those who were dismissed as part-time instructors in favour of Graham, “who was essentially a laboratory man. Since the crying need of Canada is for more general practitioners and not for laboratory men and specialists, the danger of this experiment are apparent to the layman.” The article went on to criticize the Full-time system:

During the course of the enquiry the absurd argument was put forward that the day of the practical diagnostician was done, and the day of the laboratory man had arrived -- as though the hard-working physician in the rural sections of Ontario could afford to wait for laboratory tests with a dying man or woman on his hands.128

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127 Ross to Special Committee, p. 7. Ross described this departmental reorganization as the “summary dismissal of at least four efficient Surgeons ... while at the same time ... surgeons, although of excellent reputation, were retained who were beyond the statutory age limit.” Ross assigned blame, in part, to the Rockefeller Foundation for this: it was the Foundation gift, he said, that allowed for this change.

128 “What the University Inquiry Showed”, Saturday Night, February 3, 1923, p.2. The author also argued that a salary of $10,000 “for what is really a part-time service” was far too high in comparison with the
Finally, the article condemned the system for promoting inevitable mediocrity:

The system will necessarily prevent the University getting the best men in the surgical field, for no man of outstanding ability will subordinate himself, and give up initiative and independence to supply a cog in such a Czar-like machine. The effect on the University as a whole, of these experiments, injustices and anomalies in its greatest, more expensive departments, is necessarily deplorable. So long as the University was employing men of eminence in private practice for part-time work, the latter could afford for the sake of professional pride in the institution and a sense of public service to accept moderate remuneration.\(^{129}\)

Having reviewed all 1,138 pages of the testimony and letters submitted in evidence, a twenty-page report, including a list of eighteen recommendations and a draft Bill to amend The Toronto General Hospital Act, 1911, was issued by the Committee in May, 1923. In addition to addressing the University’s relation to Toronto General Hospital, the question of scientific research, and composition of the Medical Faculty, the report concluded with a two-and-a-half-page outline of the Toronto General Hospital reorganizations. The committee concluded that the reorganizations in the Departments of Medicine and Surgery, “whereby a ‘full-time’ Professor was placed in charge of each of these services was detrimental to the best interests of the public and the medical profession, and violated the law contained in the schedules to the Toronto General Hospital”.\(^{130}\) Note was made of the role played by the Eaton Endowment in encouraging, even mandating, the reorganization in Medicine and of the financial support of the Rockefeller Foundation gift which contributed to the corresponding reorganization in

\(^{129}\) “What the University Inquiry Showed”, *Saturday Night*, February 3, 1923, p.2.
Surgery. The Committee went on, with regard to the Foundation gift, to criticize the "conditions regarding salaries and the limitation of students, which, although having little bearing on the reorganization in Surgery, are, in the opinion of the Committee, highly undesirable."\(^{11}\) There was no mistaking the tone of derision and resentment toward both of these major donors for their perceived interference in the running of the medical faculty even as they offered financial support. On the issue of private gifts, the Committee originally included a recommendation, "That private endowments with conditions attached be not accepted in the future"\(^{12}\), but this recommendation was omitted from the final draft. In total, there were five recommendations in the final report which specifically addressed the teaching of medicine at the Provincial University:

7. That generous provision be made for the furtherance of the efforts of those engaged in Scientific Research.

8. That the composition of the Council of the Faculty of Medicine be revised, so as to enable lecturers and instructors in the clinical departments to vote after serving as assessors for three years, and restricting the franchise in the primary (non-clinical) departments to full professors only.

16. *Re Toronto General Hospital.*
   (a) That the re-organizations in Medicine, Surgery and Gynaecology (1919 and 1920) be referred back to the proper authorities for reconsideration.
   (b) That the method of removal of certain doctors from the staff was unfortunate.
   (c) That a new agreement regarding Hospital appointments be entered into by the University and the Hospital.

17. That hospitals receiving Government aid guarantee against the

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\(^{11}\) AOO, RG49-107-0-1, "Report of Special Committee Appointed by the Legislature to Inquire into the Organization and Administration of the University of Toronto", 1923, pp. 15-16.

\(^{12}\) "Report of Special Committee" (1923), p. 17.

\(^{13}\) This recommendation was originally included as the seventeenth recommendation, see Package III, #26. AOO, RG49-107-0-11. Also omitted from the final list of eighteen recommendations was the following: "That the introduction of the "Full-time" professorship system was not advisable."
practice of "fee-splitting" by doctors practicing therein.

18. That an effort be made to devise a means whereby doctors not on the University staff may have access to the public wards of the Hospital.\textsuperscript{133}

It is interesting to note the recommendation that scientific research be supported. No doubt this is because of the prestige which the discovery of insulin brought to the University of Toronto and Canada in general just a year earlier in 1922. In fact, the Provincial Government took this fledgling commitment to scientific research a step further when they passed the Banting and Best Medical Research Act in May 1923 to give $10,000 per year to support scientific research.\textsuperscript{134}

The fall-out from the Committee investigation into the changes made by Graham affected the Foundation and the way it dealt with future gifts and requests for intercession. When, for example, the newly appointed full-time Dean of Medicine at McGill, C. F. Martin, sent a telegram May 30, 1923, asking Pearce to come to Montreal. Martin’s telegrammed reply was sent the next day: "It is impossible," he wrote to Martin. "and I consider it inadvisable for me to visit Montreal at present."\textsuperscript{135} Pearce elaborated on his decision in his diary: he acknowledged that despite the problem of appointments in the teaching hospitals, "R. F. could not interfere in local problems" and "That recent

\textsuperscript{133} "Report of Special Committee" (1923), p. 19, “Summary of Recommendations”.
\textsuperscript{134} Statutes of Ontario, Chapter 56, “An Act to provide for an Annual Grant to the University of Toronto for the promotion of Medical Research”, 1923, p. 191.
\textsuperscript{135} Pearce to Martin, May 31, 1923, RAC, R.F. 1.1 Projects, 427 Canada, McGill, Box 6, Folder 55 Correspondence.
discussions at Toronto make it inadvisable that R. F. should take a direct interest in the present McGill problem.”  

A. B. Macallum kept the Rockefeller Foundation executives apprised of the situation. Macallum had a unique vantage point from which he observed the reaction to the Foundation and, in the case of Toronto, the Eaton gifts. An alumnus of both Toronto and Johns Hopkins, Macallum returned to Toronto in 1887 to teach Physiology and then Biochemistry before going to McGill as Professor of Biochemistry in 1920. Acknowledged as an advocate and pioneer of scientific medicine in Canada, Macallum also served as Chairman of the National Research Council of Canada during its early years.  

“You will recall,” he wrote to Pearce in January, 1923, “that the Rockefeller gift of one million dollars was made the basis of charges against the University, and especially the Medical Faculty, the charges involving dictation of the policy of the University -- a State Institution -- by the Rockefeller Foundation.” This was exactly what the Foundation and Vincent had fought so hard to avoid. Macallum continued, in

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116 Excerpt from Pearce’s Diary, June 4, 1923 after meeting with Martin in New York City. RAC, RF. L. Projects. 427 Canada. McGill, Box 6, Folder 55 Correspondence. The “local problem” in Montreal is discussed in Chapter 4 and deals with the appointments of Drs. Gray and Archibald. After stating his cautionary position on advising, or being seen to advise McGill in light of the allegations of interference in Toronto over the Full-time system, Pearce nonetheless goes on to state that if “McGill wishes to consider full-time arrangement in connection with Medicine and Surgery or some arrangement approaching full-time, the R. F. would consider carefully and thoughtfully any proposition that might be made to it.” Despite, therefore, the inconvenience of being named in the Ontario Provincial “investigation”, the Foundation was still committed, in the long term, to the Full-time system for Canadian schools to which it was offering aid.

117 Macallum (1859-1934), took his BA at University of Toronto in 1880. He went on to take his doctorate at Johns Hopkins in 1888 before returning to take his medical degree at Toronto (1889), adding a Master of Arts degree, also at Toronto, in 1899. Hence, he was a lecturer in Physiology even while he was studying for his medical degree, according to his entry in The Macmillan Dictionary of Canadian Biography, 3rd ed., by W. Stewart Wallace (Toronto: The Bryant Press Limited, 1967), p.427. From 1920 to 1929, Macallum held the Chair in Biochemistry at McGill University so he had intimate knowledge of both of Canada’s premier medical schools.
his letter, to say that he had managed to get such references to the Rockefeller Foundation stricken from the record, but the battle continued. The attempt to restrict all clinical teaching to full-time instructors had led to the Drury Provincial Inquiry.

Recommendations were made that would have set the governing of the University, including the Medical School, back to the situation before 1906 — namely the Provincial University would be under the direct control of the Provincial Government. Only the Provincial election of 1923 and a change of government, from Drury’s farmer coalition to Ferguson’s Conservatives, kept the medical school and University of Toronto independent of government control.\(^{139}\) The Bill, proposed following this inquiry, would never be resurrected by Ferguson and the entire matter was never officially revisited.\(^{140}\)

Perhaps it was because of the longstanding lack of support from the Provincial Government that major philanthropies were allowed to sweep in and set policy. As long as the Liberals were in power, support for the Provincial University was minimal. It was only with the election of Whitney’s Conservative government in 1905 that grants for the university grew. But even these grants could not match the rate of growth of the university. Hence any other source of funding was more than welcome. One can only

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\(^{138}\) RF. RG 427A, Canada Series, Macallum to Pearce, January 4, 1923.

\(^{139}\) In a brief, front page article in the May 12, 1923 edition of *Saturday Night*, the author questions the two-month delay in presenting the report and bill. It is acknowledged that this led to the report and bill being “shelved on the ground that it was too late to discuss it.” Fault was found with Premier Drury who, despite early support for reform, “subsequently developed ‘cold feet’,” but the author holds out hope that “the incoming administration, whatever its political complexion, will make it one of its first duties next session to implement a similar or perhaps a more far-reaching bill.” (“Shelving of ‘Varsity Bill’. *Saturday Night*, May 12, 1923, p. 1). Of course, nothing more was ever done with either the report or the bill after G. Howard Ferguson came to power with a Conservative majority as the new Premier of Ontario, despite Ferguson having signed the original bill. It is interesting to note that Ferguson himself took on the responsibility for the education portfolio. See McKillop, *Matters of Mind* (1994), pp. 317-321, for more on university education during the 1920s and 1930s.
think that any attached conditions seemed a small price to pay for the capital with which to grow, particularly if the conditions had been vetted by those like-minded individuals leading the way.

There is also the issue of medicine becoming a state-supported and state-serving profession. One of the interesting aspects of both the Eaton and Rockefeller benefactions is that they represented gifts to what was effectively a state school in the case of Toronto. The General Education Board, in its early gifts to American medical schools, vowed not to support state institutions because these already had a form of funding. Much of the rhetoric of the period, with regard to the University of Toronto, spoke of manufacturing physicians to serve the people and if the peoples' money was to be spent on the Provincial University, then the graduates of the university should serve the people.141

This idea was discussed in a 1920 editorial in the Canadian Medical Association Journal.142 The author, commenting on an article written by Professor Fraser Harris of Dalhousie University, says that there is a movement to make physicians "servants of the state in a public department similar in status and practice to the civil service." Harris logically pointed out that since preventive medicine was already a state department, it would not be too far a stretch to make curative medicine one as well.

140 On May 3, 1923 Drury ordered, in the Legislature, that the report be printed and distributed. Then five days later, on May 8, the Legislature was dissolved in anticipation of an election. The report was left in limbo and it was not resurrected when Ferguson became Premier.
141 This was a point of argument which surfaced often relative to the fact that the University of Toronto had a disproportionate number of students from Toronto and environs and, in fact, was seen to be of economic benefit to Toronto. What, the people asked, did the rest of Ontario get for their support of Toronto's postsecondary school? A similar query was also put to the Nova Scotia government with regard to Dalhousie University and led to a refusal to support the school with money from provincial coffers.
The author pictures a time when all medical instruction will be given by state aided universities and when on graduating, each student would automatically enter the state medical service (S.M.S.) and choose whether he would serve the state in the practice of medicine, or of surgery, or of obstetrics, or as a pathologist, or bacteriologist or hygienist or some other "specialist" or expert....and it is contended that all medical men should give up the wearisome, unorganized competition of private practice and became the valued (and pensioned) officers of the noblest state service that can be conceived of.\textsuperscript{143}

Harris also noted that a role would also be found for medical researchers in this plan. He acknowledged that researchers do not care to practice medicine but they are poorly remunerated for their individual expertise. This breed of physician "has an aptitude for research [but] finds himself unable to support himself unless he accepts a teaching post which may demand too much of his time and may be very poorly paid".\textsuperscript{144} Harris would have researchers on par with practising physicians as officers in the State Medical Service. In return for their support of this model, the people, especially the poor, would receive physicians of the highest skill and all methods of treatment and diagnosis would be available to the entire population. Harris' model, which was never adopted, highlights both the class-based, social hierarchy in getting healthcare and the inequity in pay between the researchers and clinicians within the healthcare system.

Furthermore, it seemed as though the autocratic way in which the Eatons and Rockefellers dictated to the Provincial University angered the committee. Drury's government was a coalition government, which came to be known as the Farmer/Labour or United Farmers government; they were the guardians of an independent, state

\textsuperscript{143} "State Service" (1920), p. 72.
\textsuperscript{144} "State Service" (1920), p. 72.
institution, charged with educating people for tomorrow’s Ontario. The philanthropists were wealthy and seen to be buying influence, as the Rockefellers had been seen to be doing in the United States. The two sides were bound to clash on this issue, particularly when such emotionally-charged aspects as returning war veterans and changing the status quo were involved. It did not help that inconsistencies, such as keeping on some instructors who were past the mandated retirement age while dismissing some who had not yet reached that age, were present as well.

Another Fight for the Full-Time System:
The Case of the University of Cincinnati College of Medicine

Finally, Toronto’s brush with losing ground on the Full-time initiative was not the only such case in North America. As Ellen Corwin Cangi notes, the University of Cincinnati College of Medicine saw a similar backlash when George Heuer, a protegé of William Stewart Halsted at Johns Hopkins, arrived at Cincinnati in 1921 to take up a Foundation-sponsored full-time post in surgery. Heuer’s post was not the first full-time clinical appointment at Cincinnati. In 1917, Roger S. Morris took the first full-time chair of medicine and he was followed, in 1920, by Kenneth Blackfan (like Heuer from Johns Hopkins) as the full-time professor of pediatrics. Unlike Heuer, Corwin Cangi explains, neither Morris nor Blackfan faced the wrath of their peers in the Cincinnati medical

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144 Ellen Corwin Cangi, “Abraham Flexner’s Philanthropy: The Full-Time System in the Department of Surgery at the University of Cincinnati College of Medicine, 1910-1930”, Bulletin of the History of Medicine, 56, 2 (Summer 1982), pp. 160-174. This is another example of resistance to the full-time system, as funded by the Rockefeller philanthropies. A similar case can be found in Michael J. Lepore, Death of the Clinician: Requiem or Reveille? (Springfield: Charles C. Thomas, 1982), who discusses Columbia University’s two year struggle with strict full-time. Columbia-Presbyterian so angered
establishment. and both physicians maintained private practices in addition to their "full-time" clinical teaching duties.  

Like Graham had in Medicine and Surgery at Toronto, Heuer reorganized his department soon after arriving. "It is worth noting, that only four Cincinnati surgeons survived his scrutiny including J. Louis Ransohoff, Frank Fee, Dudley Palmer and J. A. Caldwell. The rest Heuer dismissed ... " Corwin Cangi says. At the same time. Corwin Cangi acknowledges that Heuer upgraded the curriculum, also a goal at Toronto.

For their efforts, Heuer and Graham, as well as the philanthropists supporting their efforts, the Carnegie Foundation and General Education Board, and Eaton and Rockefeller Foundations respectively, were severely criticized. For example, upon his arrival, Heuer was attacked by members of the Cincinnati College of Surgeons. At a dinner given in Heuer's honour, the toastmaster and Professor of Gynaecology, Charles Bonifield, warned against "gifts of gold" from philanthropists which threatened to take away schools’ freedom and independence. Earlier, in editorials in the Journal of Medicine, Bonifield had railed against colleagues who fought for Carnegie and Rockefeller gifts, seeking to woo the twin fetishes of full-time medicine and research. Like many in Toronto, Bonifield felt that the medical school existed to train practitioners

Abraham Flexner when it gave up on the full-time system in favour of geographical full-time that it almost lost its two million gift from the Rockefellers.

149 Bonifield was also the editor of the Journal, Cincinnati Academy of Medicine.
and not scientific researchers. ’Schoolmen professors’ had no place in colleges that existed to educate private practitioners, he said.\textsuperscript{151}

Instead of a special government committee, the college of medicine was taken to court in 1924 by Samuel P. Kramer, a former professor of clinical surgery at the faculty. Kramer alleged that one ward of the General Hospital had been illegally set aside for Heuer’s private use. “This situation had developed, Kramer charged, because Christian R. Holmes [Dean of the medical school who died in 1919] had traded the school’s independence for money from the Carnegie Foundation and the General Education Board,” Corwin Cangi explains.\textsuperscript{152} The Supreme Court of Ohio agreed with the full-time system’s critics and Heuer and his supporters were forced to find another outlet for their idea of a full-time ‘research ward’. They found it. Using connections and the financial support of select prominent Cincinnati families, the Christian R. Holmes Hospital of the University of Cincinnati opened in May, 1929. The new facility featured forty-two private beds and a surgical suite. Despite the venom from his critics and the early setbacks, Heuer and the full-time system were vindicated and flourished in Cincinnati.\textsuperscript{153}

\textsuperscript{153} “Abraham Flexner’s Philanthropy” (1982), p. 173. Corwin Cangi completes the early history of full-time medicine at Cincinnati with the comment that Heuer’s successors, first Mont Reid then Burr Noland Carter, continued the “Halsted-Heuer surgical tradition” after Heuer left Cincinnati in 1932. Heuer moved on to become the first Chairman of Surgery at New York Hospital-Cornell University Medical Center. Both Reid and Carter had accompanied Heuer to Cincinnati in 1921, all three coming from Johns Hopkins.
Influence of the Rockefeller Gift to Toronto Medical Faculty

The influence of the Rockefeller Foundation gift was not only one of change in teaching, but also one which illuminated the state of the profession at the time and gave the Toronto Faculty an opportunity for self-analysis and reflection.

One of the most tangible influences the Foundation gift had in Toronto was actually a condition of gift. Before the money was given, a commitment to matching funds from either government or the public, or any combination of the two, was required. Since one million dollars was a substantial amount in 1920, it was obvious that matching the funds was a necessity (rather than risk losing the money). Up until the gift, Toronto medicine had virtually no alumni support (because of the fractured history of its component schools), and the gift served to force Toronto alumni to “pull together”. It also instilled in them both a spirit and a tradition of giving.

In terms of publicity and increased prestige for the purpose of fundraising for medical research, although the Foundation gift was substantial, it was the discovery of insulin that did the most in the early 1920s to establish the merit of scientific medicine and medical research. It is ironic that Banting, one of the principal figures in the discovery of insulin, was a physician trained in the old-style to practice, with little laboratory or scientific research background. After Graham’s appointment was secure, scientific medicine was assured a place at Toronto.

There is little doubt that the Foundation gift also increased the prestige of the Toronto Faculty of Medicine, but the direct influence on other private donors is less marked than was the case at McGill. Toronto medical teaching had a more checkered history, as outlined earlier and in Chapter One, and was not able to rival McGill in alumni
and private donor support to the same degree (from 1919 to 1921, McGill enjoyed more than twelve million dollars in endowments while Toronto had none recorded). But Toronto did have the support of the Provincial Government, despite the 1923 Commission, and for example the University of Toronto received $527,400 in Provincial Government and Municipal Grants in 1919/20 compared to McGill’s $101,068.

Finally, the gift, and its matching funds, helped certain “long-standing” ideas become realities: greater scientization of medicine, establishing the “research ideal” in Canada; setting up a pedagogical mechanism for continuing education for medical school graduates; and starting to offer graduate degrees in medicine which, in turn, began to slow the “brain drain” to the United States by training instructors and paying them a competitive salary to be full-time instructors in Canada.

The scientization of medicine had a long history in Toronto. Sandra McRae credits Ramsay Wright and A. B. Macallum for the strong tradition dating back to 1880. They nurtured the scientization of medicine to the point where, whenever money became available, the status of science within the medical school could be elevated yet again. By 1920, laboratory work in the premedical sciences had more than forty years of exposure at Toronto and students were soundly grounded in laboratory training. The German tradition, with which educators had become familiar in the 1870s, had been successfully imported and now was an integral part of a North American medical.

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144 The Canada Year Book, 1920, (Ottawa: F. A. Acland, 1921), “ Universities of Canada: Financial Statistics, 1919/20”, pp. 156-157. All information on University of Toronto does not include figures for the federated colleges, Victoria University and University of Trinity College, neither of which, by this time, had an affiliated medical school.


146 This had been a goal for decades, as McRae notes in her unpublished dissertation. With the push provided by the Foundation support, theory could be put into practice quickly.
education, in part because as Kenneth Ludmerer and Robert Hudson have pointed out, so many of those who would go on to reform the teaching of medicine had studied in Germany during the height of the laboratory revolution. In exchange for their investment in science, and particularly laboratories, physicians gained a new authority. The laboratory, as John Harley Warner says, was a force for elitism; it produced a privileged body of knowledge available to only a few. In this way, medicine remained a mystery. Science, via the knowledge gained from the laboratory, gained more authority. The result of this was the growth of specialties and the fractioning of the profession as researchers spent more time in the laboratory and clinicians had to determine how much time they could spare in the laboratory.

A second phase of scientization was that of clinical teaching. Again, inroads had been made by some educators with foresight. But the cost was immense. It would take philanthropic gifts to support such a radical shift as full-time clinical scholars and there was no way to make this a gradual change. In the face of great resistance, the full-time system would triumph but not without problems. Once the commitment and resources

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158 Ludmerer, "Reform at Harvard" (1981), pp. 346-347 and Hudson, "Flexner in Historical Perspective" (1992), pp. 3-4. Ludmerer even goes so far as to denote two camps among physicians. While the younger generation of reformers, post 1870, had a direct link to laboratory methods through the German tradition, the older physicians of mid-nineteenth-century were tied to the clinical tradition of their French instructors. There was a professional tension that existed between the two groups. The clinicians mistrusted the laboratory and would not acknowledge the role of the basic sciences in medicine. Ludmerer cites an example of a professor of pathological anatomy who was "so uninformed ... of the advances in medical science that in 1870 he confessed his inability to use the microscope." (p. 347).
160 The problems would lead the Rockefeller Foundation, in 1919, to scale back their expectations of grant recipients with relation to the full-time system. Geographic full-time teaching became the norm and the earlier "threats" of losing grant money if the system was not implemented to the satisfaction of Foundation representatives were dropped in favour of a hands-off, non-interfering policy.
were in place, the shift to full-time was made. Whole departments, filled with part-time clinical instructors, were dismissed in favour of fewer full-time teachers. It was deemed to be beneficial if the physician could learn from the laboratory as well as the patient, to recognize relationships between symptoms and disease. To do this, required a dedication that rivalled that of the scientist. As Flexner wrote, “The laboratory men are heroes -- men of ideals who have stood up to their jobs for the sheer love of science!” It also required the financial support to take men away from their lucrative practices and entice them to teach full-time on a competitive salary.

Finally, one of the products of this scientization and full-time clinical teaching was the research careers that came out of them. Now that full-time teaching had been introduced, and the benefits of full-time research had been realized with the discovery of insulin, there was no turning back. Alison Li credits the pioneering work of Wright and Macallum with setting the stage for an entire medical research industry. This came to pass in three distinct stages. The first was the efforts of Wright and Macallum in establishing honours stream programs in biochemistry and physiology. The second phase was represented by the generation of James Collip, albeit a biochemist, who expected research to be part of their careers as healthcare professionals. The third stage was the creation of a social identity for these researchers with their societies and journals.

On May 8, 1923 the Ontario government put the research ideal on a firm footing and led it into the second phase. That spring day, The Banting and Best Medical
Research Act, 1923 was passed in the Provincial Legislature. Introduced by Drury on April 27, 1923, it appropriated a sum of $10,000 per year for medical research:

... it is believed that prosecuting the research will result in perfecting a remedy for the cure of that disease, and it is desirable and expedient in the public interest to provide by legislative grant for the continuation and prosecution of kindred researches.\(^3\)

Despite the repercussions of the radical changes imposed by Graham immediately following the Eaton gift, looking back, the appointment of a full-time chair in Clinical Medicine is credited with a number of significant pedagogical and organizational changes. These include: a reorganization of Toronto General Hospital that resulted in more efficient teaching; the establishment of a systematic post-graduate training system; an emphasis on laboratory research coupled with clinical practice; and, for the first time in Canada, fair remuneration in the form of salaries paid to full-time university junior researchers in internal medicine.\(^4\) After outlining the state of medical teaching at McGill

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\(^3\) Statutes of Ontario, Chapter 56, “An Act to provide for an Annual Grant to the University of Toronto for the promotion of Medical Research”, 1923. p. 191.

\(^4\) AOO, Eaton Papers, Public Relations - Donations - Medical and University (1920-80). F229-162-0-645, “A Postscript”, Varsity Graduate, Dec. 1959, pp. 34, 60. Ian Montagnes, author of this article, notes that in Europe, and particularly in Germany, full-time professors and research laboratories were common at the time of the Eaton Endowment and notes that Johns Hopkins appointed the first full-time professor of medicine in 1913.
and Dalhousie Universities. and the terms of their gifts from the Rockefeller Foundation in Chapters 4 and 5, respectively, a comparison of the long-term effects of the gifts will be outlined in Chapter 6.
Chapter 4 - McGill University: The Nation's University

The situation at the McGill University medical school in Montreal was not the same as that at Toronto. Although McGill, like Toronto, was to receive one million dollars (U.S.) of the total five million allotted to Canadian medical education by the Rockefeller Foundation, the way in which the gift was matched, spent and viewed by the school was different from Toronto. In part, this is because McGill was not seen as "the provincial school" of Quebec -- in fact, McGill billed itself as the "nation's university". This is not all that surprising given that of the seven Canadian medical schools operating in 1919, McGill had the most solid reputation internationally: unlike Dalhousie (formerly Halifax Medical College) and even Toronto, there had been no prolonged periods without instruction at McGill. The two schools serving Canada west of Toronto, namely the medical faculties of the University of Western Ontario and University of Manitoba, only gained university affiliation status in 1913 and 1918, respectively. Finally, the medical school at Queen’s University in Kingston, Ontario had a tumultuous past, particularly in terms of funding and acceptance of female students, and the Laval University Medical Department offered its instruction in French.

