XX. The Flexner Report of 1910

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The so-called Flexner report,[1] published in 1910, is probably the most grossly overrated document in American medical history. Its reputation superbly illustrates the *post hoc ergo propter hoc* fallacy: medical education underwent great changes after the Flexner report appeared; therefore the credit belongs to Flexner. This reasoning has endowed the report with canonical status that has resulted in some horrendous distortion of the historical record.[2]

Long before 1910, vast changes were gathering momentum, whose force has received all too little attention. Only recently have scholars given us a better perception. In 1959 Jarcho effectively reviewed some of the trends prior to the Flexner report and discussed relevant causal factors. Hudson emphasized that the "the tide of reform was running heavy by 1910" and that Flexner's "enduring legacy" really derived from what he accomplished later through the General Education Board. Chapman, in a cautious reappraisal, admitted that "the effect of the Report was to accelerate changes already under way," and commented that "the Report and its author were astonishingly successful in generating a flow of money into many of the nation's medical schools." Berliner, in 1977, came out flatly that the Flexner report "has received attention far out of proportion to its actual contribution to medical education" and that "dwelling on the report serves only to mask the real dynamics of the period." The report "did not, by itself induce change in medical education, rather it was the money poured into medical education by the large foundations."[3]

Flexner enunciated no new principles in medical education but merely elaborated (without adequate acknowledgement) what had already been repeatedly said. Shortly after the report appeared in 1910, an editorial in the *Medical Record* declared: "Mr. Flexner concludes that the country is suffering from a great plethora of medical schools—a fact which medical men have well known and deplored these many years; that many of the medical schools have not a sufficiently high standard either of admission or of graduation—another fact long well known; and that the facilities for teaching, in the way of apparatus, subjects for dissection, etc., are lacking in a number of schools—likewise a matter of common knowledge." The editorial continued that Flexner had failed to say that these schools, with a few exceptions, were "in process of betterment" and that many groups of reformers were "working constantly to encourage and force the poorer schools to raise their standards and improve their teaching methods."[4]

This editorial, while probably inspired partly by pique, nevertheless made an important but generally ignored point: Flexner had indeed given details regarding specific shortcomings but no new substantive principles. These had been established and set into motion by others. Chapman was bringing this idea up to date when he said that the report was "far more catalytic than innovative," and the actual catalyst was money, which Flexner undoubtedly helped to channel.

In this essay I want to consider what Berliner called "the dynamics of change" during the early 1900s, and then place the Flexner report in a suitable perspective relative to the intellectual and social currents of the time. By 1900 the growth of science, no longer a matter of scholarly isolation, was actively affecting medical practice and medical education. This new science was producing massive strains in the total medical fabric. Before resolution could occur, the various trends had to sort themselves out. Certain overarching influences were determining the course of events, which became clear in the early years of the new century.

First I want to present examples of the viewpoint I call elitist. This erects as its ideal a concern with knowledge, research, and intellectual training. The elitist movement exists in many gradations.

In 1900 Henry P. Bowditch (1840-1911), the outstanding physiologist in the country, tried his hand at prophesy,

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entitling his paper "The Medical School of the Future."[5] Like any thoughtful forecaster he selected the contemporary features he considered important and then extrapolated. In this manner he pointed to the lessons that could be learned "from recent advances in medical Science and recent experience in medical education."

First was "the growing tendency of the better schools to ally themselves to universities." The need became more acute as medical education became more complex and costly. "Hence we may expect in the near future to find all of the better class of medical schools under the egis of a university and we may reasonably hope that this change will be associated with a diminution of the total number of medical schools now greatly in excess of the needs of the country." This prediction rapidly came to pass.

Then he focused on methods of instruction, repeating the refrain already quite familiar: the student must learn to "observe carefully, reason correctly, study effectively and judge wisely." Training the mind—what President Eliot had called "training for power"—Bowditch thought "should be largely a function of the academic department of a university." A professional school, if it chooses to attend to this aspect, should "impart at the same time the greatest possible amount of useful information."

