

# "Marked For Slaughter": The Halifax Medical College and the Wrong Kind of Reform, 1868-1910

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## “Marked For Slaughter”: The Halifax Medical College and the Wrong Kind of Reform, 1868-1910

AT A MEETING OF THE Nova Scotia Medical Society in July of 1910, Dr. D.A. Campbell of the Halifax Medical College reacted angrily to the recent publication of Abraham Flexner's report on medical education to the Carnegie Foundation for the Advancement of Teaching. Flexner's "libellous volume", expostulated Campbell, had "plainly marked for slaughter" all but 31 of North America's 155 medical schools, and "among those whose 'speedy demise' is aimed at is the Halifax Medical College".<sup>1</sup> Flexner had, in fact, lambasted the College, making special note of its "basely mercenary" aims, its "putrid" cadavers, its "utterly wretched" laboratory, and the "disgraceful condition" of its premises. Canada's needs, felt Flexner, could be adequately met by five of its eight medical schools: the Halifax Medical College, along with Laval at Montreal and Western at London, had "no present function". Further, HMC's nominal connection with Dalhousie University was "highly objectionable" from the university's standpoint.<sup>2</sup>

Flexner had saved his sharpest criticism for proprietary medical schools like the Halifax Medical College. While reduction in the number of schools never quite reached the levels he had intended, he was able to note in his autobiography that "Schools collapsed to the right and left, usually without a murmur".<sup>3</sup> By 1915, only 96 colleges remained in the U.S.; by 1930, there were 76.<sup>4</sup> Surviving schools would follow a standard pattern. All would be university-based, affiliated with teaching hospitals which would be staffed mainly by students at both graduate and undergraduate levels. All would require extensive laboratory and clinical experience for graduation. All would become centres for original research, carried on by full-time preclinical and clinical faculty members. Tuition costs and admission standards would rise steeply. The modern urban school-hospital-research complex would emerge.

1 D.A. Campbell, "Medical Education in Nova Scotia", *Maritime Medical News*, 22 (July 1910), pp. 201-16.

2 Abraham Flexner, *Medical Education in the United States and Canada*, Bulletin #4 (New York, Carnegie Foundation for the Advancement of Teaching, 1910; facsimile reprint, Boston, 1960), pp. 85, 88, 19, 139, 150, 321.

3 Kenneth Ludmerer, *Learning to Heal: The Development of American Medical Education* (New York, 1985), p. 187.

4 *Ibid.*, p. 247.

While Flexner was soon being called "the father of modern medical education", more recent historical work has stressed that significant and permanent reform was well underway before he began his survey, that the financially-pressed proprietary schools were closing of their own accord, and that the model Flexner used was not by any means the inevitable product of the existing reform movement.<sup>5</sup> In 1870, North American medical colleges were essentially practical trade schools, teaching largely by the lecture method. During the last two decades of the 19th century, it was widely felt among medical educators that changes were necessary, and reforms of one kind or another were carried out at most schools. By 1910, according to Kenneth Ludmerer, North American medical education, "contrary to the popular myth engendered by the Flexner report...was at its most advanced condition ever".<sup>6</sup> Flexner, as a deliberate stratagem, had ignored this reality to impose his own blueprint for change, representing any alternative as inferior, unacceptable, and dangerous to the public. After Flexner, research would be enthroned as a central function of a medical school, and there would be no more room for the "practical" school whose only aim was to educate physicians. Nor would there be room for proprietary schools like the Halifax Medical College, run by general practitioners; control of the modern school would be placed firmly in the hands of full-time academics. Soon after the publication of the Flexner report, Halifax's medical school would become a fully-integrated faculty of Dalhousie University, its modernization financed by grants from the Rockefeller Foundation and its future direction well-defined.

Existing studies of the Halifax Medical College consist mainly of retrospective articles by physicians. These fall roughly into two groups: those that eulogize the school and ignore Flexner's criticisms, and those that agree with Flexner that conditions were deplorable, blaming the College's failure to shape itself spontaneously into the modern model on the recurrent financial problems incident upon its proprietary structure, which in turn led to severe demoralization among the faculty.<sup>7</sup> Recent investigation into the nature of the reform of medical education

5 Daniel Fox, "The New Historiography of American Medical Education", *History of Education Quarterly*, 26, 1 (1986), pp. 116-24; Ludmerer, *Learning to Heal*; Martin Kaufman, *American Medical Education: The Formative Years* (Westport, Conn., 1976), and "American Medical Education" in Ronald Numbers, ed., *The Education of American Physicians* (Berkeley and Los Angeles, 1980); Robert Hudson, "Abraham Flexner in Perspective: American Medical Education, 1865-1910", *Bulletin of the History of Medicine*, 46 (1972), pp. 545-61; Kenneth Ludmerer, "Reform at Harvard Medical School 1869-1909", *ibid.*, 55 (1981), pp. 343-70, and "Reform of Medical Education at Washington University", *Journal of the History of Medicine*, 35 (1980), pp. 149-73; William Rothstein, *American Physicians in the 19th Century: From Sects to Science* (Baltimore, 1972).

6 Ludmerer, *Learning to Heal*, p. 72; see also p. 181.

7 C.B. Stewart, "One Hundred Years of Medical Education at Dalhousie", *Nova Scotia Medical*

invites a new look at the history of the Halifax Medical College and similar institutions. This paper argues that the College, founded primarily as part of a movement to raise the status of the regular profession in the region, fulfilled its function in most respects; that change was indeed underway by the time Flexner arrived; and that the reform consensus that did exist had been shaped by local political and social factors. Dr. Campbell's reaction against the Flexner report was not simply a knee-jerk defense of the school he had been associated with for 35 years. He was also defending the position of local elite practitioners, whose power base at the school was about to fall victim to a new elite group of full-time academics. Nor was he reacting against reform. The practitioners, too, planned reform, but along an alternative path which was, for better or worse, not taken.

Restriction of their numbers by educational reform has been viewed as the chief mechanism used by regular physicians to achieve self-regulation of the profession and a monopoly of the patient market.<sup>8</sup> It was part of a successful attempt to take a leadership role in an age when middle-class reformers were increasingly enamoured of science as a means to social progress, and imbued with the idea of corporate-style efficiency to be gained by the removal of many social decisions from the sphere of "dirty politics" and the consolidation of decision-making authority in the hands of a few 'experts'. It has been convincingly argued elsewhere that the chief effect and often the overt intention of such reforms were to regulate and justify existing class relations and insulate power centres from political pressures.<sup>9</sup> In the case of medical reform, the overall results included the consolidation of power over the health-care system by a self-regulating elite, fewer opportunities for members of non-elite groups to get a medical education following the closure of proprietary schools, and maldistrib-

*Bulletin*, 47 (August 1968), pp. 149-52; T.J. Murray and Suellen Murray, "The History of Dalhousie Medical School", *MeDal*, 11 (1983), pp. 12-4; K.A. MacKenzie, "The Beginnings of Dalhousie Medical School", *Dalhousie Medical Journal*, XI, 1 (1958), pp. 7-11; H.L. Scammell, "The Halifax Medical College", *ibid.*, pp. 12-7; H.B. Atlee, "Dalhousie Medical School 1907-1957", *ibid.*, pp. 21-33; R.J. Bean, "Sidelights on Early Medical Teaching in Halifax", *ibid.*, I, 1 (1936), pp. 5-9 and I, 2 (1936), pp. 5-9.

