

Schools of Public Health— Their Doing and Undoing

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The heretofore untold story of Abraham Flexner's role in the establishment of the first endowed schools of public health (Johns Hopkins and Harvard) provides an unusual window through which to view the historic struggle of public health doctors to resolve their identity problem. They have become a profession, nominally a part of and yet fundamentally different from that of the physician in patient care. Nonetheless, the primary qualification for leadership in public health still is considered an M.D. degree rather than a Dr.P.H. or some equivalent. The author analyzes the characteristic inability of public health leaders to support their grand visions in times critical for decision, and calls on the modern community health educator, planner, and organizer to face the explicit question that all but a few of his public health forebears have sidestepped: Is public health a branch of medicine? Are education and training for clinical medicine desirable preparation for a career in public health, or does this simply doom one essential profession to remain subordinate to another?

Every medical school boy and girl sooner or later hears about Abraham Flexner, his astounding exposé of American medical education (1910), and his fortuitous role in the reformation of medical schools in the Johns Hopkins model of university-based, science-centered, and hospital-oriented schooling of the physician for the study of disease and care of the sick. Generally unknown—and as far as I can find not heretofore reported—is the hand Flexner played in shaping the first endowed American schools of public health.

Academic medicine has tended to scorn, even pity, schools of public health as sheltered workshops for those graduates who freak out from the glories of clinical medicine, wherein the dictum that you are not really a doctor unless you see patients still lingers on. Among some intellectually keen, socially aware, professionally competent, yet somewhat isolated doctors of public health there even may be a degree of self-pity. Some may overcome the sense of estrangement through a joint appointment on the medical faculty. Yet if the medical school patches them into the department of preventive medicine, community health, or some equivalent hotbed

of criticism and manipulation of comprehensive health care organization, financing, and delivery, the hybrid health doctor remains suspect—probably more so than if he had stuck to sanitation of the environment.

This unhappy state of affairs has persisted despite agreement among some of the most eminent medical thinkers that clinical medicine and social medicine should be integrated, bitter experience to the contrary notwithstanding. The outcome of the first separation of medicine and public health, two generations ago, somehow recalls the legend of the Wandering Jew, who treated Christ contemptuously on His way to the Crucifixion and was condemned to wander the earth until the Second Advent. Perhaps it would be less overdrawn, kinder, and more accurate to seek an explanation of the destiny of public health doctors in the genetics of the medical profession as a healing art, and more recently science. Do not practicing physicians, each time they heal a patient, treat their own egos? Truly, helping another person is a wonderful feeling. Some physicians are quite frank in this perception. They cannot help but puzzle about what is wrong with a physician who willingly foregoes such a gratification. Deep down, such a person offends them.

This is neither a trivial nor an amusing question. Through public health knowledge and method—preventive medicine practiced in glacially large, statistically significant, and wholly impersonal numbers—public health workers of all kinds have the opportunity to spare more lives and reduce more disability than therapeutics can accomplish in one-to-one, doctor-patient relationships. This does not mean the practicing physician's services are non-essential. In primary as well as more specialized care, people need their doctors, irrespective of outcome (Williams, 1968).

Thoughtful clinicians are not against public health, and such specialists as pediatricians and internists often get involved in it, but they are not trained or disciplined to seek the absence of diseases in society as a whole. They see their responsibility beginning as sick patients come through their doors, taking the sickest first. They are not accustomed to think in a demographic frame of reference. Nor should they, necessarily. But somebody of equal stature must.

The spiritual reward of public health doctoring is impersonal and abstract. Public health success is measured by events that do not happen—by the numbers of people who might get sick but do not. In

effect, clinical medicine elects to deal with the failures of public health, measuring its success in those who get sick and recover. There is a Grand Canyon in viewpoints here, and few have been able to bridge it, much less recognize the nature of the problem.

Flexner did not understand clinical medicine in William Osler's opinion (Cushing, 1940) or the fundamental difference between medicine and public health, and therefore the issue of integration versus segregation. A graduate of The Johns Hopkins University, he was not a physician but an educator, originally a Kentucky schoolteacher of Latin and Greek and headmaster of a prep school. One searches his famous report, *Medical Education in the United States and Canada*, in vain for expressions of compassion for "people" or "patients."

Flexner owed to another educator and layman his opportunity to tip the scales in the establishment of separate schools of public health that would tend to replace already existing departments of preventive medicine and hygiene in medical schools. The other educator was Wickliffe Rose, formerly a professor of mathematics and philosophy and dean of Peabody College in Tennessee. From executive secretary of the Southern Education Board, Rose had moved on in 1909 to become the administrative secretary of the Rockefeller Sanitary Commission for the Eradication of Hookworm Disease, one of the earliest voluntary agencies to engage in a categorical disease campaign (Williams, 1969).

One might say that Rose could have become the Flexner of public health education. But in character with the anonymity of public health workers—and quite unlike the aggressive and controversial Flexner—Rose remained uncelebrated. He was an unusually small, slender man who wore a large bow tie and pince-nez glasses on a ribbon. Raymond B. Fosdick, later Rockefeller Foundation president, described Rose as "a mouse-like man, self-effacing, but very clear in what he wanted to do." Some critics might wish to differ with Fosdick; as we shall see, there is some evidence that Rose was on the right track, but permitted Flexner to derail him. To be sure, it was as difficult then as it is now to agree on what was the right track.

The curious drama surrounding a foundation's beneficent decision to endow one or two schools of public health, and by its action precipitating ill will between Harvard and Johns Hopkins, will re-

quire a certain amount of prologuing and character-casting before it can progress to its climax and somewhat surprising ending.

As to time and place, Flexner in 1913 left the Carnegie Foundation for the Advancement of Teaching in New York, where he had published his medical education report three years before. He now became assistant secretary of the General Education Board (GEB), a large, well-established Rockefeller philanthropy interested in improving secondary and higher education (Fosdick, 1962). The GEB at this point had become involved in implementing the recommendations of the Flexner report. Indeed, it went on in the next 15 years to give upward of \$61 million to private medical schools willing to commit themselves to install or work toward full-time, salaried clinical as well basic science faculties.

The John D. Rockefellers, father and son, ably inspired by a former clergyman, Frederick T. Gates, were on the move, with vast sums of money available "for the well-being of mankind." This was the motto of the Rockefeller Foundation (RF), founded in June 1913 (Fosdick, 1952; Williams, 1964). The RF was interested in the promotion of tropical and rural health throughout the world. It made Wickliffe Rose director of a newly created in-house International Health Commission (soon renamed "Board" and later "Division"). The IHD, as this agency was known, became and remained a leader in world health for the next 38 years.

Rose was unable to eradicate hookworm in the American South or elsewhere, but from his early experience he learned that the key problems in effective programming in public health were then (as always) money and manpower. Areawide disease control had to be a government endeavor. Workers first had to be trained and then organized in a system supported by state and county health departments. Quite naturally, indeed innocently, Rose and the RF turned to Flexner and the GEB for advice on what medical education could do to train public health workers. The dream Rose shared with Gates—the coming of a time when there would be universal good health and physicians would hardly be needed—called for abundant public health manpower.

Public Health in Boston

As incredible as the dream itself, its trail insofar as the United

States is concerned begins in the Commonwealth of Massachusetts, where American public health, in its earliest growth and development, showed great promise.

One will find nothing about health in the Constitution of the United States, but that was a product of Philadelphia. In Boston, in 1797, Massachusetts legislated the "Great Public Health Act," authorizing towns and districts to appoint health committees or health officers, offices open to laymen. Some towns established such agencies. Another half-century passed, however, before anyone advocated public health as a career.

Lemuel Shattuck—not a physician but a teacher who went into the book-publishing—marked the need for such a career in his *Report of a General Plan for the Promotion of Public and Personal Health*, presented to the Massachusetts legislature in 1850. In the course of producing, in the words of Charles-Edward A. Winslow, "perhaps the most significant single document in the history of public health," Shattuck observed: "Sanitary professorships should be established in all our colleges and filled with competent teachers."