Bowditch here hints at a difficult problem. The medical student must be capable of clear and effective thought, a quality that is improved by sound education. But the student also needs to acquire a great deal of specific information regarding medicine. To what extent should a medical school emphasize sound and logical thought? Many of the educators in the late 1880s and 1890s had spoken vaguely of scientific spirit or the scientific method, meaning thereby the ability to observe carefully and reason correctly. Bowditch could not resolve the latent difficulties but he praised the laboratory method of teaching and also maintained the importance of good didactic lectures.

In his paper further crucial features relate to the cost of a medical school, the association between medical schools and universities, and the modes and techniques of instruction. These problems would to some extent work themselves out in the next two decades.

In the same year Frederick C. Shattuck (1845-1923), without attempting prediction, raised some quite different but equally pressing problems.[6] He enumerated the requisites for a modern medical school: "university connection; the control of sufficient clinical material in hospitals; scientific laboratories, each under . . . a competent head undisturbed by the demands of private practice, and a corps of enthusiastic teachers who care more for the work than for its immediate money return."

To found such a school from scratch, including a hospital of 400 beds, would, he thought, require an endowment of $20 million. If a hospital were already in existence this sum might be cut in half. Only by gifts, and large gifts at that, could the goals be met. And as his only prediction Shattuck was confident—and rightly so—that great sums would be donated in the next quarter century "toward the prevention and alleviation of human suffering through investigations into the cause of disease." Ludmerer[7] has provided an excellent analysis of the position of Harvard in the latter 19th century, relevant to the present topic.

Shattuck made some incidental historical points profoundly important for understanding the problems of medical care. In this country, with its vast geographical extent, medical schools came into existence before hospitals, and "the two types of institution grew up entirely independent of one another, instead of being indissolubly connected as in Europe and England." (For England he was referring to the medical schools of London, not Oxford or Cambridge.) The American medical schools had developed with but scanty clinical facilities and, moreover, without university connection.

In England, eg, the MD degree was a university title that did not convey a license to practice. In this country, originally, a degree from a "medical college" could circumvent license examinations and permit direct entrance into practice. This tradition in the United States was changing in the last decades of the 19th century, as state boards began to reassert some power.

In the American tradition universities, medical colleges, and hospitals all developed independently and many of them achieved considerable stature, each in its own field. Only in the Johns Hopkins University did the university, the medical school, and the hospital "have just the right relation to each other." And, he might have added, this occurred only because of deliberate design and testamentary provision.

We see the tremendous crunch to which medical education was being subjected. The advances in science, occurring primarily in Europe, were forcing a massive readjustment in American values. The traditional medical school, operating on student fees, could no longer continue in the old way and still provide adequate medical education. The concept of adequacy was changing. New methods, and new values that were achieving popular interest, required new sources of funds that the schools did not have.

Medical colleges were seeking affiliation with universities, largely as a source of funding, whether through legislative appropriation or gifts and endowments. The schools, however, would need to renounce their autonomy if they were to take shelter in a university, and the question of control added further strain. Along these lines, modern medicine was necessitating the use of hospitals for teaching purposes, but hospitals had developed as independent institutions with independent administration. The lay trustees, and the community practitioners forming the hospital staff, usually objected to the demands that the medical schools and university administrators wanted to make.

In 1900, we thus have three distinct types of institutions—private medical colleges of varying merit, established universities, and hospitals of diverse origins and administration. All three had separate origins and traditions. The course of medical science, moving in its own orbit, made it essential that schools, universities, and hospitals should somehow combine and work together. The friction engendered by this requirement was enormous, and powerful resistance developed in one or another private group. But the crunch was ineluctable and had to be resolved.

The public, through legislation and funding, would be the eventual arbiter. But who were the public? There were differences in ethnic composition, occupation, and economic, social, and political status. The poor and the rich had separate demands, needs, and interests. Where would the money come from? Who would have the political clout? Administrative control? The total scene was one of dizzy confusion. We must imagine to ourselves the juggernaut of advancing science, and the many different groups interested in either promoting or retarding that advance.

The relations between medical schools and universities were analyzed in 1902 by Lewellys Barker,[8] who at that time had not as yet succeeded Osler at Johns Hopkins. He pointed to the enormous increase in costs of medical instruction and the impossibility of meeting the expenses from student fees alone. Since proprietary schools, existing for profit, could not acquire endowments, one mode of relief lay in uniting a medical school "with the scientific departments of a university which received government aid or private endowment." Medicine, especially the preclinical sciences, could then be "taught on a university basis" by men who made teaching their life work.