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1 Stanley Brice Frost, McGill University for the Advancement of Learning, vol. II, 1895-1971 (Montreal: McGill-Queen’s University Press, 1984), p. 15. Even William Macdonald, one of McGill’s greatest benefactors during the nineteenth and early twentieth century, believed the university to be a national institution. This view of McGill is supported by the fact that it was affiliated, as a sort of senior or finishing institution, to a number of smaller Canadian schools. For example, after two years of study in the engineering/applied science faculties of Acadia and Mount Allison University, Royal Military College, and the Universities of Alberta and St. Francis Xavier College, students would move on to McGill for their third year of instruction. This was also the case with University of Alberta’s medical program: students who had completed three years of medicine in Edmonton then travelled to McGill for their fourth year of instruction. Internationally, McGill had similar arrangements regarding Arts and applied science courses with Oxford, Cambridge Universities and the University of Dublin. From McGill Calendar, 1918/19, (Montreal: McGill, 1918), pp. 34-35.
It is important to note, as was the case in Toronto, that the Foundation's gift of one million dollars was significant on many levels. Beginning with one element that remains difficult to quantify, there was the influence of the Rockefeller name: even those who were unaware of the history of the Foundation or of its interest in aiding medical research and education were aware of Rockefeller's wealth. Any philanthropic investment that Rockefeller, or a Foundation bearing his name, wished to make in Canada was welcomed by (almost) all. It was certainly worthwhile to mention the Rockefeller name when seeking additional government or private funding: if the Rockefellers could give money to Canadian schools, so could Canadians themselves!

This leads directly to the second point: as a condition of the gift, the Foundation required that their dollars be matched by Canadian government or private gifts. Hence, whatever amount the Foundation gave was, by definition, doubled and even quadrupled.

Thirdly, when measured against the operating costs of a modern medical school, the Foundation gift and its influence was not only timely but necessary for survival. If the McGill medical school had to rely primarily on student fees for its annual expenditures, as was the historical norm, McGill could not retain its solid reputation. In 1919, the fees collected for sessional instruction totalled $66,456.78. Salaries for instruction alone totalled $52,815.95 that same year with light, heat and power costs being the next largest cost ($20,477.76). The million dollar gift from the Foundation.²

² RAC, RF. 1.1 Projects, 427 Canada, Box 6, Folder 55A, "Revenue and Expenditure of the Faculty of Medicine for the Year Ending 30th June, 1919". Although there was additional revenue from a series of endowments and bequests, these only totalled $58,256.51 in 1919. The total expenditures reported were $112,136.89 plus $4,626.40 in hospital and society fees.

³ Each Foundation million represents almost nine million (Cdn.) in 1996 (Cdn.) dollars, if the foreign exchange conversion is calculated for the time of gift (ie. 1920). For the method of calculation, see Chapter 2, Footnote 10.
was equivalent to almost sixteen years worth of student fees. The gift represented the opportunity to leap into the future of medical education with proper facilities, equipment and instructors.

In this chapter the state of McGill’s medical teaching before and at the time of the Foundation’s announcement will be examined as will the preliminary correspondence, reaction to the announcement of the Rockefeller gift and evaluation visits by Vincent and Pearce. The case of McGill will be compared to that of Toronto with regard to the aftermath of the gift.

**McGill Medical School: “Longest Record of Uninterrupted Bedside Teaching in North America”**

As noted in Chapter 2, McGill has the longest history of medical teaching in Canada. The independent school, set up by the four Scottish physicians in 1823, became the Faculty of Medicine at McGill University in 1824. It would be almost two decades later, in 1843, that the Faculty of Medicine was founded at King’s College, Toronto. One other important difference in comparing the history of medical education in Montreal and Toronto is that McGill’s faculty of medicine was the lone option for English-language training in Montreal. By the time of the Rockefeller Foundation gift, McGill had been producing medical school graduates for close to a century. By contrast, medical teaching in Toronto had only become unified in October, 1903 when Trinity Medical

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4 This was a point duly noted in the “Supplementary Report to the Rockefeller Foundation from the Medical Faculty of McGill University”. In this seventeen-page document, submitted May 11, 1920, the language and cultural differences between the Francophones and Anglophones in Quebec were outlined for the Foundation executives: “over 4/5 of the population in our province being French, this Faculty can
College amalgamated with the University of Toronto medical faculty. Looking at the same period of almost a century, from 1823 to 1919, Montreal had constancy in English-language medical education at McGill, at least from an institutional point of view, while Toronto faced the opening and closing and, in some cases, reopening of various private and college-affiliated medical schools. This had its repercussions years later when alumni of the Toronto and McGill schools were asked to match the Foundation gift. Those in Montreal had a far easier time, given a unified history of English-language medical education at McGill and a far more mature alumni base. Despite the fact the Anglophones represented only one-fifth of the population of the province, support for medicine in particular and McGill as a whole was considerable and consistent. The Toronto school had only been in existence, in the form it took in 1919, for fifteen years. Perhaps the slower pace of Toronto support can be understood as a lack of allegiance to the University of Toronto medical faculty, given that many of the older alumni in a position to give more generously were graduates of Trinity Medical College or the private Toronto School of Medicine.

McGill also had a long history of considerable gifts from prominent Montreal citizens — the Anglophone elite — and the medical faculty benefited as much as other university departments. Three of the most significant donors were Donald A. Smith, William Macdonald and J.H.R. Molson.¹

¹ Frost, *McGill Advancement of Learning* (1984), p. 11. Molson, of Molson Breweries, gave money to expand the medical buildings in 1895. The facilities, after the expansion, included a lecture hall that could seat up to 450 students, a large chemistry laboratory and, as Frost notes, "provision for physiology, pharmacology, histology, and a dissecting room." All of this was necessary for a faculty that by 1898, included more than 400 students in a four-year course.
Smith, chancellor of the university, was a prominent Montreal businessman. In addition to serving as governor of the Hudson’s Bay Company and president of the Bank of Montreal, he was also a principal shareholder in the Canadian Pacific Railway and involved in local politics as a member of Parliament for Montreal West. Finally, Smith was also made a baron of the United Kingdom in 1897, given the title of Lord Strathcona and Mount Royal.

Among the projects endowed by Lord Strathcona were: the “Donalda” program for women’s education (this would, by 1924, equal $1,202,500); the building of Royal Victoria Hospital; a medical faculty endowment fund ($50,000); chairs in each of pathology and hygiene ($100,000); and additional gifts for additional resources in 1898 ($100,000). One point brought out by Stanley Brice Frost in his history of McGill, is that serendipitously for medical education in Montreal. Smith’s only child, Margaret, married the son of the dean of the Faculty of Medicine in 1888, thereby increasing Smith’s interest in medical education.7

It was Lord Strathcona who persuaded William Peterson to accept the post of principal of McGill, a position Peterson would hold from 1895 until 1919. During the twenty-four years of Peterson’s principalship, not only did science and professional education such as medicine prosper, but endowments grew from close to one million dollars to more than twelve million dollars.8

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Among Macdonald’s benefactions toward science were $700,000 toward the erection of the Chemistry and Mining Building (1898) and endowment of two professorships in chemistry and a chair of mining and metallurgy. In fact, Frost notes that, “During the last decade of the nineteenth century and the first of the twentieth, William Macdonald almost single-handedly financed and maintained the science departments of McGill University on a scale which gave them first-class potential throughout the world.” Estimates put Macdonald’s benefactions to McGill, excluding monies bequeathed in his will, at close to eleven million dollars.

But what of Macdonald’s support of medicine? When he died in 1917, the man who was not only a long-time benefactor but who had served, since 1914, been McGill’s chancellor, bequeathed $500,000 to the faculty of medicine. Adding up all of his gifts, Macdonald gave more than fourteen million dollars to McGill University. Toronto had nothing like this!

One of the major differences between the University of Toronto and McGill University is the amount of provincial government support. While Toronto had sporadic support from the Ontario government until the turn of the century, McGill received little to no financial aid. For example, by 1911, Frost notes that while Toronto received $750,000 in annual grants from the legislature, McGill’s statutory grants totaled $3,000.

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* This equalled, without adjusting for inflation or currency exchange, the amount given by Rockefeller’s General Education Board to the University of Chicago’s medical school and Provident Hospital in the period 1914 to 1960. Only Vanderbilt University’s medical program was more richly endowed by the
There was a legacy of relying upon the generosity of private donors, and McGill's needs were met well by Strathcona, Macdonald and the Molson family even as there was a long history of the Quebec government offering little aid to post-secondary education. By 1911, however, the provincial government was willing to support ventures such as the École des Études Commerciales, Écoles Polytechniques and even Laval University to a far greater degree than McGill. Perhaps the long-standing habit of being rescued by the considerable generosity of Strathcona, Macdonald and the Molsons had the effect of relieving the burden McGill might put on the legislature in either practice or conscience. The advantage borne of these circumstances is that Montreal citizens became accustomed to supporting McGill and, when called upon, particularly in 1911 and 1920, responded generously and in record time. This is all the more striking, given that it was almost exclusively the anglophone minority of Montreal which gave its support. As McGill biochemistry professor A. B. Macallum wrote, years later, to Pearce, "McGill has to depend wholly upon a constituency in which the French-Canadian element plays no part."

Examining the state of medical education at McGill in the early decades of the twentieth century, it is interesting to note that there were circumstances that both enlarged and diminished the enrolment of the faculty. Like Toronto, McGill University absorbed a smaller school. In 1905 McGill University took over the rival medical faculty of

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14 A. B. Macallum to R. M. Pearce, August 26, 1922, RAC, RF, 1.1 Projects, 427 Canada, McGill, Box. 6. Folder 55. Macallum went on to tell Pearce that financial support from the Government of the Province of Quebec was not likely, particularly since the Province had just given $100,000 to the French-language University of Montreal for a Radium Institute for the treatment of cancer.
Bishop’s University of Lennoxville, Québec. Although Bishop’s was in another town, the medical faculty was in Montreal.\textsuperscript{15} The following year, Peterson also took the initiative to establish McGill University College of British Columbia and served as its first principal. Although this satellite college was to last only until it merged with the new University of British Columbia in 1915, the legacy remained and many students from the West travelled to McGill, first to complete the third and fourth years of their general programs and often to enter McGill’s medical school.\textsuperscript{16} Clinical instruction for McGill medical students was to be had at Montreal General (opened in 1822), Royal Victoria Hospital (opened in 1893), Montreal Children’s Hospital (opened in 1904), and later at the Montreal Neurological Hospital and Institute (opened in 1934).\textsuperscript{17}

With regard to financial management, Frost points out that as recently as 1895 the ‘corporate body’ of medical professors continued to manage its own affairs.\textsuperscript{18} It was not until 1905 that McGill’s Faculty of Medicine resolved to relinquish its financial autonomy in favour of becoming entirely a constituent part of the university. This meant that the Faculty would be governed by and contribute to the university. It was also in

\textsuperscript{15} Frost, \textit{McGill Advancement of Learning} (1984), p. 44. This faculty had begun as a rival school to McGill in 1871. It was organized by a McGill graduate, Francis Wayland Campbell, who served first as registrar and then as Dean until his death in 1903.

\textsuperscript{16} MacLennan, \textit{McGill: The Story} (1960), p. 93. The University of British Columbia would not have its own medical faculty until 1950. The closest geographical option for B.C. students wishing to study medicine would have been Manitoba Medical College, established in 1883. No doubt, however, the allegiance to McGill was already formed for those who had studied at its “satellite” campus in British Columbia in addition to the fact that McGill’s facilities and reputation for medical education were second to none in Canada and equal to University of Toronto in the first two decades of the twentieth century. As Edgar Collard notes in his summary of the Peterson years as principal in MacLennan’s monograph, the new Medical Building not only offered space for the growing number of medical students, but more and more students were choosing McGill for their medical training “for the new laboratories and equipment that the broadening conception of medicine demanded.” (p. 82).

\textsuperscript{17} Frost, \textit{McGill Advancement of Learning} (1984), p. 167. Students were also allowed to see patients at the Montreal Maternity Hospital as noted in the McGill University Calendar of 1911/12.

1905 that the medical faculty suggested extending its course from four to five years. Frost notes that the cost of this change was estimated to be around $10,000 in operational expenditures, a sum which was met by a gift of $50,000 from Strathcona.19

Word of the Rockefeller Gift

When McGill heard of the Rockefeller Foundation’s decision to aid Canadian medical education, the timing could not have been better. For so many years, McGill medicine and, in fact the university as a whole, had been accustomed to turning to its long-standing patrons, Strathcona and Macdonald, for financial aid. But by 1919, both of these men were dead and although they left legacies, McGill had to find other forms of support.

One such source was the Carnegie Foundation. William Peterson, who served as McGill’s principal from 1895 until 1919, oversaw great growth in the university as a whole and particularly within the Faculty of Medicine during his tenure. As Frost notes, “Within three years of Peterson’s arrival, the number of students in the four years of the undergraduate course had gone beyond the four hundred mark and not only the available space but also the financial resources of the faculty were consequently under severe strain.”20 This strain was generated by an ambitious building program, a fire and the fact that the university took over responsibility for the medical faculty in 1905. the same year the medical program was expanded from a four to a five-year course.21 It was during Peterson’s reign that the medical facilities grew substantially and the wherewithal was

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found to fund the expansion. Peterson was pushed to the limit when, in 1907, fire
destroyed all but one of the annexes of the new medical building and, a week later, the
Macdonald Engineering Building. Although it was Macdonald who funded the
rebuilding of the engineering building bearing his name, the new medical facilities would
not be completed until 1911. At a cost of one million dollars, the reconstruction of the
medical building was paid for with insurance monies and a gift from Lord Strathcona.22

Peterson oversaw two major financial campaigns in 1906 and 1911. These would
become valuable precedents for fundraising when, in 1920, the Rockefeller Foundation
demanded that matching funds be found if McGill's medical faculty was to receive its
one million dollar gift. Peterson's connection with the Carnegie Foundation for the
Advancement of Teaching goes back to this Foundation's beginning. Peterson was
chosen as one of the twenty-five original trustees when the Foundation was set up in
1905, endowed with $15 million. During McGill's financial campaign of 1906, the
McGill Board of Governors took advantage of Peterson's connections, and "dined and
wined Andrew Carnegie"23 in an attempt to entice financial support for McGill. Although
this effort was unsuccessful, it did generate a spirited campaign aimed at the citizens of
Montreal.

22 Frost, *McGill Advancement of Learning (1984)*, pp. 82-83. The new engineering facilities were ready for
students in 1909 and the building was paid for by Macdonald. The medical building, which cost one
million dollars, was financed by a combination of insurance funds and a donation of $500,000 by
Strathcona. Not surprisingly, it was named the Strathcona Medical Building.
Robert Reford challenged Montreal citizens to raise one million dollars to aid the McGill General
Endowment. If the challenge was met, Reford promised to contribute $50,000 himself. Reford was, again
in the campaign of 1911, a generous donor, giving $100,000 of a total one and a half million dollars raised
in just five days.
The desperation which Peterson faced in 1911 was one of trying to maintain some of the most crucial resources, namely many of the world-class academics. Frost gives the example of pathology professor J.G. Adami. In 1912, the University of Chicago was courting Adami and the incentive was a salary of $9,000, almost three times more than he was being paid at McGill. Adami let Peterson know that he would be content to remain at McGill if his salary was increased from $3,500 to $5,000. Adami was not the only professor to approach Peterson with a request for a raise and, in fact, some of the money raised in the campaign of 1906 was used for this purpose.

Peterson's long-standing efforts were not in vain. Although unsuccessful in procuring Carnegie Foundation funds in 1906, the Carnegie Corporation announced on February 25, 1918 that McGill was to receive a grant of one million dollars. Like the Rockefeller Foundation gift to McGill's medical school that came in 1920, the Carnegie grant was said to be in recognition of McGill's contribution to the war effort. Frost, however, notes that originally the Carnegie Corporation directors had given the gift in recognition of Peterson's years as trustee and chairman of the Carnegie Foundation for the Advancement of Teaching. Peterson asked that when the announcement was made.

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24 Frost, *McGill Advancement of Learning* (1984), p. 85. Adami, who was appointed in 1892, stayed on at McGill until his retirement in 1919. His successor as head of the Department of Pathology was Horst Oertel who came to McGill in 1914 and retired in 1938.

25 Frost, *McGill Advancement of Learning* (1984), p. 85. The Carnegie Foundation for the Advancement of Teaching began the initiative of providing "free" pensions for professors past the age of 70. This initiative continued for McGill professors until 1929 when the Teachers' Insurance and Annuity Association was set up (p. 125).

26 Peterson dutifully served the Carnegie Foundation from 1905 to 1918.
the gift be associated with McGill's wartime efforts and sacrifices, rather than with his contributions to higher education.\(^7\)

The university's wartime efforts were substantial\(^8\) and would be noted by Rockefeller Sr. when he suggested that the Foundation bearing his name consider aiding medical education in Canada, in part to recognize Canadian wartime participation.\(^9\) As in Toronto, McGill students, alumni and faculty staffed their own hospital, in this case Number 3 General Hospital.\(^10\) No. 3, as the unit was known, was composed entirely of McGill men: officers were either faculty or graduates of the medical program and the remaining men were students. The capacity grew from 520 to 2,100 hospital beds and, to the beginning of 1918. No. 3 treated 100,000 patients with a mortality rate of half a percent among non-surgical cases and 2.5 percent among the 7,000 surgical cases.\(^11\) The

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\(^7\) Frost, *McGill Advancement of Learning* (1984), p. 107. Subsequent support from the Carnegie Corporation included a grant to support professional training of librarians in 1927 (p. 302) and a grant to establish the McGill University Rural Adult Education Service in 1938 (p. 295).

\(^8\) Frost, *McGill Advancement of Learning* (1984), estimates that sixty percent of all eligible graduates of McGill and sixty-five percent of all eligible undergraduates served during the war. In total, they numbered more than 3,000 men (p. 99).

\(^9\) McGill's participation in World War I was wholehearted, in part because of its readiness: McGill was the first Canadian university to establish an officers' training corps in 1912. Furthermore, the Graduates' Society organized a provisional battalion which drilled on the campus and eventually combined with the training corps. By 1914, not only was there a ready group of more than 600 men prepared to go overseas, but the unit continued to train many more men from 1914 to 1918. McGill men served in various companies including the 7th and 10th Siege Batteries, commanded by McGill men, and twenty-six officers and 186 McGill men joined the Tank Battalion which was made up almost entirely of Canadian university men. A list of those who took part and a preface on McGill's wartime record can be found in *McGill Honour Roll*, (Montreal: McGill University Press, 1926).

\(^10\) G. Oswald Smith, ed., *University of Toronto Roll of Service, 1914-1918*, (Toronto: University of Toronto Press, 1921/34), p. 599. Like Toronto's Number 4 General Hospital, No. 3 General was first stationed in Shorncliffe, thirty-five kilometres east of London, England in May 1915. In June of 1915, however, McGill's hospital moved to Camiers, twenty kilometres south of Boulogne-sur-Mer, France and after a year shifted to Boulogne where it stayed in service until May 1919. The final two months of overseas service for the McGill No. 3 Hospital, May and June, 1919, were spent in Witley, England, thirty kilometres southwest of London.

\(^11\) *McGill Honour Roll* (1926), p. 13. Additional accounts of McGill's wartime record can be found in two works by R. C. Fetherstonhaugh. *McGill University at War* (Montreal: McGill University, 1947) examines McGill's role in both World Wars while his *No. 3 Canadian General Hospital, 1914-1919* (Montreal: McGill University, 1928) offers a history of this field unit.
commander of the hospital was Colonel H. S. Birkett, who took a leave of absence from his role as Professor of otolaryngology and Dean of McGill Medical School from 1914 to 1921. Birkett's second-in-command was J. M. Elder, assistant professor of surgery.

The medical faculty distinguished itself not only in its level of participation in the war effort (849 men, of which 630 were graduates, enlisted), but also in the decorations awarded to those who served: medical students and alumni received 198 of 791 medals. Decorations and mentions in despatches accorded McGill students and alumni. Only the Faculty of Applied Science had a greater number of enlisted men (1,188) and decorated men (352). Finally, in reference to sacrifices made, the medical faculty suffered losses of eighteen graduates, nine undergraduate and four "past students", a relatively low number compared to the total of 363 McGill men who died or were killed on service.

The Faculty After the Great War

As in Toronto, McGill medicine enjoyed a growth in enrolment in the years immediately following the war. By 1919/20, there were more than 500 students in the

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12 A. D. Blackader, professor of pharmacology, therapeutics, and pediatrics, served as Acting Dean of the medical school during Birkett's wartime absence. Birkett returned in 1918 to resume his teaching and administrative duties. He was succeeded as Dean by C. F. Martin, McGill's first full-time Dean of Medicine, in 1923.

13 McGill Honour Roll (1926), p. 228. In total, 3,059 graduates, undergraduates, and past students of McGill enlisted in World War I. Perhaps the most famous of these was John McCrae, author of "In Flanders Fields". A graduate of University of Toronto medical school and a professor at McGill's medical school when he enlisted, McCrae was assigned first to an artillery unit and then to No. 3 General Hospital. He died, of pneumonia, while on service in January, 1918. Another member of the McGill medical faculty, Auckland Geddes, also left his teaching position to join the war. Geddes, a professor of anatomy at McGill since 1913, was the first commander of the Officers' Training Corps, but left to join active service. By the war's end, Geddes was a hero and had been knighted. McGill chose him to replace Peterson as principal in 1919 a position which he held for just a year. He resigned, almost before he had begun, to take a posting as British ambassador to Washington. His successor was another war hero, Sir Arthur Currie, who became principal of McGill in May, 1920. Currie was the principal who would see almost $3,000,000 from the Rockefeller Foundation invested in McGill medical teaching and research, beginning with the one million
program. H. S. Birkett had returned to assume the duties of Dean of the Faculty in 1918/19 and under his guidance the five-year program became a six-year program by 1919/20. Those who had been on military service were, however, exempted from the extra year of study.

But with the growth in enrolment came pressure on both resources and facilities. Although the new medical building was less than a decade old in 1920, already new space was being sought. A detailed report of revenue and expenditures of the Faculty of Medicine for the year ending 30th June, 1919 was prepared and included, seemingly presciently, reports from the heads of each department. A copy of this document was sent to the Rockefeller Foundation and mirrors Toronto’s “wish list” and breakdown of needs if McGill was to retain its status as a leading medical school. Revenue from fees alone was $66,456.78. All other sources of revenue, including bequests and income from existing endowments, totaled $64,485.51 for a total revenue of $130,942.29.

Expenditures totaled $116,763.29, of which almost half went toward “salaries for instruction”. dollar endowment of 1920. Currie died of a stroke in 1933 and, although aware of the investment made in neurology, did not live to see the Montreal Neurological Institute built.

In fact, there is a two-page “Scheme for a Medical Curriculum (Preliminary)” that is part of the McGill sub-series of Rockefeller Foundation, RG 1.1 Projects, 427 Canada, Box 6, Folder 55A, that advocates a seven-year program. Following high-school matriculation, medical students would take a first premedical year, comprised of “cultural and partly scientific” subjects; a second premedical year made up of scientific subjects; and then enter the medical phase of their training, of which Years I and II included primary medical courses in anatomy, physiology, physiological chemistry, bacteriology and general pathology; Years III and IV were didactic and clinical including clinical medicine, clinical surgery, gynecology and obstetrics, special pathology, medical jurisprudence and hygiene, pharmacology and therapeutics, mental diseases, clinical therapeutics, ophthalmology, otolaryngology, and pediatrics; and Year V was spent in the hospital as a Resident. The author of the document and date are not given.

The “Salaries for Instruction” do not include the Dr. J. Douglas Research Fellowship or Studentship in Pathology nor the “Wages of Laboratory Assistants, Boys, etc.”. The revenue total includes $58,256.51 in endowment funds as well as items as small as $123.05 for sale of haemacytometers (sic), $996.00 in fees
The needs and desires of the medical departments were itemized, from individual pieces of equipment to more buildings dedicated to the medical sciences. The interruption of the war, the increase in post-war enrolment coupled with extending the medical program to six years combined to make the timing of the evaluation and of the Rockefeller Foundation gift serendipitous. Add in the factors of wartime sentiment for McGill’s fallen sons which manifested itself in generous giving and an acknowledgment that much would have to be invested to maintain McGill’s world-class reputation in medical teaching, and it is not surprising that when the call was put forth to match the Foundation’s one million dollar gift, that sum was not only matched but surpassed in less than a week.

As was the case in Toronto and Halifax, one of the conditions of the Rockefeller gift was that it be matched in value by any combination of public and private funds. At first glance, it might have appeared that this task would be easy in Toronto and a considerable challenge in Montreal. Furthermore, one might have guessed that the ultimate yield in Toronto would far surpass that of Montreal given the Ontario Provincial Government’s commitment to post-secondary education, especially medicine which served the entire province. Montreal’s long-standing alumni tradition was, however, the deciding factor. The city noted that McGill’s post-war enrolment was increasing, from 2,150 before the war to around 3,000 and growing after the war, and disciplines such as medicine were poised to embrace new areas of research and increased teaching. The

and a provincial government grant from the Department of Pharmacy, and $4,202.75 in hospital and society fees.
successful methodologies used in the 1911 financial campaign were employed again. This time, they were buoyed by a new principal and popular war commander himself, Sir Arthur Currie, and the promise of Rockefeller Foundation money upon successfully raising one million dollars.

The campaign was an overwhelming success, never to be matched in relative dollar values since. In one week in November, 1920, the campaign raised almost six and one half million dollars. The beneficiaries in medicine were the departments of Pathology, Physiology, and Psychiatry, each of which was specifically cited by the Rockefeller Foundation as an area to be improved using the funds provided by the Foundation. In addition to the one million dollars from the Rockefeller Foundation, this time the Quebec Provincial government made a considerable investment in McGill, matching the Rockefeller gift itself. Hence, the other millions raised during the 1920 campaign were in addition to the required matching gifts and well above Currie’s or Birkett’s hopes.