Shattuck, finding his inspiration in the sanitary movement begun in England during the previous decade under the leadership of Edwin Chadwick, got into the subject out of his interest in genealogy. This led him into vital statistics, the abacus of public health. Boston became the birthplace of the American Statistical Association, thanks to Shattuck and his predecessor, the Reverend Edward Wigglesworth. The latter in 1789 read all the bills of mortality for Massachusetts and New Hampshire as collected by town clerks and church parishes for the American Academy of Arts and Sciences.

With a clarity of mind that has pleased modern actuaries, Wigglesworth prepared the first American mortality table, showing that 40 percent of the deaths that year were in children under five and that the average life expectancy was only 28.15 years. Shattuck in turn found that life expectancy in Boston was 21.4 years in 1840. With this information, he persuaded the governor to let him head a committee to make a sanitary survey of the state, at a cost of \$500.

Shattuck's report was of prophetic value because it comprehended people's health as public business, a view which many independent physicians eventually managed to translate as "government interference with the practice of medicine." He visualized the

objectives of classic Anglo-American public health services with few omissions—the keeping of vital statistics as a measure of progress or lack of it, sanitation, smallpox vaccination, tuberculosis control, infant health care, school hygiene, care for the mentally ill, health education, slum clearance, home improvement, and schools to train “females to be nurses.” He was concerned with alcoholism. He saw public health professionals as combining knowledge of medicine, civil engineering, law, chemistry, and natural philosophy, among other things. He specified long-term research as the path to prevention of such diseases as tuberculosis, then a leading cause of death.

Shattuck’s report was tabled and most of the 2,000 copies printed were stored in the attic of the State House. There, Henry P. Walcott, president of the State Board of Health, found them in 1886. He put them to use in the course of a campaign for pure water and sanitary sewage disposal.

The year 1869 was a big one in Boston medical and public health circles. Henry I. Bowditch, a Harvard professor, led the Massachusetts Medical Society in a successful fight to establish the first State Board of Health. Also, Charles W. Eliot, a chemist, became president of Harvard University and set about reorganizing the Medical School as a function of university scholarship rather than local medical practice.

Eliot began a forty-year tenure by walking into the next medical faculty meeting and taking the chairman’s seat, never before occupied by a university president and not in Eliot’s time relinquished to anyone else. In his first annual report to the Corporation, he said: “The whole system of medical education in this country needs thorough reformation.” He referred, of course, to the apprenticeship and proprietary school system of training doctors of medicine. In insisting on a university-based, science-centered experience for Harvard physicians and by making his principles stick, Eliot anticipated the splendor of The Johns Hopkins Medical School under Dean William H. Welch by nearly a quarter-century.

Sanitary engineering, the first public health profession, was largely the creation of the Massachusetts Board of Health. The board established the Lawrence Experimental Station to solve a water-pollution problem, staffing it with a brilliant young research group, among them William T. Sedgwick and his student, George C. Whipple. In 1883, Sedgwick became professor of biology at the

Massachusetts Institute of Technology, where he singlehandedly introduced the teaching of public health sciences. In 1911, Whipple became the first professor of sanitary engineering at Harvard University.

Welch was to describe Sedgwick, a placid man with a walrus mustache, as "the most influential teacher of public health of his day in this country." For a time, most of the public health experts in the United States were trained at MIT. Only a few had a medical degree. Sedgwick did not see the need of it. He himself had taken the first two years of basic medical sciences at Yale and then transferred to Johns Hopkins for two years leading to a doctorate in biology.

Pasteur's and Koch's establishment of the science of bacteriology gave microscopic focus in the second half of the nineteenth century to the etiological specificity of filth-borne diseases. As one expression of this new knowledge, the University of Michigan Medical School in 1889 established the first American "hygienic laboratory," a precursor of departments of preventive medicine in medical schools. Its founder was Victor C. Vaughan. He was called professor of hygiene and physiological chemistry, and offered his students an advanced degree in sanitary science.

It became possible by the early 1900s to obtain a doctoral degree in sanitary science, hygiene, or public health sciences at several different universities. Toronto, McGill, Pennsylvania, and Columbia were among the earliest medical schools to have departments of hygiene, preventive medicine, or the like. They graduated few career specialists, however.

By this time, most large cities in the United States had health departments, a government service not usually available to well over half of the population living on farms or in small towns. New York City developed the best city health department, thanks to the stimulus of epidemics, availability of funds, and Hermann M. Biggs, city and later state health commissioner. As early as 1897, Biggs, a physician, declared himself for the establishment of a school to train public health manpower, including physicians, dentists, sanitary engineers, sanitary inspectors, public health nurses, epidemiologists, bacteriologists, biostatisticians, laboratory technicians, and others.

In the years ahead, however, Boston took the lead in implementation of such a school. One of Eliot's last actions as Harvard presi-

dent, in 1909, was to create a full-time salaried chair in a new department of preventive medicine and hygiene, appointing Milton J. Rosenau to this position. Rosenau was director of the Public Health Service Hygienic Laboratory in Washington, the training center for PHS commissioned officers. Rosenau offered the first Harvard doctoral degree in public health in 1911 and by 1920 had awarded twenty degrees.

Presumably it was Rosenau who gave the new Harvard president, A. Lawrence Lowell, the idea of starting a School for Health Officers. Lowell in 1912 invited Professor Whipple to lunch and proposed that he cooperate with Professor Sedgwick of MIT and Dr. Rosenau of the Harvard medical faculty in a course for health professionals. With MIT encouragement, Rosenau submitted a plan for a combined Harvard-MIT faculty to teach hygiene, sanitation, preventive medicine, and sanitary engineering. A fee of \$250 would be charged each regular student for a one-year course leading to a certificate (CPH) issued jointly by the two institutions. It would be open to physicians or other persons with at least two years of college work plus two years of basic medical sciences or sanitary engineering.

Lowell approved the plan, but expressed surprise to Rosenau at the emphasis on doctors of medicine, as he had understood that officers or members of boards of health who were not doctors would be accepted. Rosenau reassured Lowell that a medical degree was not a rigid requirement.

Sedgwick became chairman; Rosenau, director; and Whipple, secretary of the Harvard-MIT School for Health Officers, a triple-threat team including a physician, a biologist, and a sanitary engineer. The school opened in September 1913 with five regular and three special students. The public announcement (Rockefeller Archives Center, 1913-1958: RF, IHD files) stated the intention:

The object of this School is to prepare young men for public health work, especially to fit them to occupy administrative and executive positions such as health officers or members of boards of health, as well as secretaries, agents, and inspectors of health organizations . . .

The medical degree is not in any way prerequisite for admission although the Administrative Board strongly urges men who intend to specialize in public health work to take the degree of M.D. before they become members of the School for Health Officers.

The medical bias in the above disclaimer was transparent, but it did have the advantage of side-stepping the fact that Harvard and MIT were not empowered by their charters to award a joint academic degree, nor at this point did either institution wish to contemplate such a possibility. Curran (1970) remarked that the school was realistically organized at "practically a vocational" level to meet the current need for high-grade instruction and laboratory experience by personnel already occupying posts in government and voluntary health organizations.

Certainly the School for Health Officers was a typically Boston kind of humanistic enterprise, born on a shoestring out of a sense of social need and a spirit of cooperation, sublimely crossing rigid lines of authority and organization. The fact that the experiment would cost neither Harvard nor MIT anything to operate helped overcome faculty anxieties about new competition for budgeted funds. The school began by borrowing \$500 each from Harvard and MIT for start-up expenses, to be repaid out of tuition. By 1914, the school was able to present a financial statement showing expenditures of \$1,490.99 and a balance of \$1,538.70, including the \$1,000 loan. From then on, the school never was in the red.

For faculty, the School for Health Officers called on 20 Harvard and MIT professors to give "exercises" for fees ranging from \$10 to \$100 per lecture or course, or a grand total of \$745 for the first year. No university, how ever richly endowed, has assembled a more talented faculty.

