

Revised and Extended

Northwestern University

Medical School

1859-1979

A pioneer in educational reform

By

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Preface

During the first century of its existence no adequate history of Northwestern University Medical School was ever prepared covering any stage of its development. In a review of the medical profession and medical institutions of Chicago, written for the *Magazine of Western History* (1890), N. S. Davis included a short account of the early years of the institution. He also began a chapter for Wilde's *History of Northwestern University* (1905), but death overtook him when only the first five years had been reviewed. This assignment was amended by his son, who added brief memoranda of some happenings between 1864 and 1904. Professor Samuel J. Jones likewise prepared a short historical chapter on the Medical School for Cutler's *History of Medical and Dental Institutions of the West* (1896).

In 1924, N. S. Davis III was appointed Historian of the Medical Faculty, with instructions to prepare a record of the Medical School to be filed with the Illinois Medical Society. A copy of this 32-page manuscript is deposited in the Archibald Church Library. It borrowed or paraphrased the account in the *History of Northwestern University*, and added some material covering events between 1904 and 1925. Somewhat later, Professor James A. James interspersed various items pertaining to the progress of the Medical School since 1870 in an unpublished manuscript on the general history of Northwestern University. Similar miscellany occur in *Northwestern University; A History, 1850-1975* by H. F. Wilkinson and P. S. Wild.

In anticipation of the observance of the Centennial of the Medical School in 1959, President Miller and Dean Young com-

missioned the present writer to prepare an historical work tracing the development of the School during that total period. My motivation in undertaking this task stemmed from the conviction that the occasion merited a definitive account that would attempt to be not only entertaining and instructive, but also to constitute a standard source of factual reference on the subject. Because of the signal leadership of the Medical School in reforming the traditional plan of medical education in America, the significance of its contributions can be appreciated only when set against a background of the course of medical education in the Colonies and Republic as a whole. This was done and has been continued throughout the present work, thus broadening the treatment from a local story to a somewhat integrated account of educative medical progress in the nation. Moreover, the progress of the School, since its first association with Northwestern University in 1870, takes on added significance when placed in perspective against the evolving University itself. For this reason, such an historical thread is woven into the main fabric. It is introduced intermittently, spaced at epochal periods in the life of the Medical School and the University.

Northwestern University Medical School is fortunate in possessing an unbroken set of Faculty Minutes from the first organizational meeting in the spring of 1859 down to the present time. It has also a complete set of minutes of the Alumni Association through the years since its founding in 1866. Moreover, the voluminous official minutes of the University Trustees contain material, invaluable to the main account since 1870. Besides supplying unique, basic information, they have made possible the correction of some long-repeated errors of fact and interpretation. In order that the reader may sample and savor the quality and style of important source-material, numerous quotations from the records, from the protagonists and from contemporary commentators have been interlarded in the narrative.

The story of Northwestern University Medical School is both heroic and colorful. It is also richly significant in relation to the progress of medical education in America. To piece together such an integrated account, as well as to put it in perspective with the rise of Northwestern University, has been a fascinating and rewarding task which, in retrospect, must be accounted as a privilege. Sobering to the author is the realization that he has been actively

associated with the Medical School for more than half of its long existence. Yet there is a definite advantage in this since, like Virgil's Aeneas, one can then tell of "both the things which I myself saw, and those of which I was a part."

Deviating from the style of many collegiate histories, it was decided not to impair the main flow of the historical account by inserting details on the sequential changes in leadership and personnel in the various departments. Instead, an Appendix has been prepared that lists all such data on administrators, chairmen, professors and associate professors. It was further decided not to encumber the pages with multiple footnotes citing source-material, since such authentication would distract and serve no important purpose.

Taking a long look into the future, one is constrained to point out that Faculty Minutes and other official records are no longer as intimate and informative as they once were, because of a far more complex organization and the delegation of spade work to committees. The decline in the historical value of the Faculty Minutes dates from the first appointment of an Executive Committee in 1878. The task of a future historian, preparing for a bicentennial or other anniversary observance by the Medical School, would be aided enormously if a competent Chronicler were appointed whose duty it is to keep a log book of events, activities and significant matters that do not become included in official minutes or elsewhere. Such an historical journal would surpass greatly the record that a college newspaper ordinarily establishes. The most elusive, and often valuable, material is what everyone knows at the moment but, because it is common knowledge, no one bothers to record. Equally important and fugitive are the background and specific information that the Faculty and other counselling bodies acquire but do not make a part of their proceedings.