Rockefeller Senior was not the only philanthropist to recognize the war sacrifices of Canadians. The Carnegie Corporation, as Frost points out, made their announcement of an endowment honouring McGill’s “outstanding contribution to the Allied war effort” more than eighteen months before the Rockefeller announcement. This Carnegie gift of one million dollars was, no doubt, related more to Peterson’s long-standing work with the Carnegie Corporation as noted earlier in this chapter. But what Peterson gained in

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16 Frost, *McGill Advancement of Learning* (1984), p. 119-120. The campaign employed almost military tactics. As they had in 1911, E. W. Beatty, W. M. Birks and John Ross organized teams and captains for the fundraising blitz of a single week in November, 1920. Currie, the new principal, acted as a sort of commander-in-chief, not so unlike his role during the war, and spread the word during a series of high-profile speaking engagements and visits to the Graduates’ Society chapters throughout North America.
modestly shifting the spotlight from himself to the university war effort. he lost in the ill-
feeling generated: other universities had interrupted their teaching and given up their
young men and women. They resented McGill being singled out for the Carnegie gift.
Frost notes that the Carnegie Corporation felt no obligation to provide similar aid to any
other Canadian school, in large part because the most vocal protestations came from
schools such as the University of Toronto which received considerable government
support at the time. McGill, in early 1918, still relied most heavily on private donor
support and by 1918 its two greatest benefactors, Strathcona and Macdonald, were
already dead.18

Finally, Sir William Osler, perhaps McGill’s most famous alumnus and former
professor, put forth a plea to Dean of the Medical Faculty, H. S. Birkett, to expand
clinical teaching and research at McGill or risk falling behind the leading medical schools
Osler advocated “active co-operation of University and Hospitals”19 toward establishing
new methodology and organization of Clinical Boards at each of the two teaching
hospitals. “The Principal, the President of each hospital, with two collegiate and two
hospital representatives to form each Board, which would be separate and independent
and would control the appointments of the Heads of the Clinics.” Osler wrote to Birkett.20
Osler envisioned clinics with eight to one hundred beds for each Medical and Surgical

18 Strathcona died in 1914 and Macdonald died in 1917.
19 Osler to Birkett, August 29, 1919, RAC, RF. 1.1 Projects, 427 Canada, McGill, Box 6, Folder 55A.
20 Osler to Birkett, August 29, 1919, RAC.
clinic as well as corresponding out-patient departments, "ample clinical laboratory facilities". and separate budgets for each clinic."

Osler did not, however, advocate the full-time system as a solution. He continued to support both full and part-time assistants. "with salaries ranging from $3.000 to $1.000". He did suggest that the professors in charge of each clinic would be "whole-time" men. "or if thought wiser, largely so" whose salaries of $10.000 would be paid by both the University and the Hospital. But even this initiative remained only a plan on paper until the Rockefeller Foundation announcement of support for Canadian medical education was made later that year. Although Osler concluded that:

Possibly the Rockefeller Board might help. but this is a citizen’s affair which should appeal to all who are anxious to see Montreal keep in first rank as a medical centre.

there is a handwritten note following Osler's signature that reads. "In Sept. President of R.V. Hospital answered Osler that finances did not permit of any action at present." In fact, the heads of the Clinical Departments at McGill nevertheless met on November 24, 1919 to discuss Osler’s suggestions "clause by clause". They agreed with the suggestion that each clinic be headed up by "largely full-time men. to be paid an adequate salary" as well as the assistants being "whole and part-time” but “appointed by the

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41 Osler to Birkett, August 29, 1919, RAC.
42 Osler to Birkett, August 29, 1919, RAC.
43 Osler to Birkett, August 29, 1919, RAC. Osler also saw these appointments being made by the Clinical Board or by an ad hoc Committee named by the Clinical Board for the purpose of appointing Professors responsible for the clinics.
44 Osler to Birkett, August 29, 1919, RAC.
45 Osler to Birkett, August 29, 1919, RAC.
46 Memo following letter of Osler to Birkett, RAC, RF, 1.1 Projects, 427 Canada, McGill, Box 6, Folder 55A.
clinical Board in consultation with the head of the department concerned”.

The November meeting concluded with the “opinion that this scheme of reorganization cannot be carried out until the Faculty receives a very large addition to its present endowment.”

This is just one example of “new” ideas in medical pedagogy which existed before they were executed in the early 1920s and which were stalled due to lack of finances at the time. Hence, the Rockefeller Foundation gift and condition of matching funds were a boon and allowed long-discussed changes to be funded and implemented.

The Rockefeller Foundation Visits and Evaluation

R. M. Pearce made a series of visits, sometimes accompanied by Foundation President George E. Vincent, to the Canadian medical schools from March 6 to July 14, 1920. Pearce visited McGill four times: March 11, May 11, June 4, 5 and June 8 of 1920. These four visits formed the basis of his opinion that McGill was worth the investment of one million dollars.

Pearce’s first visit to Montreal followed inspections of the University of Manitoba medical faculty and the University of Toronto Faculty of Medicine. Vincent

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47 Memo, Osler to Birkett, RAC. This was instead of Osler’s suggestion that assistants be named by the Professor and appointed by the Clinical Boards.
48 Memo, Osler to Birkett, RAC.
49 The Manitoba Medical College, established in 1883, had just become the Faculty of Medicine of University of Manitoba two years before, in 1918. They would receive $750,000 from the Rockefeller Foundation as part of the five million dollar gift to Canadian medical education. Pearce ranked it third behind Toronto and McGill. At the time of Pearce’s visit he noted that the Manitoba school “serves practically the entire territory west of Ontario”. (RAC. Collection 12.1, Officers’ Diaries: R.M. Pearce, 1916-21, Box 51, Bound volume, “Record of Canadian Trip”).
50 Pearce also took the opportunity, while in Winnipeg, of meeting with Henry Marshall Tory, founding President of University of Alberta (1908). A McGill alumnus from the Arts Class of 1890, in 1906 Tory also became the first principal of McGill’s “satellite campus”, McGill College in Vancouver. Although
accompanied Pearce on a tour of McGill's clinical teaching facilities. Montreal General Hospital and Royal Victoria Hospital, and they dined with Sir Vincent Meredith, Chairman of the Board of Governors. That same afternoon, Pearce and Vincent inspected the medical buildings at McGill. The evening was spent in the company of the Governors of both teaching hospitals and medical school faculty and the Foundation visitors addressed the group at the Royal Club. After one day's inspection Pearce concluded that:

McGill Medical School ranks with, or perhaps second to, Toronto and is housed in a really magnificent building. If there is any criticism it is that too much space has been given to library and museums with some crowding of essential laboratory departments. The school is about to obtain control of appointments in the Montreal General and Royal Victoria Hospitals and is contemplating a full-time scheme in clinical instruction. It has been doing excellent work on a budget of only $114,000 and should with Toronto be more liberally aided than any other of the Canadian schools.¹

It is worth noting that while in Quebec, Pearce also visited with faculty representatives of the French Canadian Montreal School of Medicine (the school itself had burned down in the Winter of 1919, so Pearce and Vincent toured Notre Dame Hospital and Hotel Dieu). and in Quebec City visited both the University of Laval medical school and Notre Dame Hospital in Quebec City. Even as he acknowledged that three-quarters of the two million people in the province were Francophones not likely to attend McGill, and that French-language medical training was a pressing need, neither existing French-language school

was deemed worthy of Foundation investment in 1920. As noted in his diary summary of Canadian medical education:

The most important problem is that of the French Canadian schools at Montreal and Quebec serving a population of two million isolated from practically all English influence with poorly trained physicians and inadequate public health service. Much detailed study will be necessary before a decision in regard to these two French Canadian schools representing the province of Quebec can be reached.52

Although, upon first glance, it may seem logical to draw parallels between the way that the minority black medical colleges were dealt with, both by Abraham Flexner and the Foundation, and the minority French schools in Canada, this would be an oversimplification. First, Flexner’s denunciation of the African American schools devastated them. As Todd Savitt demonstrates53, the number of black medical colleges dropped from ten in 1900 to two, both of which received Rockefeller support, in 1923.54 Savitt acknowledges that changes were underway even before the Flexner Report was published, but goes on to say that the Report worsened the situation by consolidating information on black medical schools, outlining their failures and strengths, advocating closure of many, and, in reflecting the outlook of the American Medical Association, revealing negative white attitudes.

52 “Record of Canadian Trip”, p. 5, RAC.
54 The two left standing were Meharry Medical College, established in 1876 in Nashville, Tennessee and Howard University, established in 1869 in Washington, D. C.. Between 1914 and 1960, the General Education Board gave $8,673,706.12 (U. S.) to Meharry and Howard received gifts totalling $587,759.32 (U. S.). In fact, Meharry ranked fourth out of twenty-five schools in the total amount given by the Board over that forty-six year span. From Raymond Fosdick, Adventure in Giving: The Story of the General Education Board (New York: Harper and Row, 1962), Appendix II, p. 328.
Furthermore, some believe that the cost of the financial support given to select black institutions was great indeed. In examining the state of philanthropic aid to black hospitals between the World Wars, Vanessa Northington Gamble says that philanthropies controlled the ten hospitals that, in 1939, offered black physicians accredited internships. These philanthropies thereby determined the role and the function of the black hospitals and even upheld a racial hierarchy within the hospital administration.55

In comparison, both of the French-language schools in Quebec that were evaluated by Flexner in 1909/10, survived, despite his recommendation that one of them be closed. His evaluation of the two schools, one in Montreal and the other in Quebec City, was hardly as scathing as that of a number of the black medical schools. Both were affiliated with local hospitals for teaching purposes.

I think that what saved the two Francophone schools from falling victim to the same fate as eight of the ten black American colleges was the fact that they had enough positive aspects working in their favour to consider being saved and upgraded with Rockefeller support in a “second wave” of giving, and they filled a niche in that they drew a disproportionate number of their students from rural areas in and around Montreal and Quebec.56 These French-speaking students came to learn the art of medicine in order that they might return to the “country” to practice. Research and laboratory sciences played less of a role and, therefore, reforms in these areas could evolve more slowly.57

57 Gerald Markowitz and David Rosner in “Doctors in Crisis: A Study of the Use of Medical Education Reform to Establish Modern Professional Elitism in Medicine”, American Quarterly, 25 (1973), p. 105. note that the Flexner Report also stressed the desirability of upgrading smaller colleges. There was a
There is a long history behind the attempts to bring full-time research into the schools the Foundation had aided. Although many of the leading schools said that the full-time initiative was indeed helping to increase research, there are indications that it was not happening as quickly as many believed. These experiences may have added to the patience which the Foundation had with some of the smaller colleges, realizing that such radical reforms take time.

Hence, the Foundation gave its support to Canadian medical schools in two waves. The first to receive money were McGill, Toronto and Dalhousie. After further deliberation, the Université de Montréal did receive their gift of $500,000, a far cry from the more than eight million dollars given to Meharry Medical College. The situation, therefore, faced by the minority blacks in America and the minority French in Canada, was not the same. Although a minority in Canada, the French represented a majority in the Province of Quebec and both French-language schools, Laval at Quebec City and Laval/later Université de Montréal at Montreal, were kept and flourished, one with Rockefeller Foundation aid.

geographical agenda in this: in areas where there were few medical colleges. Flexner argued for financial support using a lower standard of evaluation. This, in the case of the French-language schools, was true, too, on both a cultural and language level and a geographical level in the case of the Quebec City school. In fact, it was the Quebec City school, of the two, that Flexner recommended saving, no doubt because there was already a school, albeit an English-language one in McGill University, at Montreal.

"William G. Rothstein, American Medical Schools and the Practice of Medicine: A History (New York: Oxford University Press, 1987), says this was the case, even at Johns Hopkins University. Rothstein notes that Johns Hopkins justified its implementation of the Full-time system, saying it was responsible for training researchers. But a 1916 study says that of the 456 students who graduated from 1897 to 1906, eighty percent were practitioners and only nine percent were researchers. The remaining eleven percent had changed their profession or died. (pp. 165-166). Ultimately, Rothstein concludes that the faculty adhering to the full-time system taught hospital-based medicine that was of little use in the community (p. 332). No doubt, this would have been the same viewpoint taken up by many of the faculty and students at the French-language schools, given the fact that for so many of them, the goal was to become a practitioner, serving the needs of the myriad small towns of Quebec."
Before Pearce and Vincent’s first visit to McGill, there was an attempt to unify all elements of clinical instruction on a single plan to improve clinical instruction, just as there had been in Toronto. Building on Osler’s initiative, Acting Principal of McGill, Frank D. Adams, wrote a letter dated March 3, 1920 to Sir H. Vincent Meredith, President and Chairman of the Board of Governors, Royal Victoria Hospital. Adams outlined the main points of Osler’s proposal as it would affect the relationship between the teaching hospitals and the Faculty of Medicine. Adams pointed out that Osler’s ideas, with some minor modifications, were unanimously adopted by the Medical Faculty and now needed the support of the teaching hospitals. Adams also noted that it was only financial constraints that prevented McGill from putting these amendments into practice.

to that point. But as of December 1919 the situation had changed:

Now, however, in view of the proposed grant of $5,000,000. from Mr. Rockefeller to the furtherance of Medical education in Canada, provision may be made for financing this part of the scheme, which may thus become capable of realization."

Preparing for Pearce and Vincent, the heads of the departments within the McGill faculty, like their counterparts in Toronto, also prepared detailed reports summarizing

"There was a major difference in the relationship between biology and medicine at the University of Toronto and McGill University. As Sandra McRae notes in The "Scientific Spirit" in Medicine at the University of Toronto, 1880-1910, (Ph.D. Dissertation, University of Toronto. 1987), where Toronto took a "biological approach" to medicine, with close ties between zoology and medicine and a strong physiological base, McGill emphasized its clinical programmes (p. 319). In fact, physiology at McGill was badly neglected for a period of almost twenty-five years (see Footnote 64).

"Frank D. Adams to Sir H. Vincent Meredith, RAC. RF, RG 1.1 Projects, 427 Canada, McGill, Box 6, Folder 55A. The “part of the scheme” referred to here is the appointment of full-time professors and assistants in the clinical departments of medicine, surgery and gynecology at both of the teaching hospitals. Specifically, Osler suggested and the Faculty agreed that the heads of each clinical department be paid $10,000 per year “in order that a man of experience and real ability might be secured.” In the same letter Adams tells Meredith that Osler had written to Rockefeller Jr. in August, 1919 “pointing out the urgent need for additional provision for clinical teaching and medical research at McGill University, and asking Mr. Rockefeller to provide an endowment for the same.”"
their equipment and space needs as well as their outlook for the future of teaching and research in their disciplines. One may believe that even if the Foundation had not requested such documents, it was the perfect time to evaluate the direction which medical education was taking: the interruption of the war years was now over and both Montreal and Toronto schools chose to extend their programs to include a sixth year, beginning with the incoming class of 1919/20.

The document that summarizes the departmental "wish lists" is actually a set of three documents: "Revenue and Expenditures of the Faculty of Medicine for the Year Ending 30th June, 1919," a continuation of the same, beginning with a report from the Department of Biology, and a "Supplementary Report to the Rockefeller Foundation from The Medical Faculty of McGill University," submitted May 11, 1920.

The McGill University departments and specific authors of the submitted reports were: anatomy (responsible for teaching gross anatomy as well as histology and embryology) by S. E. Whitnall; physiology by John Tait; pathology by Horst Oertel; biology by F. E. Lloyd; chemistry by R. F. Ruttan; pharmacology and therapeutics by A. D. Blackader and J. W. Scane; hygiene by T. A. Starkey; clinical medicine by F. G. Finley and C. F. Martin; surgery and clinical surgery by George E. Armstrong and J. Alexander Hutchison; obstetrics and gynecology by W. W. Chipman.

Although even a summary of the report would be too lengthy to include here, it is worthwhile to list some of the common features of each department's evaluation of their needs including: lengthening the course; research; less cramped facilities; qualified and

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1 RAC, RF, RG 1.1 Projects, Series 427 Canada, Sub-Series McGill, Box 6, Folder 55A.
2 RAC, RF, RG 1.1 Projects, Series 427 Canada, Sub-Series McGill, Box 6, Folder 55A.
suitably remunerated, full-time instructors; better co-ordination with related medical
science courses; and equipment suitable for teaching and advanced research.

Among the departments seeking an extension of their course was anatomy.

-- for his department. Whitnall sought a two-year course “during which the body will be
dissected twice by each student”\textsuperscript{4}, first covering the body in a broad way and then
covering the same material in greater detail during the second year. Clinical Medicine.
requested more bedside, group teaching and “the extension of the present clinical
laboratory work both in the University courses and in the hospitals”\textsuperscript{5}. Tait planned to
introduce “a new type of practical course” in Physiology that was to include experiments
on simple tissues as well as ‘frog work’ followed, in second year, by mammalian
experiments.\textsuperscript{6} Finally, Chipman advocated a trimester system for Obstetrics and
Gynecology, “for only in this way can a student devote himself to day and night
attendance”. all the more important since, Chipman reported, half of the maternity cases
happen at night.\textsuperscript{7}

\textsuperscript{4} RAC, RF, RG 1.1 Projects, Series 427 Canada, Sub-Series McGill, Box 6, Folder 55A.
\textsuperscript{5} RAC, RF, RG 1.1 Projects, Series 427 Canada, Sub-Series McGill, Box 6, Folder 55A.
\textsuperscript{6} RAC, RF, RG 1.1 Projects, Series 427 Canada, Sub-Series McGill, Box 6, Folder 55A.
\textsuperscript{7} RAC, RF, RG 1.1 Projects, Series 427 Canada, Sub-Series McGill, Box 6, Folder 55A.
\textsuperscript{8} In his three-page report, Tait outlines one of the most dire situations within the McGill medical faculty: he
cites a long history (from 1886 to 1911) of neglect by “a conspicuously inactive incumbent” whom he does
not name: the subsequent Chair of the department left after just two years due to illness and his successor
died after teaching only six weeks in 1914. Of course, the war then interrupted teaching and it was not
until September, 1919 that Tait took over as Chair. He inherited a department with “no tradition of
physiological research” and one sorely out of date with little equipment (“two solitary microscopes serve
for demonstration of departmental microscopic preparations. The same two microscopes have to do duty
for research”, Tait wrote). It appeared that the only assets were “a good workshop and good operating
rooms ... many individual pieces of research apparatus ... some valuable sets of teaching apparatus ... class
accommodation and facilities [were] good. [and] There is a handy and convenient animal house.”
\textsuperscript{9} RAC, RF, RG 1.1 Projects, Series 427 Canada, Sub-Series McGill, Box 6, Folder 55A. This was a
common complaint among instructors and would feature in the development of the specialty of obstetrics.
In his evaluation of medical education, Abraham Flexner reserved his harshest criticism for obstetrics. One
reason for the uniformly poor training of students was the fact that few ever had the opportunity to view or
preside over live deliveries. This, in turn, was a consequence of the fact that cases “always come at night.
Related to the issue of course extension was that of establishing full-time professorships or adding teaching staff to various departments. Among the departments advocating adequately-paid full-time staff were Pathology and Clinical Medicine. In his call for the re-organization of the Pathology department, department head Oertel wrote:

during the last ten years the changes in all biological sciences including pathology have been so profound and have brought about such fundamental alterations in our knowledge, that the older systems and methods of research and teaching are antiquated and need thorough re-organization in the light of modern biological conceptions. As an illustration it may only be revealed that the advances in the knowledge of physical chemistry have had such profound influence on biology and therefore also on pathology, that even within the last few years revolutionary changes in our knowledge of pathological phenomena have occurred. Different ideas and modified methods of study and teaching must therefore prevail in the future. 

Oertel staunchly defended full-time instruction, "men without practice, without divided interests, and responsible only to the Pathological Department." For this level of commitment, Oertel acknowledged that the men would have to be paid well, "under the present condition of the academic market." 

Oertel’s position is not unusual. As a pathologist, he did not see patients. His specialty meant considerable time spent in the laboratory already, with no fees paid by patients for his services. In this way, his specialty was like that of the institute-based

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when you can’t get students”. (from Abraham Flexner, Medical Education in the United States and Canada (Boston: D. B. Updike, Merrymount Press, 1910), pp. 117-118.

RAC, RF, RG 1.1 Projects, Series 427 Canada, Sub-Series McGill, Box 6, Folder 55A.

RAC, RF, RG 1.1 Projects, Series 427 Canada, Sub-Series McGill, Box 6, Folder 55A.

Oertel listed salary ranges for specific positions as follows: The Professor, $5,000 to $7,000; the Assistant Professors, $3,000 to $4,000; the Instructors, $2,000 to $2,500; Research Fellows, $1,500 to $2,000; and Technicians, $600 to $1,000. Oertel tallied the salaries, using the lower figure in the ranges, as $25,000. Salaries were by far the greatest part of the total expense of modernizing McGill’s Pathology department (listed by Oertel as between $32,000 and $35,000).
bacteriologists and biochemists and all of the full-time, salaried pre-clinical instructors. Oertel was among those whose plea for a “scientific spirit” or “research ideal” was answered by the idea of full-time instructors. When the announcement was made at Johns Hopkins University in 1913, that the Full-time system was to be implemented, battle lines were drawn -- in favour of the system were the pre-clinical faculty. As Howard Berliner notes, the laboratory scientists resented the high consulting fees which clinical physicians could take in and saw the full-time plan as a way to level the playing field. Against the plan were the well-paid consultants who served as part-time clinical faculty and alumni who resented, as they had in Toronto, the dissolution of the existing part-time appointments in favour of full-time positions. They viewed the full-time plan as one which would reduce their public reputation, decrease their income substantially, and result in a loss of professional potential for worldly success.

Finley and Martin of McGill’s Department of Clinical Medicine were unusual in that they advocated full-time appointments, specifically a Professor of Medicine and also a Chief of Clinic in each of the two teaching hospitals. “whose main duty would be to encourage and participate in the research problems arising out of the clinical services”.

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70 Based on the German, government-based research institutes, the Rockefellers funded the Rockefeller Institute in 1901.
71 Howard Berliner, *A System of Scientific Medicine* (New York: Tavistock, 1985), p. 146. Clinicians could earn up to $40,000 annually while pre-clinical salaries ranged from $5,000 to $10,000 with no opportunity to top up this amount with outside consultations. These tensions are also discussed in Rothstein, *American Medical Schools* (1987), pp. 160-178.
72 Berliner, *System* (1985), p. 147. It was because Johns Hopkins University needed the money that the Rockefeller Foundation had the leverage to push through the Full-time system, Berliner says. This was a sensitive issue, however, with the Foundation which did not want to be seen as forcing an unwanted policy on the school.
73 RAC, RF, RG 1.1 Projects, Series 427 Canada, Sub-Series McGill, Box 6, Folder 55A.
At the time they wrote the report, the Chief of the Department had “duties” in only one of the two teaching hospitals. As a matter of note, Martin, who was Professor of Clinical Medicine along with Finley, would become Dean of the Faculty at McGill in 1923.
believe the reason for their support of full-time clinical instructors is based on two facts.

First, there had been a strong tradition of clinical training at McGill since the time of Osler's tenure there. It would seem natural that, in the evolution of clinical teaching, a school like McGill would be among the first to experiment with the full-time idea.

Furthermore, the fact that the total amount paid to all instructors for the year ending June 30, 1919 was $52,815.95, meant that full-time pay, made possible by the Rockefeller Foundation gift, would more than double the amount being paid out to instructors.74

Hence, I think there was an economic as well as a pedagogical reason for Finley and Martin's support of full-time clinical teachers.

Among the most vocal in the argument for funds to pay full-time instructors were the professors in the Departments of Surgery and Clinical Surgery (combined), George E. Armstrong and J. Alexander Hutchison. They supported the full-time system and believed that more experience in both the laboratory and in the hospital wards was necessary:

We need the cooperation of a number of men with ideas and scientific inclinations as full-time men in the clinical departments of medicine and surgery. This lack, occasioned by lack of funds, has materially retarded our advance in knowledge in building up a new constructive surgery, as well as in other departments of preventive and curative medicine.75

Although other departments, such as Biology, Pharmacology and Therapeutics, and Hygiene also cited the need for full-time instructors76, there was one department

74 RAC, RF, RG 1.1 Projects, Series 427 Canada, Sub-Series McGill, Box 6, Folder 55A, "Revenue and Expenditures of the Faculty of Medicine for the Year Ending 30th June, 1919".
75 RAC, RF, RG 1.1 Projects, Series 427 Canada, Sub-Series McGill, Box 6, Folder 55A.
When they wrote their one-page report, Armstrong and Hutchison noted that students in their third, fourth and fifth years spent time in either Royal Victoria or Montreal General Hospital for half the session then moved to the other hospital for the other half-session.
which vehemently opposed the idea: the Department of Obstetrics and Gynecology.

Chipman, who wrote the report for the department, detailed a specific plan of amendments as well as summarizing how fourth and fifth year students received their lessons in a combination of what he called “didactic teaching” or lectures and clinical instruction from a staff of eight (one Professor, two Associate Professors, and five “Junior Staff”). Clinical instruction in obstetrics was taken at the Montreal Maternity Hospital, including associated ante-natal and post-natal clinics to which the students had access. Gynecology clinical teaching was done in either the Royal Victoria hospital, with thirty teaching beds, or Montreal General Hospital with twenty-four teaching beds. The only existing resource for research in gynecology was a single fellowship in the amount of five hundred dollars. Chipman hoped to get another endowment, solely for gynecological research, with an annual value of at least fifteen hundred dollars, with an additional, annual one thousand five hundred dollar scholarship for obstetrics research.

Although many of his suggestions echo those of other medical departments at McGill, Chipman vehemently discouraged adopting the full-time clinical system of teaching in gynecology. It was his opinion that the monies paid to the eight teachers were

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76 RAC, RF, RG 1.1 Projects, Series 427 Canada, Sub-Series McGill, Box 6, Folder 55A.

There were also suggestions for entirely new Professorships. Examples of this include Finley and Martin’s recommendation of a Professor of Clinical Therapeutics, “associated in some way with the Chair of Medicine”, to develop the fields of Therapeutics, Pharmacology and Experimental Medicine; they also suggested a Professor of Biological Chemistry who would, in addition to lecturing and research, “oversee the work of the hospital laboratories and act as a consultant to them”; and Ruttan urged “the immediate establishment” of an entirely new department, called Biological or Physiological Chemistry, which would be headed up by an M.D./Ph.D. The responsibilities of this last full-time instructor, Ruttan wrote, would include developing a “research school in Physiological Chemistry” as well as to develop the metabolism work in the teaching hospitals.