Here was Richard C. Cabot, founder of the medical teaching device, the clinical pathology conference (CPC), and his colleague, Ida Cannon, the first medical social worker, receiving \$10 each for lectures on social services Theobald Smith, a famous microbe hunter, the first man to discover an insect-borne disease (Texas cattle fever), \$50 for eight lectures on the relation of veterinary diseases to public health Otto Folin, a pioneer in biochemistry who discovered the urine test for sugar so important in the diagnosis of diabetes, \$15 for a laboratory course in biological chemistry Richard P. Strong, first to discover salvarsan as a cure for yaws, who had his own Harvard School of Tropical Medicine, \$50 for a lecture and laboratory exercise in tropical hygiene Walter B. Cannon, all-time great American physiologist and pioneer in the problem-solving method of teaching students, \$50 for six lectures on personal hygiene. The Nobel Foundation finally conceded that Can-

non made three different contributions eligible for the Nobel Prize, although he was passed over each time (Schuck et al., 1951).

Finally, there were the three musketeers of practical public health, Sedgwick, Whipple, and Rosenau. They taught epidemiology, demography, and preventive medicine. There was even a course in public health administration, probably the first ever offered in an American university.

By modern foundation standards, a program having this much take-off power without help, if it was within the foundation's program interests, would rate as "irresistible" if it asked for help. In Rosenau's judgment, the experiment lacked only one thing; when, in 1915, Flexner asked what it was, Rosenau replied: "Money." Money, in the star-crossed fund-raising days lying immediately ahead, was the one thing the school could not find, in sums larger than tuition and lecture fees.

The School for Health Officers lasted nine years without endowment or outside gift. In this time, it issued 82 certificates of public health, 55 of them to doctors of medicine, 27 to others. In addition, 93 special students took courses. The average therefore was about 19 students per year. When the school ended its classes and closed its books in June 1922, it had a balance of \$7,253.54 on hand. Its only liability had been an inability to offer an academic degree of any kind, a deficiency that substantial outside support could readily have resolved.

Public Health in Baltimore

By way of contrast, nothing similar was going on at The Johns Hopkins University in Baltimore. True, public health had been in the minds of the founders of the Medical School and Hospital, but an education program in this field had lagged for the same reason Rosenau gave Flexner—lack of money. John Shaw Billings, who became famous as a Civil War surgeon and founder of the Surgeon General's (National Medical) Library, worked as a consultant to the university's first president, Daniel C. Gilman. In this capacity, Billings conceived the Hopkins plan of medical education and designed the hospital as well, as may be seen in his twenty little-known lectures on medical education (Billings, 1887).

What The Johns Hopkins University, founded in 1876, established in medical education, in 1893, was a true university medical center, with the medical school as a department of the university and the hospital closely integrated with the medical school, all centered around a full-time faculty in the basic sciences and a closed clinical faculty dividing its time among patient care, teaching, and research. The emphasis was on the study of diseases by laboratory scientists and clinical investigators. But patients came to seek the attention of William Osler and other famed physicians and surgeons in numbers exceeding facilities to care for them. The outcome was the familiar ivory-tower complex in which the faculty wishes to limit community service while the community demands it be expanded (Williams, 1965).

Welch, Johns Hopkins' first professor of pathology (1884) and first dean of the Medical School (1893) was brilliantly fitted to cope with these centripetal and centrifugal forces of medical academia. Furthermore, he regarded scientific research as the key to integration of medicine and public health.

Billings had discussed the fact that the average practitioner is little adapted by his medical education to investigate the causes of diseases and their prevention—the intellectual core of the public health doctor's way of life. He wanted Johns Hopkins to implant a public health curriculum in its medical school and offer a graduate degree in it.

Welch agreed. He wanted to organize an Institute of Hygiene, in the German mode. Every American physician worth his scientific salt wanted to study under the Herr Geheimrat system of medical education in Germany in those days. Welch in 1884 visited the Institute of Hygiene founded by Max von Pettenkoffer in Munich. His laboratory had, through soil and water sanitation, controlled typhoid fever epidemics before it accepted the germ theory of disease. As a matter of fact, von Pettenkoffer was quite upset by the new science of bacteriology and its doctrine of specific pathogens; it was monopolizing the attention of his hygienists. Like the English, he himself had focused his attention on the chemical purity of the physical environment as nature's way to good health. It was good hygiene.

Welch tried repeatedly to develop an interest in hygiene among the faculty and students in Baltimore, but with little luck.

Meanwhile he assumed community leadership in sorely needed sanitary reforms. He was influential, for example, in putting an end to the practice of Baltimore milkmen of delivering milk at the front door by scooping it from the can with a long-handled dipper and pouring it into the housewife's pitcher. Bottling and pasteurization provided a more sanitary method. He served as president of the Maryland State Board of Health from 1892 to 1922, his main function being to defend the state health officer against political interference.

In 1909, the General Education Board offered Johns Hopkins \$250,000 if it would raise an additional \$750,000 to construct a new pathology and bacteriology building and endow a new department of preventive medicine. Efforts to find this sum failed and the offer expired. Thus, at this point in history, the Medical School was doing virtually nothing in preventive medicine or public health.

Meanwhile, Down on the Farm

While Rosenau was building at least a footbridge between medicine and careers in public health at Harvard, while Welch was being set back in his attempts to establish a beachhead at Johns Hopkins, and while city health departments were employing what manpower they could find, trained or untrained, what of the country folk?

Although it was generally thought that the country was a healthier place to live than the city, there was some evidence to the contrary, particularly in the situation that Rockefeller Sanitary Commission health workers like Benjamin E. Washburn (1955) were finding in the rural South. "Early in my practice," wrote this general practitioner from North Carolina, "I learned that the usual point of view as regards health was that everybody was more or less ill."

In some areas of the South, as many as one in 50 mothers died in childbirth and one in four babies did not live to see their first birthday. Rapidly fatal pneumonia was not just the old man's friend, but a stalking companion of youth. It was God's will that somebody from the family or neighborhood be taken to the cemetery every year—by tuberculosis, dysentery, typhoid fever, or anemia associated with malnutrition, hookworm infection, or malaria.

Ferrell and Mead (1936) recalled that state health officers at the annual health conferences of the Public Health and Marine Hospital Service debated what to do from 1906 to 1911: "Though there was a critical need for rural sanitation, no practical means had been proposed . . ."

One answer emerged in the next five years. It was the establishment of county health departments headed by medical officers working full time. They required aggressive state leadership and funding, backed by some stimulus and pump-priming by the federal Public Health Service and the Rockefeller Foundation. First of all, however, county governments had to accept the responsibility for the job to be done.

As Rose wrote in his RSC annual report for 1911, effective hookworm control depended on a strong state health department and "finally, in each county, a capable county superintendent of health devoting his whole time to public health work." He continued: "At present the county health officer in most counties is a practicing physician; he is paid an insignificant sum [and] must depend for the support of himself and his family on his private practice; it is not his fault that the service is ineffective . . ."

Not wishing to offend, Rose did not mention that it was a matter of common knowledge that the private physician who took the public health job was often the least competent physician in town, sometimes less interested in saving lives from filth-borne diseases than playing politics with the county commissioners and making a few hundred dollars a year. Not infrequently, the part-time health superintendent was a relative of the chairman of the county board.

All this made it more urgent to upgrade professional training in practical public health methods. Rose, disappointed in efforts to eradicate hookworm, saw county health departments as the better approach.

Yet one problem remained insoluble. The indifference or hostility that public health encountered in academic medicine extended all the way down to general practice at the grass roots. Grant (1963), who introduced the first community health centers affiliated with a medical school (in China, in 1921), recalled his early experiences promoting county health departments in North Carolina:

The board of supervisors would say: "Well, now, what does the local medical society say?" The local medical society would immediately bring up the now famous American Medical Association

stand. "What are you going to do in curative medicine?" You had to promise that you were going to do no curative medicine at all before you could set up a country health department.