It is a pleasure to express appreciation for aid and courtesies extended by the staffs of the Archibald Church Library, the Newberry Library, the John Crerar Library, the Chicago Historical Society and the University Archives. Additional acknowledgement is extended to Emeritus Dean James A. James, who permitted me to read his manuscript covering the general history of the University. To many unnamed persons, solicited for bits of factual detail, go my heartfelt thanks. But greatest gratitude goes to my wife, who spent countless hours in transcribing rough manuscript through

drastic revisions into its present form, and who has served ably as consultant and advisor on many matters.

For the opportunity to include pertinent quotations from books, thanks are due various publishers or individuals who hold, or held, copyrights. Page numbers refer to the locations of cited passages in this book.

- I. A. Abt: *Baby Doctor* (McGraw-Hill Book Company, New York); 125, 129, 170, 455, 459.
- N. Bridge: *The Marching Years* (Duffield and Company, New York); 52, 309, 434, 443.
- N. Bridge and J. E. Rhodes: *Rush Medical College* (Oxford Publishing Company, Chicago); 67.
- J. A. D. Cooper: *Undergraduate Medical Education* (Josiah Macy, Jr. Foundation); several items.
- I. N. Danforth: *The Life of Nathan Smith Davis* (Cleveland Press, Chicago); 34, 68.
- D. J. Davis: *History of Medical Practice in Illinois* (Illinois State Medical Society); 311.
- L. Davis: *J. B. Murphy, Stormy Petrel of Surgery* (G. Putnam's Sons, New York); 516.
- L. Davis: *From One Surgeon's Notebook* (C. C. Thomas, Springfield); 513-14.
- E. C. Dudley: *The Medicine Man* (J. H. Sears and Company, New York); 33, 435.
- J. B. Herrick: *Memories of Eighty Years* (University of Chicago Press, Chicago); 91, 154, 460.
- A. E. Hertzler: *The Horse and Buggy Doctor* (Harper and Brothers, New York); 78, 127, 128, 129.
- J. H. Hollister: *Memories of Eighty Years* (privately printed); 309.
- B. Holmes: Opera incognita; 126, 159.
- F. H. Martin: *The Joy of Living* (Doubleday, Doran and Company, New York); 126, 173, 413, 434, 435.
- W. F. Norwood: *Medical Education in the United States Before the Civil War* (University of Pennsylvania Press, Philadelphia); 115.
- H. F. Williamson and P. S. Wild: *Northwestern University, A History*; sundry data.

Magazines and local newspapers have furnished valuable reporting. Among journals, recognition is owing the *Chicago Medical Examiner*, *Chicago Medical Journal*, *Medical Life*, and the *Magazine of Western History*. Of the newspapers, most helpful were the *Chicago Daily Tribune*, *Chicago Evening Post*, *Chicago Post*, *Press-Tribune*, and *Tribune*.

Among the sources of information on the progress of medical education in the United States, special mention should be made of the following: Davis' *History of Medical Education and Institutions in the United States* (1851); Davis' *Centennial Report on Medical Education* to the United States Bureau of Education (1877); the series of nationwide reports issued by the Illinois State Board of Health (1880-1903); Flexner's *Medical Education in the United States and Canada* (1910); and Deitrich and Berson's *Medical Schools in the United States at Midcentury* (1953).

The assignment to trace the history of medical instruction at Northwestern resulted in the publication of a memorial Centennial volume entitled *Northwestern University Medical School, 1859-1959. A Pioneer in Educational Reform*. Since his nominal retirement in 1956, the writer has maintained voluntary, full-time activities in the Medical School. Because of this continuing close relationship, the Medical Administration and Alumni Association tendered an invitation to revise and extend his previous history of the School. This presented an appealing challenge since it provided an opportunity to revise, extend, rearrange and otherwise improve many portions of the original accounts, and especially to rewrite and expand the momentous period between 1920 and 1979. The result is not only an updating and extension of the previous book, but also a second thinking and elaboration on many matters and events relating to the 120 years since the Founders launched a new kind of medical college. Relatively few of the original pages remain unchanged.

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March, 1979

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I

Medical Education in Young America

The distinctive origin and revolutionary role of the pioneering institution that came to be Northwestern University Medical School cannot be properly told by itself alone. It must be placed against a background provided by earlier medical developments in America, and in the Chicago area in particular. For this reason the main historical account will be prefaced by a chapter summarizing the progress of medical education from colonial times to the middle of the nineteenth century, when academic conditions were over-ripe for basic reforms. Previously there had been some bold critics of existing conditions, and even specific recommendations for an educational overhaul, but no person or school had yet dared to make a serious start toward instituting drastic changes.