77 RAC, RF, RG 1.1 Projects, Series 427 Canada, Sub-Series McGill, Box 6, Folder 55A.

Chipman notes that during the school year 1918/19, fifth-year students helped deliver 538 babies via the ‘outdoor clinics’ of the Montreal Maternity Hospital.
fair and he feared adopting the full-time system would rob the community of valuable consultants:

'It will be observed that the full-time system is here not advocated....
In this judgment the head of a department should not only be a teacher but a consultant for the community in which he lives.
From such contact with actual practice his teaching need not suffer.
rather should it gain in strength and experience.78

What Chipman does recommend in his report, are well-equipped, hospital-based laboratories for both obstetrics and gynecology interns (operating expenses for each.
including a technician. he estimates at fifteen hundred dollars per year), and a revised system which would encourage bright and talented obstetricians to further their clinical training.79 Toward this end. Chipman suggests three things: first, that a trimester system be adopted and that living quarters for obstetrics students be provided either in the hospital or nearby so that time would not be lost in attending cases. Secondly. Chipman advocates elevating the position of Medical Superintendent of the Maternity Hospital.
Not only his teaching duties would be increased but also his term of service and his salary. from the 1919 level of $1,000 per year. Thirdly. Chipman suggests making a stronger commitment to the future of the obstetrics specialty by retaining promising and interested interns for one to three years rather than the existing six-month term. The interns could then, he notes. take an active role in both advanced routine work as well as a

78 RAC. RF. RG 1.1 Projects, Series 427 Canada, Sub-Series McGill, Box 6, Folder 55A.
Chipman noted that the eight teachers were paid a total of $4,200. "divided pro rata among the individual teachers" and the "total outlay" was $5,000.
79 Lawrence D. Longo, "Obstetrics and Gynecology", in Ronald L. Numbers. ed.. The Education of American Physicians: Historical Essays (Berkeley: University of California Press, 1980). outlines how in the 1890s. few colleges offered any practical laboratory course in obstetrics. John Whitridge Williams. Professor of Obstetrics at Johns Hopkins University from 1899. advocated lectures. laboratory work and
program of research in a well-equipped clinical laboratory. Finally, this would be the training ground for successive Medical Superintendents. All elements of this plan. Chipman concludes, “must be soon undertaken in order to secure the best interests of our Faculty as a teaching school, and to provide for the country at large the modern scientific trained obstetrician and gynecologist.” Once again, this rhetoric underscores the difference between the University of Toronto, viewed as the Provincial University for Ontario, and McGill University, which was viewed as the nation’s school.

The issue of facilities, particularly laboratories, was also cited by many heads of departments in the McGill report. The large-scale requests included a new Pathology unit close to one of the teaching hospitals and a new Biology building which would house practical demonstrations with exercises using mannequins to achieve some level of proficiency and familiarity first so that clinical practice does not annoy patients (pp. 218-219).

The first full-time department of obstetrics in North America was established at Johns Hopkins University by John Whitridge Williams in 1919 (Longo, “Obstetrics and Gynecology” (1980)). Longo credits the establishment Williams’ full-time department with not only the “scientization” of obstetrics by introducing scientific precepts into the teaching of the specialty but also spreading the influence of academic obstetrics through the disbursement of those who trained with Williams as they, in turn, went on to influence the teaching of obstetrics in other schools (p. 222). Historically, Longo notes that most medical schools retained separate departments of obstetrics and gynecology until the middle of the twentieth century. This meant that most schools continued the tradition of teaching obstetrics from “a quasi-mechanical” standpoint and “gynecology as applied pathology” (p.223). It is precisely this question of teaching objectives which has slowed the progress of the discipline. Longo says, “Should general practitioners be taught, while undergraduates, how to handle all obstetrical problems? If not, then which should be left to the specialist? Should the material be taught from a technical point of view or should it focus on an understanding of the endocrinologic and physiologic facets of the reproductive process? And at what point in the undergraduate curriculum should students learn the physiologic fundamentals as they apply clinically?” (p. 224). Longo concludes that only in the latter half of the twentieth century have the disciplines of gynecology and obstetrics reached the ideal for which Williams had been striving since he took over the obstetrics department at Johns Hopkins in 1899: “a field taught by broadly trained persons who combine a thorough understanding of scientific principles with clinical practice. Teaching in obstetrics and gynecology has thus evolved from a presentation of pelvic anatomy and pathology to an understanding of reproductive medicine in its broadest sense.” (p. 225).

RAC, RF, RG 1.1 Projects, Series 427 Canada, Sub-Series McGill, Box 6, Folder 55A.

Again, this point of view was aided by the relationship between McGill University and the fledgling University of British Columbia. The University of British Columbia medical faculty was not established until 1950.

RAC, RF, RG 1.1 Projects, Series 427 Canada, Sub-Series McGill, Box 6, Folder 55A.
the departments of botany, physiology and zoology, and perhaps, as chemistry Professor R. F. Ruttan suggested in his report, "ample provision in such a building for Biological Chemistry as an independent department with its own laboratories if the Faculty intends to hold its own with other large medical schools of the Continent." In addition to these major requests, there were a number of smaller suggestions with regard to facility expansion. Whitnall, head of Anatomy, noted the need for a large teaching laboratory designed for microscopy work in histology and embryology as well as a dissection room and research rooms for applied anatomy and operative surgery.

Other departments requesting more space, most of it in the form of laboratories, included: Hygiene ("an increase of 25% of space in the Museum" so that the whole class might attend each demonstration); Clinical Medicine ("There is an urgent need of a psychiatric clinic"); Surgery and Clinical Surgery ("We need greatly increased laboratory space and equipment for teaching and research"); and Obstetrics and Gynecology ("a well-equipped clinical laboratory must be made available" in the Maternity Hospital for obstetrics interns as well as laboratory facilities for gynecology interns in either Montreal General or Royal Victoria hospitals, "under the control and supervision of the Department of Pathology and Bacteriology").

Finally, some departments submitted specific requests for equipment, either upgrades or new acquisitions. Starkey requested an estimated $3,000 to $5,000 worth of teaching exhibits, many if not all of which would have to be custom built for hygiene.

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The idea of being close to a teaching hospital was, as Prof. Oertel noted, to make it easier to obtain "bodies and other hospital material for teaching and research". Oertel also stated that "in normal times" such a unit could be built and outfitted for about $150,000. Presumably by "normal times" he meant not in wartime.

" RAC, RF, RG 1.1 Projects, Series 427 Canada, Sub-Series McGill, Box 6, Folder 55A.
classes. Tait reported not only on the Physiology Department's shortcomings but also on the equipment required to bring the department into the twentieth century. This was perhaps, the bleakest picture and hence the longest itemized list of equipment needs.

With background material in hand, Foundation representatives continued their evaluation of potential gift recipients with personal visits. After Pearce's four visits to McGill in 1920, the culmination of the review process was reached on November 17, 1920; on that day Edwin R. Embree, the Foundation's secretary, sent a telegram to McGill principal A. W. Currie which read:

We authorize announcement in any way you desire of pledge by Rockefeller Foundation of one million dollars to endowment McGill medical school with understanding that funds for buildings approximating nine hundred thousand dollars are raised from other sources.

In his reply by telegram sent the following day, Currie acknowledged the Foundation's condition and also let Embree know that the financial campaign had not only matched the million dollar gift but far surpassed it: by November 19, the fund had just over $4,600,000. (Cdn.), not including the Foundation million.

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RAC. RF, RG 1.1 Projects, Series 427 Canada, Sub-Series McGill, Box 6, Folder 55A.

Starkey also noted that the cost of supplies and materials had doubled since W.W.I ended. This was also reflected in the salaries of teaching and laboratory staff.

RAC. RF, RG 1.1 Projects, Series 427 Canada, Sub-Series McGill, Box 6, Folder 55A.

Among Tait's list of necessities were: blood gas pump; respiration pump; centrifuges; and electricity demonstration material such as induction coils.

These visits were made March 11, May 11 and June 4, 5 and 8, 1920. In addition to the initial departmental reports submitted for Foundation evaluation, a Supplementary Report was submitted on May 11, 1920, the day of Pearce's second visit to Montreal. This report summarized the needs of the Faculty of Medicine at McGill and outlined the financial commitment needed to meet those needs.

RAC. RF, RG 1.1 Projects, Series 427 Canada, Box 5, Folder 55.

A. W. Currie to Edwin R. Embree, RFA. RF, RG 1.1 Projects, 427 Canada, Box 5, Folder 55.
How the Foundation Gift was Spent at McGill

Despite the Foundation’s stipulation that their grant not be used simply for the erection of medical buildings, within five years of the first thousands being given McGill, like the University of Toronto, had new space for medical teaching and research. By 1922, there was the new Biology Building, which housed the departments of Botany, Pharmacology, Physiology, Zoology and the new discipline of Biochemistry. By 1924, McGill’s Pathological Institute, across from Royal Victoria Hospital, had been completed. In Toronto, there was a new Anatomy building (1925) and a new Hygiene Building (1926).

But the money raised was not only used to build. It was also allotted, as stipulated in the McGill departmental “needs” report of 1920, toward raising salaries of instructors, and laboratory research and teaching equipment and materials. It is interesting to note that the school was held in such high regard throughout North America, despite the substantial omissions in the facilities in many of McGill’s medical departments just after World War I.

Although the Rockefeller Foundation often took the opportunity to remind gift recipients that in no way did it wish to interfere in the day-to-day decision-making, it did set certain conditions of gift, only one of which was raising matching funds. In addition to the leverage of the Rockefeller Foundation name, the set conditions often had the effect of spurring on quick action. The plan for spending was submitted to the Foundation before the money was given to a school, and the recipient was told that the money would be paid in installments rather than as one lump sum. In the case of McGill, as Frost notes, although the fundraising campaign of 1920 was a resounding success, putting
improvement plans into action took time in many disciplines. But the Rockefeller Foundation conditions helped the medical faculty realize large-scale growth more quickly: "The medical projects were fairly speedily realized because of the terms of the Rockefeller Foundation grant," Frost noted in 1984.\(^6\) Within four years of the first installment of Foundation funds, the new biology and pathology buildings were ready to accommodate teaching and research.\(^7\)

In part because of the confidence which Pearce had in the quality of medical education and facilities for teaching at McGill, the university received the full sum of one million U.S. dollars, for "general endowment of the Faculty of Medicine" on December 1.

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\(^7\) This marks the first push toward scientization at McGill which was even stronger than that at Toronto. As Sandra McRae illustrates in "Scientific Spirit" (1987), where Toronto already had a solid foundation in science, via biology and physiology, McGill had concentrated on strengthening clinical medicine. The merits of maintaining this "clinical spirit" were still being debated in the professional journals in 1923. In an editorial in the *Canadian Medical Association Journal*, XIII, 10 (October 1923), p. 759, the editor defends the clinician's skills in light of the 'research work' and 'scientific' endeavours being carried out in the laboratory. "Medicine is still in need of men of great powers of observation in the wards or outpatients' department, who like Sydenham can picture for us the symptoms and course of a disease, in short its natural history. Such men even if they only recognize and make plain a new symptom-complex add much to science and are entitled to the same rewards as the laboratory worker." It is obvious that by 1923, with the discovery of insulin having occurred, the public heralded science and the laboratory as heroes. Clinicians felt slighted. The editorial goes on to quote from a letter by Sir Berkeley Moynihan to *The Times* on July 25, 1923: "Clinical research and the toilsome discoveries of new technical methods are as fully entitled to the term 'scientific' as any of the good work done in our laboratories. The complexities of clinical research are so intricate, and because of the human material upon which they are conducted are so bewildering as perhaps to surpass all forms of laboratory research in difficulty." Moynihan goes on to say that clinical investigators in Britain are consistently ignored when it comes to getting professional recognition from the Royal Society. The President, he says, "is a medical man whose life has been spent in the laboratory". Moynihan concludes his argument for equal recognition for clinicians by saying that, "The joint and separate labours of the laboratory worker, and of the clinician are both, perhaps equally, necessary for the future progress of medicine in all its branches. Both are deserving of recognition at the hands of those empowered to confer it; in 'scientific' value, one does not surpass the other." Moynihan had reason to be concerned: in the November 1923 issue of the *Canadian Medical Association Journal*, XIII, 11 (November 1923), included an announcement to establish the Banting Medical Research Foundation, "to facilitate good work 'at home'". The goal was to support 'purely' medical research in addition to research in the areas of physiology, pharmacology and biochemistry. "Surely," the editor notes, "this is the much desired democratization of Research, such as is found in the Pasteur, Lister and Rockefeller Institutes of other countries." (p. 833).
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McGill's Fight for Control of Appointments in Clinical Teaching

The initial euphoria following the announcement of the Foundation gift and the relative ease with which the gift was matched and surpassed during the fundraising drive of 1920 was overshadowed by controversy that would be resolved only in 1925.

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Charles F. Martin, the first full-time Dean of Medicine at McGill, was faced with the challenge of mediating between the teaching hospitals and the faculty and seeing both through an era of change, not unlike the difficult time faced by Duncan Graham and University of Toronto President Robert Falconer over instituting the full-time system in Toronto.

Martin faced at least two problems regarding appointments in 1923. First, there was the power struggle between E. W. Archibald and Sir Henry Gray in Surgery and the question of who was ultimately responsible for clinical appointments: the university or the hospital administration. Briefly, the background to the controversy Martin faced is this: in March of 1923, George E. Armstrong resigned his position as Professor of Surgery and Head of the Department of Surgery at McGill and Chief Surgeon at the Royal Victoria Hospital. Even before Armstrong's resignation was formally accepted, Governors of the hospital invited Gray, Professor of Surgery at Aberdeen, to visit Montreal as Armstrong's replacement in the position of Chief Surgeon. This was done without any notification being given to anyone at the Faculty of Medicine and in opposition to Osler's suggestion that appointments be made by a medical board, made up of representatives of both teaching hospitals and the University.\(^4\)

Martin kept the Foundation well-informed of the embarrassing dilemma and obvious lack of cooperation between the university and one of its teaching hospitals. As Martin described it in a letter to Pearce:

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\text{It has thrown a monkey wrench into the machinery because were he [Gray] to come, he would naturally expect the Professorship of}
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\(^4\) Osler to Birkett, August 29, 1919 and revisions to Osler's plan in Adams to Meredith, March 3, 1920, both in RAC, RF, 1.1 Projects, 427 Canada, McGill, Box 6, Folder 55A.
Surgery in the University, and as the University Authorities have not had a hand in it, they are somewhat disturbed about the whole matter."

Perhaps the worst part of this was that it angered and disappointed Pearce. Martin depended on continued Foundation support for McGill medical education and the departmental squabbles threatened to lead to a loss of respect for medical education in Montreal. In his reply to Martin’s letter of March 20, 1923, Pearce wrote:

The situation with regard to surgery at your School is especially distressing, and I fear of considerable moment for the future. for if the university and the Victoria Hospital cannot cooperate, it is a little difficult to know what is to be done about the development of clinical work in Montreal."

Martin’s worst fears were realized when Gray did accept the Governors’ offer and Archibald stayed on at McGill as well. Archibald, as Professor of Surgery, was responsible for teaching in the Clinic; Gray, Chief of the Surgical Department and Chief of the Hospital, was teaching “without academic title” in an effort to demonstrate to the Hospital’s Board of Governors that there was indeed merit in establishing closer ties between the university and the hospital. The problem faced by Martin was that Gray was not only a bullish administrator who believed he had “a right to sanction whatever teaching arrangements Archibald [was] making”, but Gray was also a horrible teacher."

Martin’s solution for the erroneous appointment of Gray was to make Archibald a full-time Professor of Surgery and name Gray a Professor of Clinical Surgery. An additional
appointment would be made for a full-time Professor of Medicine. Like Graham in
Toronto, Martin believed in full-time clinical chairs for the optimal instruction of modern
medicine post-World War I. As he wrote to Meakins, whom he hoped might take up the
full-time Professorship in Medicine, "... I believe in and shall urge the Faculty and the
Governors to adopt the policy of full-time clinical chairs on a modified basis, whereby the
Professors will be privileged to practise privately in hospital but not outside of the
hospital." More so than the deans of medicine at either Toronto or Dalhousie, Martin
maintained close contact with Pearce. Martin kept the Foundation representative abreast
of all developments, hirings and proposed pedagogical changes. Part of this
comprehensive disclosure can be attributed to Martin's relative youth in the position and
part can be explained as an attempt at keeping McGill in the forefront of the Foundation's
consciousness. Martin often sought advice from Pearce and did not fail to restate his
belief in the Rockefeller-supported full-time system many times over. 100

Ultimately, it would take until May, 1924 before the Foundation-supported
McGill medical clinic was established. In addition to the one million U. S. dollars
allotted in 1920 to aid medical education at McGill, the Foundation promised five
hundred thousand dollars for the development of the Department of Medicine at McGill.
This gift, analogous to the Eaton Endowment at Toronto, was the final major step toward

100 Martin to Meakins, October 11, 1923, RAC. At first, however, Martin advocated using the full-time
system only in Royal Victoria Hospital.
105 Martin's letters are carefully worded on this subject of full-time clinical education. In a letter to Pearce
dated November 17, 1923, Martin informs Pearce that, "We would like at the earliest opportunity, i.e., for
next Session, to have a full-time Professor of Medicine in the Royal Victoria Hospital, with all the
opportunities for developing a modern scientific Medical Department in connection with the University
and Hospital." RAC, RF, I.1 Projects. 427 Canada, McGill, Box 6, Folder 55. Letters.
modernizing medical education in Montreal. Supplementing the Foundation gift was an annual commitment of up to $15,000 by the Royal Victoria Hospital for the operation of the clinic as well as required space, equipment and maintenance of the equipment.

As McGill’s principal and vice-chancellor Sir Arthur Currie wrote to Pearce, "I believe a new era has begun in our Medical School and we shall do our best to keep it in the very front rank of medical educational institutions."\textsuperscript{101}

\textsuperscript{101} RAC, RF, 1.1 Projects, 427 Canada, McGill, Box 6, Folder 55A, Correspondence.
Chapter 5 - Dalhousie University: “A Relatively Small School” to Serve the Maritime Region

If, in the early decades of the twentieth century, the University of Toronto was regarded by the Rockefeller Foundation (and by many influential Canadian government officials) as the “Provincial University” for Ontario, and McGill University was similarly seen to be the “national” institution, then Dalhousie University was regarded as the regional post-secondary school of the Maritimes. These individual identities, in addition to providing a point of differentiation for the Rockefeller Foundation when it came time to consider which medical faculties it would support, also ensured differences in government and private support and, in fact, helped the weakest school -- Dalhousie -- gain part of the 1920 Foundation gift. Although the main reason for aiding Dalhousie University was because it was the only school serving the geographical area east of Montreal and all of the Maritimes, Gerald Markowitz and David Rosner give another reason. In their article, “Doctors in Crisis: A Study of the Use of Medical Education

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1 Although there were other universities in the Maritimes in the late nineteenth-century and early twentieth-century, (to 1925) Dalhousie stood out on two counts: it was non-denominational, and was the only school to offer training in professions other than religion (on and off with the medical school from 1868 to 1875 and again from 1889 onward; dentistry, from 1908 onwards; law, from 1883 onwards; and engineering, briefly from 1905 to 1909). Arts and science education was a staple, and by far the largest faculty in terms of student enrollment, at Dalhousie University from 1863 to 1925. From P. B. Waite, The Lives of Dalhousie University: Vol. One, 1818-1925, Lord Dalhousie’s College (Montreal, McGill-Queen’s University Press, 1994), Appendix 3, pp. 290-291. Among the other universities in the Maritimes were: King’s College (opened in 1789 in Windsor, Nova Scotia and in 1787 in Fredericton, New Brunswick -- the latter would be secularized and rechartered in 1854 as the University of New Brunswick); Acadia College (opened in 1839 by the Baptists in Wolfville, Nova Scotia); St. Mary’s College (granted degrees in 1841, closed in 1881 when the provincial government withdrew all financial support to post-secondary institutions, but re-opened in 1902); Mount Allison Wesleyan College (opened as a secondary school for young Methodist men in 1843 in Sackville, New Brunswick); St. Francis Xavier College (opened in 1853 in Arichat then moved to Antigonish, Nova Scotia); St. Dunstan’s College (founded at Charlottetown, P. E. I. in 1855, granted degrees from 1941); St. Joseph’s College (in Memramcook, New Brunswick, opened in 1868 and granted degrees from 1888; absorbed into Université de Moncton in 1963); College Sainte-Anne (in Church Point, Nova Scotia, founded in 1890, and granted degrees from 1903). From Robin S.
Reform to Establish Modern Professional Elitism in Medicine”. They tell of a professional backlash to the 1910 Flexner Report. In reaction to the scathing reviews which many of the smaller medical colleges received from Abraham Flexner, angry physicians rebelled against the principle of ‘making the peaks higher’. They turned this maxim around, saying, “Better lend strength to the weak than double the strength of the already strong.” Therefore, in the ten years between the Flexner Report and Rockefeller’s gift to Canadian medical education, Dalhousie University’s medical school was deemed good enough to maintain and to aid. Although small in comparison to the universities in Toronto and Montreal, Dalhousie took the dominant role among post-secondary institutions in the Maritimes. As Harris notes in 1976.

The single bright feature in the history of higher education in the Maritime provinces in the late nineteenth century was the development of Dalhousie University, an institution that existed only on paper in 1861 but which by 1890 occupied a stronger position than any Canadian university except McGill, Queen’s, and Toronto.

Before examining the terms of the $500,000 given to Dalhousie’s medical school by the Foundation, the state and history of medical teaching at the university in Halifax, Nova Scotia will be outlined and contrasted to that at Toronto and McGill. Background

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Harris, Higher Education (1976), p. 103.

Comparatively, Dalhousie University medical school was far less prepared for the twentieth-century research ideal and scientization of medicine. Not that much had changed since Abraham Flexner reported attendance of 33 at the Halifax Medical College, ninety percent of whom were from Nova Scotia (Flexner, Flexner Report (1910), p. 321) as compared with Toronto’s enrollment of 592 (p. 323), and 328 at McGill University (p.324). The school, by 1920 a department of Dalhousie University was supported because of an enlightened view toward smaller schools in need. This same flexibility can be found in Rockefeller
information will follow on the visits Pearce and Vincent made to Halifax in 1920, the evaluation and conclusions made regarding the Dalhousie medical faculty, and how the Foundation gift and requisite matching funds were spent.

**Dalhousie University and Medical Faculty: An On-Again, Off-Again Alliance**

Medical teaching at Dalhousie University has a long and tumultuous history. From 1867, when a partial course in medicine was introduced at Dalhousie, to 1911 when the proprietary Halifax Medical College (HMC) closed and medical instruction was reintroduced at Dalhousie as the university’s Faculty of Medicine, medical teaching in Halifax underwent constant change and numerous financial crises.

Among the valuable secondary sources outlining the history of medical teaching at Dalhousie are volume one of Waite’s history of the university and Sheila M. Penney’s article “‘Marked For Slaughter’: The Halifax Medical College and the Wrong Kind of Reform. 1868-1910”. In his article, Howell argues that during the last decade of the

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6 C. B. Stewart, “100 Years of Medical Education at Dalhousie”. Nova Scotia Medical Bulletin, 47, (August 1968), pp. 149-152. Stewart simply concludes, while chronicling a brief history of medical teaching at Dalhousie, that 1968 marks the centennial of an event, the establishment of the first Dalhousie Faculty of Medicine, but not the first of one hundred continuous years of medicine at Dalhousie.
nineteenth century and in the years leading up to World War I physicians made a move to professionalize medicine. In the name of scientific expertise, Howell says that physicians took it upon themselves to claim a position of authority in public health. The way to achieve this was to raise the standards of medical training, create a more efficient public health system, and to eliminate "unscientific" medical treatment by eliminating competition in an overcrowded medical market-place. In turn, Howell argues, physicians would gain uncontested control over medical services with the ability to define "professional medical expertise" within their own monopoly, a phenomenon which would continue throughout the twentieth century.⁷

Medical teaching in Halifax, for the first forty-four years, was an on-again, off-again proposition, with the school often changing its relationship with the university from some association to none and back and forth again until the proprietary Halifax Medical College was reabsorbed, for the last time, into Dalhousie University in 1911. Prior to 1870/71, the first year that the full, four-year medical course was offered in Halifax, the closest Canadian medical school was McGill University in Montreal.⁸ Attending one of the many American schools was an option, and prior to the first decade of the twentieth century, studying in the United States could be a less time-consuming and far less expensive proposition. Penney points out, as the number of American schools grew.

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many of them accepted students with almost no previous education, "graduating them in a few short months".9

As was the case in Quebec and Ontario, through the mid- to late nineteenth-century, many American-trained physicians chose to come to Canada to set up their practices. Their training ranged from strictly apprenticeship, to largely lecture-based medical school training; this medical education, however, was taken at schools ranging from proprietary operations churning out graduates in less than a year, to university-affiliated programs. The number of American-trained practitioners in the Halifax-area grew from fifty-three percent between 1827 and 1857 to seventy-six percent when counting those who graduated after 1858.10 By establishing a local medical school, with a full, four-year course, albeit not a graded one,11 the Halifax school was countering the influx of American practitioners north of the border.

Unlike the partisan, sectarian and factioned schools in Toronto or the hospital-medical school tensions found at McGill, establishing the medical school in Halifax was a concerted effort that brought together the Provincial and Municipal Governments, the City and Provincial Hospital, prominent members of the medical profession and administrators and professors at Dalhousie University.12 Five men, trained at Edinburgh.

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11 This meant that courses were repeated year after year. There was no building upon the previous year's lectures with a more advanced curriculum in senior years.
12 Penney, "Marked for Slaughter" (1989), pp. 33-34. Penney cites the re-establishment of the City and Provincial Hospital (1867), the drawing up of an Anatomy Act (1870) which allowed for the legalization of dissection, and the governing of the medical school by many of the same Halifax practitioners who "dominated the provincial medical society ... and, after 1872, the same names are found as executives, members and examiners on the Provincial Medical Board" as factors which facilitated the smooth foundation of the Halifax medical school.
Glasgow, College of Physicians and Surgeons (New York), and McGill University formed the first Faculty of Medicine at Dalhousie and took the curriculum from partial courses in 1867 to the full, four-year course in 1870/71.

The initial idea to teach only the "primary subjects" was a modest plan. In fact, it also involved cooperation among nearby medical schools. Students attending Dalhousie would follow-up their partial course work with clinical years to be taken at McGill University, Harvard University or the College of Physicians and Surgeons (New York). Each of these schools had agreed to take Dalhousie students for the remainder of their medical training. It was, however, after only three years that in 1870 Dalhousie developed its own full, four-year course.

A. P. Reid served as the first Dean of the school. All instructors, with the exception of full-time Dalhousie science professor George Lawson, were part-time instructors who were paid directly from student fees. Penney notes that "the average annual yield for a single class would be in the neighbourhood of $100 to $150, of which the professor received 75 percent"; students paid between six and twelve dollars per course and by 1873 there were twenty-nine students in the class. Although this enrollment seems small, especially compared to those at Toronto and McGill, it was double that of the original number at Dalhousie.

These five men were: W. J. Almon (Glasgow) who was head of faculty or President; Edward Farrell (College of Physicians and Surgeons [CPS], New York); Alexander G. Hattie (Edinburgh); Alexander P. Reid (McGill and Edinburgh) who took the role of Dean; and Alfred H. Woodill (CPS, New York). Penney, "Marked for Slaughter" (1989), p. 35. William B. Slayter (Trinity, Rush, London, and Dublin) and John Somers (Bellevue) were also party to the initial founding meeting in 1867, dropped out, and later returned to teach at the school "within a few years".