- 8 Gerald Markowitz and David Rosner, "Doctors in Crisis: A Study of the Use of Medical Education Reform to Establish Modern Professional Elitism in Medicine", *American Quarterly*, 25 (1973), p. 84.
- 9 David Noble, *America by Design: Science, Technology and the Rise of Corporate Capitalism* (Oxford, 1977); James Weinstein, *The Corporate Ideal in the Liberal State, 1900-1918* (Boston, 1968); Gabriel Kolko, *The Triumph of Conservatism: A Re-interpretation of American History* (New York, 1963); John Weaver, " 'Tomorrow's Metropolis' Revisited: A Critical Assessment of Urban Reform in Canada, 1890-1920", in G. Stelter and A. Artibise, eds., *The Canadian City: Essays in Urban History* (Toronto, 1979); Stephen Kunitz, "Efficiency and Reform in the Financing and Organization of American Medicine in the Progressive Era", *Bulletin of the History of Medicine*, 55 (1981), pp. 497-515.

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ution of health services as the new breed of graduates flocked to large urban centres.<sup>10</sup> Ludmerer has noted the opposite tendency among proprietary-school graduates, and local figures confirm this pattern: of the Halifax Medical College graduates listed on the 1911 medical register who had stayed in the province, 76 per cent were practising outside Halifax-Dartmouth.<sup>11</sup>

The reform of medical education also implied a significant power shift within the profession, with control going from private practitioners to an elite group of full-time academics. While, in the classic view, the organized practitioners were the source of the reform drive, more recent work has conclusively shown that the impetus came from medical educators themselves, for their own reasons.<sup>12</sup> The takeover of medical education by the universities and the raising of standards were, at first, often resisted by the organized profession. Ludmerer has traced the spread of reform from American full-time educators who had trained in Germany, and who were convinced that medical students must receive not only up-to-date scientific training, but also must be taught by progressive methods: they must learn by doing, by direct experience in the laboratory and in the clinic. This reflected an important shift in educational philosophy, affecting many fields besides medicine. Knowledge was no longer seen as static, but as an evolving entity which could never wholly be mastered. There was a real "information explosion" in the later 19th century, facilitated by unprecedented advances in science, technology, transportation and communications. Medical and other journals appeared and proliferated, and quickly became a better source of information than the standard textbook. Therefore, students were best served by being taught the skills necessary to acquire knowledge directly, by which they could continue the learning process and remain up-to-date throughout their careers. While the assumption of the value of scientific research training for future medical practitioners represented a leap of faith, this German-trained group of educators had another motivation as well: the provision of full-time, research-based, academic careers for themselves. Schools like the Halifax Medical College, which were run by general practitioners, did not share this added motivation, and this factor helped shape a different approach to reform.

The establishment of a medical school in Halifax was part of professional reaction to what seemed an intolerable situation. Regular physicians of the mid-19th century had suffered a serious loss of prestige thanks largely to their

10 Markowitz and Rosner, "Doctors in Crisis", pp. 83-107; Ludmerer, *Learning to Heal*, pp. 265-73; Paul Starr, *The Social Transformation of American Medicine* (New York, 1982), pp. 112-27; Colin Howell, "Reform and the Monopolistic Impulse: The Professionalization of Medicine in the Maritimes", *Acadiensis*, XI, 1 (Autumn, 1981), pp. 3-22.

11 Ludmerer, *Learning to Heal*, p. 248; Nova Scotia Medical Register, *Belcher's Farmer's Almanac* (Halifax, 1911), pp. 345-60.

12 Fox, "The New Historiography", pp. 116-24; Ludmerer, *Learning to Heal*, pp. 72-3.

earlier reliance on such harsh, 'heroic' therapies as copious bleeding, painful blistering and violent purging. These unpleasant, dangerous therapies had the added disadvantage of being visibly powerless to stop the ravages of the great cholera and yellow-fever epidemics. Increasingly, the public was turning to the ministrations of irregular practitioners with milder methods, such as homeopaths and eclectics.<sup>13</sup> Feeling this competition keenly, regular physicians were also plagued by perceived overcrowding in their own ranks, and by colleagues who, in the confusion following the mid-century retreat from the unpopular heroic therapies, were beginning to adopt some of the methods of the irregulars, making it difficult for the public to distinguish one sect from another.<sup>14</sup> Efforts by the regulars in the U.S. to achieve a monopoly over practice had suffered utter defeat, as popular support for the irregulars led to the collapse of existing licensing laws in state after state. By mid-century, anyone, trained or not, could practice medicine in the U.S.; anyone could also open a medical school, and there followed a great proliferation of colleges and schools with widely varying standards, including several outright diploma mills. In Canada, licensing laws did exist; however, as in Nova Scotia before 1872, they typically accepted any diploma (including American ones) at face value. As American schools multiplied, even the quite reputable ones began to accept students with little or no previous education, graduating them in a few short months. It was estimated that over half of Harvard medical students in 1870 could hardly write.<sup>15</sup> U.S. schools became a cheap, attractive prospect for aspiring Canadian medical students, who had hitherto been forced to go abroad or to attend one of the few Canadian medical schools, where the courses were generally longer than in the U.S. Although Canadian medical schools did not proliferate to nearly the same extent as American ones, since only those affiliated with universities could grant degrees, the influx of what was perceived as low-quality graduates from U.S. schools added to the sense of overcrowding and lowered status.<sup>16</sup> The establishment of medical schools with high standards would, therefore, address several problems at once. By equipping new physicians with a standardized body of knowledge, the 'regular' profession could more easily distinguish itself from competing sects. By raising entrance standards and lengthening the medical course, 'fewer and better doctors' would be produced, and intra-professional competition lessened.

13 Rothstein, *American Physicians*, pp. 41-62, 125-74.

14 Colin Howell and Michael Smith, "Orthodox Medicine and the Health Reform Movement: Approaches to Therapy in the Maritimes, 1850-1885", *Acadiensis*, XVIII, 2 (Spring 1989), pp. 55-73.

15 Ludmerer, *Learning to Heal*, p. 12.

16 Joseph Kett, "American and Canadian Medical Institutions, 1800-1870", in S.E.D. Shortt, ed., *Medicine in Canadian Society: Historical Perspectives* (Montreal, 1981), pp. 189-206.

Doctors in Nova Scotia were no different from those elsewhere in their desire to consolidate their power and raise their professional status. There is much evidence that they were plagued by the existence of irregulars and that they perceived lack of status and overcrowding as serious problems.<sup>17</sup> According to D.A. Campbell, it was the "gradually increasing number of persons coming into the province from other places, thoroughly versed in all the vile arts of the quack" which led to the organization of the Halifax Medical Society (later the Nova Scotia Medical Society) in 1854, to press the government for legislation restricting practice to qualified regular practitioners.<sup>18</sup> This group achieved some success when legislation was passed in 1856 which provided for registration of those who possessed a degree or diploma, and, though it was never rigidly enforced, prohibited unauthorized assumption of a registrable title. But soon, according to Campbell, "a new and much more dangerous factor confronted the profession, by a slow but steady depreciation of the value of a diploma as an evidence of professional attainments. The exposure of diploma mills, and the downward tendency of a keen competition among a large number of irresponsible medical schools, caused a growing sentiment in the profession in favour of a higher standard of education and qualifications".<sup>19</sup>

To what extent, if any, the profession was actually "overcrowded" at this time is problematic. Howell's analysis of census figures shows a significant drop in patient-doctor ratios between 1881 and 1911, which may have been a continuation of an earlier trend from the period considered here.<sup>20</sup> Estimates by physicians based on early medical registers also exist, suggesting a dropping ratio in the city of Halifax between 1851 and 1891; but, as Howell rightly points out, these early statistics were not reliable, since it is impossible to determine the numbers of unregistered regular and irregular physicians. Available information, however, is suggestive of some trends which would have been of concern to regular practitioners around the time the Halifax Medical College was founded. The earliest medical register to give details of physicians' training shows that of 189 Nova Scotia physicians practising in 1874, fully 140 of them — 74 per cent — had graduated in the previous 16-year period, while 49 (26 per cent) had been in practice six years or less. While it is impossible to draw definite conclusions without reliable statistics from earlier periods, and without knowing whether there was a significant reluctance among older practitioners to register, these figures do show that the overwhelming majority of registered Nova Scotian

17 Howell, "Reform and the Monopolistic Impulse", pp. 6-7, 13, 16.

18 D.A. Campbell, "Medical Legislation in Nova Scotia: Past, Present and Future", *Maritime Medical News*, I, 3 (1889), pp. 95-9.