Barker indicated four kinds of medical schools. The proprietary institutions, where instruction took place almost exclusively by lecture, predominated in the first three quarters of the century. A second category he called the "pseudo-university school." This denoted a merely nominal connection between medical school and university, wherein the university provided neither financial support nor administrative control. The affiliation was essentially a disguise that might confer prestige on both partners but led to no organic unit between them. This type of association Barker treated rather cursorily.

A third type was "represented by six or eight of the best medical schools in the United States" (which he did not enumerate). These he designated the "semi-university" schools. In this category the first two years, involving preclinical subjects, had real university status—the teachers were full time, paid by the universities and not engaging in medical practice, but devoting all their time and energies to teaching and investigation. These preclinical subjects had the same status as other science departments in the university. In these preclinical subjects "the professors and their assistants, though as yet inadequately remunerated, are sufficiently paid to permit men . . . to follow these subjects as careers" (provided, however, they are willing to "despise certain of the delights of life and live laborious days").

Even in these superior schools, however, the clinical years were conducted in the older, nonuniversity tradition. The professors teaching the clinical subjects were, for the most part, practitioners whose incomes derived not from the universities but from practice. Furthermore, the hospitals, where the clinical teaching took place, were not under the control of the university. Under such conditions research in clinical subjects was extremely difficult.

A fourth type according to Barker was the "real" university medical school, were *all* the departments combine teaching and research. The true university medical school, in both its preclinical and clinical years, must be a center of original research as well as a place of instruction. "An institution which attempts no more than the imparting of knowledge already acquired . . . is not worthy of the name of university." The true university was intended for scholars of unusual capacity and skill who "invade new territories" and work "for the sake of truth." A scholar of this type does not "consider too attentively the applicability of the truths he discovers."

The teacher who is not an investigator has no place "as the leader of a department in a university." The "noninvestigating teacher" may actually be harmful to students who might indeed acquire information but "will not make progress in independent work or in independent thought."

A university hospital must, then, teach medical students and make "original researches into the nature, causes and treatments of disease." Such a hospital, housing a "university department of medicine" and having suitable teaching and research laboratories, could come into being, he estimated, with an endowment of $2 million. The professors would be paid by the university (and "well paid") and would devote their entire time to teaching and investigation in the hospital. They would not engage in private practice. This plan, we must remember, was formulated before the Rockefeller Institute was operative or its hospital established. It was, in essence, a blueprint for the University of Chicago Medical School.

The elitist viewpoint and the adulation of research reached a special peak in 1909. In that year Meltzer published "The Science of Clinical Medicine" already discussed, and Charles S. Minot[9] (1853-1914) gave an address entitled "Certain Ideals of Medical Education."

Minot noted the essential qualities a physician must possess. The supreme need is "a faculty of exact observation," which in turn requires intelligence to appreciate the what and the how of things. A scientific laboratory should try to impart to the student "a habit of relentless attention and a high standard of exhaustive precision of observation. The quantity of information acquired is of minor importance."

Judgment is the highest quality. It examines the evidence, detects errors, makes decisions, deals with the logical inferences from the data, and finds similarities and differences. Practical experience is good, but more important is the mind "educated to observe with scientific accuracy and reason with scientific precision." The good medical student must have three gifts, each of which is in itself uncommon—the power of reliable observation, intellectual endurance, and loyalty to the goals and ideals of the profession. Prospective students should be screened for these qualities.

A native power of observation should be disciplined by a knowledge of chemistry, physics, and general biology. Students who in college elect "humanitarian studies" to the neglect of the natural sciences are under a severe handicap. "The future of scientific education depends on laboratories." Schools "which suffer from deficient laboratories must either make up their deficiencies or go under." Schools will not survive without adequate laboratories.

Regarding the appointment of medical faculty, Minot spoke unequivocally. There was only one "indispensable qualification of a candidate for a professorship—his

ability to do original research of a high order. . . . It is a disgrace to a university to appoint a man as professor chiefly because he is a good teacher. Requisite is "a sound, powerful, creative intellect, of which the only satisfactory proof is original research of a high order. . . . All other endowments are subsidiary." All this in a sense continued Barker's ideas of 1902.