Stewart, "One Hundred Years" (1968), p. 150. This arrangement was also used in England where medical students at the University of Oxford and Cambridge went on to London for their clinical training.
The financial situation, coupled with the cramped quarters was, however, too much to bear for the faculty members. In 1874, they voted to withdraw from university affiliation and strike out on their own as an independent, proprietary medical school. It took until November, 1875 for the break from Dalhousie to be finalized. With the new President, Rufus S. Black, replacing W. J. Almon who had resigned early in 1875 as the money was running out, the newly incorporated Halifax Medical College was established.

One advantage to withdrawing from the university was that the newly independent school was able to secure an annual government grant of eight hundred dollars. Although initial student enrollment remained stable at thirty students bringing in $1,118 in fees, enrollment dropped in subsequent years, putting more financial pressure on the new school. This could not have come at a worse time: the costly scientization of medicine, which began in the 1870s, swept across North America. German-trained physicians with laboratory experience began to influence leading schools such as McGill University.

By 1889, the Montreal school included laboratories for the teaching of chemistry.

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15 William Johnson Almon, who was born in Halifax in 1816, was also a politician. From 1872 to 1874 he represented Halifax in the House of Commons and from 1879 to his death in 1901 served as a Senator. See entry in W. Stewart Wallace. The Macmillan Dictionary of Canadian Biography, 3rd ed. (Toronto: Macmillan, 1963), p. 11.

16 The same expense of increased laboratory-based, scientific medicine reform helped to fell Toronto’s Trinity Medical College. Like Halifax Medical College, Trinity Medical College instructors were paid entirely from students’ fees. As competition for students began to heat up in Toronto, with students seeking the most modern methods of learning, Trinity Medical College faced the dilemma of raising their fees to buy the necessary equipment and expand their facilities but, at the same time, pricing a medical education out of the Toronto market. As George W. Spragge notes in “The Trinity Medical College”. Ontario History, LVIII, 2 (June 1966), pp. 63-98, “... it was clear that proprietary medical schools could not provide the answer to the need for a satisfactory medical education in an increasingly scientific world. Competition might be stimulating, but a number of medical schools could not, without wasteful expenditure, install the complicated and costly instruments and provide the facilities that were becoming available and were obviously necessary for students to have access to.” (pp. 86-87). Inevitably, Trinity Medical College amalgamated with the University of Toronto Medical Faculty in 1903/04, half a century after its original founding, thereby becoming the final piece in the puzzle that was medical education at the University of Toronto.
histology, pathology, pharmacy, and physiology as well as two culture rooms for bacteriology.\textsuperscript{17}

While still a proprietary school, teaching in Halifax was, as Penney describes, "almost entirely by lecture".\textsuperscript{18} Although aware of the trend toward laboratory medicine led by German-trained physicians who returned to North American universities and practices, the Halifax instructors maintained a tradition of lectures and the University of Edinburgh-style "grand rounds" for students' clinical training in medicine and surgery.\textsuperscript{19} By the 1880s, now as an independent school under Black, Halifax Medical College could no longer escape the demands for educational reform. The advances made by German researchers in understanding disease were making laboratory-based medicine and greater individual instruction a necessity for competitive medical schools. The science of bacteriology became an important part of the medical school curriculum. To include all this, courses had to be lengthened.

The Halifax Medical College faculty was a step behind as it had to face more basic problems. Faculty and students were no longer challenged by the old-style, repetitive, ungraded curriculum, and the faculty debated offering a graded curriculum. Enrollment dropped, meaning that faculty salaries were jeopardized. Faculty could not agree on whether the College should rejoin the university as a Faculty of Medicine or scale back and offer only preparatory courses as it had in from 1867 to 1870. The decision was made for them in 1885 when the Board of Public Charities, which ran the City and Provincial Hospital, chose the less-qualified candidate as the new House

\textsuperscript{17} Penney, "Marked for Slaughter" (1989), p. 42.
\textsuperscript{18} Penney, "Marked for Slaughter" (1989), p. 36.
The College Faculty resigned in protest as did the rest of the medical board of the hospital. It took two years to resolve the issue. In 1887, the provincial government, led by Premier William Stevens Fielding, took over the hospital, renaming it Victoria General. For the two years the College had no affiliated teaching hospital and so the College closed in August 1885. For those students who were caught in the middle, with their school closing down and not yet finished their courses, arrangements were made whereby McGill's medical faculty took them in, at no extra fee, and recognized the work they had completed at the College.21

One important point made by Stewart in his article is the fact that chance brought Dalhousie Medical School an ally in teaching in the form of the Victoria General Hospital in 1887. Following 'The Great Row' of 1885, the Provincial Government took over the hospital. Because it was now provincially-funded, it took in patients from across the province. "From the standpoint of teaching and of epidemiological research, this system of provincial referral is very valuable," Stewart says. This hospital offered better clinical experience for the medical students with no financial barriers to patients.22

When it re-opened in 1887, the Halifax Medical College was once again a Dalhousie-affiliated preparatory school. Part of starting anew was low enrollment -- for

20 This was an event which came to be called "The Great Row". In his explanation of the circumstances, Waite noted that the College had been on the verge of being closed in 1884/85. Twenty-five regular medical students would have been put out. After the hospital appointment debacle, with no teaching facility available for clinical instruction, the school did close in August 1885 in any case. Waite, Lives of Dalhousie (1994), p. 165.
22 Stewart, "One Hundred Years" (1968), p. 151.
the 1887/88 year there were just four medical students. The full-course was offered again in 1889, but only in 1893 was a four-year, graded medical course, with each year being seven months long, offered at the school. On the positive side, clinical facilities at Victoria General Hospital were expanded: new wings were added in 1888 and 1889 and a School of Nursing was established in 1891. Laboratory facilities, however, continued to be absent and it was only after 1897 that, through a change in charter and raising student fees and a higher government grant, Halifax Medical College modernized its facilities and curriculum. New equipment, including microscopes, was purchased for the teaching of histology, pathology, physiology and surgery as well as establishing a new ophthalmology clinic and pathology museum. In addition, a new physiology, pathology-bacteriology and histology laboratory was being built which, it was planned, would be headed by a full-time instructor. But the move toward full-time faculty was not undertaken until the provincial pathologist-bacteriologist was hired in 1901; even this was not truly a full-time appointment since he did not devote all his time to teaching or research at the school. Dalhousie, therefore, was yet another example of a North American medical school which was long aware of pedagogical reforms which could improve the medical training it offered, but which was stymied by a lack of funds to effect these changes. The net result was that select improvements were made: although laboratory training in physiology never came to pass during the College’s proprietary

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23 Waite, *Lives of Dalhousie* (1994), p. 166. Waite goes on to explain that the effects of the ‘Great Row’ and financial problems of the mid-1880s were long term. “There was only one graduate in 1890 and two in 1891, so much had the crisis weakened it. Even in 1895 there were only three, though by then total numbers were clearly on the rise.” (p. 167). It took until 1905 for the graduating class to number fifteen at the College.

24 Waite, *Lives of Dalhousie* (1994), p. 165. Waite notes that the Nursing School was a rousing success, to the degree that there was a two-year waiting list to gain admission only five years after the School opened.
period, other subjects enjoyed a laboratory component and by 1902, pathology-bacteriology enjoyed "a full 150 hours of instruction".26 The College was also quick to lengthen the medical course to five years (McGill had done so in 1907/08 and Toronto followed in 1908/09; Dalhousie made a five-year program their goal in 1911, the same year that the Halifax Medical College closed its doors, to be reabsorbed into Dalhousie University for the final time).

Although some of the ambitious and well-intentioned reforms were carried out in the first decade of the twentieth century, this last decade of the Halifax Medical College was marred by declining enrollment, resulting financial problems, and faculty breakdown. As Penney describes it, "Morale plummeted. Instructors complained that their teaching incomes had reached the vanishing point, and began to miss lectures. ... Too many of the internists were victims of alcohol, and the surgeons of a disrupting emotional immaturity...."27 A graduate of the College in its final decade, and later a faculty member himself. H. B. "Benge" Atlee recalled that he and his classmates lost seventy-five percent of their lectures in medicine because the professor was drunk more often than he was sober.28 Ultimately, the faculty was running out of money and enthusiasm: despite valiant efforts, often funded out of their own pockets still, they could not keep pace with

28 Penney, "Marked for Slaughter" (1989), p. 46. The final comment, regarding faculty who were often drunk or immature is part of a quotation taken from Dr. H. B. Atlee, a graduate of the program who went on to enjoy a respected career as a gynecologist and Dalhousie faculty member himself. Atlee was careful to note that, in addition to the unpredictable elements of his medical education such as physiology, which he described as "that of Edinburgh, 1892" and "practically a dead loss", he and those in his class did get "a very fine course in anatomy from Dr. A. W. H. Lindsay; I doubt if many medical schools on this continent were giving better."
28 Waite, Lives of Dalhousie (1994), p. 168. Atlee also noted that the gynecology course was given by "a dear old Victorian who felt it a mortal sin to expose the female perineum to the light of day". Atlee's two deliveries under the professor's tutelage were, therefore, carried out under a blanket.
the costly scientization of medical teaching, and classes were shrinking, not growing.\textsuperscript{29}

Furthermore, until gifts from the Rockefeller and Carnegie Foundations were forthcoming, part-time instruction, although it brought an element of prestige, could still not replace the lucrative income a physician received from his private practice. Medical education reform, however, demanded more and more of the instructor's time. Full-time instruction seemed obvious but paid too poorly for more established practitioners to consider it. The tension between paying for costly new equipment, space and instructors' salaries, and yet maintaining low student fees, threatened to tear the College in two.

Aware of the fact that many students chose to train locally because it was less expensive, it had decreased student fees substantially in 1894 rather than risk having higher fees than McGill University.\textsuperscript{30}

Abraham Flexner's scathing indictment of Canada's last proprietary medical school was the final straw. Conscientious faculty in Halifax took the initiative to visit Johns Hopkins and McGill and view the latest scientific apparatus and teaching methods for themselves. This was done as a proactive measure and not as a reactive scramble for survival after being summarily dismissed by Flexner. Despite the changes made at the College, and possessing better facilities\textsuperscript{31} than many of the weakest American "diploma

\hspace{1cm}^{29} \text{The medical class enrollment dropped steadily through the first decade of the century from an all-time high of 106 in 1900/01 to a low of 42 in 1906/07 before climbing again. It would take until after the end of World War I, however, before enrollment at what was now the Dalhousie University Faculty of Medicine rose to the level of 1900/01 -- there were 142 students enrolled in 1919/20 (Waite, Appendix 3, p. 291).}

\hspace{1cm}^{30} \text{Penney, "Marked for Slaughter" (1989), p. 48.}

\hspace{1cm}^{31} \text{Penney, "Marked for Slaughter" (1989), p. 47. Flexner conveniently managed to "miss" thirty-one new microscopes, five microtomes, two incubators and an autoclave, during his inspection of the College. All of this was for a total class of sixty students in 1909/10. She suggests that Flexner had an ulterior motive in painting such a scathing picture of this proprietary school: using Johns Hopkins as the laboratory and research-medicine ideal, schools not following such a model were seen as not meeting a minimum standard for modern medical education. This would play out soon after when the American Medical Association's Council for Medical Education would, like Flexner, give their lowest rating to proprietary schools which}
mills" with which Flexner associated the College, on May 11, 1910 the Halifax Medical College faculty “resolved to ask Dalhousie to take over the college completely.”

Flexner’s report laid part of the blame for the College’s poor rating at the feet of Dalhousie University. The report suggested “it had been giving medical degrees to students trained under wholly inadequate facilities”. In reaction to the poor evaluation, the Dalhousie University Senate set up a committee to investigate the allegations in March 1910. and it compared its observations with a corresponding committee from the College itself. With little acrimony, as Waite describes it, both committees agreed that the University should take over the College for the final time, making it the Medical Faculty of Dalhousie University. The resolution was passed by the Dalhousie Faculty of Medicine on May 9, without a dissenting voice. The next day, it was decided that, in the best interest of medical teaching, Halifax Medical College should become part of Dalhousie University.

Within one year of Flexner’s report being published, Dalhousie University had purchased the Halifax Medical College, the assets of which included a building and teaching equipment and had made provision for Medical Faculty representation in the

concentrated on training practitioners, and their highest rating to university-associated, research-oriented schools. Penney argues, “His (Flexner’s) ideas were a direct reflection of the goals of a group of research-oriented academic careerists, whose incomes and opportunities would rise sharply after his report.” (p. 47). Many of the medical faculty realized that they could no longer delay the scientization of medicine in Halifax and seeking university affiliation was the only way to assure a better future and economic stability for the medical department.

Dalhousie Senate. By 1912, the only proprietary Canadian medical school east of Winnipeg had ceased to exist.

A History of Carnegie and Rockefeller Aid to Nova Scotians

The fact that medical teaching survived in Halifax without interruption after Flexner’s harsh critical appraisal of 1910 is testimony to a number of factors, not the least of which is simply geography. As Atlee put it, “we didn’t have a chance. What saved us was geography. We were the only medical school in the east of Canada. There simply had to be a school in this region.”

Another factor was government support. Unlike Toronto and McGill, Dalhousie enjoyed varying levels of financial support of its provincial government. Although the funding to the medical school was modest, it was given willingly, even during the period of proprietary operation in the nineteenth century.

Finally, perhaps because of the early origins as a preparatory school both in 1867 and again in 1885, there was an established relationship between the medical school and the university long before the final merger in 1910/11. Dalhousie had provided space for the medical school and served as the College’s degree-granting body. Although relations

16 The reference to Winnipeg was specifically to acknowledge the Manitoba Medical College. Established by a group of area physicians in 1883, it took until 1918 before the school became the Medical Faculty of the University of Manitoba. When the next wave of Canadian medical schools opened in the 1920s, beginning with that at the University of Alberta in 1921, they would all be affiliated with universities from the start. The cost of running a successful, modern, medical school with requisite laboratory and research facilities could no longer be borne by a few entrepreneurial physician/teachers. The end of an era had come.
17 Flexner did not visit Halifax on his own. He was accompanied by Dr. N. P. Colwell of the American Medical Association. They gave only thirty hours’ notice and visited the College, Victoria Hospital and Dalhousie University, as well as meeting with the president and secretary of the Faculty of Medicine (see Waite, Lives of Dalhousie (1994), pp. 202-204).
had not been idyllic throughout the more than forty years of association, they had been positive more often than not. It was seen as a condition of some prestige to include professional faculties among a university's departments.

Although founded in 1818 by the Earl of Dalhousie, the Lieutenant-Governor of Nova Scotia at the time, Dalhousie University had often been the beneficiary of major gifts by Americans, who had either been born in Nova Scotia or had some ties to the Maritimes. For example, George Munro, described as one of the University's greatest benefactors, endowed five chairs of study, gave money for a series of bursaries, and, in total, gave close to $400,000. This is substantial given that, "Nova Scotia has few really wealthy men, and no millionaires." 39

The Rockefeller Foundation gift of $500,000 to Dalhousie University's medical department was not the first show of a major international philanthropic organization's interest in the region. Dalhousie's alumni base was considerably less affluent and less numerous than that of McGill University. It had fewer sources for the funds needed for the costly expansions the growing university needed in the first two decades of the century. This was exacerbated by the expensive rebuilding the city of Halifax required following the explosion of 1917. Although Dalhousie did enjoy greater financial support from its Provincial Legislature than was the case at McGill, rebuilding the City of Halifax after the tragedy of the morning of December 6 was a greater priority, at the time, than improving the university. Twenty-two hundred Haligonians died as a result of the

19 "Financial History", Dalhousie University Archives (DUA), President's Office, Rockefeller Foundation, 1912-1919, MS-3, A883. By the turn of the century, alumni of the university were beginning to come of
explosion and "several thousand were scarred or maimed for life", Waite writes. "... the Senate decided that in view of the damage to university buildings, all classes would have to be stopped until after the Christmas holidays." University President A. S. MacKenzie was not, however, too timid to solicit aid. Only five days after the explosion, MacKenzie telegraphed the Carnegie Corporation, seeking money to repair the damaged Science Building. As Waite explains, the Corporation replied that they would "consider it a privilege" to pay for the repairs to all of the buildings at Dalhousie. Even after the cost of repairs exceeded twice MacKenzie's estimate of $10,000, the Carnegie Corporation still paid.\footnote{Waite, \textit{Lives of Dalhousie} (1994), pp. 236-237. Classes resumed in January, 1918.}

Dalhousie's expansion pre-dated the Halifax explosion. The university began growing and expanding, necessitating the move to a larger site in 1887 and then again, the move to a site larger still, on forty-one acres, on the outskirts of the city. This became known as the Studley Campus and it was physically half a kilometre from the older buildings. Soon after the University took over medical instruction, MacKenzie wrote a letter to John D. Rockefeller asking for a modest $100,000 to aid in the building of a new Arts Building. The site of the campus was shifting and the old Arts Building was chosen to be the home of the medical school. MacKenzie acknowledged that "the munificent fund which you have founded for the help of deserving Colleges. is for the Colleges of the United States only, but I venture to hope that you will consider the individual cases of age and were increasingly able to aid their alma mater. "An appeal in 1902 to the Alumni and friends of the College brought in $50,000 to equip the Engineering Department, and $20,000 for a library."\footnote{Waite, \textit{Lives of Dalhousie} (1994), p. 238.}
equally deserving Canadian institutions." MacKenzie's idea was that a gift from the Foundation of $100,000 would not only help meet Dalhousie's "present pressing needs", but "the stimulating effect on our own people of such generosity on your part, would be such as to bring from them the last dollar that they could afford to contribute." In total, MacKenzie told Rockefeller that the university might depend on the alumni and the residents of his "relatively poor constituency" for $400,000 and the Foundation gift would top up the figure to the half a million dollars needed. In some ways, Dalhousie University on the whole faced the same sort of competition that any one of the nineteenth-century-era, Toronto-based medical schools did: just as Trinity Medical College and the Toronto School of Medicine were competing for students and support in Toronto, so did Dalhousie University compete with other colleges for aid from the provincial government. There was considerable rivalry among the many institutions including King's College, Mount Allison College, and particularly Acadia College, for any support forthcoming from the Nova Scotia government. At times, it was easier to seek financial aid from the city in which the school was located or even from international philanthropic groups such as the Rockefeller Foundation or the Carnegie Corporation. Appreciation of Dalhousie was steady but slow and only in 1911 were gifts from prominent Halifax citizens beginning to grow:

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43 MacKenzie to Rockefeller, January 4, 1912, DUA.
44 Waite, Lives of Dalhousie (1994), pp. 166-167. These rivalries affected the growth of medical education in the Maritimes. Halifax Medical College, and until 1911 sometimes Dalhousie, was the only source of medical teaching east of McGill. Any grants the medical school received were contested by other Universities which feared that Dalhousie was getting some fraction of the grant for itself. If no other Maritime colleges were to be aided by the Nova Scotia provincial government, then representatives of the
The hold of the University on the community is steadily growing. As one instance, she has more students than all of the other colleges in the Province put together; as another, the present canvass for funds, though only a month old, has already brought in $75,000 from the business men of the City of Halifax, which evidently at last appreciates Dalhousie, as Montreal has lately shown it appreciates McGill.45

The period immediately following the final reabsorption of the Halifax Medical College was one of great change at Dalhousie. In addition to accepting responsibility for medical teaching, the university was shifting to a new site further out of town, with all the accompanying need of new buildings. The goal was to raise the money to purchase the land for the new site, erect new buildings, and alleviate the congestion of the scientific laboratories and library, in particular. This worked out, financially, as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase of and improvements on new site</td>
<td>$65,000</td>
</tr>
<tr>
<td>New Science Building</td>
<td>75,000</td>
</tr>
<tr>
<td>Equipment for Science Building</td>
<td>25,000</td>
</tr>
<tr>
<td>Endowment for Science Building</td>
<td>20,000</td>
</tr>
<tr>
<td>Macdonald Memorial Library</td>
<td>40,000</td>
</tr>
<tr>
<td>Endowment for Library</td>
<td>20,000</td>
</tr>
<tr>
<td>Endowment of Chairs - Arts and Science</td>
<td>100,000</td>
</tr>
<tr>
<td>Endowment of Chairs - Medicine</td>
<td>70,000</td>
</tr>
<tr>
<td><strong>SUBTOTAL</strong></td>
<td><strong>$415,000</strong></td>
</tr>
<tr>
<td>Less Alumni Fund of 1902 for Library</td>
<td>25,000</td>
</tr>
<tr>
<td><strong>SUM TO BE RAISED NOW</strong></td>
<td><strong>$390,000</strong></td>
</tr>
</tbody>
</table>

smaller colleges argued in 1887, the medical college should not be privy to $800 per year, as had been the case before medical teaching was suspended after the Great Row.

In the year before Dalhousie University took over the Halifax Medical College, fees represented only a small percent of the university’s income. The majority of income came from the General Endowment of $410,000 and $5,000 in “Other Gifts”, while eighty percent of the expenses for the year 1910/1911 went to pay for the salaries of its teaching staff.47

In the year following the reabsorption of the medical teaching facility, Dalhousie could report that the Medical Faculty had instantly become the second largest university faculty in terms of student enrollment, number of lecturers/professors, and value of fees generated:

<table>
<thead>
<tr>
<th></th>
<th>Professors</th>
<th>Lecturers</th>
<th>Enrollment</th>
<th>Fees48</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Science</td>
<td>12</td>
<td>10</td>
<td>340</td>
<td>$12,862</td>
</tr>
<tr>
<td>Medicine</td>
<td>6</td>
<td>24</td>
<td>73</td>
<td>5,036</td>
</tr>
<tr>
<td>Law</td>
<td>2</td>
<td>7</td>
<td>60</td>
<td>2,474</td>
</tr>
<tr>
<td>Dentistry</td>
<td>--</td>
<td>--</td>
<td>17</td>
<td>--</td>
</tr>
</tbody>
</table>

46 “Present Undertaking”, DUA, President’s Office, Rockefeller Foundation, 1912-1919, MS-3, A883. This total did not include $100,000 which had to be raised to cover the cost of the new Arts Building. The Medical Faculty would then be the main tenant in the old Arts Building.

47 “Present Undertaking”, DUA, p. 5. Eleven professors in Arts and Science were paid a total of $25,000 while two Professors of Law received a total of $4,000. Five Arts and Science “lecturers” shared three hundred dollars in salary; the seven lecturers in Law were better paid, sharing $1,000. The size of the Faculties differed widely: 328 students were enrolled in Arts and Science while only fifty-two were studying Law at Dalhousie. Hence, it was calculated that the average cost of educating a student was $112 while the “average fee for a full course [was] only $50.00 per annum” (p. 6). “Our nearest educational centres are Montreal and Boston, about 800 to 1000 miles distant by rail, respectively. A student’s expenses at the former are about $800.00, at the latter about $1000.00 - prohibitive to all but our wealthy boys. We must meet the demand, and educate our own.” Giving perspective to the size of this population that the Maritimes called its “own”, the population of the Maritime Provinces totaled about one million in 1911, the report summarizes (p. 8).

48 “Present Undertaking”, DUA. The categories of “Prof.” and “Lect.” are hand-written above the typed chart. The categories of “Enrollment” and “Fees” are inferred from similar charts and data earlier in this report. Dalhousie served only as an examining Faculty for Dentistry. Instruction was carried out at the Maritime Dental College, an affiliated institution.
Dalhousie University and World War I

Much has been made, in previous chapters, of the role that Canada’s war participation made in “encouraging” Rockefeller Sr.’s five million dollar gift, specifically directed to aid Canadian medical education. Dalhousie men, like those at Toronto and McGill, also quickly answered the call to war and, again, the medical faculty played a large role. The sacrifices made by Dalhousie University were not only those of personnel49 but also manifested themselves in operating costs (fewer students meant less money in fees coming in) and in space (Dalhousie was asked to give up the Forrest Building, which housed medicine, law, dentistry and pharmacy, for use as a convalescent hospital for the more than twenty-four thousand Canadian casualties of the 1916 Battle of the Somme: this would necessitate renovating the old Halifax Medical College building for University use). In the end, the Hospitals Commission constructed Camp Hill, which was ready to receive patients by the autumn of 1917.50 Finally, Halifax was a primary embarkation point for many ships carrying personnel and supplies.

Like Toronto and McGill, Dalhousie staff, students and alumni organized their own hospital unit for the war. No. 7 Stationary Hospital was the Dalhousie contingent. It consisted of 162 staff, including twelve doctors, twenty-seven nursing sisters and one dentist.51 In all, half of the Dalhousie medical faculty left their teaching duties to join the war effort, including Colonel Dr. John Stewart who, upon his return in June 1919.

became the Dean of Medicine. As was the case for the Toronto and McGill hospital units, the Dalhousie men spent their first six months overseas at Shorncliffe (January to June, 1916). No. 7 then went on to Le Havre for the remainder of 1916. From December, 1916 until the winter of 1919, No. 7 moved about: first to Harfleur then on to Arques, Étaples, Rouen, and Camiers, before returning, first to Le Havre (February and March, 1919) and then Shorncliffe (March and April, 1919), and finally home to Canada.