It was an absurd promise to have to make and impossible to fulfill. In a rational attack on disease, the line between prevention and treatment must be crossed and recrossed many times. In any event, clinicians have not been wholly consistent in their devotion to care of the sick. Doctors in solo, fee-for-service practice have been content to leave medical care of indigent tuberculous, psychotic, and aged patients to county and state institutions. Organized medicine does not object to medical care at public expense for persons who cannot afford to pay. For the typical academic sub-specialist, on the other hand, the choice is less an economic one. Mainly interested in major diseases in their acute stages, he simply does not like intrusion on, or distraction from, what he is doing—whatever interests him.

Politics in High Places

Such was the background when Wickliffe Rose in December 1913, six months after incorporation of the Rockefeller Foundation, faced the public health manpower problem. At his instigation, the RF in a memorandum (Rockefeller Center Archives, RF, IHD files) invited the General Education Board "to consider the desirability of improving medical education in the United States with special view to the training of men for public health service." This was not a startling feat of communication, inasmuch as the trustees and officers of the two foundations were closely interlocked and mutually felicitous. The historian at this point cannot help but reflect on the quality of staff work that went into this memorandum, for it plainly sprang from the assumption that public health is a branch of medicine. As we shall see, some of the leading public health thinkers of the time did not agree this was so.

One other item, seemingly tangential, is exceedingly pertinent in a critical examination of the public health education decision to come. Harvard was competing with Johns Hopkins for large sums of money in support of medical education, and personalities were involved.

Whereas Harvard had all other institutions in the country out-

gunned as the best site for a school of public health, Flexner had left no doubt in his 1910 report that he thought his alma mater, Johns Hopkins, had the best medical school "without exception." Furthermore, it had William H. Welch, whom Herbert Hoover called "dean of American medicine." In the eyes of Abraham and his older brother, Simon Flexner, a Johns Hopkins medical graduate and first director of the Rockefeller Institute for Medical Research, "Popsy" could do no wrong. The story has been told in various ways (Flexner, 1940; Flexner and Flexner, 1941; Fosdick, 1952; Fleming, 1954; Fosdick, 1962). No one, however, seems to have looked into the academic and philanthropic politics involved.

Granted, Welch (1850-1934) was a medical statesman. He derived his irreverent nickname not from any aptitude for playing games with children (he was a bachelor) but from his grand role of father figure in Hopkins medical science and education, and perhaps from his physical mien. Welch was small, pot-bellied, bald, and wore a neatly trimmed mustache and goatee. His blue eyes projected his amazing vitality and keen interest in whatever matter was at hand. Approachable, helpful, he was a tireless masterminder and joiner of good causes, yet possessed a sense of personal privacy, never in truth anybody's "buddy" or "popsy."

Welch was not a clinician and his career as a scientific investigator was short-lived. His original contributions were minor, except for his discovery in 1891 of a bacillus that causes gas gangrene. Rather, he seemed born to preside as the articulate spokesman for all sciences of health. To cite only a few examples, he became president or chairman of such diverse groups as the Board of Scientific Directors of the Rockefeller Institute, National Committee for Mental Hygiene, Maryland State Board of Health, Carnegie Institution of Washington, National Academy of Sciences, Yale Alumni Association of Maryland, Happy Hills Convalescent Home for Children, Medical and Chirurgical Faculty of the State of Maryland (state medical society), and the American Medical Association. Also, he was a founding member of the Rockefeller Sanitary Commission and International Health Commission (later IHD). No data are available on how he managed to keep up with these and other responsibilities, but it does seem to be a saga of a man who spreads himself thin.

The steps toward selection of Welch, on top of all else, as the first dean of an endowed school of public health, would seem to

begin when Frederick T. Gates, chairman of the GEB, invited Abraham Flexner to lunch in 1911. "What would you do if you had a million dollars with which to make a start in reorganizing medical education in the United States?" Gates asked.

"I should give it to Dr. Welch," Flexner replied.

The gist of his thought was that Welch as dean had developed the one ideal medical school in America with an endowment of only a half million dollars; imagine what he could do if he had a million dollars. Gates commissioned Flexner to find out (Fosdick, 1962: 154–155).

Flexner went to Baltimore and had dinner at the Maryland Club with Welch, the surgeon William S. Halstead, and the anatomist Franklin P. Mall. Mall suggested that such a sum of money could be used to put professors of the leading clinical departments—medicine, surgery, and pediatrics—on full-time salaries, like those in laboratory sciences. This would put their financial stake in the university, help equalize incomes, relieve them of the hot pursuit of patient fees, and leave them with more time for teaching and research.

Actually, the concept of a full-time, salaried clinical faculty had been propounded by Billings many years before, but Flexner had not made the recommendation in his 1910 report. Such a full-time scheme would mean some distinguished Hopkins clinicians giving up a part-time practice in other Baltimore hospitals, a system that not only made them wealthy but also enabled the Johns Hopkins Hospital to restrict its own patient load while accommodating the excess of patients it attracted to the city.

Flexner took the idea back to Gates and sold him on the policy of using GEB money to improve medical schools by moving them in this direction—clinical full-time faculty. Gates informed Welch that he could have \$1.5 million for this purpose any time he applied for it. Laying this proposition before his faculty, Welch plunged that body into sharp debate. The proposal was not popular, and he procrastinated on it for two years before applying for the money with what he claimed was the complete support of his faculty. Sir William Osler, who had said Flexner did not understand clinical medicine, already had gone to England in 1904 and received his baronetcy in 1911; his successor as professor of medicine at Hopkins, Lewellys Barker, now resigned. Halstead, research-inclined, was comfortable with a salary. The professors of obstet-

rics, psychiatry, ophthalmology, and urology escaped this economic indignity until 1945. In any case, in October 1913, not long before Rose brought up the question of medical training of public health officers, the GEB gave Johns Hopkins the money.

Charles Eliot had become a GEB trustee in 1908, not long before his resignation as Harvard president at the age of 74. In January 1914, he became an RF trustee as well. If Gates and Flexner were so insistent on giving \$1.5 million to Johns Hopkins, Eliot saw no reason that they could not do as much for Harvard Medical School. Reorganization and endowment of the Medical School headed his list of "the best fruits of my forty years' work."

To be sure, Eliot had faced certain organizational handicaps in building a national medical school. One sort rose from the diffusion of the medical faculty in several hospitals and institutions with separate boards and differing objectives. Surveying this large, loose confederation, always a little baffling in its ramifications to the outsider, Eliot observed, "At Harvard, every tub sits on its own bottom," and thereafter hoped for the best. The best materialized, in a remarkable display of intellectual individualism and humanist science, with each professor compelled to make his own way.

In May 1913, while Flexner still waited a decision from Welch, the new president of Harvard, A. Lawrence Lowell, applied to the GEB for \$1.5 million to place clinical departments on "a satisfactory university basis," meaning that professors would have offices on teaching hospital premises and devote the major part of their time to teaching and research, but would not be barred from receiving fees from private patients—in other words, serve "geographic full time." "But this," related Fosdick, "was not Flexner's idea of full time at all, and after some delay the application was declined." Flexner, in *I Remember*, made no mention of his role of David against the Harvard Goliath. Eliot and Lowell, nevertheless, remembered, and were furious with him.

All in all, it was not the best time for a decision on Rose's bid for some attention to the training of public health doctors.

An American Institute of Hygiene

The General Education Board, as 1914 began, assigned Flexner to make a preliminary investigation of possible sites for an endowed

school of public health. The story of Flexner's progress and the outcome has until now remained buried in Rockefeller Foundation archives. It quickly became evident to him that everyone among public health leaders did not share the medical and legal assumption that the primary qualification of a public health doctor was a degree as doctor of medicine.

From Harvard, Rosenau, a physician, wrote Flexner: "Public health is a distinct profession, separate from the practice of medicine . . . In fact, it is often difficult to bend the doctor into a sanitarian." From the New York City Health Department, Winslow, a Sedgwick student with a doctorate in public health, later professor of preventive medicine at Yale, wrote: "Public health is not a branch of medicine *or* engineering . . . The ideal school of public health should train all the various grades of sanitary workers from the highest to the lowest. Public health nurses, sanitary inspectors, and health officers for small towns are far more urgently needed than high-trained medical officers of health."