19 *Ibid.*, p. 97.

20 Howell, "Reform and the Monopolistic Impulse", p. 13.

physicians were of quite recent vintage. Particularly when one considers that medical careers have traditionally been carried on well into old age, the figures are at least suggestive of an influx of physicians around the period in question. The register, too, suggests that most of this influx was coming from the proliferating schools of the United States. Of those who had graduated between 1827 and 1857, 53 per cent were U.S.-trained regulars; of those who had graduated since 1858, 76 per cent were. The situation in Halifax-Dartmouth, where 23 per cent of the registered doctors practised, mirrored that in the rest of the province. 70 per cent of these had graduated since 1858; of these, 17 per cent were British-trained and 70 per cent U.S.-trained regulars; two had added British qualifications to an initial McGill degree; there was a single Dalhousie graduate listed for the city, and one graduate of the Eclectic College of Cincinnati. In all, five irregulars had been registered in the province (all with post-1858 qualifications) and there were 11 licentiates (usually indicating the product of apprenticeship training).<sup>21</sup>

Whether the chief spur was increased competition among regulars, the increasing appearance of irregulars, or, as Campbell would have it, the lessened competence of new graduates, it is certain that reforms followed one another swiftly in this period as a prelude to the profession's crowning achievement: the passage of the 1872 Medical Act which finally granted it full self-regulation, and prescribed the curriculum which had to be followed by a graduate seeking automatic licensure, as well as preliminary or "matriculation requirements" for medical students. Since this bill would have limited the opportunities for many Nova Scotian students to receive affordable training in the U.S., the establishment of a local medical school which would meet the new criteria was probably seen as a sensible preliminary move which would preclude criticism on this ground in the legislature. It would also provide reassurance that no scarcity of doctors need result from the new standards.<sup>22</sup> The re-establishment of the City and Provincial Hospital in 1867 and the pressure for an Anatomy Act to legalize dissection, finally achieved in 1870 after much popular opposition, were both directly connected with the decision to open the medical school.

What is significant is not so much the achievements themselves as the ease with which they were accomplished. The bitter struggles between organized practitioners and medical schools for control over curriculum, entrance standards and licensing which were so much a feature of the struggle for self-regulation in both Ontario and Quebec, never occurred in Nova Scotia. In both Ontario and Quebec, medical educators and the leaders of the medical societies comprised

21 Calculated from Nova Scotia Medical Register, *Belcher's Farmer's Almanac* (Halifax, 1874), pp. 41-4.

22 These arguments were cited by the physicians themselves; see Campbell, "Medical Education", pp. 209-10.



separate groups. The profession had traditionally controlled licensing for all but university graduates, and saw their power slipping away as, one by one, proprietary schools affiliated with universities to gain the privilege of automatic licensure. Once a school was 'lost' to a university, the profession could no longer rule on the suitability of its entrance standards or its curriculum. When self-regulation was achieved, the societies fought hard to ensure that only physicians not connected with any medical faculty would sit on examining boards.<sup>23</sup>

Certainly, when a medical school was first proposed in Halifax, there was some "open hostility" noted among practitioners, "especially on account of its connection with Dalhousie College".<sup>24</sup> But, in general, the situation in Nova Scotia was quite different from that in central Canada. The elite group of Halifax practitioners which dominated the provincial medical society was, by and large, the same group which founded and staffed the medical school and, after 1872, the same names are found as executives, members and examiners on the Provincial Medical Board. Thus, following the passage of the new Act, this group had acquired the power to fix entrance standards, to set the curriculum, to issue diplomas, to accept those diplomas as licenses, and to rule on the suitability of any candidate not possessing the specified qualifications — including irregulars. The fact that there was only one medical school in the province, unlike in Ontario and Quebec, also helped to preclude disunity.

It was at these elite levels that the establishment of the medical school was first mooted. The former Dalhousie College had just been re-organized as a university and, along with other North American universities of the time, was exhibiting a desire to modernize by becoming a center not only for classical education, but for science and scientific research as well. This commitment was evidenced by its appointment of George Lawson, Ph.D., a scientist of international standing who had trained both in Edinburgh and in Germany, who had been instrumental in founding a medical school at Kingston, Ontario and who would become one of the founding members of the Royal Society of Canada. On the Board of Governors of the new university was Dr. Charles Tupper, later to be the first president of the Canadian Medical Association as well as Prime Minister of Canada, who in the years just prior to the school's founding was not only provincial secretary and then premier, but also served as president and vice-president of the provincial

23 Jacques Bernier, "La Standardisation des études médicales et la consolidation de la profession dans la deuxième moitié du XIXe siècle", *Revue d'histoire de l'Amérique française*, 37, 1 (1983), pp. 51-65; R.G. Gidney and W.P. Millar, "The Origins of Organized Medicine in Ontario, 1850-1869", in Charles Roland, ed., *Health, Disease and Medicine* (Hamilton, 1982), pp. 65-95.

24 A.W.H. Lindsay, "Report of the Registrar of the Provincial Medical Board", 1897, Medical Society of Nova Scotia Manuscript Collection, File No. 969, Public Archives of Nova Scotia [PANS].

medical society. In 1863 Tupper presented to the Board of Governors a memorandum from Lawson regarding a medical school, and a motion by Joseph Howe, seconded by another Board physician, Dr. J.F. Avery, was passed to invite the medical society to form such a school in connection with Dalhousie. The society declined to do so at the time, citing the lack of adequate hospital facilities and the illegality of dissection; again, it was Tupper who, in the next few years, was able to use his considerable influence to overcome these objections.<sup>25</sup> With the reorganization of the City and Provincial Hospital in 1867 and the passage of an Anatomy Act felt to be imminent, a group of leading Halifax physicians met to establish the school.

Those founders who later formed the first Faculty of Medicine were Alexander P. Reid (McGill, Edinburgh), Alfred H. Woodill (College of Physicians and Surgeons [CPS], New York), Edward Farrell (CPS, New York) and Alexander G. Hattie (Edinburgh). Drs. John Somers (Bellevue) and William B. Slayter (Trinity, Rush, London, Dublin), although at the founding meeting in 1867, dropped out after "private conversations" with Reid when the Board of Governors insisted on staff modifications, but they were to return to the Faculty within a few years. To complete the group, W.J. Almon (Glasgow) accepted an invitation to serve as head of the Faculty, and Dalhousie's George Lawson agreed to provide instruction in chemistry and botany. All but Lawson were part-time educators, each continuing his general practice in the city.

Originally a preparatory school, the medical faculty began to offer a full four-year course in the academic year 1870-1. There were no real admission standards: a year's apprenticeship could be substituted for the first year of study and, despite the requirement for students to pass a 'preliminary' or 'matriculation' examination covering secondary-school subjects, this examination could in fact take place at any time prior to graduation. Later, there would be attempts to make the examination a requirement for entrance, but faculty minutes show the rule was still being ignored as late as 1885. This was typical North American practice, and meant that medical schools had to begin such courses as chemistry at the most elementary levels. Thus, in years during which great breakthroughs were being made in organic chemistry and biochemistry, most medical-school instruction time would necessarily focus on elementary inorganic chemistry, which had little indeed to do with medical practice, and was one of the courses most hated by typical medical students.<sup>26</sup>

Following the general practice of the period, the course was repetitive and ungraded: students covered the same material twice, and did courses in any order they chose, despite a nominal division into "primary" and "final" subjects.