In medical school, for a man to become the head of a department, the only important consideration was the ability to do good research. Teaching, apparently, would be done by men in lower grades. But as a corollary, appreciated only much later, the road to advancement in medical school would lie only through research and not through effective teaching.

The medical reformers thus far considered were intent on building an ivory tower and had lost touch with reality. Quite different was the approach of the American Medical Association and its Council on Medical Education. The Council dealt with practical issues—how to raise the general level of medical practitioners. From its very origin in 1847, the AMA had concerned itself with this problem of education but had exhibited remarkable ineptness in handling the issues involved. The Council, however, avoided the mistakes of the 19th century.

The process of improvement necessarily lay through education, which, in turn, could be studied from two aspects—basic requirements preliminary to studying medicine and the substance of the medical curriculum itself. In essence the two are interrelated, since a sound curriculum would presuppose a certain level of knowledge to ensure comprehension.

Following its reorganization at the turn of the century, the AMA took concrete steps toward improving medical education. Collecting solid information was the first step. In 1901, *JAMA* published its first educational number, which listed data on all the medical schools, provided much additional information, and offered editorial comment on relevant issues.

Earlier improvement in medical education, since the mid-1880s, the AMA attributed largely to the influence of the American Association of Medical Colleges and its "sister" organization, the Southern Medical College Association (which served as a diluent for the less progressive and less advanced southern colleges). To these two organizations belonged about 80 of the more than 125 regular medical schools in the country. As a minimum entrance requirement, the member schools set an educational level at the second year of high school. Perhaps one fourth of the 80 schools "are one or two years in advance of this minimum."[10] No mention was made of the schools not belonging to the two organizations; their standards were presumably much lower.

Thus, then, was the level of preliminary education when the AMA took a major step—it established a Council on Education in 1904. To Arthur D. Bevan, the chairman, and Nathan P. Colwell, the secretary, belongs enormous credit for the improvements over the next two decades.

By 1905 changes seemed inevitable. Costs were too great to be met by student fees alone. Hence, schools would "be forced either to seek endowments or absorption by universities which will enable them to do acceptable work or else they will be condemned to extinction by the law of the survival of the fittest."[11]

The two alternatives, however, to improve or go under, depended on a further factor—the attitudes of the licensing boards of each state. Improvement could indeed be rapid if the boards ceased to recognize the poor schools and refused to admit their graduates to license examination. Such schools could then no longer attract students and would necessarily fail. If, however, the state boards of examiners continued to recognize the low-grade schools, then poorly trained graduates could get licenses. Poor schools could then stay in business by pandering to incompetent students, who were attracted by the chance of entering the medical profession and gaining the emoluments this entailed.

Only the states had the power to determine who could or could not practice, and each state was sovereign in its own right. The AMA Council had only an advisory function; yet, lacking real authority, it showed extraordinary wisdom. It set about coordinating the views of different interested groups, working with individual medical schools toward improvements, setting out desirable standards, making contact with state and county medical societies, persuading the state boards to adopt higher standards or at least regard these with favor, and finally, influencing public opinion to accept the programs. The pace was slow and gradual. All this took remarkable and skillful coordination, diplomacy, and a firm grip on reality—features lacking in the elitist reformers who attended only to the higher intellectual and cultural strata.

In 1905 the council proposed two different standards for premedical education.[12] One, not immediately practicable, was labelled "ideal." It included a high school training sufficient to enable the student to enter a university, and then a five-year program, the first year of which would involve courses in chemistry, physics, and biology. These subjects might be studied in a liberal arts college or in medical school. Of the four years of pure medical work the first two would be spent principally in laboratories, the last two chiefly in patient contact. And finally a year of internship would be required after graduation.

Since these demands would need time for acceptance and implementation, an immediate and more realistic "minimum" standard was offered, comprising a high school education, followed by a four-year course in medicine. Graduation from medical school would entitle the student not to a license but only to an examination before a state licensing board.