With Jerome D. Greene, a Harvard graduate and trustee of both the GEB and RF, Rose went to see Rosenau and his School for Health Officers. Greene frankly presupposed that Boston would be "one of the places where a school of public health would be set up . . . If that should be the case, Rosenau would be head of the school."

In the spring, Flexner presented the GEB board with a memorandum prepared by Rose, now off on his world hookworm travels. Rose was open-minded. In Boston, he had learned of the so-called Sedgwick Y-plan. Sedgwick, who managed to live comfortably with both physicians and engineers, thought that the medical student should take the first two preclinical science years and then, if he decided to go into public health instead of clinical medicine, pursue two years in a curriculum adapted to a doctor-of-public-health degree, the equivalent of a Ph.D. The one-year certificate course of the School for Health Officers did not operate under this plan.

Rose pointed out that the qualifications for public health officers had not been fixed and that there was no established school of public health in the United States. However, the Sedgwick concept was attractive:

While utilizing parts of the medical school . . . and . . . engineer-

ing curriculum, it looks as though neither a medical nor engineering degree would have to be required . . . Large use would probably be made of field work in the course of the student's training.

Someone, he said, should go to Europe and look at hygiene science in Germany and public health administration in England and then present a concrete scheme, "with a view to ultimately establishing on an experimental basis one or two schools in connection with university and public health departments in such places as Boston and New York."

In response to an inquiry, Rosenau in January had told Flexner how much it would cost to support an independent school of public health—\$750,000 a year for 10 years, including grounds, buildings, equipment, and permanent endowment of operating costs. Rosenau specified that the program should be *coordinate with but not subordinate to the medical school*.

"A school for health officers to be a practical success must be a research workshop," he said. He would have seven departments: sanitary engineering, sanitary architecture, hygiene, demography, sanitary chemistry, public health administration, and tropical medicine, all with access to the medical, dental, and engineering schools.

Had his proposition been substantially approved, organized efforts to solve the public health manpower problems might have escaped the curse of procrastination by a good five years. But Flexner was in no rush. Before he accepted Harvard, others would have to be considered. Columbia, for example, had an elaborate plan for a School of Sanitary Science and Public Health awaiting financial support. Using a pooled university faculty, as at Harvard, the school would be open to physicians and civil engineers working for a doctor of science degree in public health, and also to public health nurses, sanitary inspectors, health laboratory assistants, and local health officers. The inclusion of public health nurses and local health officers was important.

By the summer of 1914 Germany and Great Britain were at war, making a tour of these countries impossible. The thing to do, Flexner suggested, was to call a conference of American public health leaders and get their ideas. He was unable to do so until October 16, when the GEB held a one-day meeting in New York, bringing together 11 leaders in the field, plus nine RF and GEB

trustees and officers. An unpublished transcript of the proceedings still exists at the Rockefeller Archives Center at Tarrytown.

The public health delegates were as follows:

Alexander C. Abbott, professor of bacteriology,
University of Pennsylvania

Hermann M. Biggs, New York State Public Health
Commissioner

Edwin O. Jordan, professor of bacteriology, University
of Chicago

William H. Park, director, New York City Public
Health Laboratory

Milton J. Rosenau, Professor of Preventive Medicine,
Harvard Medical School

Theobald Smith, Rockefeller Institute for Medical
Research

William H. Welch, Professor of Pathology, Johns
Hopkins University Medical School

George C. Whipple, Professor of Sanitary Engineering,
Harvard University

Charles-Edward A. Winslow, New York State Depart-
ment of Health

Daniel D. Jackson, Assistant Professor of Civil
Engineering, Columbia University

Frederick Cleveland, Director of Bureau of Municipal
Research, New York City

The meeting was as distinguished by important public health people who were not there as by those present. Watson S. Rankin, pioneer of state and county health departments in North Carolina, was not there. Victor C. Vaughan, University of Michigan leader in American hygienic laboratories, was not there. Charles V. Chapin, an outstanding city health officer from Providence, Rhode Island, was overlooked. Worst of all, Flexner did not invite Sedgwick, the number one American teacher of public health:

Still, it was a momentous occasion in the history of American public health education. The morning discussion, dealing with all the homely and familiar problems of health department operations, stretched heavily between two poles, like Mrs. Murphy's wash.

At one pole, Biggs, employer of 1,200 professionally untrained district health officers in New York State, threw immediate

emphasis on the practical—on the many kinds of persons need to protect people's health in a community.

At the other pole, Welch, retiring dean at Johns Hopkins, stressed the need for a broad training in basic sciences and fundamental principles: "The rest is application . . . [It] requires specialized training, but it almost takes care of itself, and it is easily supplied . . ." Welch visualized a qualified health officer as a doctor of medicine with a hospital internship and two years of special training that would make him also a doctor of public health.

Biggs didn't agree with his old teacher:

While we all desire men who have this broad general training in hygiene, and who shall then add to it specialized training . . . we are not going to get them . . . What we want now are some men who are reasonably qualified to do the work . . . If we are to wait for a time when a school of public health shall turn out men who are graduates in medicine and have had hospital work and have had a two years' course in public health, we will wait . . . We will never attain that.

Gates, who presided, was undismayed. He said to Biggs:

Doctor, isn't it true that . . . many men who are practicing physicians, who have all the necessary qualifications . . . are not successful in practice; who have certain peculiarities of manner or lack of the graces . . . which "ring the doorbell" and bring them into full practice, and yet who are very able?

Biggs agreed this was so. Gates continued:

Now, why cannot there be a career for just such men right here, large numbers of them, too . . . Let these men . . . come to Dr. Welch's school for a more or less short time and fit themselves in the special services . . . and from those failures in practice draw your health officers?

Biggs gave ground: "I think that is what actually will happen."

Strangely, no one thought to observe that, if public health was to be simply a haven for clinical medicine's misfits rather than stand on its own feet as a prideful profession, its attractiveness to a medical graduate seeking his niche would be about equal to that of a junk pile.

Instead, when Gates sounded out Welch on the question of appeal, Welch said that a supply of qualified health officers would increase the demand for them as the medical profession and public

recognized their value, and then succumbed to his own enthusiasm: "I think the attractions in public health work almost surpass the attractions in [clinical] practice today."

As the morning session ended, Biggs conducted a spirited counteroffensive against Welch's elaboration of an institute or department of hygiene that would be a part of medical school—"Pettenkoffer's conception brought up to modern times," Welch called it. The displaced doctors of medicine, Biggs argued, should have the opportunity for special training in short courses, correspondence courses, on-the-job training. Field training, equivalent to a hospital internship for a medical graduate, would be essential; it would require actual work in state and local health departments. It would be difficult for a school of public health tied to a single private university to obtain this kind of cooperation. It might work in a school of public health connected with a state university (but the GEB was committed to support of private medical schools).

To all this Whipple added the observation that the Harvard-MIT School for Health Officers wanted to give its students the fundamental education stressed by Welch, but found it necessary to take into account how long the public health student could afford to spend on education for a profession that would never bring him a large income. By eliminating the two clinical years of medicine and the one-year internship, three years could be saved, the student then being able to spend two years in public health and finish in four years instead of seven.

Rose caught the full implications of the confrontation between Biggs, the health department man, and Welch, the university scientist. It was not in the balance a question of either/or but how to promote both the theory and practice of public health. In the afternoon, Rose, who had not put a word in the record all morning, tossed out a wake-them-up statement: "It seemed to me quite possible, as an educational scheme, to bring to realization all the factors that were maintained . . ."

He now spoke at length, stressing that in thinking of a university center for public health education it was important to relate it to a system of training in public health services for the country as a whole. First, it should be determined whether one or more of these central institutions of highest academic and scientific character were needed, then map the country in reference to future needs and pick the area offering the best opportunity for the first of these centers.

The university center should be in a port city with its immigration element but not too remote from opportunities for rural health work. The objective would be to set public health standards for the nation. In addition to providing for a high quality of teaching and research:

It would seem to me extremely important also to provide for all these practical phases of the work, so that the institution might have, for its laboratory, the state health organization, city health organization, and actual field work, and my conception of this central institution would be that it ought to cover the whole field of public health instruction, nothing left out however trivial.

