Occasional essay

Osler vindicated: the ghost of Flexner laid to rest

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This article is the winner in the general category for the 2000 *CMAJ* Essay Prize. See page 1862 for the winner in the student/resident category and The Left Atrium (page 1872) for 2 of the runners-up. The contest is described on page 1859.

In the wake of the 19th-century population explosion in the United States, a large number of for-profit medical schools opened for business. So poorly were they regulated that many state boards refused to accept their undereducated graduates, and in 1907 the American Medical Association was forced to close no fewer than 40 schools.[1] Soon after, Abraham Flexner was appointed by the Carnegie Foundation for the Advancement of Teaching to undertake a study of the situation, and in 1910 he submitted his scathing report on *Medical Education in the United States and Canada*.[2]

From the beginning, Flexner — an educator, not a physician — was closely associated with Johns Hopkins University and its dean, Dr. William Welch, a pathologist. Welch and several of his colleagues, most of whom were basic scientists, had visited Germany, whose scientific superiority at the time was widely acknowledged. They were impressed by the German notion, bluntly put by Rudolf Virchow, the father of pathology, that "medical practice is nothing but a minor offshoot of pathological physiology as developed in laboratories of animal experimentation."[3] In other words, medicine could be studied only as a laboratory science. Flexner, from his own observations, reached the same conclusion.

In his report Flexner made several recommendations, many of which were clearly sensible, such as the need for a minimum standard of education for medical school entrants. Others were controversial, including the idea that faculty members should be made more professional by adopting a research function and making a full-time commitment to the medical school.[4]

According to this proposal, the training of future doctors would be the responsibility of salaried faculty with a "research function." The reformers believed that the demands of (private) clinical practice were such that those who derived their living from it would have insufficient time to teach. Besides, Welch had decreed that those not trained in the laboratory were unsuitable as teachers. Hence, the bulk of clinical practitioners were to be excluded from the medical school.

This unwittingly created 2 distinct cultures within the medical community and resulted in the familiar town–gown discord that still divides and weakens our profession. Ironically, one culture was to be the sole mentor of the other: salaried faculty were to teach those destined to devote their lives to clinical practice in the direct care of patients. This was not seen as a paradox, since the German idea that medicine could be studied only as a laboratory science was the central theme of the reformers, a theme the Germans discarded after the turn of the century.

The implication that only salaried clinical investigators based in the laboratory were capable of teaching clinical medicine was vigorously opposed by those in clinical practice, including Sir William Osler. Osler, former Chief of Medicine at Johns Hopkins and erstwhile colleague of Welch, had left in 1905 to take the Regius Chair of Medicine at Oxford. In 1911 he wrote angrily to Ira Remsen, president of Johns Hopkins, declaring "I cannot imagine anything more subversive to the highest ideal of the clinical school than to hand over our young men who are to be our best practitioners to a group of teachers who are ex-officio out of touch with the conditions under which these young men will live."[5]

Osler, it will be recalled, made no new discoveries and derived his living from clinical practice, gaining a worldwide reputation for teaching based on his study of patients at the bedside; this and his unique textbook were largely responsible for the fame enjoyed by Johns Hopkins at that time. In contrast to Welch, Osler's European experience had included the teaching hospitals of England, not just the laboratories of Germany.[6]

Despite the caveats, Flexner's report and the "full-time plan" were accepted, and live on to haunt our medical schools today. Nevertheless, a much-needed element of science had been introduced, and the report came to be regarded as a watershed in North American medical education. Thereafter, it was assumed, medical schools would fulfill their prime function of supplying competent, scientifically trained physicians to meet the needs of all society.

The salaried faculty posts created were seldom sought by clinical practitioners, to whom they were professionally and economically unattractive, but were increasingly pursued by those whose interest was research.[7] Practical training at that time was provided by "charity patients," and the clinical clerkship, first imported by Osler from Europe to Montreal in the 1870s, allowed for ample hands-on experience under the supervision of salaried faculty who spent token periods in

the clinics and on the wards. This casual exposure to patients confirmed teachers in the narrow view of medical practice as an applied science. The idea that there was anything more to medical practice was considered quaint, a cloak to hide the therapeutic impotence of former years. Osler's aphorism that "the practice of medicine is an art based on science" was piously quoted, but from convention more often than conviction.[8] The practice of medicine was seen as a rigorous science with clear answers to defined questions, the foibles of patients being the province not of laboratory-trained physicians but of clergymen and social workers.

This emphasis on research resulted in stunning advances that have expanded our knowledge in every field of medicine, to the immense benefit of patients. Specialization burgeoned, generalism declined and research was increasingly seen as the realm of an elite. To many salaried faculty, research was regarded as of greater intellectual worth than clinical practice, which, not lending itself to grants, publications or academic glory, was deemed a lesser calling.

The 2 cultures, the scientific and the clinical, drifted apart. It never occurred to anyone, except perhaps to Osler, that the difference was one not of intellect but of temperament, a disparity between those who find satisfaction in the quest for new knowledge and those who find it in patient care.

As time went by, money for research dwindled and the pressure on researchers grew. To many, teaching and clinical medicine became chores of secondary importance that contributed little to their careers. Then, with the introduction of medicare, charity patients disappeared and all patients in effect became private patients in the care of specific clinical practitioners. More and more, these practitioners, designated "clinical faculty," were needed by the medical schools to teach. Now outnumbering their salaried colleagues by as much as four to one, they have become the indispensible engines of medical education.

For years, clinical faculty accepted the tradition that physicians transmit their art to the next generation "without fee or stipulation," as required by the Hippocratic oath. For centuries, with little knowledge accruing, this was no great burden. Now, with astronomical gains in knowledge, increasing numbers of trainees and fewer salaried faculty, the teaching load demanded of clinical faculty is no longer acceptable. Moreover, clinical faculty feel threatened by the policy of impecunious medical schools of funding their academic obligations by diverting clinical earnings under the guise of "alternative payment plans." Just as a serious shortage of doctors looms across Canada and medical schools are under pressure to expand, an invaluable source of once-willing labour could dry up, unless a means of funding it is found.

This dangerous situation is the inevitable consequence of listening to Flexner and ignoring Osler 90 years ago. Flexner is rightly credited with bringing science into medical education but, precisely because he was not a physician and his supporters were not clinical practitioners, there was a flaw in his report that distorts medical education to this day. By banning the practitioner and relying on salaried researchers to train doctors, Flexner divided the profession and contributed to its decline in the public eye.[9] Many now see physicians as more interested in the science of medicine than in patients themselves, one reason why millions seek satisfaction in alternative care. Attributing such kudos to research and disparaging clinical medicine has brought about a decline in interest in producing the well-trained generalists, both physicians and surgeons, so central to our system of medicare — a system that, partly as a result, is in danger of collapse.

It is time to abolish Flexner's 2 cultures, which are insulting to both patients and their attendants, by returning clinical medicine and its practitioners, "the men behind the guns" as Osler called them, to their proper place at the leading edge of our profession. This can be accomplished only if clinical faculty become autonomous, self-governing, properly funded groups within our medical schools, dedicated to promoting good clinical medicine and passing the art to their successors. Working in harmony as equals alongside their colleagues dedicated to research, each contributing ideas to the other's task, would be to realize Osler's fondest dream.

Basic to this concept is that patient care, teaching and research must each have separate funding to avoid the clandestine transfer of cash from one to subsidize another, as often happens now. Spearheaded by a united and dedicated clinical faculty, medical schools will then be better able to train the physicians that society so desperately needs while their colleagues focus on research. Osler would then be vindicated and the ghost of Flexner laid to rest.

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