To evaluate medical schools the Council classified them according to the showing their graduates made on state board examinations.[13] In the highest category less than 10% of those examined failed to pass; in the second grouping 10% to 20% failed; in the third, more than 20%; and a fourth group remained unclassified. In 1905 these groups contained 45, 22, 40, and 46 schools, respectively. The better schools would ordinarily have the lowest percentages of failures, but poor schools, through intensive quiz sessions concentrating on examination questions, might also have a low rate of failure.

In 1906 a more ambitious program of grading was

undertaken through personal inspection of all 160 existing schools (including the sectarian).[14] They were investigated relative to a series of items, each marked on a scale of 1 to 10 (for details, see reference 14). An A rating meant a total score of 90 or more; B, 80 to 90; and C, 70 to 80. The Council recommended that state boards should regard these upper groups as satisfactory, while schools having a grade of 50 or below should not be recognized at all. Schools scoring 50 to 70 might receive conditional recognition, provided they made necessary improvements. Of the 160 schools, 81 received a mark above 70, 47 between 50 and 70, and 32 below 50.

With excellent judgment the Council indicated its intention of proceeding slowly. It admitted being "exceedingly lenient in marking the poorer schools," and details were not given out for general publication. The council hoped that a "minimum standard" could be agreed on and that schools falling short should "be given a reasonable time to bring themselves to this acceptable standard." If this did not take place the state boards should deny recognition.

By 1907 certain major principles were widely accepted: schools run only for profit were openly regarded as a menace; the public must be educated regarding "the possibilities of modern medicine" and philanthropists shown that medicine "deserves the same support that has been given to theology, to colleges of liberal arts, to libraries, etc." State boards, by demanding high standards, had the power to raise the level of medical education. Bevan commented that several schools were in process of consolidation, and many proprietary schools, running at a financial loss, would go out of existence. Diminution of the total number of medical schools was clearly in prospect.

Secretary Colwell enumerated the medical schools that either already demanded one or two years of college work or would do so by 1910. In 1907 that requirement was already in force in eight schools and in 42 others it would be in effect by 1910. By 1907, moreover, the stream of medical philanthropy was obviously building up. "Medical education is beginning to attract the attention of men of wealth . . . and endowments will follow sooner or later. . . . From the financial point of view there is reason to believe that a new era is dawning for medical education."[15]

The difference between the northern and the southern states raised considerable tension.[16] Urban standards, for example, could not be ruthlessly applied to a rural environment. A dearth of high schools, as in the South, would impair the effect of the recommendations. A discussant from Tennessee commented that if state boards enforced the higher requirements, "it will simply put out of existence three fourths of the medical colleges of the United States."

In response one discussant declared, "You cannot teach modern medicine to a man who has not had these preliminaries." And another said, "suppose twenty or thirty medical colleges should go out of existence through consolidation or because of increased requirements, would it hurt anybody except a few individual interests that are involved? We do not need 160 medical colleges in the United States. If we have 44 or 50 we shall have a great abundance to do the right kind of work."

Chancellor Kirkland of Vanderbilt University noted[17] the paucity of high schools in the South and the poor quality of the southern academic colleges. A requirement for college credits might, in the South, lead only to deceit, for the courses might be totally lacking in substance. "The poorer colleges with poor equipment and inefficient teachers could certify that the courses had been taken." This problem, he said, the Council should deal with in a truly operative fashion.

Furthermore, southern legislatures, entirely autonomous, might rebel against making laws " 'to satisfy the demands of Minnesota or Massachusetts,' " and make their own laws that would allow all young men to go into practice who wanted to. Such a legislative attitude could effectively hamstring any generalized reform in medical education, and could readily come to pass if reforms were promoted too hastily. Kirkland pointed out that the South lacked funds for education, and reformers "should not go beyond what can be administered."

Then he emphasized the importance of publicity and in so doing anticipated the entire thrust of the Flexner report three years later. He declared, "If this Council would inspect and tell the truth about all our institutions, point out their defects, point to their equipment, and give the facts as regards them, and as regards their manner of teaching, the moral force that would be exerted by such inspection would be a tremendous power and would have an uplift that could not be calculated or realized, and would be more efficient in the long run than an attempt by too drastic legislation to secure results that might work disaster." This is a startling blueprint for the Flexner report.