25 Campbell, "Medical Education", p. 210.

26 James Whorton, "Chemistry", in Numbers, *Education of American Physicians*, pp. 72-94.

Besides chemistry, the “primary” courses included *materia medica*, which covered the various ‘specifics’ available for chemical and herbal therapy; botany; “institutes of medicine”, which comprised what today would be termed physiology, general pathology, histology and the use of the microscope; and the chief course on the curriculum, anatomy, taught by lecture and dissection. “Final” subjects included midwifery and diseases of women and children (a single course), medicine, surgery, and “medical jurisprudence”, which involved “Toxicology, Insanity, Public Hygiene, and Psychological Medicine”.<sup>27</sup> Examinations were given at the end of the third and fourth years.

The course length, curriculum and loosely-applied entrance standards made this a typical Canadian medical-school course. It differed from the “ideal” course recommended by the Canadian Medical Association in 1868 only in its shorter term length (six months instead of nine), and the lack of separate courses on theoretical and practical chemistry, pathological anatomy and public hygiene. In Quebec, where this ideal became the basis for new legislation in 1876 — at which time apprenticeship was no longer to be recognized — the changes were the result of pressure from the organized profession, who wanted higher standards as a means to force the universities to graduate fewer students.<sup>28</sup> The tendency for practitioners to focus on the trappings of change — course lengths and admission requirements — rather than on substantive change in teaching methods has also been noted by Ludmerer in his study of the American Medical Association.<sup>29</sup> Dalhousie’s new programme thus reflected the motivations of its practitioner-professors. They wished to run a reputable school, comparable with others in Canada, and to set the stage for the hoped-for new licensing legislation. Whether the state of medical knowledge of the time warranted a four-year course was questionable, and it was certainly being questioned in the United States, where the standard course at reputable schools consisted of two identical four-month terms.<sup>30</sup>

Thus, although scientific research was beginning to make great strides in Germany, and many North Americans were returning from there convinced that great changes in medical education must follow, the establishment of modern German-style laboratories was far from the minds of the new Dalhousie faculty. Teaching was almost entirely by lecture. In medicine and surgery, where students were expected to get their clinical training, the method most used was the traditional “grand round” of the University of Edinburgh, whereby a professor

27 *Dalhousie University Faculty of Medicine Annual Announcement* (1870-1), Dalhousie University Archives.

28 Bernier, “La Standardisation des études”, pp. 51-65.

29 Ludmerer, *Learning to Heal*, p. 61.

30 *Ibid.*, p. 15.

would escort the entire class on a walk through the wards, pointing out and discussing cases of didactic interest. These sessions began at noon each day and lasted one hour. The "clinical lecture" method was also used, ambulatory patients being brought before the class at the school, or at a special room in the hospital, to have their lesions exhibited and their cases discussed.<sup>31</sup> Senior students were required to take 'case histories'. Clinical surgery was "exhibited on the subject", and students graduated without ever having wielded the scalpel, except on cadavers.<sup>32</sup> The City and Provincial Hospital was no "teaching hospital" in any modern sense of the term; nor would any North American hospital be, until the Johns Hopkins medical school-hospital complex opened in 1893. Students were not involved in any way with ordinary hospital practice and, although tolerated, were under many restrictions to prevent their 'interference' with a patient's right to professional care, and a hospital's right to get on with business without curious and ignorant students underfoot. A surviving set of Halifax Medical College class 'tickets' for the 1896-7 academic year stipulates that, according to the rules of the Victoria General Hospital, students would be admitted "*at regular visiting hours and no other time except by special permission...to witness the practice of the hospital*".<sup>33</sup>

In anatomy and obstetrics, where it was intended that students get more direct clinical experience, there were special problems. Student dissections were severely limited, even after the passage of the Anatomy Act, by an ongoing scarcity of cadavers. Until amendments were made to the act in the 1890s, only bodies from Halifax itself could be taken, and these only if no friend, relative or clergyman claimed it within two days, and if the person had not protested against dissection before death. As a result, the school would often go months with no available cadaver. When one finally was secured, it would have to serve for the whole class, and the dissecting room would be open at night and on weekends to allow them to make quick use of it. The main source of clinical obstetrical instruction was the Poor Asylum in Halifax, where staff midwives were quick to appreciate the students' role as representatives of a profession which was trying to drive them out of business. The 1872 Medical Act required that city midwives be licensed by the Provincial Medical Board; the examiners who issued the licenses were all professors at the medical school. But over the

31 Because of the hospital's policies, these methods were still in use as late as 1900. See Halifax Medical College (HMC), *Minutes 1893-1902*, 7 May 1900, Dalhousie University Faculty of Medicine Alumni Office.

32 *Dalhousie University Faculty of Medicine Annual Announcement* (1870-1), Dalhousie University Archives.

33 HMC class tickets 1896-7 belonging to Henry Payzant (emphasis in original), MG 20, vol. 202, PANS.

years that the medical school operated, the Poor Asylum midwives steadfastly refused to co-operate in their own demise. During the first years, students arriving to observe a delivery were refused admittance unless they were accompanied by the attending physician. The faculty protested strongly, but problems were continual. Midwives routinely failed to inform students by messenger of impending deliveries, even after the school began a policy of paying them to do so. In 1883, the frustrated faculty discussed ways and means of taking over direct control of the lying-in ward at the Poor Asylum, but their efforts were unsuccessful.<sup>34</sup>

Despite the practical emphasis, there is evidence that the Faculty had taken note of scientific advance and desired to offer a thoroughly modern course. The microscope, for example, was used for class work during the 1872-3 academic year, although it was not in common use in North American schools until the 1890s.<sup>35</sup> George Lawson, of course, could be counted upon to be up-to-date. While there was little enough time for 'medical chemistry' in his course, which necessarily began at the most basic level, he gamely promised "a few lectures on the chemistry of digestion, assimilation, secretion, etc.", along with "daily experiments".<sup>36</sup>

In fact, if not in name, the new Faculty of Medicine was a proprietary school, as were other such schools in Canada. Though all but one of the other seven Canadian schools had either begun as university departments or had by this time acquired university affiliation, they functioned in virtually all respects as independent organizations, their instructors subsisting directly from student fees. But the Canadian trend toward affiliation would be departed from in Halifax, when long-standing disagreements between Dalhousie and its medical faculty on the precise nature of their relationship led to tensions which culminated in the establishment of the frankly independent Halifax Medical College in 1875.

Financially, the medical school had expected to survive on student fees, 25 per cent of which were to go to general expenses and 75 per cent to professors. It soon became obvious that this arrangement was not practicable, and relations became strained when the Board of Governors refused a loan to the faculty in 1871, and also refused it representation on the Senate comparable to that of the arts faculty. The medical professors were forced to use part of their 75 per cent share for expenses, looking upon the money as a loan to be repaid in better times. Despite occasional grants from the Board of Governors, totalling \$650 by 1875, better times never seemed to come.

Tensions increased over the issue of additional space, which could not be

34 References to the ongoing scarcity of cadavers and obstetrical cases abound. See *HMC Minutes 1875-93*, MG 20, vol. 202, PANS.