MEDICAL TRAINING IN THE COLONIES

Physicians set foot on this continent in company with the first settlers. Three are mentioned in relation to the early period of the settlement of Jamestown, Virginia, by the London Company. Yet it would appear that none made permanent residence there, because Captain John Smith returned to England in 1609 for surgical treatment since "there was neither surgeon or chirurgery at the fort." The only well-qualified physician mentioned among the permanent settlers at Jamestown, Plymouth and New Amsterdam (later New York) was Samuel Fuller, who accompanied the Pilgrims on their voyage to the New World and served them faithfully as a prac-

tioner until his death, in an epidemic of infectious fever in 1632.

Within the half century following the beginnings of the Colonies, few names of even respectable professional competence are recorded. Among these are the two Governors Winthrop (of Massachusetts and Connecticut) and a few clergymen. The latter came to include priests who had read Hippocrates, Galen and other accepted writers during their formal education in Europe, and non-conformist Protestants, persecuted or silenced, who pursued regular studies in Europe and then served the colonists usefully, both as preacher and as physician. Cotton Mather spoke of this dual function — the caring for body and soul — as the “angelical conjunction.” Among these clergyman-physicians should be mentioned Thomas Thacher, whose pamphlet, *Brief Rule in Small-Pox or Measels*, in 1677, is credited with being the first medical publication in this country.

Although apprentices to medical preceptors furnished a steady grist of variably qualified practitioners, there was a great dearth of properly trained and reasonably competent physicians in the young Colonies. This was to be expected because the total lack of hospitals and formal instruction limited the supply to two possible sources. One was emigrants from the Old World, but these recruits were largely ship surgeons and apothecaries — hence not of the caliber most needed. Established practitioners were unwilling to journey to a new land and there endure the entailed poverty and hardships, in addition to the isolation from accustomed professional advantages. Hence, for the most part, early physician-emigrants were limited to some who had failed to establish a successful practice and others who, aware of their incompetence, were unwilling to make the attempt. As one writer summarized: “Thus it was, that while persecution filled the clerical ranks of the Colonies with men of the deepest piety, and the most varied learning, and the patronage of the Crown induced a full supply of legal talent, the profession of medicine sank to a comparatively low state.”

The second source of supply, theoretically, was the young colonist who might seek a medical education in the colleges and hospitals of Europe. Yet for many years a failure to realize the inadequacies of colonial medicine, and the expense of gaining foreign training, combined as a practical barrier to this remedial move. The first native-born residents to carry out such a program by study in the Mother Country were Henry Saltonstall and Samuel Bell-

ingham, who graduated at the first commencement of Harvard College (1642), obtained medical degrees in England and returned to the Massachusetts Colony to practice their profession. Even earlier, in 1634, William Bull of South Carolina had received the degree of Doctor of Medicine from the University of Leyden — the first Colonist to earn this degree. In fact, the practice of sending young men to Europe for a medical education became more common in the southern colonies, whereas the northern colonies tended toward providing training locally. The trend toward seeking a medical education in Europe continued even after medical colleges began to be established in the early Republic. Leyden was favored in the seventeenth century, but yielded to the lure of Edinburgh in the eighteenth century.

As the years went on, an increasing number of individuals availed themselves of European training and returned with a medical degree (122 from Edinburgh, by 1800). Most important for their pioneer influence on medical education were William Shippen, Jr., John Morgan and Benjamin Rush, all of whom arrived in Philadelphia between 1762 and 1769, and were leaders in instituting the first medical college in the land. As the Colonies became better settled and living conditions improved in them, some competent physicians from Great Britain also became willing to emigrate to the New World. Among these, Zabdiel Boylston of Massachusetts (1635), John Mitchell of Virginia (about 1700), Lieutenant Governor Cadwallader Colden of New York (about 1710) and John Lining of South Carolina (about 1730) earned honored recognition in the permanent history of American medicine.

During the colonial period the almost continuous hostilities (1690-1783) between the northern colonies and the French settlements in Canada brought repeated aid from the Mother Country. Each expedition was accompanied by a competent and well-outfitted medical staff. The presence of these superior practitioners and the mobile military hospitals, which they of necessity set up, afforded the first impetus to improve materially the condition of medicine in the Colonies. Young men now had the opportunity of attending the military hospitals and receiving instruction there, so that these organizations served, to a degree, as medical schools. The physicians and surgeons of the combined military forces became recognized by the public as superior in skill and deportment.

With the populace thus introduced to a new order of medical men

and medical service, its influence extended in several important directions. One was that the imaginations and ambitions of young colonists were activated to obtain superior European training and become pioneers of scientific medicine in America. The second was the making of a start (in New York, 1760) toward regulating by law the conditions to be satisfied before the practice of medicine or surgery could be undertaken. The third was the establishing of permanent hospitals, the earliest at Philadelphia in 1752. The fourth was



Surgeons' Hall, Philadelphia, home of the earliest medical school (1765) in the Colonies.

the organizing of regular medical colleges; the only ones to operate before the War for Independence were the Medical College of Philadelphia (1765; later absorbed into the School of Medicine of the University of Pennsylvania), and the medical department of King's College (1767; now Columbia University). The fifth was the organizing of medical societies; the earliest statewide meeting attaining constitutional formalization was held in New Jersey in 1766. The sixth was the founding of medical journals for the dissemination of information, the earliest (1797, New York) being *The Medical Repository*.