In this general atmosphere of educational unrest the Council quietly continued its work over the next two years. It collected data; it graded and classified medical schools on the basis of merit and promoted the acceptance of such grading; it set out criteria of excellence; it worked unobtrusively to improve medical education through more stringent requirements. It suggested plans and methods; it cooperated with interested groups—the medical profession generally, the state and county medical societies, state boards, and the associations concerned especially with education. It did not seek general publicity but lost no opportunity to stress the need for endowments (which only the wealthy could furnish) and appropriations (which had to stem from legislatures).

By 1908 11 medical schools already demanded for admission two or more years of college work, and 15 others had definitely announced that they would increase their entrance requirements to two years. In addition, 27 schools either demanded one year of college or declared that they would enforce such a demand no later than 1910.

State boards were gaining more and more control over medical education. In five states the state boards required that the schooling preliminary to medicine should include either one or two years of college. Twenty-two states insisted on four years of high school, while five more had received legislative authority to set standards but had not as yet done so. And, what seems of particular importance, 29 states had the authority to refuse recognition to unsatisfactory medical schools. There remained 15 states where the boards had no authority to establish standards

and where the medical practice acts did not mention preliminary education.[18]

There were no startling advances in 1909. Fifty medical schools would require at least one year of college, and of these, the number that would demand two or more years had increased to 29. The required work included physics, chemistry, and biology. The total number of schools was declining. Five mergers had occurred, whereby nine schools were replaced by four stronger ones. The problems were many, but were becoming more clearly defined and, Colwell said in a burst of enthusiasm, were "rapidly approaching a satisfactory solution." He declared specifically, "Several strong forces are at work at these problems, including the state examining boards and their confederation, the medical colleges and their associations, the American Academy of Medicine and others. Each organization is doing work that cannot be done by others."[19]

By December of 1908 President Pritchett of the Carnegie Foundation for the Advancement of Teaching and Abraham Flexner started to make an impact. The Carnegie Foundation was interested in improving education generally. Established in 1905 and financed by Andrew Carnegie, it wanted to upgrade higher education. It established a plan of retirement pensions for teachers in colleges, but these institutions had to meet certain academic standards. Such a plan, with its financial inducement, obviously provided considerable leverage toward the improvement of standards (which the Foundation would seem to control).

The Foundation also concerned itself with education in the professions—law, medicine, and theology. The legal profession was making no effort toward improvement and showed no interest therein. The Council on Medical Education, on the other hand, expressed considerable interest and approached President Pritchett. In 1928 Bevan[20] gave a retrospective account of the relationship. "We approached President Henry S. Pritchett of the Carnegie Foundation, presented to him the evidence we had accumulated and asked him to make it the subject of a special report on medical education to be published by the Carnegie Foundation." When the report did appear in 1910 it confirmed "in every way the findings of the Council" and criticized "the weaknesses of our medical colleges more severely than the Council had done, urging reforms along the same lines." The report "strengthened the medical Association and state boards in their fight for higher standards."

The somewhat Machiavellian quality of this procedure is borne out by Council minutes of 1908.[21] In many quarters there had been resentment over the efforts at reform and the evaluations already propounded. Then "it occurred to some of the members of the Council that, if we could obtain the publication and approval of our work by the Carnegie Foundation for the Advancement in Teaching it would assist materially in securing the results we were attempting to bring about."

Pritchett was interested in cooperating but there had to be the appearance of independence. A study by the Carnegie Foundation would carry weight only if it seemed disinterested and impartial. Pritchett and the Council agreed that "to avoid the usual claims of partiality" the report should not make any more mention of the Council than of other sources of information.

The Council also decided that it would not publish its list of "satisfactory" medical colleges—would not make known its grading of specific schools—until after the Carnegie report would have appeared, for "that report would make the Council's report at a later date more effective." The Council was thus seeking an increased credibility from the Carnegie report as coming from an independent agency. Criticisms coming from such a source would not offend entrenched interests or antagonize a possibly distrustful public.

But the Flexner report was not in any sense an independent survey. It was initiated by the AMA with a specific goal in mind, to strengthen the hand of the Council in its dealings with the medical schools and the public, and Colwell, secretary of the Council, accompanied Flexner on most of the actual inspection visits.