35 Rothstein, *American Physicians*, p. 262.

36 *Dalhousie University Faculty of Medicine Annual Announcement (1868-9)*, Dalhousie University Archives.

provided in the Dalhousie building. By 1873, the faculty had 29 students — twice the original number — and were attempting to run a four-year program with a single lecture room and an unlighted attic dissecting room, reached by ladder. The faculty began plans for a new building, but the act then passed by the legislature to enable it to hold property also contained a clause which, in effect, made the faculty an independent corporation. The faculty explained to the Board that this had been unintentional, the result of the draft bill having been copied in a rush from similar legislation, and promised to have the “obnoxious clause” removed at the first opportunity.<sup>37</sup> Although the Board seemed mollified for the moment, troubles continued. Despite a \$2000 grant from the legislature toward the new building, the faculty needed more. It soon found it could not borrow while it remained part of Dalhousie, unless each faculty member pledged his personal credit for property which would be owned outright by the Board of Governors — a body which retained the right to hire and fire them. The faculty therefore demanded that, if the Board were indeed to own the new building, then under construction, it should pay the medical faculty’s operating expenses just as it did for the faculty of arts, while allowing them to retain student fees in lieu of salary. They also demanded full representation on the Senate. While the Board maintained that it owed them only “collegiate and moral support”,<sup>38</sup> the faculty replied that it had originally expected the power to appoint its own staff and hold its own property, rights which the Board jealously guarded. Further, the faculty pointed out, it had already spent money to improve the Dalhousie building. “If the Faculty of Medicine must be under precisely the same control as the Faculty of Arts, then similar privileges must be asked for”, the faculty told the Board; “and yet they only ask their fees from the students, and the other professors in the college have their salary in addition”.<sup>39</sup>

The structure of the medical school was now at the crossroads. The problem was that there were too many students for the space provided, and yet not enough students to supply the funds necessary for expansion. Student fees varied between \$6 and \$12 depending on the course. The average annual yield for a single class would be in the neighbourhood of \$100 to \$150, of which the professor received 75 per cent, or \$75 to \$111 for a year in which no further assessment was made. It could not have formed a large part of faculty incomes; certainly it could not finance a new building. In 1874, accordingly, the faculty voted to withdraw from Dalhousie, in order to form a corporation which could apply for a regular government grant. Yet, because the vote was close, they

37 Dalhousie Medical Faculty, *Minutes 1867-1875*, 29 July 1874, Dalhousie University Faculty of Medicine Alumni Office.

38 *Ibid.*, 11 July 1874.

39 *Ibid.*, 29 July 1874.

decided not to act at all; and the situation remained in abeyance until a final dispute arose over the convocation of 1875.

The faculty had held separate graduation exercises in 1874, but, due to lack of funds, had planned to join the general Dalhousie convocation the following year. However, unnoted in the faculty minutes of the time, some of its members had appealed to the legislature for incorporation as the Halifax Medical College. The faculty later claimed it had had no knowledge of this action.<sup>40</sup> But the Board of Governors had got wind of it, and did not invite the faculty to meetings held to plan the convocation. As time for the event drew nearer, the faculty anxiously wrote to enquire about the Board's plans for the medical students. With just days left before the convocation, the Board wrote back that it had no plans to graduate medical students at all that year.<sup>41</sup> This was the end. That November, the newly-incorporated Halifax Medical College opened under a new president, Rufus S. Black, Almon having resigned early in 1875 when money became scarce — an act for which the faculty never quite forgave him.<sup>42</sup> Fortunately, as part of a move to encourage consolidation of the province's numerous denominational colleges, the government was about to set up a new institution called the University of Halifax, a "university" which existed only on paper, and with which HMC promptly affiliated for degree-granting purposes.<sup>43</sup> In its first year, HMC attracted 30 students yielding \$1118 in fees, and, in addition, it had now secured an annual \$800 government grant. In an effort to attract still more students, the college began to offer a degree course in pharmacy.

Beginning in the following decade, unprecedented advances in the understanding of disease were made in Germany. For the first time in history, the mysterious origins of cholera, diphtheria, pneumonia, tuberculosis, typhoid fever, tetanus, gonorrhoea, syphilis and others were made explicable. The implications of these discoveries, and their effect for the status of scientific research, were enormous. No longer need physicians feud over theories of causation while epidemics raged; no longer need these diseases be classified by symptom-based nosologies. As one disease after another proved to have a bacteriological cause, it did not seem unreasonable to suppose that all diseases might soon be explained this way. Nor did it seem unreasonable to suppose that science, having discovered the causes, would shortly discover the cures as well. The leap of faith that had been made in Germany about the value of research was

40 *Ibid.*, 24 April 1875.

41 *Ibid.* Later, the Governors relented and held a separate convocation for the class of 1875. See D.C. Harvey, *An Introduction to the History of Dalhousie University* (Halifax, 1938), pp. 94-5.

42 HMC, *Minutes 1875-1893*, 18 May 1892.

43 For the situation which led to the establishment of the University of Halifax, see Janet Guildford, "Technical Education in Nova Scotia, 1880-1930", M.A. thesis, Dalhousie University, 1983, pp. 12-3.

now justified in areas directly related to medicine, and, although corresponding therapeutic breakthroughs had not yet been made, and some physicians might still doubt its relevance to practice, scientific training seemed more than ever an essential part of a medical course.

The conclusion is sometimes erroneously drawn that, since antibiotic therapies were not immediately developed, there was no significant change in therapy during the period. In fact, many therapeutic advances were being made and, quite apart from the etiological discoveries, there was a great deal of new information which had to be imparted to a medical student. Physiologists were beginning to elucidate more and more of the systemic functions of the body. As aseptic surgical techniques — now wholly vindicated by the new bacteriology — improved, new and increasingly complex surgical therapies were being developed for many ailments, giving rise to new specialties such as gynaecology and ophthalmology, whose body of knowledge and armamentarium had been steadily increasing since the invention of the ophthalmoscope in 1851. Students had to be trained, too, in improved anaesthetic techniques. There was a variety of new drug therapies available, many as a result of the advances in organic synthesis. One of the most important classes of new drugs was the non-narcotic analgesics, such as salicylates and phenacetin, which offered for the first time a real opportunity to ease moderate pain without resort to opium or its equally-addictive derivatives. They also afforded an antipyretic action, allowing a decline in the indiscriminate use of quinine for all types of fever. In the 1890s, effective antitoxins would be discovered for diphtheria and tetanus, holding out hope that other diseases might be conquered this way. Vaccines for rabies, typhoid, and bubonic plague were developed. Advances in endocrinology led to the successful use of thyroid extract to treat myxoedema. Besides new therapies, the bacteriological breakthroughs, along with developments in other fields, had tremendous implications for diagnosis. Reliable tests for a great many diseases were developed, of obvious importance to physicians. Bacteriology had also given a new direction to preventive medicine, and such diseases as typhoid fever would soon be the target of effective public programs.

Largely thanks to these developments, the wave of educational reform pioneered by full-time academics at Harvard, Michigan and Pennsylvania during the 1870s began to spread in earnest throughout the U.S. By 1893, when the model Johns Hopkins school was opened in Baltimore, the leading schools had adopted a four-year curriculum; more than a quarter of U.S. schools had introduced graded programmes; there was a rush, even among small schools, to lengthen courses, to accommodate new material and allow time for more individual instruction; and there was an increasing tendency among proprietary-school faculties to forego their fees to finance improvements.<sup>44</sup> At most schools,

<sup>44</sup> Ludmerer, *Learning to Heal*, pp. 72-101.



reform did not imply a sudden makeover, but a series of gradual improvements as one school emulated another. As it began to be appreciated that reformed schools were suffering little or no loss in enrolment, the movement gained momentum. By 1889, McGill's calendar showed that it had fully entered into the spirit of reform: it now boasted "a Physiology Laboratory; a Histology Laboratory with 35 microscopes; a Pharmacy Laboratory; a Chemistry Laboratory with room for 71 students; a Pathology Laboratory; [and] two Culture rooms for Bacteriology".<sup>45</sup>