Rose used Columbia Teachers College and state agriculture colleges as illustrations of his conception of academically independent institutions serving as the hubs of social systems:

I do not believe that a mere university department of public health will ever perform the function for which this [proposed] institution is designed. In . . . the educational field, we cannot today name a department of education which has ever approximated Teachers College in its development and achievement . . . for the educational profession . . . Teachers College within Columbia University is an entity of its own . . . It has brought together there a body of men who consecrate their lives to the profession of teaching . . . a . . . social atmosphere in which has grown up our highest conception of the profession of teaching . . . The achievement at Teachers College is today felt all over the United States, and it has toned up the profession of teaching throughout the entire country.

As another example, he said, the agricultural college, when established purely on the basis of science, attracted only a handful of students and did not affect the agriculture of the state. When it established short courses and related them to the farmer, through the county farm agent and extension service, it became important to the farmer and attractive to his son. Instruction, as also demonstrated in the hookworm-control program in the South, needed to be carried right out into the field. The public health specialist must go where the work is to be done, roll up his sleeves, and show the local workers what he wants.

. . . We must think, in the course of time, of each of the states as having a simpler unit of instruction [than the university center] for the training of the rank and file in the public health service . . . however subordinate the position . . . You never can hope to get them to an in-

stitution of this type . . . but . . . the states have their normal schools, which are just as essential after Teachers College was established . . . so you will have these smaller centers of training in the states [as] a part of this conception of the institution and an integral part of it.

This was Rose's vision. Public health is mainly public education, he said, and every health officer needs to be a teacher. Where would the students of public health come from? Rose would not take them as they came through the door, as the misfits of clinical medicine. This was not the way to find leaders in public health.

. . . But if you organize a system by which you can go out over the country and select the young men who [have] native endowment and ideals and temperament and [are interested in] public health work already . . . and bring them into the institution, then you have a body of students who are going to affect things . . . That is perfectly feasible by a system of scholarships, properly organized and directed . . .

Nothing further of importance was said that day. Welch, batting as it were in the clean-up position, endorsed Rose's systematized public health dream castle and empire, but liked the castle more than the empire.

I want to say I have never heard a more stirring and inspiring presentation . . . There is a great deal of vision in it, and I agree if we could only approach the realization . . . it would be a tremendous step forward . . . The most important thing is an institute of hygiene . . . with this broad conception . . . the center and home of these men . . . I think the point of Mr. Rose's, about getting the units of the different states, I think that would work itself out.

It was agreed in conclusion that Welch and Rose should get together and outline the essentials of this number one institute of hygiene (which Rosenau had sketched out for Flexner some months before). Welch felt that a description of this institute was the immediate need; the planning of a larger system "could wait." No one debated this point. Rosenau avoided the awkward position of tooting his own horn and kept quiet. He was the leading candidate to direct such an institute. Welch rarely was so impolite as openly to oppose ideas that he did not care for, preferring softly to kiss them to sleep with some such remark as "It almost takes care of itself," "That would work itself out," or "It can wait."

The proposed institute of hygiene itself waited another four years. The RF asked Rose to go abroad as chairman of its first War Relief Commission in November 1914. Before he left, Rose sent

Welch a first draft of a long memorandum entitled, "School of Public Health," which reduced his dream to paper. This draft, overlooked by public health historians, bore down heavily on the need for a "whole system of training for public health service," stating that the first school "should be conceived as an integral part of a system which shall be national in its scope and which shall make adequate provision for the training of all public health workers." Had it been possible to obey this injunction Surgeon General Thomas Parran, Livingston Farrand, and other public health authorities might have been saved their jeremiads a generation later, on the lack of adequate training of health officers. It is noteworthy that Rose's draft devoted as much attention to simpler state schools as it did to higher institutions, each related to the other in field work, extension teaching, and placement service.

Rose and Welch did not have a chance to get together until the following February. Welch agreed to work on the memorandum, but Rose had to press him to have it ready for the meeting of the GEB in May 1915.

The 3,000-word document that Welch presented there is of historic interest because it was the Declaration of Independence by which American schools of public health sought to differentiate themselves as training and research institutions while pledging allegiance to the university and avowing a close alliance with the medical school.

The Welch-Rose memorandum, now entitled "Institute of Hygiene," agreed that the primary need was for men (there was mention of public health nurses) to operate the country's public health services. It pointed out that physicians in practice also ought to be well-grounded in hygiene and preventive medicine, a Welch amendment. Cultivation of hygiene as a science "should be a fundamental aim." The scope of interest was equally theory and practice, but it was more desirable to conceive such an institution as providing a good general education in all branches of hygiene than training various classes of workers for higher or lower grades. Attempting to resolve the plaguing question of "public health" being something like a pot without a handle, they said, "Unity is to be found rather in the end to be accomplished—the preservation and improvement of health—than in the means essential to the end." Not a subject but an object made public health a distinct career, in other words.

While the foundation staffs always called the document the

“Welch-Rose proposal,” whether it represented a complete meeting of the minds under the circumstances is doubtful. There was no further discussion of founding “one or more” of these national schools of public health or hygiene. It was one. Whereas Rose had a department of public health administration and a department of public health nursing in his school of public health, the Welchian institute of hygiene swept these aside as major components. Welch eliminated all but one fleeting reference to a system of state schools, and there is no record of Rose ever having mentioned the subject again.

It was conceded that the proposed institute itself could meet only a small part of the manpower problem:

The far-reaching influences of the institute should be felt in the advancement of science and the improvement of the practice of public health, in establishing higher standards and better methods of professional education in this field, in stimulating the foundation of similar institutes in other parts of the country, in supplying teachers and in cooperating with schools of simpler character designed for brief technical training which should be established in each state in connection jointly with boards of health and medical schools.

Conditions for admission to the institute were left for future consideration, but it was assumed that “while the majority of candidates for diplomas and degrees will doubtless be graduates in medicine, these distinctions would not be limited to physicians.” What certificates or degrees should be offered were not discussed.

Welch stressed a favorite hope of his that had not concerned Rose. Education in hygiene should be available to physicians headed for clinical medicine. “The mission of the practicing physician is in many respects changing, and there can be no doubt that a year or more of graduate work in hygiene would be eagerly sought by many physicians . . . if the proper opportunities for such work were provided.” So saying, he appeared to have lost his license to practice as a prophet. Such an eagerness never emerged. On the contrary, clinical training discouraged it.

Choose One

No one appeared to be in a position or of a disposition to change the course of events once Welch had declared himself. The GEB at a

meeting in May 1915 accepted the Welch-Rose memorandum and suggested that the RF and its International Health Board conduct further investigations. The confreres of 1914 were never reconvened, and the memorandum was circulated among them for comments only after the GEB had acted. Flexner was silent.

Meanwhile, Harvard embarrassed itself with its own eagerness. In May, the university applied to the Rockefeller Foundation for support of Strong's School of Tropical Medicine, definitely "in program." In June, after the Welch-Rose document was available, Lowell amended the application to request money for an institute of hygiene that would include tropical medicine.

Welch, having asked for nothing, was in a better strategic position than Eliot to bring home the bacon. Whereas Eliot was on both Rockefeller boards of trustees, Welch was on neither; he was simply a member of the International Health Board. But he was now linked with the much-respected Wickliffe Rose as the co-creator of this academic Galatea and was being quietly viewed by some as her chief suitor. It did not seem altogether fitting to appoint the eligible bachelor to a committee to select the bridegroom. Flexner, in reality Welch's matchmaker; Greene, pro-Harvard; and Rose, neutral to the soles of his tiny shoes, formed the subcommittee now appointed to consider, in the idiom of the moment, "the more concrete aspects of the subject, such as a possible university connection and mode of organization"—in other words, "Where the devil do we put this institution?" Resolution of this question, linked with the equally important one, "Who is going to run it?" consumed another six months.