Pearce and Vincent Make their Evaluation of Dalhousie Medical Teaching

As was the case at the University of Toronto and McGill University, representatives of the Faculty of Medicine at Dalhousie University were informed of the five million dollar gift, earmarked by Rockefeller for the betterment of Canadian medical education, on December 24, 1919. Once again, Rockefeller's acknowledgment of the Canadian war sacrifice and the close bond "of race, language and international friendship" with "the Canadian people ... our near neighbours" was cited in the announcement. In his reply, Dalhousie President MacKenzie capitalized on the idea of the wartime sacrifices, which not only meant loss of faculty and students, but a loss of momentum in the growth of the newly reabsorbed medical school:

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53 University of Toronto Roll of Service, 1914-1918, p. 600. All of these postings, with the exception of Shorncliffe which is 35 kilometres east of London, England, were in northern France. Le Havre is a port city. 175 kilometres northwest of Paris and Harfleur is five kilometres east of Le Havre. Arques is inland, about 195 kilometres north of Paris as is Rouen, which is 110 kilometres northwest of the French capital. Étaples, 185 kilometres north of Paris, is on the northern coast of France, on the Dover Strait. Finally, Camiers is a town 20 kilometres south of Boulogne-sur-Mer on the northwest coast of France.
54 GEV to D. Fraser Harris, December 24, 1919, DUA, President's Office, Rockefeller Foundation, 1919-1921. MS1-3. A874.
No institutions in Canada have probably suffered as much as those Universities which are not state supported. for not only did they lose the very flower of their student body for a period of five years, but financially they have been put in a very serious condition. Dalhousie, for instance, in order to carry on during the war and do its fullest possible share behind the lines, had to incur serious deficits. Now, with diminishing returns from endowments and practically doubled expenses, and with a demand from the public for broadening all departments of education, the situation of the University is not an enviable one. Assistance of the kind promised in this noble gift of Mr. Rockefeller, therefore, will come at a very opportune time. We hope when the facts about the Medical School of the University are laid before the Foundation that it may be deemed worthy of a very generous share of Mr. Rockefeller's gift.55

Yet another form of sacrifice made by the medical faculty, related to the war, was the lack of departmental stability in both staff and space. Many of the faculty had volunteered to serve overseas, leaving the faculty understaffed. Furthermore, despite the fact that the physical space for a modern medical school was already suboptimal in 1914, during the war, medical rooms had been commandeered for other uses, cramping quarters even further. By the end of the war, enrollment was growing, costs were soaring and Dalhousie's need for more room and improved facilities was critical if it was to reach its goal of being a small yet state-of-the-art medical school at last. This desire was seen by the faculty as being one of need as much as of prestige. In an effort to outline the important role played by the medical school, in an amended eight-page report originally drawn up April 5, 1918 and sent to Henry S. Pritchett of the Carnegie Corporation. key

55 ASM to GEV, December 27, 1919, DUA, President's Office, Rockefeller Foundation, 1919-1921, MS1-3, A874.
factors in the history of the school as well as a list of the needs for a promising future were outlined. By 1919/20, enrollment had grown to 134 from 71 in 1916/17. Salaries totaled just over $20,000, and the cost of laboratory material for the teaching of anatomy, physiology and pathology had more than doubled from the previous year to $5,000 in 1919/20, yet endowments only totaled $67,000 in capital.66 Furthermore, although some of the basic science courses were taught in the Dalhousie Science Building, and pathology had its own building (part of Victoria General Hospital), by 1919, 23,000 square feet of space in the existing medical building was no longer enough. Like the medical faculties at Toronto and McGill, the post-war period offered the opportunity to expand and put some of the newer medical subjects on a firmer footing with their own departments, space and staff.

Although the Halifax Medical College received a much less favourable evaluation in Flexner's 1910 report compared to the facilities in Toronto and Montreal, particularly by time of the Rockefeller gift announcement there were points which were uniquely positive with regard to supporting medical education in Halifax. Among these were:

- It is the base of the North Atlantic fleet of the British Navy.
- It is the Military headquarters of the Maritime Province district. ...
- On account of its being a busy seaport, Halifax gets all the peculiar cases which sailors bring to a port; being the headquarters of the Eastern Military Department and the great Naval Station of Canada, it has another set of special types of medical cases. Again, being the centre for so many hospitals and medical departments, it has a very great proportion of medical men in comparison with its size, from whom the University can draw for its instructing staff; and, further, its medical profession is.

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accordingly, of an abler quality than the size of the city would suggest.

It is of consequence to note that the Rockefeller and Carnegie Foundation's interest in Dalhousie University medical school was not the first notice taken of the Maritimes. The Rockefeller Foundation first appealed for a personal donation from J. D. Rockefeller in 1914, following the Newfoundland sealing disaster and then later served in an advisory capacity during the Halifax Explosion relief effort. The Foundation also supported the work of the Massachusetts-Halifax Health Commission. By the time Carnegie decided to join the Rockefeller Foundation in giving $500,000 to Dalhousie Medical School, the Carnegie Corporation had a history of giving grants to Dalhousie in the amount of $45,000.

One of the striking elements of MacKenzie's reaction to the announcement of the Rockefeller gift was how quickly he saw fit to address potential concerns of Foundation executives and to proactively substantiate the claim that medical teaching in Halifax was...

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57 "Equipment for Medical Teaching", January 14, 1920, DUA, pp. 5-6. There were at least twelve hospitals in the region with a maternity hospital and sanitarium for tubercular patients being built at the time this report was submitted to the Rockefeller Foundation. Among the existing hospitals, beyond Dalhousie's main teaching hospital, Victoria General Hospital, which was adjacent to the medical building, were: the 'new' Military Hospital at Camp Hill with 600 beds for wounded and convalescent soldiers; the 'old' Military Hospital with 150 beds, used primarily for infectious and venereal cases; the Naval Hospital for Canadian and Imperial Navies (50 beds); the Children's Hospital (70 beds, adjacent to the medical building); the Infants' Home (50 beds); the Nova Scotia Hospital for the Insane (500 beds, in Dartmouth, Nova Scotia); and the Trachoma Hospital and Quarantine Hospital ("belonging to the Dominion Government, Halifax being one of the chief ports of entrance for immigrants"), pp. 6-7.

58 There were two major disasters in the sealing industry in 1914. In the spring, seventy eight to eighty crew of the sealing ship Newfoundland froze to death on the ice when they were unable to communicate with other ships because the wireless set had been removed from their ship. (from Frederick W. Rowe, A History of Newfoundland and Labrador (Toronto: McGraw-Hill Ryerson Limited, 1980), p. 368.) R. H. Tait, Newfoundland: A Summary of the History and Development of Britain's Oldest Colony from 1497 to 1939 (United States: Harrington Press, 1939) tells of an even greater loss of life that year when the sealing vessel Southern Cross was lost in a gale. She was carrying a crew of 170 men and 17,000 seals and no one survived (p. 91).

crucial to not only the city of 85,000 but to the entire Maritimes. Almost presciently. MacKenzie touched on a number of Foundation-supported issues in the letter which accompanied the eight-page report sent to Vincent in January, 1920. In just over three pages, MacKenzie managed to: champion medical schools with strong university ties yet compliment the heroic efforts of the founders of Halifax's proprietary medical college: support the ideas of efficiency and high standards in medical education: acknowledge the poor evaluation given by Abraham Flexner while applauding the spirit of both the founders of the Halifax Medical College and Dalhousie University which, although it could not afford to do so, rescued Canadian medical education on the East coast when "the time came which such [proprietary] schools could not train for modern Medicine": mention the wartime sacrifice of those who joined the Dalhousie hospital unit: staunchly advocate the self-sufficiency which was a condition of receiving a Foundation grant -- "We are not ... sitting back asking others to come in and help us without having shown complete indications, I hope, of helping ourselves." (in the form of the financial campaigns of 1912 and 1920, planned well in advance to any Foundation gift): and, finally, happen to note that, "to put the Medical School on a proper basis for thorough work would take about a million and a half, and it is only by the assistance of some such body as the Rockefeller Foundation that this can be done."60

Although Vincent mentioned a visit to Halifax, dates were not confirmed until Pearce returned from Europe in early February. This did not, however, stop MacKenzie from planning an itinerary for the Foundation representatives and from trying to procure

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60 ASM to GEV, January 14, 1920, DUA. President's Office, Rockefeller Foundation, 1919-1921. MS1-3. A874.
funds from the federal government. In a letter to Acting Prime Minister, Sir George E. Foster. MacKenzie appealed for matching funds from the Dominion government, adding his voice to that of Dr. Alexander McPhedran of the Faculty of Medicine at the University of Toronto. MacKenzie cited the role of the medical schools in the Great War. "supplementing the Army Medical Corps" with hospital staff overseas. "a debt to the universities which I think the Dominion Government might well recognize in this practical way." MacKenzie also appealed to Foster's sense of nationalism. Like President Falconer in Toronto, MacKenzie was aware that until medical research grew in Canadian schools, students would be forced to go to Europe or to the United States for further training, all too often staying abroad.

I am sure it will not be necessary for me to urge upon you the necessity for having at least one or two medical schools in Canada where the highest and broadest types of medical research can be carried on, so that our medical students do not have to go away, as they do today, to the United States or across the water to receive that education which they should be enabled to receive at home. It is true that McGill and Toronto medical schools are very excellently equipped today to do the ordinary teaching for medical students, but most of the other medical schools, and I can speak for our own in particular, are quite a way from that stage yet, and the endowment needed these days to teach modern medicine is so great that it is difficult for the various universities from the Atlantic to the Pacific, who are in strategical medical centres, to get the money needed to carry on proper medical education."

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1 ASM to Sir George E. Foster, January 20, 1920. DUA, President's Office, Rockefeller Foundation, 1919-1921, MS1-3, A874.
2 ASM to Foster, January 20, 1920, DUA.
McPhedran used a similar line of reasoning in his letter to Foster, particularly with regard to the "brain drain" to the United States:

... none of our Institutions are sufficiently well equipped to provide the best advanced work for the able men entering medicine who desire to pursue their work further. They, therefore, leave Canada for foreign countries, most of them going to the United States. Few of these men return, as they secure lucrative appointments, and most of the Institutions in the United States have one or more of our men on their staff, Canada thus losing most of the very best of our medical graduates, a loss that no young country can sustain without serious damage.63

Foster replied noncommittally. He reminded MacKenzie that education fell under the jurisdiction of the provincial governments. Still, Foster said, the matter would be duly considered.64 By May 27, 1920, Foster had made a decision. There would be no financial aid forthcoming from the Federal Government.65

Ultimately, MacKenzie's efforts turned toward planning the visit of Pearce and Vincent. By mid-February it was confirmed that the Foundation representatives would arrive Monday, March 15 and leave March 17. As was the usual case, it was stated that "the officials of the Foundation have no preconceived plans which they wish to urge upon you. Their aim is to understand your need and to work with you in an effort to help you realize your natural ambition to increase the efficiency and usefulness of your

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63 McPhedran to John Stewart, January 13, 1920, DUA, President's Office, Rockefeller Foundation, 1919-1921, MS1-3, A874.
64 George E. Foster to ASM, January 27, 1920, DUA, President's Office, Rockefeller Foundation, 1919-1921, MS1-3, A874.
65 Alexander McPhedran to ASM, May 27, 1920, DUA, President's Office, Rockefeller Foundation, 1919-1921, MS1-3, A874.
institution. Yet the advantage of establishing a full-time system of teaching always lay just beneath the surface.

Up to this point no fixed dollar values had been set by the Foundation. The offer still stood at five million dollars to aid Canadian medical education. Each school had its needs and sought a substantial portion of the total. Less than one week before Pearce and Vincent's visit, there was an article in *The Toronto Star* telling of a plan for reorganizing the University of Toronto medical school. In addition to appointing full-time heads of departments with salaries of $10,000, it called for a limit of 125 students, down from 416 students. This plan required an increase of $200,000 or a capital outlay (at five percent) of $4,000,000 to raise the present cost to $343,000 from $143,000. But this report had been leaked to the press. It had been prepared by the Faculty of Medicine at the University of Toronto for the use of the Board of Governors and the Rockefeller Foundation. On March 12, 1920, Falconer wrote a contrite letter of apology to MacKenzie, explaining the situation and explaining that the University of Toronto had not made any request of the Rockefeller Foundation.

It is a matter for deep regret that an impression may have been made that this University has been so unmindful of the needs of the rest of the Dominion as to seem to wish to secure an undue share of the gift which, unsolicited by the Dominion or by this University, has been generously offered by the Trustees of the Rockefeller Foundation.

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66 Charles Caton to ASM, February 18, 1920, DUA, President's Office, Rockefeller Foundation, 1919-1921. MS1-3, A874.
67 "... Plan is Required by Medical Faculty", March 10, 1920, *The Toronto Star*.
68 Falconer to the Editor, March 12 1920, DUA, President's Office, Rockefeller Foundation, 1919-1921. MS1-3, A874.
With that event settled. Dalhousie prepared for the visitors. Pearce and Vincent spent their time being shown the medical school, meeting with the Premier. attending dinners held in their honour. and Vincent gave an address on public health. Every move was followed by the local papers. Everyone was on their best behaviour. trying to impress Pearce and Vincent.

Following the first visit, Vincent wrote a brief note to MacKenzie to thank him for his hospitality. Interestingly enough, he intimated that it would be all right to use the Rockefeller Foundation gift as leverage “to secure essential conditions of success”. MacKenzie, no doubt aware of this, would not miss the piece of advice.

The next step in the evaluation of Dalhousie was a second visit by Pearce. from April 6 to 9. 1920. In preparation for this, Pearce requested a number of documents from MacKenzie. including: a statement detailing a plan of development for the medical school. and which covered several years; plans for developing instruction in public health as it related to the medical school and any Provincial or Municipal organizations: problems related to the hospital, specifically with regard to staff appointments and the introduction of full-time teaching residents; any ideas on limiting student enrollment and changing the length of the course; and an itemized statement of all costs faced by the school for medical education. Pearce had an ulterior motive for his request. He did not want it to appear as though any subsequent changes were mandated by the Rockefeller Foundation:

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69 A number of articles appeared in Halifax papers, explaining the visit and reviewing Vincent’s address. including The Halifax Chronicle (March 16 and 17) and The Halifax Herald (March 12) -- the latter was a lengthy feature titled. “What Rockefellers’ Millions Are Doing for Humanity World-over”.
If there are any changes to be made which might be criticized eventually on the basis that such changes were influenced by the attitude of the Rockefeller Foundation, might not these changes be considered and announced before we proceed very far? I have in mind the question of changes in appointments to the hospital, possible resignations from your Faculty, and the possibility of a new dean. I do not mean that any of these are necessary, but if they are contemplated it might be well to have them precede any definite activity on the part of the Foundation.  

One interesting thing to note is the tone of the correspondence between Pearce and Vincent and Mackenzie. Even early on there is a noticeable warmth and a sense of genuine friendship which stands out in contrast to the cordial but formal tone in the letters passed between the Foundation representatives and those at McGill and University of Toronto. Following their first visit to Halifax, Pearce writes, “I feel now that I have a thorough grasp of the Dalhousie situation but look forward with pleasure to the necessity for a return visit” and Vincent writes, “Looking forward with pleasure to a second visit to Nova Scotia ...” It would seem that the reason for the congenial tone in their correspondence was that Pearce and Vincent got along well with not only MacKenzie but the medical faculty as a whole as well as “the citizens of Halifax with whom we came in contact”. Furthermore, it appears that Pearce enjoyed fishing. In answer to MacKenzie’s invitation regarding another visit -- “if you will only come back and do a

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79 GEV to ASM, March 20, 1920, DUA, President’s Office, Rockefeller Foundation, 1919-1921, MS1-3. A874.
71 RMP to ASM, March 24, 1920, DUA, President’s Office, Rockefeller Foundation, 1919-1921, MS1-3. A874.
72 RMP to ASM, April 9, 1920, DUA, President’s Office, Rockefeller Foundation, 1919-1921, MS1-3. A874.
73 GEV to Dr. F. V. Woodbury, August 7, 1920, DUA, President’s Office, Rockefeller Foundation, 1919-1921, MS1-3. A874.
little fishing, and let Medical matters not worry you. we will be glad to show you what
the country can do in the way of sport" -- Pearce replied, "I often think of my visits with
you and of how enjoyable they were and if the opportunity ever arises for returning for a
little fishing I assure you I will not debate the matter very long." Pearce and Vincent
found Dalhousie to be located in a setting with few urban distractions and where nature
was a welcome distraction from their duties as Foundation representatives.

Effect of the Foundation Gift

Just as Vincent had suggested to MacKenzie, the Foundation gift was remarkably
valuable as leverage. On June 16, 1920, MacKenzie wrote to Premier George H. Murray
to outline the "conditions" of the gift. The first condition was that the University build
and maintain an out-patient facility for all hospitals in the vicinity, with an accompanying
dispensary, social services department, and a follow-up centre. The second condition was
that the pathology building, part of the Victoria General Hospital, be enlarged; the cost of
this would be $150,000. The third condition was that the Halifax Dispensary and the
University join forces to carry on the out-patient and Health Centre clinic. Although the
donors gave $200,000 to fulfill the first condition, the pathology building was seen to be
the government's responsibility. Indeed, the leverage worked and the government
pledged the money for the building's extension and more. In a memorandum dated April

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75 GEV to ASM, March 20, 1920, DUA, President's Office, Rockefeller Foundation, 1919-1921, MS1-3.
A874.
76 ASM to RMP, April 14, 1920, DUA, President's Office, Rockefeller Foundation, 1919-1921, MS1-3.
A874.
77 RMP to ASM, April 21, 1920, DUA, President's Office, Rockefeller Foundation, 1919-1921, MS1-3.
A874.
20. 1921, it was noted that the Provincial Government was responsible for maintenance of a Pathology Department; maintenance of a new department of Hygiene; and additions to both the Pathology Building and the Victoria General Hospital. In fuller terms, the plan of development set out by MacKenzie was to be as follows:

(a) Maintenance by the University of its present budget for the Medical School

(b) New resources as follows:

To be raised by the University:

- Development of the laboratory and clinical departments involving increases of salaries of $25,000 a year - requiring endowment $500,000
- Increase in cost of maintenance $15,500 a year - requiring endowment 310,000
- New equipment 26,500
- Remodeling Medical Building $25,000 to 50,000 50,000
- An addition to Medical Building 150,000
- Dispensary and Health Center 200,000

Support by Provincial Government:

- Maintenance of pathological department at $8,000 a year, capitalized value $160,000
- Maintenance of new department of hygiene -------
- Addition to pathological building 150,000
- Addition to Victoria General Hospital 525,000

Contribution by Halifax Dispensary:

- Present plant valued at $100,000

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77 ASM to GHM, June 16, 1920, DUA, President’s Office, Rockefeller Foundation, 1919-1921, MS1-3, A874.
78 Memorandum for Dr. A. G. Nicholls, April 20, 1921, DUA, President’s Office, Rockefeller Foundation, 1919-1921, MS1-3, A874.
**Contribution by Massachusetts Health Commission:**

Present pledge $5,000 to $10,000 a year for at least three years $15,000

$2,186,5009

The Rockefeller gift, determined to be in the amount of $500,000 (U.S.), was awarded to Dalhousie University on September 1, 1920. Of course, all of the above represented the commitment made by the University, Provincial Government, and existing organizations.

In a remarkable turnaround, the Rockefeller Foundation endowment was earmarked for buildings.

(a) Remodeling the present medical building $30,000
(b) Addition to the present medical building 150,000
(c) Building and equipping dispensary and public health center 200,000
(d) Equipment (primarily for laboratories) 20,000
(e) Endowment 100,00080

In part, this was due to the fact that the corresponding Carnegie Corporation gift of $500,000 was to be used entirely for the endowment of Chairs in the Department of Medicine. Whereas, at McGill and Toronto, the Rockefeller Foundation was firm in its resolve to insist that building costs be handled by the Provincial Government, it was considerably more lenient with Dalhousie. Perhaps it saw Dalhousie as the most worthy recipient of a grant -- despite the scathing review of medical teaching ten years earlier by Flexner. Dalhousie seemed to be on the right track. This was a school with a forward-looking President, that acknowledged its strengths and weaknesses: its staff were a team.

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91 "Dalhousie University Medical School" Minutes, Division of Medical Education of The Rockefeller Foundation. April 29, 1925, DUA, President's Office. Rockefeller Foundation. 1919-1921. MS1-3. A874.
serving an entire region, with an appetite for modern medical teaching, if only given the opportunity. What is interesting is that Dalhousie had much further to go to catch up to the modern ideal of a Johns Hopkins or even of Toronto and McGill. I believe this played into the lenient approach taken by the Foundation with regard to the spending of their gift. Dalhousie medical education had to be brought up to speed in its fundamental pre-clinical science departments having struggled for so many years until 1911 as a proprietary college. The interruption of the war years and the crisis of the Halifax Explosion only further delayed the development of medical education in Halifax. The financial burden of rebuilding the city of Halifax after the explosion or upgrading the facilities at Dalhousie University had to be borne by a relatively small population:

Table 4: POPULATION FIGURES BASED ON THE CENSUS OF 1921

<table>
<thead>
<tr>
<th>Rank Among</th>
<th>Canadian Cities/Towns with Population Greater than 1,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Halifax</td>
<td>58,372</td>
</tr>
<tr>
<td>Toronto</td>
<td>521,893</td>
</tr>
<tr>
<td>Montreal</td>
<td>618,506</td>
</tr>
<tr>
<td>Nova Scotia</td>
<td>523,837</td>
</tr>
<tr>
<td>Ontario</td>
<td>2,933,662</td>
</tr>
<tr>
<td>Quebec</td>
<td>2,360,510</td>
</tr>
</tbody>
</table>

Yet the Foundation acknowledged the need of maintaining a medical school for the Maritime region and set about aiding it. There was little mention of introducing the Full-time system at Dalhousie. I believe, because clinical medicine could not be overhauled

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80 "Dalhousie" Minutes, April 29, 1925, DUA.
before the pre-clinical subjects were put on a firmer footing at Dalhousie University. As challenging as the situation was, however, even the Foundation representatives could see that aiding the school was far better than letting the schools close or founder in ignominy. The Foundation respected and acknowledged the efforts of the core medical faculty to improve the school and the monies given would help a school whose facilities and methods were still largely those of the nineteenth century. I do not think that Pearce or Vincent ever imagined the Foundation’s gift would make Dalhousie a leading centre for medical research, but they could see helping the medical department to become a solid centre for teaching modern medicine, producing general practitioners who would ably serve the Maritimes.

Another difference, relative to Toronto and McGill, was the fact that Dalhousie was given the full $500,000 all at once. This meant that the gift to Dalhousie was actually larger, because of the rate of exchange on September 1, 1920. Toronto received its endowment in parcels. In fact, often the Foundation made it a habit to keep the recipient college on its guard, of saying that a particular set of conditions had to be met, or the school risked not receiving the remainder of the gift. Although this was stated, it was not ever viewed to be probable from the Foundation’s standpoint.

In terms of full-time instruction, Dalhousie had a hybrid of full and part-time teachers. While the clinical instructors were all part-time, local practitioners, the professors of anatomy, pathology, and physiology were full-time instructors. This was known to Pearce and did not seem to be a bone of contention in evaluating the suitability of a grant for Dalhousie. It was a matter of strengthening the Dalhousie medical program, first in the basic sciences, and then addressing its clinical teaching.
Dalhousie’s goal was to offer a solid medical education which could be built upon elsewhere by those who sought more in terms of clinical training.

**Dalhousie Medical Education After 1920**

The best overview of how the money was to be spent is found in a *Report on Dalhousie University Medical School for the Rockefeller Foundation*. Dated April 6, 1920, it represents a comprehensive overview of that which was seen to be up-to-date pedagogically as well as giving a sense of where Dalhousie Medical School saw itself fitting into medical education in Canada. It did not see the Foundation gift as an opportunity to grow and expand; on the contrary, the report discussed decreasing enrollment to raise standards and investing in post-graduate opportunities for select graduates. Dalhousie University had a good idea of where modern medical education was going:

The Dalhousie Medical School will remain a relatively small school, the clinical facilities of Halifax setting a natural limit to its size for efficient teaching. But it should teach Medicine as well as a large school. This means that it must be able to attract to its chairs men of the highest ability. And this means that it must pay salaries as large as the best schools and must offer its permanent staff adequate facilities for research in assistants, apparatus and libraries. There are obvious things, of course, which it cannot offer them; the very biggest men must gravitate toward the great medical centres. Dalhousie should be at the least a breeding and resting ground for some of these men.  

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82 “Report on Dalhousie University Medical School for the Rockefeller Foundation”, April 6, 1920, p. 9. DUA. President’s Office, Rockefeller Foundation, 1919-1921, MS1-3, A874.
There is no mention made here of the Full-time system, I believe, because Dalhousie had other fundamental needs at the time and introducing the Full-time system was an initiative for better established schools, with strong, existing foundations in the pre-clinical years of their programs.

In addition to the Rockefeller and Carnegie Foundation gifts, the university also sought one million dollars in a fundraising campaign in 1920. But the monies raised would go toward the Arts and Science, and Law Faculties. This is because medical teaching benefited from the reintroduction to Dalhousie in 1911. In order to accommodate medical teaching, Dalhousie had to fund: accommodation ($100,000); three full-time professors and a part-time staff ($10,000); apparatus and equipment for the departments of Physiology and Pathology ($6,000); and a maternity hospital ($150,000).83

In terms of individual departments, considerable work needed to be undertaken in Physiology, Biochemistry, Histology, Embryology, Pathology, Bacteriology and Pharmacology. “Only a mere beginning has been made” in the first four subjects, and Pathology and Bacteriology needed more staff, a larger building, and more equipment. Furthermore, the subject area of Pharmacology had to be created.

In addition, this seemed to be the perfect time to shift Hygiene and Public Health into the twentieth century. To date, these subjects had been taught by lectures. On the agenda was a full-time professor with laboratory assistance and the requisite facilities.

83 "Report on Dalhousie", April 6, 1920, DUA, p. 6. The Salvation Army was given the $150,000 to build the Grace Maternity Hospital. It would be their responsibility to run, but the responsibility of the University to appoint medical staff. The University also had the privilege of using free beds for clinical
Public health was, however, one of the dominant themes in this era of rebuilding, particularly in relation to the Rockefeller gift. Because of Dalhousie’s position as the dominant university in an economically depressed and underdeveloped area, it was determined that to aid public health and hygiene was to aid the Maritimes. Therefore, in aiding public health instruction, the Rockefeller Foundation was aiding all of the Maritimes. In fact, if one analyzes the grants approved by Rockefeller Foundation for Maritime Provinces and Newfoundland, 1918 to 1940, one sees $75,400 going to Dalhousie University for hygiene and public health projects as well as $72,788 to the governments of Nova Scotia, New Brunswick and Prince Edward Island, mostly in the 1930s for the same reason.

Finally, although Physics, Chemistry and Biology were University subjects, and they benefited from being in the new Science Building, due to the increased number of students, they were in need of more teachers and more equipment. Hence, the cost of the scientization of medical education was the single greatest factor in Dalhousie University’s modernization. One interesting factor was the amount of money paid to professors at Dalhousie compared to the salaries at University of Toronto. For example, an Anatomy professor received $2,500 to $4,000 at Dalhousie for a full-time position whereas the

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instruction. This arrangement put an end to an era of no clinical instruction in obstetrics, due to the lack of lying-in facilities in Halifax.


Reid, “Health, Education, Economy” (1984), p.65, notes that the Maritimes and Newfoundland during the 1920s and 1930s were perceived as ‘a pioneer and poverty-stricken country’ by the Rockefeller Foundation even as they were seen to be making inroads into the North American mainstream. Reid goes on to posit that these diverging perceptions contributed to what he calls “an ideal testing ground for new ventures” in the eyes of philanthropic foundations. Given that the Rockefeller and Carnegie Foundations spent more than four million (U.S.) dollars in the Maritimes and Newfoundland between 1918 and 1940, Reid’s hypothesis would seem to be accurate.

Eaton Chair of Medicine received $10,000 in Toronto. Although Dalhousie said it “must pay salaries as large as the best schools”, this discrepancy seems to stand out. I believe that the explanation for this difference is a combination of the Toronto faculty of medicine being held in higher regard than Dalhousie University within the profession. coupled with the fact that subjects such as Anatomy were not taught by clinicians who might otherwise draw much larger consulting fees from a large practice. Increasingly, clinical medicine was being viewed as the “senior service” within a medical faculty and the salaries paid to instructors reflected this throughout North American medical schools.