The reforming spirit was not felt immediately at HMC, since it was preoccupied with other problems. Enrolment began to drop shortly after the separation from Dalhousie, and the faculty began to discuss the advisability of adopting a graded curriculum to alleviate the boredom of repetitive courses. The cheaper U.S. schools, it was felt, were offering "superior inducements" to students.<sup>46</sup> With fewer students and a new mortgage, the faculty was forced to borrow to pay current expenses, and to demand additional "assessments" from the instructors' share of student fees. Soon, crisis followed crisis as staff members began to disappear, and courses were hurriedly subdivided among the remaining instructors. The faculty began seriously to consider dissolution in 1884. When things were no better by February of 1885, a meeting was called to make the final decision. D.A. Campbell, an 1874 Dalhousie graduate and now a faculty member, thought the problem was "too much conservatism in management". Halifax, he thought, had a destiny as the commercial and university center of the region. What was needed was "an enlarged policy", the focus of which should be "to graduate as many students as possible at the least possible cost". A.P. Reid felt the College should revert to offering only preparatory courses. But it was George Sinclair who had the final word: the College was simply not doing its job, and it was "not honourable to continue".<sup>47</sup> The decision was made to approach Dalhousie with a view to union but, as in 1875, the faculty was hoping for a closer relationship than the university was willing to grant. Dalhousie was prepared only to affiliate, and when HMC agreed, the university set about establishing its "Medical Faculty", composed mainly of HMC staff, to act as an examining body for the purpose of conferring degrees. The college would keep its name, and its quasi-independent status. It would also keep its government grant, although this had seemed in jeopardy when other universities, led by Acadia, protested about the "favouritism" being shown to Dalhousie.<sup>48</sup> By "very slightly" altering its Medical Faculty by the addition of non-HMC staff, Dalhousie was able to argue that

45 McGill University advertisement in *Maritime Medical News*, I (May 1889).

46 HMC *Minutes 1875-1893*, 25 February 1881.

47 *Ibid.*, 4 February 1885.

48 *Ibid.*, 7 December 1888.

HMC was actually “separate” enough for grant-giving purposes.<sup>49</sup>

Negotiations came to an abrupt end with what has been called “The Great Row of 1885”. Ostensibly, the dispute arose because the Board of Public Charities, which ran the City and Provincial Hospital, had held competitive examinations for the position of house surgeon and offered the job to the lower-scoring candidate. The entire medical board of the hospital — including HMC faculty — resigned in protest, and city physicians joined the boycott. The hospital was left throughout 1885 and 1886 without a medical staff. In fact, the real problem was that the trustees and the doctors disagreed sharply on their respective roles, and had frequently clashed over the issue of control.<sup>50</sup> In 1887, the Board of Charities lost the contest. The provincial government took over the hospital, renamed it the Victoria General, and resumed the old arrangement.

Since there had been no hope of securing any type of hospital instruction, HMC had ceased operations in 1885. It reopened as a Dalhousie-affiliated preparatory school in 1887, not offering the full course again until 1889. In 1888, beset by financial problems and as yet uncertain of the government grant, HMC accepted its first female student.<sup>51</sup> As the final decade of the 19th century opened, with the government grant safe, student fees raised, and enrolment up, HMC began to feel the currents of reform. To be sure, there were many of the staff who felt the first priority was not to modernize, but to pay back the debts incurred to the professors in the lean years — a ‘debt’ being any assessment that had left them short of their full 75 per cent of student fees. John Somers asserted that this was “as just a debt as the mortgage” and saw no point in spending money “for the purpose of providing microscopes for the benefit of the students.... We should rather pay off the old debt and let the incoming men pay for these things”.<sup>52</sup> It would naturally have been difficult for staff members who had seen the school through perilous times voluntarily to sign away money due them so that the school might modernize. But some were frustrated, and willing to do just that. In 1888, a new course, histology, had been separated from physiology and anatomy. Still considered a ‘minor’ course, it was not given at all in 1890. But in 1891, its professor, Guy Jones, was alarming his more conservative colleagues

49 Dalhousie Faculty of Medicine, *Minutes 1888-1910*, 22 April 1889, Dalhousie University Faculty of Medicine Alumni Office.

50 Colin Howell, *A Century of Care: A History of the Victoria General Hospital in Halifax, 1887-1987* (Halifax, 1988), pp. 31-3. See also *Halifax Morning Herald*, 11, 12, 16, 19, 20, 25 May, 19 June 1885.

51 There had been several applications from women before. From 1888 on, they would be admitted, always very much in a minority, and evidently possessing much higher qualifications at admission than their male classmates: see K.A. MacKenzie, “Autobiographical Notes”, Dalhousie University Archives.

52 HMC, *Minutes 1893-1902*, 13 July 1894.

with loud protests about the lack of a proper laboratory, and offering to donate his entire salary toward the establishment of one. His protest seemed to touch off some sense of guilt in the faculty. They rescinded an earlier decision to pay themselves off fully that year, and offered money not only to Jones, but to other departments as well for the teaching materials "most urgently needed".<sup>53</sup> The following year, when 30 hours were allotted to a new combined micropathology/bacteriology course, its professor, D.A. Campbell, argued strenuously that at least 100 hours would be needed. He was opposed by Farrell, on the grounds that this would be "exaggerating the importance of a somewhat more purely scientific subject as compared with other, more practical subjects".<sup>54</sup> The faculty compromised with 50 hours, and a promise of some new microscopes. Evidently, this served only to lower morale: Campbell showed up in the end for only 30 periods, though 50 were scheduled and the students were on hand for them.

Campbell's frustration was especially understandable in view of the fact that, with the curriculum still ungraded, Farrell's "practical" subjects were taking up valuable time simply for repetition. This problem was solved in 1893 when a four-year graded course, with terms lengthened to seven months, was instituted. An inorganic chemistry course in first year gave way to an organic course in second year, and courses in embryology, therapeutics, obstetrics-gynaecology, ophthalmology and paediatrics were added.

But the lack of laboratory facilities remained a sore point, and the reformers began to gain support. Jones and Campbell were supported by W.H. Hattie, who drew attention to bacteriological developments and demanded action. Even Farrell had been won over by 1898, expressing himself "in hearty accord".<sup>55</sup> The reformers gained still more ground when old Dr. Somers, known to have been a stubborn opponent of Listerian antisepsis and scientific experimentation, was nudged out in 1897. Five years earlier, a petition signed by every student in the school had called for his removal, and proposed that the faculty might be interested in being furnished with reports of some of his lectures.<sup>56</sup>

With the old guard now critically weak, HMC embarked upon an ambitious renewal program. Its charter was altered, stock issued, a capital account set up, a Board of Directors appointed, student fees raised, loans floated, bonds sold to faculty members, funds canvassed for, and a higher government grant successfully sought. New microscopes were bought, along with new equipment for teaching

53 HMC, *Minutes 1875-1893*, 5 May 1891.

54 *Ibid.*, 18 May 1892.

55 HMC, *Minutes 1893-1902*, 13 January 1898.

56 *Ibid.*, 7 June 1897; HMC, *Minutes 1875-1893*, 5 January 1892; Colin Howell, "Elite Doctors and the Development of Scientific Medicine: The Halifax Medical Establishment and 19th-Century Medical Professionalism", in Roland, ed., *Health, Disease and Medicine*, p. 117.

histology, pathology, physiology and surgery; there was a new course in operative surgery, a new clinic in ophthalmology, and a new pathology museum. Construction began on a new wing to house a laboratory for physiology, pathology-bacteriology and histology, and plans were made to install there a full-time faculty member. As things transpired, the college never quite achieved these goals. No laboratory work in physiology would ever be offered, although it was for other subjects, with pathology-bacteriology allotted a full 150 hours of instruction in 1902 and a course in practical pathology added. No move toward the projected "full-time" appointment was made until 1901; even then, the person hired would be the provincial pathologist-bacteriologist, his salary paid jointly by the city, the province and the college. He would certainly not be able to devote his full time to teaching. Nevertheless, as a non-practising "scientific" staff member, he represented a significant departure from tradition.