Apparently the Council lacked faith in its ability to win public confidence unaided. As far back as the 1840s the public had distrusted the motives of the medical profession when it tried to control the qualifications of practitioners and ban the sectarians. State legislatures, responsive to resentment at attempted monopoly, had rejected the attempts to restrict practice and had initiated a period of "free trade" in medicine that led to the founding of the AMA.[22]

At that time that AMA had invoked "science" to discriminate between the worthy and the unworthy practitioners. Regular medicine, it was claimed, embodied science; the sects did not. The assertion proved strikingly irrelevant at the time, for large numbers of regular physicians were appallingly ignorant while large numbers of sectarians were amazingly successful in practice. The public had not been impressed by claims of science in medicine.

By 1908 the Council was, in a way, offering a rerun of the AMA's stand of the 19th century, that practitioners who did not know medical sciences should not be allowed to practice medicine. Attendant circumstances were certainly different in the two instances, but there might persist, in the public mind, a nagging similarity having to do with monopoly and elitism. The public had to be convinced that the proposal was really in the public interest. I suggest that in both original intent and historical retrospect the Flexner report was an achievement in public relations and not an intrinsic contribution to medical education as such.

Abraham Flexner (1866-1959), who conducted the study and got the credit for it, had an interesting life. Under difficulties he achieved a good classical education and he founded, and for many years ran, a college preparatory school in Louisville, Ky. Later he pursued graduate studies in psychology at Harvard, a university with which he was not at all sympathetic. Shortly afterward he went to Heidelberg, which he found much more to his liking. There he wrote a book, *The American College*. This came to the attention of Pritchett, who asked him to undertake the survey of medical colleges.

Flexner was neither a physician nor a scientist but a schoolmaster, well versed in classics, with special sympathy for the German educational system. In his autobiogra-

phy he noted that one of his students called him a "czar"[23]—an epithet that, when we read his published work, seems extraordinarily apt. Arrogance and dogmatism are quite evident in his published writings, while Berliner refers to quite unfavorable contemporary opinion of his personality. He lacked a historical sense, had no first-hand knowledge of medicine or medical science, or of scientific method and its problems. He ignored sociological conditions and all the concrete difficulties attending health care.

After he began his second career with the Carnegie Foundation he exhibited a lust for power that he could exercise most effectively after 1913, when he became secretary to the General Education Board of the Rockefeller Foundation. Here he wielded enormous influence in the disbursing of funds destined for educational purposes. However, we are concerned primarily with his survey of medical schools, published in 1910.

The introduction[24] by Dr Pritchett indicated three factors important for developing medical education: public opinion that would discriminate the well-trained physician from the poorly trained, the attitudes of universities toward medical standards, and the attitude of physicians. These points gave direction to Flexner's text.

When he started his survey of medical schools the major issues on educational reform had already been clearly set out, important data collected, and the main course of progress charted. The report itself is in two parts. The first deals with generalities and carries the familiar refrain that medicine requires suitable preliminary training in science, and this in turn requires at least two years of college education. He stressed science as the basis of medicine, the importance of research, the significance of scientific method in medical practice, and the need for university control of hospitals in clinical teaching. There is no need to spend much time in description of the text, for Flexner contributed nothing essentially new to the writings of prominent physicians and to the contents of the already published Council proceedings.

The second part of the report described in detail the shortcomings of the American medical colleges, with all the vivid detail that Kirkland had anticipated and the Council had expected. The descriptions of the poorer schools are indeed graphic and have been widely quoted. For the better schools, however, his comments are much less significant. He approved wholeheartedly only of the Johns Hopkins University.

Flexner had raced through the inspections at a great rate and boasted of his "speed and energy": in six successive days, for example, he visited Des Moines, went to Sioux City, Iowa, then Omaha, then Kansas City, Kan, then Lawrence, Kan, and then arrived at St Louis. In "half an hour or less" he could "sample the credentials of students . . . ascertain the matriculation requirements . . . determine whether or not the standards . . . were being evaded or enforced," and comparable other probings. In a few hours, he said, "a reliable estimate could be made respecting the possibilities of teaching modern medicine in almost any one of the 155 schools" that he visited.[25]

This jet-propelled inspection was perhaps quite adequate for the poor schools, for which inevitable extinction had already been predicted. The great merit of the report was the attendant publicity. However, whether this publicity had a significant effect in hastening the demise of the poor schools is quite uncertain.