If the entire pace of the founding of the first endowed school of public health in America proceeded at the same labored tempo as an Italian grand opera, there were good reasons for it, quite aside from the merits of Johns Hopkins or Harvard, or Rosenau or Welch. It is painful for philanthropy to look upon its nonprofit friends, judge them, and choose one or another to receive its gift. It is, of course, even more agonizing for a would-be beneficiary to be judged and found wanting.

Rose, Flexner, and Greene made a survey of "all fairly possible situations" in the fall of 1915 and early 1916. These were Harvard, Columbia, Johns Hopkins, The University of Pennsylvania, The University of Chicago, Washington University of St. Louis, and Tulane University. Actual site visits were made in Boston, New

York, Philadelphia, Baltimore, and New Orleans. State universities, such as Michigan, were not considered.

The procedure at each institution was to interview everyone, from the university president to the city health officer, who would be involved in the program. Thus, at Harvard, the Rockefeller trio began with Lowell. Flexner led the questioning. He wasted no time inquiring about the scientific advances of importance to public health made by the faculty of the School for Health Officers, but concentrated on the administrative structure of the Medical School, comparing the loose affair that was Harvard with the tight organization at Johns Hopkins. The lack of Harvard interest in the pattern of a full-time clinical faculty, which his efforts had introduced at Johns Hopkins, was in his mind, but he frankly expressed bafflement at the duality of accountability among professors who served under two boards of trustees, the university on the one hand and one of several hospitals on the other, and yet manifested a loyalty to a third party, the medical faculty. At one point, he said:

The difficulty from my point of view is that I do not see as there is any very definite or reliable machinery for the upbuilding of the clinical staff on the same basis that would operate in other departments of the University. The extent to which the absence of that machinery is compensated for by the existence of these understandings and loyalties I am in no position to say . . . What I would like to grasp is just what could be counted on as a machinery within the Medical School for taking advantage of every vacancy that occurs to fill it in a way that is sympathetic with the objects of such a combined enterprise as we have in mind.

“Perhaps you exaggerate the difficulties that come from this organization and under-estimate the advantages,” Lowell demurred. After two or three days of this, there was a feeling among the men of Harvard that Abe Flexner did not understand them or the unity they found in academic freedom and common goals.

And, of course, he had appeared totally unconscious of the fundamental issue in the minds of some, that they were interested in creating a professional career in public health quite distinct from clinical medicine. It is impossible to say whether his action was deliberate, but when Flexner returned to New York, he discovered that he had been guilty of a shameful goof while in Boston. He had failed to see William Thompson Sedgwick, the exponent of a

separate educational track in public health. Worse, he realized that he had not invited Sedgwick to the New York conference the year before. He now wrote an apology: "How it happened . . . I am utterly unable to say . . . but I assure you that the omission was unintentional and inadvertent . . ." Unruffled, Sedgwick wrote back that he was glad to learn there was nothing intentional in leaving him out, and happy that his students were there—Jordan, Whipple, Winslow, Jackson, and his friend, Rosenau. What can the historian say, other than that Flexner was a failing student in public health and guilty of careless staff work, or hopelessly biased? Or, Rose was not up to a contest with Flexner.

Flexner, Rose, and Greene visited Johns Hopkins last. By this time, his colleagues had twitted Flexner about his rank favoritism, as may be seen from his remarks during the course of an interview with Theodore Janeway, the new full-time professor of medicine, replacing Barker. Janeway discoursed on the joy of working in a university medical school where "There is absolute cooperation." Flexner said, "I am suspected by Mr. Rose and Mr. Greene and others as having a very close Hopkins interest, so it is extremely important for me to bring out anything that is unfavorable. Can't you tell us anything unpleasant . . .?"

Dr. Janeway complained that his medical clinic was spread out over three blocks and his laboratories were cramped. This sounded a bit like Harvard. Later, pressing William H. Howell, professor of physiology, to "get something in this record unsatisfactory about Hopkins," Flexner elicited the reply: "It is too poor to start with." This also sounded like a Harvard view.

Then followed a discussion of how long it would take to reach the Engineering School on the Homewood campus by bus or streetcar. The geographic separation of the Medical School from the university campus did seem to be a flaw—one shared by Harvard and many others. Again, any inquiry into the contributions of the scholars and scientists took a back seat to organization and management. The discussion gave no hint that Howell was a pioneer in the studies of blood coagulation and was, in fact, co-discoverer of the anti-coagulant heparin. When it came to famous medical scientists, John Hopkins and Harvard were on a par.

Ten days later, in January 1916, Flexner, Rose, and Greene presented the "final report of the General Education Board" to the Rockefeller Foundation, reviewing the institutional and

organizational virtues and vices of Harvard, Columbia, Pennsylvania, and Johns Hopkins. Now the proud flesh of philanthropy would don its judicial robes. The last paragraph established the direction of their thinking:

The situation at Baltimore may then be formulated as follows: The general resources of the University and of the community are inferior—in some respect much inferior—to those found in New York, Boston, and Philadelphia; the Medical School fulfills the requisite conditions in the highest degree anywhere obtainable.

These “conditions” were essentially the subjective judgments of one dominant personality, Abraham Flexner, who had ruled in 1910 that Johns Hopkins had the best medical school in the nation, and later brought great philanthropic wealth to bear on his decision that Johns Hopkins, and other medical schools in its step, should establish full-time clinical faculties (Fosdick, 1962). It was not like the Super Bowl, where the outcome of the long, hard grind is settled by the points that the teams put on the scoreboard. And, of course, the decision assured that the Christians of public health would surely have to escape the lions’ den of clinical medicine if they were to survive, if not find salvation.

Only one man—not, alas, Wickliffe Rose—resisted the trend, and he was a special pleader. Within a week after the GEB accepted the final report, Charles Eliot wrote Flexner:

The more I consider the project of placing the proposed Institute of Hygiene at Baltimore, the less suitable and expedient I find it. Johns Hopkins is a small and weak university compared with either Harvard or Columbia; and Baltimore is a provincial community compared with either Boston or New York . . . The personality and career of Dr. Welch are the sole argument for putting the Institute in Baltimore and he is almost 66 years old, and will have no similar successor.

Flexner replied that, according to the Welch-Rose memorandum, the most important single factor in the selection of a locality was the department of medicine in the university with which it was affiliated. “Viewed from this angle,” he wrote, “the personality and present activities of Dr. Welch, help as they might be at the outset, are not as essential as the character of the medical organization, a thing which will surely endure.” In *I Remember*, published a quarter century later, Flexner perhaps could afford a moment of

truth: "I reported to Rose that it was immaterial where the school was located; it mattered only who directed it. The only possible director was Dr. Welch; it might be placed wherever he wished . . ."

In the clear light of hindsight, reserved to history, the choice hardly could have been worse and it was not until Welch had come and gone that the Johns Hopkins School of Hygiene and Public Health, with considerable quiet criticism and prodding from the Rockefeller Foundation, established itself as a truly great research and teaching center for public health officers from all over the world—most of them physicians.

Negotiations and planning of the school—Welch's Germanic pet, "Institute of Hygiene," was discarded as virtually un-American—continued through 1916. He expressed serious doubts as to the propriety of having the choice of director fall on him, but was willing to discuss it. He agreed to retire as professor of pathology and devote himself wholly to getting the School of Hygiene (and Public Health, as amended to please Rose) started. The RF board of trustees accepted the plan of organization and budget in May 1916—\$267,000 for the first year and, as it turned out, nearly \$1 million from 1916 to 1922. At that time, the school received \$6 million for building and endowment. By 1951, the RF IHD had invested approximately \$8 million in the venture.

There was a delay of two more years before the school opened in October 1918. It did not occupy its own building across North Wolfe Street from the Hospital and Medical School until 1925. Welch, more of an inspirational than an operational leader, progressively lost interest after the apple dropped in his lap. Despite his age, when the United States entered the Great War in 1917 he felt compelled to join up and thereafter spent much of his time in uniform in the Army Surgeon General's Office in Washington until after the Armistice. Subsequently, he left operation of the School to William Howell, who in 1926 succeeded him as director. It is unlikely that Flexner ever spoke to Welch about neglect of responsibility, but there are faint indications that Rose or someone from the Rockefeller Foundation may have hinted at it.