Other changes included a plan to lengthen the course to five years by 1911, in compliance with conditions set by Britain's General Medical Council. With the longer course, HMC graduates would qualify for automatic registration for practice anywhere in the empire. Great efforts were also made to remedy long-standing deficiencies in the course. Amendments were secured to the Anatomy Act in 1891 and 1897, allowing the school to requisition cadavers from ever more distant places and restricting the right to claim bodies to close relatives of the deceased. When cadavers continued scarce, plans were made to send Dr. Hattie to Charlottetown and St. John in search of more. In 1902, despairing of the situation with the Poor Asylum midwives, the school offered to pay city physicians \$5 for each delivery at which they allowed a student to be present. When this evoked little interest, they raised the offer to \$10.<sup>57</sup>

The Faculty had become their own worst critics. A great deal had been accomplished, but their expectations for the school continued to rise. When the Victoria General made a rule restricting the activities of students on the wards, faculty members frankly acknowledged that clinical instruction was sadly deficient, and tried to compensate by additional instruction at the Halifax Visiting Dispensary, and by paying city physicians who would agree to offer extra bedside experience to students. Later, there were angry meetings with the surgical personnel and with the Dispensary staff regarding "the failure of clinical teaching".<sup>58</sup>

To make matters worse, enrolment began to dwindle, leading to the familiar pattern of financial trouble. This time, however, perhaps because of the frenetic pace of reform, the effort it had cost for seemingly so little result, and the evident

57 HMC, *Minutes 1902-1910*, 6 November 1902, Dalhousie University Faculty of Medicine Alumni Office.

58 HMC, *Minutes 1893-1902*, 3 January, 13 May 1901, 5 January 1902.

anxiety about how much still remained to be done, nobody seemed prepared patiently to wait things out. Morale plummeted. Instructors complained that their teaching incomes had reached the vanishing point, and began to miss lectures. Alcohol problems surfaced. Resignations mounted. Students complained, and their numbers dwindled further. In desperation, some of the faculty fixed the blame on Dalhousie for being too exacting in its chemistry and physics examinations. The university had set the chemistry pass mark higher for medical than for arts students, and this was a particularly sore point; some felt the pass mark should be lowered to 30 per cent for chemistry, while the physics course should be made more elementary since students lacked the mathematical background necessary to study it. Dr. Chisholm felt the problem lay in the nature of the chemistry course: it was not relevant enough to practice, and should be taught by "a medical man" rather than a scientist. There was general agreement. The problem, said one faculty member, was that Dalhousie was "an unprofessional body". Chisholm agreed. "Our connection with Dalhousie", he said, "is a loss to the Halifax Medical College".<sup>59</sup> Dalhousie later lowered the chemistry pass mark to 40 per cent, while defending its position: it had conducted a study showing that most students who had left had not, in fact, done so following a failure in chemistry or physics.<sup>60</sup>

They had, perhaps, left because of what one graduate, Dr. H.B. Atlee, would later refer to as "drink and dissension" among the faculty:

Too many of the internists were victims of alcohol, and the surgeons of a disrupting emotional immaturity.... In my third year I would say that we lost three-quarters of our lectures though the inability of a man who was a very able teacher when sober to eschew the bottle.... Since the non-medical subjects were handled by the regular university teachers, this instruction was up to par. Furthermore, we got a very fine course in anatomy from Dr. A.W.H. Lindsay; I doubt if many medical schools on this continent were giving better. But the physiology...was that of Edinburgh, 1892 [and] was practically a dead loss.<sup>61</sup>

Writing in 1958, Dr. Atlee had the obvious benefit of hindsight. At a time when the modern model was well-established, the lack of physiological laboratory work would have seemed as inexcusable to him as it did to Flexner in 1909. On 11 May 1910, following Flexner's report, the HMC faculty resolved to ask Dalhousie to take over the college completely. Subsequently, grants from the

59 HMC, *Minutes 1902-1910*, 5 May 1904.

60 Dalhousie Medical Faculty, *Minutes 1888-1910*, 17 May 1904.

61 H.B. Atlee, "Dalhousie Medical School", pp. 21-2.

Rockefeller Foundation, among other sources, would ensure the development of the Dalhousie Medical Faculty along the modern lines envisaged by Flexner.

Ironically, although Flexner's report gave the public the impression that North American medical education was in deplorable condition, his survey had been conducted at a time when standards had never been higher. Even the smallest proprietary schools had managed to carry on reform, with the weakest already having gone out of business. Flexner was exaggerating for effect, playing down or ignoring progress to date. Hence, in describing HMC's "utterly wretched" laboratory, he would somehow miss the 31 new microscopes, the five microtomes, the two incubators and the autoclave.<sup>62</sup> Although even in 1958, Atlee remembered the anatomy course as "very fine", Flexner saw only the "putrid cadavers". Flexner emphasized deviance from an ideal at a time when, except for Johns Hopkins and a few others, the ideal hardly existed. As late as the 1890s, many German-trained academics were unable to find university medical-school laboratories in which to work;<sup>63</sup> Johns Hopkins opened only in 1893, amid serious doubts that it could succeed, despite the existing tide of reform. Now that the ideal had been established, it would become the minimum standard. His was the quintessential voice of the reformer, assuming the identity of his own ideals and the public interest. His 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. Flexner's standards were clear: university laboratories, modern hospitals, high entrance standards, and full-time faculty for research, which would soon be openly acknowledged as a "more important" function of a medical school than education.<sup>64</sup> The best researchers would be the best teachers, because "only research will keep the teachers in condition".<sup>65</sup> Later, when the AMA's Council for Medical Education rated medical schools according to Flexner's criteria, the lowest rating was automatically given to proprietary schools, while the highest was reserved for those with a primary interest in research.<sup>66</sup> Although Flexner was prepared to encourage schools which were reforming in the right direction, he had little patience with reforms which had been carried on with other ideals in mind.

But there were alternative views of a modern medical school. While most educators were by now convinced of the value of "learning by doing" and of teaching the basic sciences, by no means all felt that research was a necessary function of all medical schools, or of all professors at a given school. Ludmerer

<sup>62</sup> Campbell, "Medical Education", pp. 208-9.

<sup>63</sup> Ludmerer, *Learning to Heal*, pp. 36-7.

<sup>64</sup> *Ibid.*, p. 218.

<sup>65</sup> Flexner, *Medical Education in the U.S. and Canada*, p. 56.

<sup>66</sup> Ludmerer, *Learning to Heal*, p. 241.

describes a “tension” between teaching and research, with some schools, such as that at the University of Pennsylvania, finding that excellence in one was attainable only at the expense of the other.<sup>67</sup> Further, schools lacking handsome endowments (which included most of them) found that it cost far more to provide facilities for original research than it did to modernize a school in which the teaching function was paramount. While the existence of the German university model and the reverence accorded to scientific ‘experts’ ensured that research would become increasingly entrenched at the richest schools, other quite respectable institutions, such as Bowdoin, could still argue before 1910 that their existence was justified on the basis of good teaching alone. Such ‘practical’ schools would suffice for the training of the majority of students aiming to become modern practitioners, while the ‘scientific’ schools would exist for those who wished to undertake more specialized study. In fact, this division of labour made sense to many reformists concerned with ‘efficiency’: it was commonly argued that research was best left to schools which could afford to do the job right.<sup>68</sup>

For some years before Flexner, HMC was undergoing reform in much the same way as were other small schools and, like them, it was responding to a variety of motivations. Naturally, its faculty wanted to continue to attract students and, in the early 1900s, this implied being seen as a modern, forward-looking institution. But while modernization meant increased expenditure, it was also important to hold fees down. The faculty were quite sensitive to the fact that students often elected to train locally because it was the cheaper option. It had, for example, lowered fees quite substantially in 1894 when it was realized that the cost of an HMC education was threatening to outstrip that asked at McGill.<sup>69</sup> To a certain extent, students might still be lured by glossy photographs and overblown course descriptions in the annual calendar, and North American schools, including HMC, indulged in such puffery to the point that no school could be judged by its catalogue: all instruction was scientific and up-to-date, all laboratories spacious and well-equipped.<sup>70</sup>

But the College’s commitment to reform was nevertheless very real. Like other schools in the 1890s, HMC made significant curriculum changes to accommodate the rapidly-expanding body of medical knowledge. Long before the Flexner survey, faculty members visited McGill and Johns Hopkins to assess the latest “methods of teaching and apparatus”.<sup>71</sup> The College’s new laboratory

67 *Ibid.*, p. 106.