Dalhousie University was, therefore, the beneficiary of two major gifts. which when totaled, equaled the one million dollars received by Toronto and McGill Universities. It was the only school, however, which was viewed as less than excellent. Dalhousie was supported because it was the only medical school in eastern Canada and the Rockefeller Foundation had the foresight to plan for a future with an ever-growing population that would require more physicians.

The other major difference in the gift was the fact that it was awarded in one lump sum and was largely designated for buildings. Whereas the Foundation all but forbade this use of the funds in Montreal and Toronto, it acknowledged the need for more teaching and laboratory space in Halifax. And whereas the populations of Toronto and Montreal were expected to be able to generate matching funds, the citizens of Halifax were seen to have gone through too many trials in the recent past, first the Halifax Explosion and then the War, to be able to bear the costs of a major medical school
overhaul. They could contribute, but would be helped along throughout much of the 1920s by two American philanthropies.87

The Effect of the Rockefeller Foundation Gift upon the Three Schools

Even before the publication of the Flexner Report in 1910, Canadian medical schools were participating in an age of reform. In that spirit, new buildings were erected and new subjects, such as bacteriology and biochemistry, were added to the curriculum in a bid to modernize and "scientize" their programs. For with scientization came a definition of professionalism which, in turn, assured physicians they could maintain their autonomy and achieve a degree of elitism which would assure their status and high earning capabilities. This was a reaction, as Kenneth Ludmerer says, to other medical sects competing with physicians in the medical marketplace of the early nineteenth century, including the Thomsonianism which had its heyday in the 1830s. As Ludmerer explains, the Thomsonian movement in the United States was based on the principle that the practice of medicine was simple enough to be understood by any person. This, coupled with the limited medical knowledge of the day and what Ludmerer calls "therapeutic pessimism", combined to make it necessary to reform medical teaching in the later nineteenth century or risk being run out of business.88

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87 Reid, "Health, Education, Economy" (1984), pp. 79-81. Reid notes that Dalhousie University's Medical Faculty received more than $610,000 from the Rockefeller Foundation from 1920 to 1938 and the Carnegie Corporation almost matched the amount with gifts totaling $604,000 from 1920 to 1937.

All of the reforms, supported by the Rockefeller Foundation, Carnegie Corporation and the Eaton Endowment, centred around improving the way medicine was taught in Toronto, Montreal and Halifax. Following decades of reform influenced by developments in first France and then Germany\(^9\). by 1910 the schools were aware of advances in clinical and laboratory medicine but none of the universities at Toronto, Montreal nor Halifax could bear the cost of wholesale implementation of these reforms. It was as if each of these schools was ready and willing but not able to push through their ideas. Further frustration for those progressive men like Macallum who advocated change was forthcoming when the war interrupted teaching for almost five years. This was why the announcement of Rockefeller money for Canada was so exciting when it was made in 1919. At last, Canadian schools could respond in practice to the Flexner Report of 1910 and, in the case of Toronto and McGill Universities endeavour to keep pace with the leading American schools, and in the case of Dalhousie, avenge Flexner’s scathing review.

Ultimately, through the scientization of medicine and the Full-time system, endowments changed medical teaching and the profession in five ways. First, the money helped to limit access to medical school by raising the standards for prospective applicants. This is illustrated, on a grand scale, by Todd Savitt, with respect to the black

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\(^9\) Ludmerer, “Reform at Harvard” (1981), pp. 345-346. Ludmerer views 1870 as a turning point in North American medical education. By this point, many North Americans were traveling to Europe for postgraduate training, including men such as A. B. Macallum, William Osler and Charles Eliot, President of Harvard University and the man credited with initiating a program of reform at Harvard Medical School. What they brought back to the United States and Canada were new methodologies and knowledge, particularly in the laboratory-based sciences. In Paris, Ludmerer says, they learned to link pathology and physical diagnosis and saw how the hospital could be used as an integral part of medical teaching and research; in Germany, visiting scholars noted how scientific subjects could be a valued and relevant addition to a physician’s basic knowledge while pursuing experimental medicine.
medical schools in the United States. Only two schools remained in 1923, resulting in fewer opportunities for black students to study medicine. Another example is illustrated by George Weisz. He notes the pressure to raise entrance requirements at McGill University to keep up with state licensing requirements in the United States: this was a factor because McGill had a significant number of American medical students during the first two decades of the twentieth century. McGill also limited the size of its entering classes to one hundred students to the point that by 1929 it was normal to require and get students who already held a BA or B.Sc. with the requisite training in the sciences. This was not the case at the Francophone medical schools. Standards were lower, in part because they were serving a different market, destined to recruit students who were training to become practitioners. The French-language schools did not get many American students and, therefore, could afford to have lower entrance requirements. Each of the schools also made a point of decreasing the number of students to whom they offered places in the first-year medical schools class. This was done only in earnest after 1920, to allow all servicemen returning from the war a place in the class.

Another related point in limiting access is raising tuition. By 1924/25, attending medical school at McGill would cost a student $1,200 over six years while Toronto tuition totaled $950 and Dalhousie tuition totaled $1,132. This represents an increase of more than two hundred percent over the course of twenty years. This, too, began to restrict the number of individuals who could afford to attend medical school from an

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economic standpoint. Young farmboys who wished to become doctors may have been able to attend when the cost was four hundred dollars for four years, or for the then even shorter period in some schools. But by 1924, the course had been lengthened to six years at all three schools and with all of the material fighting for space in an ever-tightening curriculum, it was too difficult to begin classes in October and get it all in. So, classes began in September, and farmboys would have to miss the harvest if they wanted to enter medical school. For some, this would represent too much of a sacrifice.

Having already touched on the second point, I will continue with the issue of the changing length of the medical course. In response to the growing scientization of medicine and the expansion of the medical school curriculum to include more time in the laboratory and clinics as well as to include newer subjects such as biochemistry and bacteriology, all three schools added a year on to their four-year program. McGill University led the way, establishing its five-year course in 1907/08, with Toronto following in 1908/09. Dalhousie waited until it had reabsorbed the Halifax Medical College, introducing its five-year program in 1911/12. By 1919/20, to keep up with the leading American schools, both McGill and Toronto had introduced a six-year program, with Dalhousie following their lead in 1921/22.

The cost of expanding the program was, in part, borne by the students' fees, but only marginally. This was, perhaps, the most striking effect of the Foundation's gifts. It helped raise awareness, via the condition of matching funds, of the costs and needs of modern medical training. By the time that Banting, Best, Collip and Macleod have given

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the world insulin, the benefit of medical research is clear to all. If the goal, as was the case with University of Toronto, was service to the state, then the goal had been ably met.

Finally, all of this came together to raise the status of physicians. Whether it was as a consequence of the Flexner Report or despite it, the number of North American medical schools were cut in half and the remainder were improved. Medicine became a highly-trained profession, anchored in science and technology. Gerald Markowitz and David Rosner cite the power maintained by a small group of elite physicians who oversaw the reforms funded by the Foundations. This group ensured that the reforms “centralized, bureaucratized, modernized and expanded medicine and medical education in the interests of physicians’ own professional needs and with little regard for the needs of the public.”

Chapter 6 – Lessons Learned

The Rockefeller Foundation investment in Canadian medical education resulted in a number of issues coming to the fore. Although some are more obvious than others, each one is valid and not without its influence on other factors, in turn. It must be remembered that the amount was worth close to forty-five million 1996 Canadian dollars, taking into account the exchange and inflation rates, even before any of the matching funds were applied. This was no small donation. In giving the money, in the organized and orderly fashion they did, the Foundation set an example of large-scale gift-giving that began a trend which is still in practice today.¹

In the end, the Rockefeller Foundation gift of five million dollars (U.S.) to aid Canadian medical education was significant. Without it, changing to meet the needs of modern medical teaching would have progressed far more slowly. Innovations had been thought of and some were being accommodated, but at a rate that was threatening to stall the changes. The scientization of medicine, introduced in the 1870s, was embraced in Canada, but as the cost of laboratories, equipment and full-time staff increased, the transition to a science-based curriculum was progressing more gradually until the Rockefeller gift spurred things on.

Ultimately, the breakdown of the gift was as follows:

<table>
<thead>
<tr>
<th>University</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Toronto</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>McGill University</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Dalhousie University</td>
<td>$500,000</td>
</tr>
<tr>
<td>University of Manitoba</td>
<td>$750,000</td>
</tr>
<tr>
<td>Université de Montréal</td>
<td>$500,000</td>
</tr>
</tbody>
</table>

¹ The Rockefeller Foundation’s George E. Vincent later advised Vincent Massey on the organization of The Massey Foundation.
The gifts to the Universities of Montreal, Manitoba and Alberta were part of a second wave. Relying on Abraham Flexner’s report of 1910 as well as visits to these schools, the Foundation decided to give money first to the schools deemed to be excellent (Toronto and McGill), as well as one which Flexner described as “feeble” (Dalhousie) but which the Foundation felt fulfilled a distinctive, regional role being the only medical school east of McGill University. Then the Foundation found reason to give to the other school Flexner found to be “feeble” (Montreal, formerly Laval-Montreal) as well as to Winnipeg (which Flexner said represented “a distinct effort toward higher ideals”) and to Alberta, which had not begun medical instruction in 1910.

If one is evaluating the total investment made by the Rockefeller Foundation in a system of medical education in Canada, it pales in contrast to that expended by the General Education Board in the United States. Between the years 1914 and 1960, the General Education Board made appropriations totaling $94,083,372.74 as compared to the five million dollars given to Canadian medical schools. I realize that this is an unfair comparison, given that the American figure spans aid given over forty-six years and this support was spread out over twenty-five schools compared to Canada’s six schools. It is striking, however, to note the level of support of some of the American schools: Vanderbilt University ($17,560,378.45); University of Chicago, including Provident.

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2 Pearce, “Summary of Reports on Medical Education in Canada”, RAC, RF, 1.1 Projects, 427 Canada, Box 10, Folder 79, p. 1.
Hospital ($14,505,721.83); and Johns Hopkins University ($11,126,126.41). If the sums received by these top three schools are combined, it represents almost half of the total given by the General Education Board. But it is dangerous to evaluate the importance of these gifts strictly on the basis of total dollars. The Canadian schools were able to push on with their reforms, begun as early as 1880, using the money received from the Rockefeller Foundation and the matching funds from private and public sources. The $500,000 given to Dalhousie University precisely at a time when it needed help most was just as important as the seventeen and a half million awarded to Vanderbilt University. In fact, Dalhousie University received more from the Rockefeller Foundation than did seven of the American schools from the General Education Board.

The situation at the University of Alberta was one of helping it to become a complete medical school. By 1920, it was still only offering the three pre-clinical years, after which students would transfer to the University of Toronto or McGill University for the three clinical years of instruction. The gift of $500,000, to be given as annual grants with the principal to follow, recognized Edmonton's efforts toward establishing a first-rate medical school. These efforts included a major commitment on behalf of the Provincial Government, namely: constructing a new laboratory building; giving an additional sum of not less than $25,000, above and beyond that budgeted for 1920/21. for

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4 Fosdick. Adventure in Giving, p. 328. In fourth place was Meharry Medical College with $8,673,702.12. Meharry, located in Nashville, Tennessee, was one of two African American colleges to receive support, the other being Howard University in Washington, D. C. ($587,759.32).

5 The seven schools, which included Duke and Emory Universities as well as the Universities of Georgia, Pennsylvania, and Wisconsin, were given gifts ranging from $12,500.00 to $309,675.55. Fosdick. Adventure in Giving, p. 328.
the development of clinical subjects; and guaranteeing an annual increase of between $65,000 and $90,000 in maintenance of the University Hospital.⁶

The clinical curriculum and facilities still had to be organized and the Foundation wished to have a part in helping this school establish itself; it would then be the only school in the Canadian West. This was, in fact, one of the factors that helped the Foundation choose to come to its aid. Like Dalhousie University in the Maritimes, there was the geographical argument that the growing Canadian West required a medical school. "It occupies an important position in relation to the farther Northwest of Canada and its development should be aided."⁷ The goal, was, therefore, to have the clinical years set up by 1923, and to have its own University Hospital, close to the medical school, completed by 1922.

Finally, the Faculty of Medicine at the University of Manitoba was the other school to benefit from the Foundation's five million dollars. In 1920, it was the only complete medical school west of Toronto, with an enrollment of 219. Begun as a proprietary college in 1883, it had become affiliated with the university in 1918 and was held in high regard by Pearce. He recommended that half a million dollars be given to the school if the government gave $400,000 for a new medical building and increased by at least $20,000 the general expenses, over and above the assigned $88,435. Interestingly enough, this was the only school which Pearce recommended get an

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⁶ Pearce. "Summary of Reports on Medical Education in Canada". RAC, p. 5.
⁷ Pearce. "Summary of Reports on Medical Education in Canada". RAC, p. 5.
additional $250,000 gift. The condition for this fifty percent increase was that the University raise a matching $250,000 for endowment. \footnote{Pearce, "Summary of Reports on Medical Education in Canada", RAC, p. 4.}

The balance of $750,000, Pearce noted, "should be held with the reservation on the part of the Foundation that it could eventually be applied, if other disposal seems advisable, to the development of a school at Vancouver in connection with the Vancouver Hospital and the University of British Columbia." Other ideas included maintaining the principal and using the income for "schools being reorganized, to experiments in medical education and to the support of fellowships" or toward establishing Chairs of Preventive Medicine at Queen's University and the University of Western Ontario. \footnote{Pearce, "Summary of Reports on Medical Education in Canada", RAC, pp. 6-7. Queen's and Western University had applied for aid to the International Health Board and, Pearce wrote, could receive $250,000 each toward those Chairs.}

In looking at the subsequent gifts made to each of the Universities of Toronto, McGill and Dalhousie, it is clear that the balance was used and then some, for a diverse group of projects which supported research, education and establishing new departments.

While the University of Toronto medical faculty received its money in installments, McGill\footnote{McGill University received its capital on December 20, 1921. It appealed to the Foundation because, as Vincent explained in a letter to Robert Falconer, "it seems that McGill, in anticipation of collections from its campaign, had subscribed to a million dollars' worth of Dominion Bonds, and was carrying these by means of notes at the banks. The Trustees of the University asked the Foundation whether it would be convenient to make cash payment in order that these notes might be taken up. It so happened that maturing investments enabled the Foundation to do this without sacrificing in an unfavourable market." GEV to Falconer, December 20, 1921. RAC, RF, 11 Projects, 427 Canada. Box 10, Folder 79.} and Dalhousie Universities were given theirs at once. This was in part because the Foundation wished to keep some leverage over Toronto not to dictate changes to the medical course but to keep the school's commitment to raise the matching
Although it was never truly the case that the Foundation would have pulled out of their investment in the Provincial University, they did want Toronto to believe they might, in part to keep up the pressure for matching funds and to maintain their sights on their stated goals. In fact, in a letter to President Robert Falconer dated June 15, 1923, Pearce wrote that the Foundation was “prepared at this time to consider the payment of the capital sum” contingent upon the fact that four conditions had been met. The conditions were as follows: an anatomy building had been erected; the pathology laboratory had been expanded; a psychiatry clinic, to be maintained by the Government of Toronto, and with clinical facilities available to University of Toronto medical students had been built; and “that the budget of the University be increased so as to allow added salaries for the Medical faculty”. Despite a delay in constructing a laboratory for clinical pathology instruction, by December 6, 1923 the Foundation had resolved to make the payment of one million American dollars to the University of Toronto, with no further obligation to make interest payments.

Although the five million dollars was the only general gift made to aid medical education, Canadian schools continued to receive Rockefeller funding for specific projects as well as fellowships.

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11 This is a far cry from the rigid condition adopted by the General Education Board after it decided to devote all of its money in medical education to instituting full-time clinical plans in American medical schools in 1913. As Rothstein noted, “grants were awarded on the condition that the funds would be returned if the full-time plan was altered.” (William G. Rothstein, American Medical Schools and the Practice of Medicine: A History, (New York: Oxford University Press, p. 166). But by 1919, after a number of failures and growing resentment toward this restriction, the General Education Board amended its position and variations on the full-time plan, such as geographic full-time and part-time appointments were permitted. Hence, by the time the Foundation announced its gift to Canada, philanthropy no longer tied the recipient schools to a rigid plan. (Rothstein, American Medical Schools, p. 168).

12 RMP to Falconer, June 15, 1923, RAC, RF, 1.1 Projects, 427 Canada, Box 10, Folder 79.
The University of Toronto gained more than $920,000 in added aid for projects ranging from a school of hygiene to help for nursing education and pediatric and psychiatric research. The first was an additional gift of $650,000, given to establish a School of Hygiene in 1924.\textsuperscript{13} This was followed by a grant of $40,000 in 1929 to the Department of Pediatrics for research.\textsuperscript{14} The grant for pediatric research set a definite tone, and was used to acquire more staff and to pay their salaries; by 1933, the Sub-Department of Pediatrics consisted of twenty-three members, including nine physicians, one bacteriologist and seven technicians, and had a lengthy list of publications, based on their research, to their credit. In 1932, the Faculty of Nursing received a gift of $87,500 to be spread out over five years to strengthen their program and the ties to the Toronto medical faculty. Finally, an additional $106,080 was pledged by the Foundation for research in psychiatry over the period January 1, 1939 to June 30, 1944.

McGill University received an additional $1,879,588 from 1924, when they were given $500,000 to endow the University Medical Clinic, to 1937 when they received an additional $2,500 grant for research in pharmacology. The largest single gift was not the original one million dollars for general medical education but a 1932 amount of $1,232,652 toward the development of teaching and research in neurology which resulted

\textsuperscript{13} This figure eventually grew to $687,500 and the breakdown of appropriation over the four years from 1925 to 1928 was as follows: $262,500 in 1925; $162,500 in 1926; $12,500 in 1927; and $250,000 in 1928.

\textsuperscript{14} The laboratory staff included five full-time researchers: Drs. F. F. Tisdall, T. G. H. Drake, and Gladys Boyd and Miss A. M. Courtney and Mrs. M. M. Johnston, all as supervised by Head of Department Dr. Alan Brown. Among the research projects undertaken during the five-year period of the grant were: nephritis and diabetes studies; investigation of the acid base metabolism of the tissues of small animals with reference to changes produced by conditions comparable to those found in the acute intestinal disturbances of infancy; studies of the oxygen content of blood and the chemical effect produced by the use of various mixtures of oxygen in pneumonia; and the value of bananas in children's diets.

"Memorandum Concerning the Laboratory of the Sub-Department of Pediatrics, University of Toronto". RAC, RF, 1.1 Projects, 427 Canada, Pediatrics, Box 10, Folder 80.
in the establishment of the Montreal Neurological Institute, headed by Dr. Wilder Penfield.\textsuperscript{15} I believe that it was because of the combination of the high regard in which McGill was held by the Foundation, coupled with the knowledge of the fact that they were not a state institution, that made McGill University the best Foundation-endowed school in Canada.

Dalhousie University received an additional $120,142 from the Rockefeller Foundation as well. It broke down as follows: $50,000 in 1921 for medical school development; $10,000 in 1928 for teaching in the Department of Hygiene; and $60,142 from 1933 to 1938 for teaching in public health.\textsuperscript{16} It is obvious that the Foundation had shifted their giving to specific projects. The era of general aid had passed, as had, they hoped, the need for wholesale aid.

Finally, the Rockefeller Foundation trend toward project-based endowments grew as the medical schools found themselves on firmer footing. For example, between 1917 and 1950 the Foundation sponsored 1,263 medical fellowships, allowing bright scholars and physicians an opportunity to study abroad. Among the Canadians benefiting from this initiative were two of the four men responsible for the discovery of insulin. Charles Best, studied in England, Denmark, Germany and France, from 1925 to 1926, and James

\textsuperscript{15} The McGill News, Montreal, Vol. 18, No. 4, Autumn, 1937, p. 48. The other gifts were: $85,000 for research and experimental surgery (1929); $5,936 for research in pharmacology (1934); $10,000 for spectroscopic analysis of biological material (1934); $17,000 for genetics research (1935); $24,000 as an additional grant for spectroscopic analysis of biological material (1935); and $2,500 for an additional grant for research in pharmacology (1936). There were also grants, totaling $217,500, given for a study of child life and social science research between 1925 and 1936.

\textsuperscript{16} John G. Reid, "Health, Education, Economy: Philanthropic Foundations in the Atlantic Region in the 1920s and 1930s", Acadiensis, XIV, 1 (Fall 1984), p. 79. The Carnegie Foundation also continued to give to Dalhousie University following their matching gift of $500,000. In 1921, they gave $50,000 toward hospital teaching facilities, and followed that with gifts of $4,000 and $50,000 in 1934 and 1937, respectively, for the Department of Pathology and then medical school library development for an additional total of $104,000 (p. 80).
Collip. studied in the United States and Canada in 1921 and 1922. In fact, during the thirty-three years in which this program ran, there were fifty fellowships awarded to Canadians, the fifth highest total behind England (136), Other Countries (101), Germany (82) and the United States (79).17

The Rockefeller Foundation investment in Canadian medical education resulted in a number of issues playing themselves out in the recipient schools:

A Detailed Re-Evaluation of Teaching

As is obvious from the plans which each school prepared for the perusal of Pearce and Vincent, the announcement of gift prompted a re-evaluation of each faculty’s teaching facilities and equipment. Immediately following World War I, it was the perfect time to take another look at how medical education was being done in Europe and the United States and to take the best elements of those worlds and incorporate them into the Canadian model. The men who returned to Canada following their wartime service were more worldly and the marketplace for learning was increasingly global. This is reflected in the “wish lists” drawn up by the medical faculty for the Rockefeller Foundation. Finally, after decades of wanting to institute change but not having the money to do so, the capital was being offered to them.

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17 *The Rockefeller Foundation Directory of Fellowship Awards for the Years 1917-1950* (New York: Rockefeller Foundation, Table IIb).
Gerald Jonas comes to a similar conclusion. He takes a positive look at philanthropists. Viewing them, not as policy-dictating controllers but as “friendly outsiders”, he says that they can work in partnership with those who will use their money. The gift-givers can, therefore, not only supply the wherewithal, but also help creative individuals decide what their needs are.¹⁸ In the case of the Rockefeller Foundation and the Canadian schools, I believe the various Rockefeller philanthropies were in the second phase of their giving pattern. The first phase was one of total control, still led by Frederick Gates and responsible for setting a firm direction that led to the establishment of the Rockefeller Institute. The second phase was one of relinquishing total control yet keeping a close eye on how the money was spent. One example, is the fight by Columbia University. In May, 1922 the school began the strict Full-time system advocated so strongly by Abraham Flexner, but after two years opted to amend their commitment to geographical full-time clinical teaching. Because of this breach of agreement, as it was seen by Flexner, the school almost lost its appropriation of two million dollars. Only the quiet diplomacy and sound arguments of Dr. Walter W. Palmer saved the endowment.¹⁹ This is the phase which the Foundation was in when it gave money to the Canadian schools. This is obvious in the case of University of Toronto in the way in which the Foundation held onto the purse strings, waiting to see that all of its conditions had been met.

¹⁹ Michael Lepore, Death of the Clinician: Requiem or Reveille? (Springfield, Charles C. Thomas, 1982), pp. 147-158.
The third and final phase of giving by the Rockefellers was one of no active interference. This is characterized by the tenure of Warren Weaver, Director, Division of the Natural Sciences from 1932 to 1955. After applicants had fulfilled the requirement of submitting a research proposal and their research projects were chosen to be funded, successful applicants were left to pursue their research. Even when asked by researchers for advice, he gave none, preferring to give researchers their professional independence.\textsuperscript{20}

Part of the reason for maintaining greater control over their money in the earlier decades of giving, from 1890 to 1925, was that this was the period during which many of their “big” projects were carried out. This was the era of the Rockefeller Institute, the University of Chicago, and the Peking Union Medical College. As Jonas notes, in the 1920s, the Rockefeller Foundation shifted its focus. They no longer supported only a select group of top scientists. They, instead, moved on to develop a ripe new field which, lacking in resources, could use Rockefeller aid.\textsuperscript{21} Although this often proved to be a gamble, one can see shades of a similar calculated gamble in supporting Dalhousie University’s medical school.

Furthermore, the cachet of the Rockefeller Foundation led the schools to create their “wish lists”. These projections of greater laboratory and research resources helped the schools to move beyond their more modest, day-to-day, projections of need. During the time these plans were being drawn up, no mention had yet been made of how much money was to be given to each faculty, and so they budgeted for more rather than less. They extrapolated on their baseline needs to create a vision of the future. This helped

them to raise the calibre of teaching staff and support staff, and to once again expand the number of years of the program.

The committees that made up these plans did have considerable experience. Many of the staff had seen the equipment and techniques, particularly in laboratory teaching, while doing postgraduate study in Germany. They had proposed the adoption of these new scientific medicine methodologies long before they were funded and taken up in Canada. Unfortunately, the money did not exist to modernize medical teaching. Reality could not keep up with ideas and hence it took until the Foundation monies came through before the conditions of gift could put pressure to bear upon the Provincial Governments and the citizens of Toronto, Montréal and Halifax to help support scientific medicine.

The expansion of the pre-medical program complemented the change to the Full-time system in clinical teaching. By 1918, eighty of the eighty-nine colleges in the United States required two years of college for entry into a medical program. Science and particularly laboratory training had become necessities. With these came the reduction in enrollment in the hopes of combating the problem of too many physicians. Edward C. Atwater and others refer to this as the period during which medicine became

22 Sandra McRae, The Scientific Spirit in Medicine at the University of Toronto, 1880-1910 (Toronto: unpublished Ph.D. dissertation, 1987). McRae cites the work of A. B. Macallum and Ramsey Wright as some of the early work being done in scientific medicine. She is quick to point out that it was Wright who introduced the idea of scientific medicine to Toronto when his biological group joined with the medical school in 1887. This effective partnership, which introduced laboratory methodology and hands-on training for students, raised the level of the pre-medical curriculum (p.318). Furthermore, she notes that medical science at Toronto was held in high regard throughout North America by the 1890s and only continued to improve during the ensuing decades. It did not, therefore, emerge as a consequence of the discovery of insulin, she argues, (p. 315).
an "elite activity". Each school’s goal, with their five and six-year programs, was to produce the best-trained practitioners and researchers possible. Consequently, the faculties grew in size as new subjects and sub-specialties were added to the curriculum which would later lead to the core programs plus electives curriculum structure. Some students could stay on, as junior fellows, studying under the full-time instructor with a view to becoming an instructor one day. This effort would attempt to combat the "brain drain". Now, Canadian schools could offer the complete package; they could train their own teachers instead of training them to a certain point, then relinquishing students to go elsewhere for further study, only to have them stay on in their adopted country. This continued to be a problem well into the interwar years. Of the 513 Canadian scientists, forty-two percent no longer lived in Canada.24

**The Full-Time System was Introduced**

As a condition of support, albeit an unspoken one, the introduction of the Full-time system of clinical teaching was one of the most provocative and progressive changes. By unspoken, I mean that it was not written into any official document that passed between the Foundation and any of the faculties of medicine. But it does appear often in the background memoranda and letters of deans, Presidents and Foundation executives. In fact, because of the gossip of which we have a record in letters and memoranda, it is obvious that many of the schools knew of the Foundation’s support for

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the full-time system and its view that this was, indeed, the way to organize clinical teaching in the future. As soon as the announcement of the general gift was made in December 1919, Canadian medical school administrators were scrambling to both draw up their plans of action, should a gift be forthcoming, as well as to find out what aspects were crucial conditions of the gift which could please the Foundation. It was known, for example, that Western Reserve University forfeited its opportunity for Rockefeller support when they haphazardly failed to provide an adequate plan of action for their anticipated gift. Initially, medical schools were bound by a contract which stipulated that only if the strict full-time plan was adopted would the school receive money from the requisite Rockefeller philanthropy. When the medical schools at Johns Hopkins and Washington University signed contracts with the General Education Board, early on in the program, the contract contained a clause stating that the money would be returned if a strict full-time plan was not in place. Schools which had solid private endowments in place already, such as Harvard University, could afford to negotiate with the Rockefeller representatives for a compromise to the full-time system which was not popular with the wealthy Harvard clinicians.