On the tenth anniversary of the founding of the Council, Bevan and Colwell presented valuable summaries of ten years of progress.[26] The "ideal" standard enunciated in 1905 had become the practical reality of 1914 (except for the required internship). Of the 100 surviving medical schools, 82 were operating under the higher standard that required, for admission, at least one year of college training in chemistry, physics, and biology. And of this number 32 were demanding two or more years of college. The 1915 report included a graph showing the decline in total number of medical schools, plotted against dates.[27] In 1907 there were 160 schools; in 1910, the year of the Flexner report, just under 130; in 1912, under 120; and then a slightly steeper decline to 100 by 1914.

Actual improvement in medical education had taken two directions—preliminary training and curricular improvement. The AMA had effectively directed the campaign to improve especially the standards of admission and thereby the general level of medical training. Responsibility for the good work had to be shared, but the historian appreciates the primary activity of the AMA.

William L. Rodman,[28] president of the AMA in 1915, looked back and praised the work of the Council but also made some illuminating incidental comments. The goal of the Council, he said, had been reached "at least on paper." He went on that it was "expedient to mark time for a while" to allow those schools "which have approached the firing line at double quick speed a chance to catch their breath." He went on, "the irreducible minimum [standard] should be honestly enforced—that is, as soon as it can be." Clearly, a readjustment period was needed for the reforms to soak in. In modern jargon, the battle had been won but "mopping-up" operations were still going on.

In 1904, then, the Council had the goal of substantially raising the standards of admission and also of reducing the total number of medical schools. By 1914 that goal had been reached and in the victory the Flexner report had contributed only a minor fillip. The true significance of the report shows the biphasic character of the entire education reform movement.

When standards for matriculation in medical school had been elevated, the struggle then centered on the medical curriculum and the staffing of the medical schools. Any resolution depended on an answer to the questions: What should medical schools try to do? What is the desirable goal? The emerging relationship between medical schools and universities was altering the face of education.

Involved are two quite different and potentially contradictory philosophies. One has to do with the training of medical practitioners, the traditional function of medical education. The second relates to the expansion of knowledge, the traditional function of a university. So long as medical colleges and universities went their separate ways, there was no conflict. But as medical colleges came under the aegis of universities the possibility of conflict between the different philosophies became real, especially in matters of funding and administrative control.

Barker had condemned the nominal affiliation he called

"pseudo-university" medical schools, where university ideals and practices did not affect the medical schools. Yet a pseudo university relationship was quite peaceful and did not bring into conflict the academic (ie, university) community and the medical practitioners.

Of course, any alleged opposition between a university ideal of pursuing knowledge and the practical ideal of healing sick people, immediately brings up an obvious comment: the two are inseparable, and we cannot have sound practice without sound knowledge. This is certainly true but does not affect the concept that sooner or later a conflict is inevitable.

Earlier in this essay we discussed the elite viewpoint and noted its overwhelming emphasis on research, even at the expense of teaching. This attitude was not a part of the Council's original program or intent. Flexner,[29] however, already had a strong elitist bias; and when the 1910 report appeared, it was strongly in favor of the elite viewpoint, as had been expressed by many previous educators.

This emphasis of Flexner gave a rather different slant to the problems of educational reform. The role of research in medical schools and the relative emphasis between academic and practical teaching provided new areas for potential conflict. There were new opportunities for conflict between town and gown, between practical and academic ideals.

The Flexner report, then, was important for strongly propounding the elitist and academic viewpoints. Then Flexner himself, because of the report, acquired enormous power in disbursing funds, power that he directed toward promoting his own elitist viewpoint. The Flexner report, we may say, had ultimate results quite different from those intended when the program of medical school inspections was decided on.

Over the next several decades the course of medical education encouraged many other associations and organizations to enter the arena. Issues multiplied, and each issue, as it emerged, led groups of supporters to seek a share in the control. We need think only of the hospital associations and the specialty boards. The problems grew steadily more troublesome as medicine became more complex.

Crucial to the development of controversy was the changing role and nature of medical practice. An analysis of medical practice in the first decades of the century will clarify some of the basic issues. In the next several essays I will discuss some aspects of medical practice.

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