68 *Ibid.*, p. 108.

69 HMC, *Minutes 1893-1902*, 19 September 1894.

70 Ludmerer, *Learning to Heal*, p. 99.

71 HMC, *Minutes 1893-1902*, 4 March 1898; *ibid.*, 1902-10, 16 May 1907.

represented a considerable investment of energy and scarce resources, while its frantic efforts to secure increased clinical opportunities for the students were clear evidence of the high value it now placed on "hands-on" teaching.

There is no evidence that the faculty felt it had done enough; in all likelihood, reform would have continued. Low morale was certainly a problem, but a cyclical one: ironically, it is likely that spirits were rising just before Flexner's visit, as enrolment had increased almost by half over the previous year. Morale problems were, in fact, quite common in modernizing schools. One typical factor was frustration with financial and other restraints which slowed the pace of reform, and, in this sense, morale problems may be seen as one measure of the determination to modernize.<sup>72</sup> Such frustration may well have been the cause of Dr. Campbell's uncharacteristic absenteeism in 1892, following the rejection of his expanded course plan for pathology. Low morale was also frequently associated with the conflict experienced by part-time professors, who found that "hands-on instruction" was far more time-consuming than lecturing, and hence more damaging to their private practice. As Ludmerer notes, this situation led increasingly to the idea that medical education, at least for the pre-clinical years, was properly a full-time job.<sup>73</sup> This trend was also being felt at HMC. One need only scan the faculty minutes for the late 1890s to sense the increased level of distress regarding any failure in staff performance. The arrangement reached with one instructor in the early 1880s, whereby he was free to change the time and place of classes at will to suit his busy practice, would have been inconceivable in 1900, by which time the faculty was routinely paying staff in proportion to attendance.<sup>74</sup> Basic-science instruction, of course, had long been entrusted to the full-time professors at Dalhousie and, by 1901, there was a quasi-"full-time" instructor for the pre-clinical sciences.

But the path to reform, as envisioned by the HMC faculty, was hardly that sanctioned by Flexner. Unlike full-time medical educators, the practitioners who ran HMC had no interest in creating research careers for themselves. Instead, they were mainly concerned that their course be "practical and useful". It is in this context that their lingering distrust of the "scientists" at Dalhousie should be understood. The way in which HMC professors commonly referred to the basic sciences — chemistry, physics and biology — as "non-practical" or "collateral" subjects would have horrified the staff at a research-oriented institution such as Johns Hopkins. Always pragmatic, HMC's faculty felt these courses were keeping students away. Only the general feeling that other reforms (such as physiology laboratory instruction) were more important in the light of

<sup>72</sup> Ludmerer, *Learning to Heal*, pp. 93, 101.

<sup>73</sup> *Ibid.*, pp. 92-3.

<sup>74</sup> HMC, *Minutes 1875-93*, 30 October 1884.



financial and time constraints prevented the takeover of the chemistry course by "a medical man" and an outright breach with Dalhousie. Even Dalhousie's Professor McKay, in defending his chemistry course as of no more than "ordinary severity, about equal to that of the University of Edinburgh, considerably below Harvard and of course much less extensive than that given at Johns Hopkins", gave no sign that he considered the latter's standard to be a reasonable goal for the school.<sup>75</sup> With regard to the pre-clinical medical subjects, the faculty held that "None of these...should be taught to the medical student as if the idea were to make him a physiologist, anatomist or pathologist, but simply to give him a good grasp of the more important facts and principles which would be of service to him in the further study and practice of medicine".<sup>76</sup>

The College, as its faculty saw it, had been established both to raise the status of the profession and to educate general practitioners to serve a relatively small region and, as Dr. Campbell told the provincial medical society in 1910, it had done both.<sup>77</sup> Until Flexner, the school had been reputable, as the offer for automatic registration from the British Medical Council attested. His listeners, many of whom held HMC degrees, were mindful of the damage to their own reputations that might be done by the post-Flexner publicity, and shared Campbell's view of the school's purpose. "The friends of the College do not think of claiming rank with the foremost medical schools", said Dr. John Stewart; "what they do claim is that the College gives a sound and efficient training in medicine". Others agreed that "the glamour of costly buildings had blinded the eyes of the Carnegie delegates", and vehemently asserted the competence of HMC graduates. Finally, the Society unanimously resolved that Flexner's report was "prejudiced, inaccurate and misleading", and strongly recommended "the continuance of a medical school in Halifax".<sup>78</sup>

It is, of course, a matter for speculation whether, without Flexner's report and

75. Dalhousie Medical Faculty, *Minutes 1888-1910*, 5 May 1900; HMC, *Minutes 1902-10*, 5 September 1903, 5 May 1904.

76. Dalhousie Medical Faculty, *Minutes 1888-1910*, 5 May 1900.

77. Campbell was in a rather difficult position: the forthcoming "takeover" by Dalhousie had to be justified, without, however, giving credence to Flexner and his scathing remarks. Notwithstanding his agreement with other faculty members in 1904 that the Dalhousie connection was "a loss to the Halifax Medical College", he now made the merger issue seem the inevitable outcome of progress: "just as a few years ago the McGill Medical School became an integral part of McGill University, so it is not unlikely that, before very long, the Medical School at Halifax may again become an organic part of Dalhousie as it was at the beginning and should always have remained" (Campbell, "Medical Education", p. 212). Campbell spoke in July 1910; in fact, the takeover had been definite since May, following hurried discussions between the faculty and the Board of Governors.

78. Campbell, "Medical Education", report of discussion, pp. 216-7.

the substantial endowments which followed, reform as envisioned by the HMC faculty could have taken place. Money was a perennial problem, yet funds for modernization had been successfully raised in the 1890s; the government had always stood ready to help; and, far from being the recalcitrant, "frankly mercenary" proprietary school of Flexner's nightmares, HMC had repeatedly before 1910 sought solution to its financial woes in a closer relationship with Dalhousie. In any case, a school devoted solely to teaching would have been far less expensive than the research-centred alternative. Other problems could have been approached in familiar ways. Unlike medical educators in central Canada, HMC's faculty enjoyed a comfortable dominance over provincial medical affairs. If the lack of clinical opportunities at the provincial hospital had continued to be perceived as a major problem, the government could have been approached for a remedy as it had been in the past. Desired legislation was usually secured with little trouble, and the physicians had successfully asserted their dominance over the hospital in 1885.

Speculation aside, it is clear that Abraham Flexner did not engineer reform at HMC. Existing reform trends would similarly have tended to produce an increasingly centralized, bureaucratized and monolithic health care and medical education system. His particular accomplishments were to ensure the displacement of one elite by another, to abort the development of a "practical school" offering opportunities to non-elite students,<sup>79</sup> and to ensure that the city would become a center for expensive medical research. When these effects are multiplied by the number of similar schools that followed the same path after 1910, they were significant indeed.

79 In its later years, at least, HMC did seem to attract many students who could not afford to go elsewhere. See MacKenzie, "Autobiographical Notes".