In May 1922, the school came under open criticism at a conference in Washington called by the Public Health Service to consider the future of public health and the education of sanitarians. The delegates agreed that "the most pressing problem . . . is not the discovery of new scientific facts [but] the problem of personnel."

The fact that the interests of academic medicine and public health did not coincide was mentioned. Several of those who had attended the GEB conference in 1914 were present, and they were not in a mood of congratulation.

Under RF pressure, the Johns Hopkins School of Hygiene and Public Health in the next decade or two remedied its overemphasis on basic science and neglect of field training.

Unquestionably, Welch and Howell selected professors with talents equal to those at Harvard. There were Elmer V. McCollum, like Walter Cannon several times eligible for the Nobel Prize for his work with vitamins (Schuck et al., 1951); Raymond Pearl and Lowell J. Reed, immortals of biostatistics; Wade Hampton Frost, one of public health's philosopher heroes in epidemiology; and Allen W. Freeman, an outstanding public health administrator.

From 1919 to 1964, the school awarded 2,682 degrees, an average of 58 a year. Seventy percent were one-year courses (C.P.H., later replaced by M.P.H.); the majority went to physicians. Only 10 percent were interested in Dr. P.H. degrees. As a result of Welch's original aversion to them, the public health nurses got a raw deal. The school did not award its first degree to a public health nurse until 1934 (Margaret G. Arnstein) and did not appoint a nurse as professor until 1950 (Ruth B. Freeman). *This* was Wickliffe Rose's dream?

Another Day, Another Harvard

Philanthropy, like the road to Hell, is paved with good intentions—and often resurfaced over human failings. The choice of Johns Hopkins over Harvard seriously damaged the Harvard-MIT School for Health Officers. The first reaction of Rosenau, Sedgwick, and Whipple was to change the name to the "School of Public Health of Harvard University and Massachusetts Institute of Technology." This did not overcome the lack of a charter and legal incapacity to offer academic degree courses. The new school at Johns Hopkins offered four degrees, but the graduate students were moving in the greatest numbers into the one-year, C.P.H. course, no better than that of Harvard and MIT. For objective ears, the Bostonians now had a fairly compelling case to lay before a foundation.

The situation was aided by a change of faces. Around or about

the time the Johns Hopkins School was opening, in 1918, Harvard Medical School got a new dean and the Rockefeller Foundation a new president. The dean was David L. Edsall, who had come from the University of Pennsylvania as professor of medicine. The president was George E. Vincent, who had been president of the University of Minnesota and was not a party to any eastern seaboard alignments or animosities. In October 1920, Vincent and Edsall had a talk about the public health training problem. Vincent assured Edsall of the foundation's interest in Harvard and asked Wickliffe Rose to investigate (Curran, 1970: Chapter 3).

By this time, Rose had considerably less faith in a fellow man named Abraham Flexner. Rose went straight to Boston in December and talked to Professor Sedgwick first.

Sedgwick's position was by now well known. As his biography states, he regarded public health as "a suburb of medicine to be reached by a different route" (Jordan et al., 1924). "The medical man without further training has been tried as a modern health officer and, generally speaking, found wanting," he said. It should be noted that he did not suggest that the physician *with* public health training also had been found wanting because of a pre-established bias toward clinical medicine. This is a different question. But he did say that the only hope he saw of relieving the manpower shortage was for medical schools to recognize a social need and divert into public health channels some of the talent going into medicine.

Sedgwick was the personification of fair-mindedness. He told Rose that he favored the establishment of a school of public health *at Harvard*, thus removing the joint-degree obstruction. The MIT relationship could continue on an informal basis for students wishing to take his course for credit. In retrospect, such a compromise did not solve the fundamental problem. It opened the way to placing the School of Public Health under Medical School domination, and was well adapted to Dean Edsall's aspirations. Edsall quite frankly saw the building of a Harvard School of Public Health as financial fortification of the Medical School, because of a substantial overlap of faculty. The Sedgwick Y-plan lost its chief advocate when the "best teacher in public health" died suddenly on January 25, 1921, only six weeks after Rose talked to him.

Rather complicated negotiations proceeded swiftly, and in May 1921 the International Health Board and the Rockefeller Foundation in turn approved of the Harvard undertaking. This deci-

sion, let the record show, was reached over Abraham Flexner's objection. Vincent's diary shows that Flexner was still up to his old tricks, in concert with his brother, Simon:

SF and AF point out that Harvard Medical School is offering full-time clinical salaries and opportunities for practice in addition. This is a serious attack on the whole full-time and academic idea in clinical medicine. In the circumstance a gift from the Foundation would seem to give aid and comfort to an institution which is commercializing clinical medicine and putting obstacles in the way of the academic development of medical education.

Rose, awfully tired of knuckling under to Flexner, strongly protested to Vincent. In actual fact, the full-time clinical salaries at Harvard were often low, even nominal. The RF, he said, had initiated the project to support the Harvard School of Public Health and it was in keeping with the Foundation's public health objectives to do so. To connect two unrelated interests and back out—"to use this as a means of penalizing and coercing Harvard for its Medical School policy would cause bitter feeling, and subject the Foundation to the charge of attempting coercion . . ." Vincent said that he would "enforce this view emphatically." Simon Flexner, a trustee, agreed that Rose's argument was "unanswerable."

Abe Flexner was now uncloaked. He was motivated more by dogmatic conviction than fair play. Quite simply, he hated Harvard. It was the only formidable threat to his love affair with his alma mater and his desire to perpetuate the Johns Hopkins Medical School model, a plan of great merit but many problems. Ironically, Rose became Flexner's chief when the GEB appointed Rose as its president in 1923.

Financially at least, the Rockefeller Foundation got a much better bargain from Harvard than from Johns Hopkins. Harvard formed an annual budget of \$270,800 for its new School of Public Health, contributing \$162,800 already spent in the public health area through the medical and engineering faculties and also setting aside an additional endowment of \$500,000 for the School of Public Health. The RF committed itself to pay the remaining \$108,000 a year, plus \$500,000 for a building. By 1927, the foundation had given Harvard about \$3.5 million. An additional \$1 million gift in 1945 brought the total to \$4.5 million by the time the IHD terminated in 1951.

The Harvard-MIT School for Health Officers ended its classes

for the last time in June 1922 and the Harvard School of Public Health opened in September.

The Harvard School was quite different from the Johns Hopkins School in its administrative structure. President Lowell at Harvard said that university funds earmarked for public health were legally assigned to the Medical School, except for sanitary engineering. Therefore, he held that David Edsall must wear two hats, and be dean of both Medicine and Public Health, a dual role that Edsall continued until 1935. This arrangement consigned public health to grow fitfully in the shade of Harvard medicine, despite the best efforts of Rosenau. The School of Public Health then acquired a separate dean, but languished in the uncertainty of its future as a graduate school. In 1945, the school lost its American Public Health Association accreditation for postgraduate instruction in public health, disapproval in part being intended as a lever to bring about reorganization. In 1946, the School of Public Health was divorced from the Medical School and made to go its independent way. Thereafter, it leaned toward the training of super-specialists in public health, preferring students who were not only A.B.s or B.S.s but M.D.s, occasionally with M.S.s and Ph.D.s, and ideally already board-certified in internal medicine or pediatrics.

The schools of public health in Boston and Baltimore had much in common in their exciting research contributions, too numerous to be described here, and also in their lack of strong, effective, community-service orientation, meaning, as Sedgwick insisted, close, working relationships with state and county health departments—and, in a newer mode, community health centers.

Neither of the two schools was able to resolve the comparative merits of segregation from the medical school versus integration with it. Wilson G. Smillie (1955) commented on Welch's conviction that a Hopkins "institute of hygiene" in association with the medical school would not only train health officers but provide much sought-after instruction in preventive medicine for physicians going into general practice:

Subsequent events were to demonstrate that, although the first part of his vision was to be fully realized, the second part was only a mirage. Forty years were to pass before the influence of this great school broke through the solid barrier of a single narrow street.

Whereas the Hopkins school of public health became so con-

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