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24 A.B. McKillop, Matters of Mind: The University in Ontario, 1791-1951 (Toronto: University of Toronto Press, 1994), p. 344. Of the 513, 254 scientists were trained at the University of Toronto.
26 William G. Rothstein, American Medical Schools and the Practice of Medicine: A History (New York: Oxford University Press, 1987) p. 166. Rothstein explains how Harvard refused $1.5 million from the General Education Board in 1913 rather than introduce the strict full-time plan. Columbia University’s medical school also declined an offer to support the full-time plan in 1918 but three years later accepted a gift of two million dollars from the General Education Board to institute a compromise to the full-time system which nonetheless proved unworkable and was altered in 1922. Ultimately, the strict full-time plan, although it had its supporters was also widely criticized. The Rockefeller philanthropies were therefore pressured to bend on their contractual demands for strict full-time and by 1919 were themselves questioning whether their monies should instead support well-staffed and well-equipped laboratories.
Ultimately, the full-time system required the kind of capital investment which only this type of grant could offer, particularly given that much of the gift also supported some type of building and expansion of resources. The salaries of the full-time professors, beginning with $10,000 per year, also helped to bring all medical educators’ remuneration into line. Up until 1920, salaries, with the exception of perhaps one or two of the highest paid, tended to be lower than they should have been, a vestige of the last fight for the success of proprietary schools. By 1920, all salaries were brought up to a higher level in terms of market value. In turn, men who were interested in research and laboratory work could, for the first time, consider a full-time career with little worry of making time for consultation to supplement their salaries. It still was by no means as lucrative as a career spent entirely seeing patients, but with some sacrifice, it could be seen as rewarding and competitive.

**Led to Increased Private Support**

Because one of the conditions of gift was matching support, one of the growth areas was increased private giving. Medicine, it was obvious, was for the betterment of the people, and, therefore, deserved the public’s support. Furthermore, just after the war, many patriotic citizens felt inclined to give to this noble cause. Some did so as a fitting memorial to a loved one who had given his life in the conflict, others gave because of a sense of duty and civic pride. It was always an issue of civic pride because, no matter how a school identified itself, whether as the National University or the Provincial...
University or the regional University, the people of the city in which it stood were among the first to be appealed to for funds and the first to give.

Finally, the mechanism of giving in the case of McGill University also drew on the war effort. When the fundraising campaign of 1920 was launched, they used a military style of gift-getting, with squadrons of volunteers dispersing to draw in funds. In the end their efforts paid off. They raised six and a half million dollars in just one November week.

These strong fundraising efforts left a legacy of private support from which the schools could benefit for years to come.

Led to Better Provincial Support

The Rockefeller Foundation gift also began a tradition of increased Provincial Government support. As a condition of acceptance, the governments of Ontario, Québec and Nova Scotia each had their role to play, although these roles were different in each province.

In Toronto, where the medical school was seen to be a part of the Provincial University, the role was one of state-supported education. This is the most interesting case, wherein a major American philanthropic organization was giving one million dollars to a state institution and, in doing so, setting the course of medical education for the next decade. The fact that, despite the Drury inquiry, the grant went through with no other resistance is extraordinary. The Government of Ontario gave increasingly more money to support medical education as a consequence of this and even endowed the Banting and Best research grant. The reasoning seems to be clear: physicians, whether
practitioners or researchers discovering insulin, Pablum or heparin, were products of the Provincial University, made to serve the people of Ontario. The pride of the legislators deemed that the best methods, facilities and instructors be made available to teach the best students so that Ontarians had the best healthcare possible. As A.B. McKillop notes, the discovery of insulin "helped link the practice of medicine and the conduct of medical research to the interests of the state" and "demonstrate the value of the university as a servant of society".27

The Rockefeller Foundation also showed the Provincial Government that they could work together as partners and not rivals. Although it was the Foundation which set up the building program for a new medical teaching, it did so in consultation with Premiers and other area leaders. The Foundation encouraged, some may even say shamed, the government into raising the level of annual support even as it educated the government officials as to why this money had to be spent. With the Rockefeller Foundation’s encouragement, medicine had entered a costly era of scientific and research-oriented teaching. Practitioners, although still holding a place in the scheme of things, could no longer do it all. Medical knowledge required full-time dedication to whatever sphere a physician chose: research, general practice, specialties. And giving, as noted earlier, followed this pattern closely. After the five million dollars given by the Foundation to support general medical education it shifted its giving to specific projects.

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**Helped to Define the Profession**

Yet another legacy of the Rockefeller gift was the way in which it helped to redefine the medical profession from the ground up. By changing medical teaching, it forced a change in the culture of medicine. The students were being taught more subjects, with more laboratory time, and in terms of their clinical subjects, by instructors who were part of a revolution in clinical full-time teaching. Any clinicians who did not want to change or could not see the merits of laboratory analysis of disease were left behind. Just as the icon of the profession persisting during the late-nineteenth century was Sir William Osler, standing at the patient's bedside, so the icon of twentieth-century medicine would be the full-time clinician, seeing patients, serving as a role model for students, and bent over a microscope or a petrie dish in the laboratory. Hence when Osler left Johns Hopkins University aged fifty-six, in 1905, with the idea of full-time clinical instructors beginning to be bandied about, he is said to have told his colleague, Franklin P. Mall, "Now I go and you have your way."  

The re-evaluation that was also a result of the gift also pushed ahead yet another tightening of the standards of entrance and even education which in turn helped to make a case for lowering enrollment. Despite the marked peak in enrollment immediately after the war, faculties opted to decrease the class size in order to be sure of getting the best possible applicants. This may have had a more marked effect on the physician to population ratio had not a wave of new medical schools opened during the 1920s.

The grant also supported prioritizing improvements and, when it was obvious that knowledge was growing faster than ever, expanding the length of the medical school
course. As the subjects to be taught multiplied, it seemed obvious to expand the course or risk cutting hours from the curriculum.

Furthermore, this led to the emergence of specialties and sub-specialties and the eventual devaluation of the general practitioner. A consequence of the burgeoning knowledge base, the evolution of the specialist is one hallmark of the era of the modern-day practitioner's network. Although the Rockefeller Foundation gift was history by the time the era of the specialist had taken hold, it did help to set the foundation and even fund fellowships in the early years.

Finally, the adherence to supporting the Full-time system helped to cast a shadow over the professions. In addition to the internal, professional rows, there was a forced change in the relationship between physicians and the public. As Michael Lepore explains this phenomenon, the Full-time system was built upon the premise that medicine was a science. But this led to the system's downfall, because medicine is an art, not a science. Lepore argues that the Full-time system failed because it was "science-centred not service-oriented." It took clinicians out of their day-to-day contact with patients and put them on hospital wards and laboratories, working from nine to five o'clock. This, Lepore says, also cut them off from valuable fundraising opportunities. Hence, the

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28 Atwater, "Clinical Education" (1992), p. 36.
30 Lepore explains that, "Flexner, by demeaning the participation of the university professor in private practice, was cutting off the lifeline of financial support for the medical center from the surrounding community." (pp. 321-322). Philanthropists gave money to the hospitals where their own doctors were on staff. Examples include: the Harkness family's support of Columbia-Presbyterian Medical Center and the support given by the private patients of Dr. Frank Billings to the University of Chicago; and the same support afforded Dr. William S. McCann, whose name brought more than twenty million dollars to the University of Rochester.
profession seemed more elite and less approachable during the tenure of the experiment with strict full-time clinical appointments.

**Helped Research**

One of the natural extrapolations from the scientization of medicine was research. When the avenue opened up supporting various levels of full-time research within the universities, teams of researchers could be trained.\(^{31}\) When the full-time system was adopted, not only did it affect one man's position but it also created an entire network of paid assistants and associates. Without the burden of a practice, all of the time could be spent on teaching and research problems. A career avenue opened up for those whose interest lay in research. It no longer had to be relegated to the level of a hobby. As expertise and technological developments grew, each of the research positions could be divided into sub-specialties, creating a web of highly specialized and knowledgeable individuals. To track this, one may follow the exponential growth of the research journals after 1920. They mirror the splintering of the profession into sub-specialties.

One of the anomalies was the discovery of insulin. It saw the marriage of two worlds in the work of Banting, Best and Collip. Banting represented the last of the hobbyist researchers, a practitioner who took up the challenge of insulin. Best and Collip

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\(^{31}\) Jonas argues that the principal responsibility of medical schools was to train practitioners. Biomedical research would be carried out in institutes, such as the Rockefeller Institute. Research would help the men stay "sharp". This model echoes that of Germany where a number of institutes were home to first-rate researchers in bacteriology, biochemistry and physiology. Jonas says that it was only after World War II, when a significant amount of money was available to fund research, that research became a major factor in clinical appointments. Jonas, *Medical Mystery* (1978), pp. 216, 227-228.
were the younger generation, men who were trained in scientific, laboratory medicine. Because of the different expertise each brought to the challenge, in addition to the leadership of J. J. R. Macleod, the project worked. It would not likely have succeeded if all four men had been full-time practitioners, with just a casual interest in biochemistry and endocrinology. As Michael Bliss notes in his biography of Banting, "The single most important technical achievement was that made by Collip in the purification of the extract. On their own, Banting and Best would probably not have reached insulin." Compare their work with the work being done by the University of Toronto pediatric department of the 1930s and it is obvious that the full-time research culture had caught on and was highly productive as it worked on myriad different projects.

Another aspect of this was the control given up by the hospitals to the universities. It was the universities who gained control over appointments and heads of hospital departments were cross-appointed as professors. This allowed universities to look beyond their small pool of local physicians for qualified individuals. It had been the custom, at the end of the nineteenth century, to select the individual who had climbed the ranks of the local profession and become chief of service at the hospital to be the corresponding professor of the clinical subject. As such, he had control over the beds required for clerks' and house officers' clinical instruction. This was a stifling practice. For example, in 1890, "the entire senior medical faculty [at Harvard] was Boston-born.

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12 Collip was born in 1892, one year after Banting. Although he was only a year older than Collip, Banting had trained to serve as a practitioner and, in the old tradition, undertook research almost as a hobby. Best, the youngest of the trio, was born in 1899.
and -trained". By 1920, the situation had changed dramatically with only two local physicians holding clinical positions at Harvard. Hence, what this giving up of control did for the universities was allow the schools to look further afield for staff who would be clinical instructors and full-time role models for their students in the teaching hospitals.

This change did not sit well in Toronto. The part-time clinicians who had their honoraria cut and their association with the university severed felt they had lost what was rightfully theirs. After losing their prestigious association with the university, they rallied and the Drury Committee of 1923 ensued. There was, however, no easy way to effect the change from part-time to full-time clinicians. The new system had to be put in place and the old one cut out, in its entirety, and fortuitously the funds existed to support the move.

Despite these setbacks, the evolution of research medicine helped to fix medicine in the minds of the public as a pursuit worth supporting. First, with insulin, and continuing on with projects such as Pablum which, although not readily viewed as scientific carried a high profile with the general public, as well as more technical projects which were only well-known within their given fields, it was obvious that research served the public good well. If tax dollars had to be used toward learning more about illness and potential cures, then so be it. Furthermore, as Atwater notes, for a number of years after 1920 and then again after World War II, North America enjoyed considerable prosperity. People were more willing to spend money seeking better health and longevity. Clinical

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researchers played a large part in this search and were generously funded by the public, via government and private funds, to do so.

This movement toward what A. B. McKillop calls a "scholarship of utility" was part of the larger shift that was the industrialization of North America on two fronts. First, the large philanthropic donations made to education and other projects by Rockefeller and Carnegie were only possible as a consequence of their immense wealth made during the latter-half of the nineteenth century's industrial revolution. Secondly, the scientization of medicine included not only laboratory instruments but also machines for diagnosis and treatment such as the x-ray machine. Whole industries sprang up to make the chymographs, radiology equipment and other equipment. McKillop's idea of "utility" resulted in practical applications for the new sciences associated with medicine such as bacteriology and clinical research. This new research ideal was costly to support but promised to pay great dividends for those who were paying for it. As McKillop notes, the discovery of insulin in 1922 represented the definitive example of the potential value of the university as a "servant of society".

**Destroyed Myths**

The Rockefeller Foundation evaluation of Canadian medical schools helped to destroy myths built up by Flexner's report of 1910. One of the most prevalent misconceptions is that it was Flexner's report which set into motion sweeping changes in medical education. In the recent literature, this opinion has been discounted, often simply

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37 McKillop, *Matters of Mind* (1994), p. 361. McKillop notes that between the World Wars, the university departments of engineering and commerce were also demonstrating how they might serve public needs.
by examining the data. Gerald Jonas\textsuperscript{39} states that the report did not start the reforms, although it did "catalyze, strengthen and publicize" them.\textsuperscript{40} He agrees with Kenneth Ludmerer\textsuperscript{41} and Robert Hudson\textsuperscript{42}: considerable success had already been achieved in the area of teaching medicine in a "more thorough and scientific way" and involving students in a more practical way in the laboratory and the clinic.\textsuperscript{43}

Because the Foundation was so thorough in its investigations, and because of their excellent archival records, one can get a glimpse of how the schools really appeared to Pearce and Vincent in 1920. Toronto and McGill Universities were held up as the ideals by Flexner, but their were deficiencies at both schools. McGill University had serious problems in some of its departments, with the Physiology Department having been without a full-time instructor for some thirty-three years. The University of Toronto, also deemed excellent by Flexner, had lacunae in its teaching and what had been a state-of-the-art building, erected in 1903, was already overcrowded and old. Meanwhile, the Dalhousie University medical school was not half as ill-equipped as Flexner had made it out to be. They did have laboratory equipment and facilities and were working towards improving.

\textsuperscript{40} The publicization of the issue of medical education reform was no small feat. This was one of the crucial achievements of Flexner’s work. It gathered support for reform, both from forward-thinking educators and private donors. It made reform the "medical education issue of the hour", as noted by Gerald Markowitz and David Rosner, “Doctors in Crisis: A Study of the Use of Medical Education Reform to Establish Modern Professional Elitism in Medicine”, \textit{American Quarterly}, 25 (1973), pp. 104-105.
There is a valuable historiographic lesson in this. One must treat all sources with some skepticism and read between the lines with regard to what conclusions they are trying to make, and what bits of data they may be leaving out or overlooking to reach a particular conclusion.

It is worthwhile to note that, although there may appear to be parallels between the French-speaking medical school and the African American or women’s medical colleges in the United States, this comparison would be simplistic. If there was a delay in giving financial aid to the French school, it was just that -- a delay. Obviously the French Canadian situation was a sensitive one, both in the eyes of Canadian politicians and powerbrokers as well as Foundation representatives. Pearce and Vincent were made aware of its significance from the start. There are countless letters from and records of discussions between Foundation staff and Vincent Massey and W. L. M. King on the topic of the delicate situation of funding a Francophone medical school. Massey and King noted that the majority of the Quebec population, a full eighty percent, were French-speaking and would not attend McGill University. These people did, however, require physicians and given the fact that there were two French-speaking medical departments

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44 King stated his concerns frankly in a letter to George Vincent dated January 21, 1920. In offering his solicited opinion on the allotment of the Foundation gift, King advised that the faculties of medicine at Laval University and the University of Montreal be considered. He noted that, “Were their (sic) any oversight of their needs, it might be thought that this had been due to some discrimination on the ground (sic) of either race or religion, which would be unfortunate.”. King to GEV, January 21, 1920. RAC. RF. RG 1.1. Series 427 Canada, Box 6, Folder 55A. In Richard Pearce’s diary entry dated March 10, 1920 he notes that during discussions in Toronto with Vincent Massey, that Massey “takes pessimistic view of French-Canadian education. Admits that French-Canadian doctors, however, must be trained and that they will not resort to English Protestant institutions.”. RAC. RF. RG 121. Diaries. RMP, 1920. The following day, while visiting Ottawa, Pearce paid a visit to King. In that diary entry, Pearce notes that, “Mr. K. believes that something should be done for a French Catholic medical center. Does not urge it on political grounds but because the large population needs medical men.”. After a July 12, 1920 to Ottawa, George Vincent reported in his diary that King and A. B. Macallum were pressing the “importance of introducing scientific education among French Canadians.”. RAC. RF. RG 121, Diaries, GEV, Box 65, 1920. p. 84.
more than forty years old, it would be deemed judicious to support one of them to train physicians to serve the Francophone population.

Nor is there a parallel between the way that the Flexner Report affected the African American colleges and the effect it had on the French-language minority schools in Quebec. Todd Savitt argues that Flexner crushed many of the black medical schools with his criticisms in 1910. By 1923, the number of black schools had dropped from ten in 1900 to two. Although the General Education Board did support the remaining two, chosen as the black “peaks”, the closing of the remaining schools seriously depleted the number of black students who could study medicine in the United States. Howard University, which opened in 1869, and Meharry Medical College (1876) were long-established schools but alone could not graduate the same number of physicians.

By comparison, in Canada, the two French-language schools evaluated by Flexner continued on and remained open. Although Flexner by no means lauded either of the schools, he did recommend that one of the two should continue to operate, although ten years later the Rockefeller Foundation would throw its support behind the other one.

There has also never been the same sort of racist overtones that Savitt says overshadowed the history of black medical education. He says that although tentative educational

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45 Abraham Flexner, Medical Education in the United States and Canada. (Boston: D. B. Updike, Merrymount Press, 1910), pp. 324-325. The two schools were the Laval University Medical Department in Québec City, opened in 1848, and the Laval University Medical Department in Montreal, opened in 1878. By the time of Flexner’s report, both offered a five-year, French-language medical course. The Québec City school had, in 1910, an enrollment of 92 students and a staff of 22. It was run on student fees and “an appropriation by the university”, and had provisions for clinical instruction at the Hotel Dieu with additional, abundant opportunity for obstetrical teaching. The Montreal school had an enrollment of 217 with a teaching staff of eight. It ran solely on student fees, “most of which are distributed among the teachers” and had two associated teaching hospitals for clinical instruction. Although Flexner recommended that the Laval school be kept, ten years later it would be the Montreal school which would be supported by the Rockefeller Foundation.
reforms were already underway at the black medical colleges before the Flexner Report was published, the report made a tenuous situation worse by outlining each school's good and bad points and advocating school closures while revealing negative white attitudes.47 Nothing like this occurred in Canada.

It is, however, true that with support came policy control in Canada and the United States. Vanessa Northington Gamble, in her discussion of black hospitals during the 1920s and 1930s, says that by 1939, there were ten black hospitals which offered black doctors AMA-approved internships. All ten hospitals had external support. The price to be paid, she argues, was surrendering control to the white philanthropists. It would be the white donors who would determine the role and the function of the black hospitals and even, she contends, maintain a racial hierarchy within the hospital administration.48 Gerald Markowitz and David Rosner concur. In their article, they acknowledge the aid given by philanthropic organizations but recognize that the cost of accepting such aid was a loss of independence. Democracy in medicine is forfeited when an outside body can dictate policy. Although the scientization of medical education and the promotion of the research-ideal were reforms which needed considerable capital for success, these reforms, they argue, were not carried out in the best way. The changes resulted in the concentration of power in the hands of an elite group of practitioners.49

48 Savitt, "Black Medical Schools", p. 72.
In Canada, the situation was not as extreme and no one has argued as strongly as either Gamble or Markowitz and Rosner that reform cost Canadian schools their independence. By comparison, one can see the leverage potential in place in the reorganization of the Université de Montréal medical school. When Richard Pearce first visited the school in 1920, he gave no indication of support but made a number of pointed suggestions. Among these were: the development of a pre-medical course in physics, chemistry and biology related to medicine; new chairs of pathology and histology; and that the school should “get men from Tulane, New Orleans, rather than from France” to fill out the French-speaking faculty.50

George Weisz, in his article “The Geographical Origins and Destinations of Medical Graduates in Québec, 1834-1939”,51 brings up the interesting point that changing the standards and scientizing the curriculum at the two French schools would have doomed them both. Even with the promise of Rockefeller Foundation aid, the school at Montréal did not re-invent itself along the lines of McGill University, with strict undergraduate science training as a requirement for entry. All that Montréal did was to introduce a year of pre-medical science studies. An examination would follow, and if the student passed, he could continue on to the first-year of medical school. Essentially, Weisz argues, this strategy was a consequence of ‘niche marketing’. McGill University was competing for medical students in a market which included Johns Hopkins and

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50 Pearce to Vincent, Memo, RAC, RF, RG 1.1 Projects, Series 427 Canada, Sub-Series McGill, Box 6, Folder 55A.
Harvard University. With so many Americans attending McGill\textsuperscript{2} and then returning home to practice, it was necessary to meet the requirements of the American Medical Association and state licensing boards and to maintain higher standards, especially in the sciences.

In the case of the French-language schools, particularly that of Laval in Québec City, raising their standards would have effectively priced them out of their market. Weisz argues. The Laval school drew most of its students from the rural region east of Montreal. Seventy-five percent of its students during the 1920s came from eastern Québec and Québec City.\textsuperscript{3} The cost of a medical education was lower at Laval, where they still had a five-year program in 1921, compared with Montreal. Students paid ninety dollars per year at Laval versus $175 per year for each of six years at Montreal.\textsuperscript{4} Weisz admits that none of this evidence is conclusive in arguing that students who attended Laval came from less privileged social strata, however. it does tie into the idea that introducing changes to admission standards such as a baccalaureate degree or considerable science training prior to medical school would prove more difficult at Laval than in the urban Montreal marketplace for students.

The chief impediment to development at Montréal was the poor pre-medical training. In a report on the Canadian gifts, Pearce wrote that:

\begin{quote}
The authorities promise to remedy this; have appropriated $55,000 for next year to establish a "faculty of sciences" to teach pre-medical physics, chemistry and biology; and agree
\end{quote}

\textsuperscript{2} George Weisz, "The Geographical Origins", p. 108. By 1930, there were 277 Americans studying medicine in Canada, seventy-five percent, or about 208, of which were at McGill University.
\textsuperscript{3} Weisz, "Geographical Origins", p. 111.
\textsuperscript{4} Weisz, "Geographical Origins", p. 112.
to increase the medical school budget of $40,000 last year to $113,000 for next year. This is considered the medical school's share of $5,000,000 raised in last spring's campaign for funds.\textsuperscript{55}

The Université de Montréal obviously garnered the respect of the Foundation in their zeal for fundraising of $5,000,000. Furthermore, the Foundation does not appear to have been prejudiced against the French-speaking majority in Québec. There were individual challenges, such as "church control of education" to which the Foundation was sensitive, but no more so than the sensitivity shown toward the denominational colleges battling Dalhousie University for government grants, a fact of which the Foundation was aware and disliked.

Hence, it was decided to aid the "new, more progressive" Université de Montréal using annual grants based upon a principal gift of $500,000. If the school met the conditions of proper development of the pre-medical sciences as well as the laboratory sciences, then the principal could be awarded as well. Interestingly, the Université de Montréal did not have to improve its clinical instruction, as did many of the other schools: its matter of first order was to build a better foundation for the scientization of medicine.

Finally, always sensitive to feelings of the French, Pearce concluded his report on the school with the note:

The plan of annual grant is acceptable to the authorities, and can arouse no criticism on the part of the French, in that the same course is recommended for the provincial (English-speaking) University of Alberta, also in process of development.\textsuperscript{56}

\textsuperscript{55} Pearce, "Summary of Reports on Medical Education in Canada". RAC, p. 3.
\textsuperscript{56} Pearce, "Summary of Reports on Medical Education in Canada". RAC, p. 3.
Kept Canadian Schools in the Minds of the Rockefeller Foundation

As was noted in the preceding chapter, a number of subsequent gifts followed that of the five million dollars. Many of these were quite ambitious, such as the School of Hygiene in Toronto or the Montreal Neurological Institute associated with McGill University. Obviously, a relationship had been forged between the Foundation and these schools during the 1920 visits and the seemingly never-ending correspondence. Even during times of duress, such as the Drury Inquiry which threatened to destroy the inroads made in full-time clinical teaching at Toronto or the disputed appointment of surgeon Sir Henry Gray at McGill University, the Foundation continued their low-key support and weathered the storm. Often, for example, it would be to the Foundation that Deans of faculties would look as a resource to find the best possible individual to fill a position: Vincent and Pearce were often sought out for advice on a candidate and most often provided a contact name to whom the dean might use as a reference. In this way, too, a network existed which the Canadian schools were part of.

Out of the exercise that began with John D. Rockefeller, Sr.'s comment "My attention has been called to the needs of some of the medical schools in Canada ...", came a relationship which drew together first Richard M. Pearce and George E. Vincent and men such as Falconer, Martin and MacKenzie and later Alan Gregg. Their common goal was to offer better education and training in a world of medicine that had become more scientific and more research-oriented. By 1930, medical teaching had been given a boost up to another level by the capital investment made by the Rockefeller Foundation and
like-minded governments and private citizens. This continued with the fellowship
program for individual physicians and specific research projects funded by the
Foundation.
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The majority of the archival material used came from the Rockefeller Archive Center, the Archives of Ontario, the University of Toronto Archives and the Dalhousie University Archives. Although I made two visits to the McGill University Archives, I found that material there is censored (names and dollar amounts and certain other information is "blacked out"), at the discretion of the archivist, following a recent Provincial law. Therefore, there are few references to primary material sourced from the McGill University Archives; fortunately, much of the material was duplicated, in full, in the copies I made at the Rockefeller Archive Center.

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