The need for these various advances is apparent from many considerations. As late as 1753, a New York periodical charged that the greatest part of the practitioners in that city "were mere pretenders to a profession, of which they were entirely ignorant; and convincing proofs of their incompetency were exemplified in their iniquitous practices. The advertisements they published proved

them ignorant of the very names of their drugs . . .” Moreover, the low state of medicine at the beginning of this country as an independent nation, in 1776, is reflected in several statistics. The thirteen States contained about three million inhabitants, among whom some 3,500 were engaged in the practice of medicine. Yet less than 400 (some say only 200) of these had received a degree from any medical college. After the Province of Massachusetts had adopted a law in 1649 to control the activities of “chirurgeons, midwives, physitians and others” there was a long lapse, and by 1850 only two States (New York; New Jersey) had attempted to regulate the qualifications and the practice of physicians. There were but two organized medical societies (New Jersey; Delaware), one permanent general hospital (Philadelphia) and no medical journal. It is doubtful that any medical library existed that could boast of 1,000 volumes.

To be sure, the first recorded autopsy occurred in 1637, in Maryland, the first use of a cadaver for anatomical instruction in 1642 at Cambridge, Massachusetts, the first private-school instruction in anatomy in 1750 at New York, and the first institutional anatomical course at King’s College in 1764. Nevertheless, it was not until 1750 that the first human body was dissected for regular instructional purposes (also in New York), and not until far into the next century that the student himself was required to do more than observe anatomical demonstrations. The first two colonial medical colleges played only a minor role in supplying graduate physicians. In their ten years of operation prior to the Revolution only 43 persons had received the bachelor’s degree in medicine, and seven the doctorate.

During the colonial period, and even for the first decades of the nineteenth century, it was the general custom for a young man aspiring to become a physician to indenture himself to some practitioner. There was a fee (latterly about \$300) and the term of indenture ran from five to seven years (latterly, three years), beginning at the age of fourteen to eighteen. The student rendered services as a helper, and sometimes as a menial; in return he received room and board, and instruction aimed to qualify him for independent practice. At the end of the apprenticeship he was given a new set of pocket instruments, some medical books and a certificate testifying to years of service and proficiency acquired.

The course of instruction included several phases. At first came

“reading with the doctor,” consisting of assigned topics in textbooks, followed by recitations and quizzes. Human dissection might be done, the body being stolen from the churchyard and studied secretly in an outbuilding; in this instance, the cleaned skeleton became the first major item of professional equipment owned by the prospective physician. Practical work in pharmacy was gained by grinding crude drugs, preparing tinctures, rolling pills, spreading plasters and wrapping powders. In the office practice of the preceptor, the student-pupil could first observe and later assist in the examination of patients and the handling of surgical procedures, such as bandaging, dressing wounds, opening abscesses, extracting teeth and letting of blood. A second phase comprised “riding with the doctor”; that is, the student accompanied his preceptor on calls, observed and listened. On leaving the patient the significance of things seen and heard was explained, and the diagnosis and treatment justified. Toward the end of the pupillage more autonomy was permitted, including unaccompanied calls on convalescent or chronic patients. Nevertheless, except for negro patients, it was not considered proper for a student to enter the sickroom of an adolescent girl or woman; hence any knowledge of gynecology and obstetrics was restricted to book learning.

This preceptor-apprentice relationship was patterned after that which prevailed in Great Britain, early immigrant-physicians continuing, by sheer necessity in a sparsely populated and undeveloped land, the regimen that they themselves had experienced. For 200 years, more than ninety per cent of American physicians were educated under the preceptorial system. By the middle of the nineteenth century, more than half of the practitioners had still gained their medical training solely in this way. The value of such a system naturally depended on the competency of the preceptor, and his ability and zeal in imparting information.

The theory of the early medical schools in both Great Britain and this country was to provide a rapid review of the medical arts and sciences, and to supplement the previous, private instruction by whatever facilities a school might better afford. In the beginning there was no thought of this instruction superseding preceptorial training. Rather, it was precisely to remedy the inherent deficiencies in preceptorial instruction that the medical department of the University of Edinburgh was founded in 1726, and it was this popular school that served as the model after which the early medical

colleges of this country were patterned.

These first colonial colleges offered the degree of Bachelor of Medicine at the end of a single course of lectures. The degree of Doctor of Medicine followed one year (at King's) to seven years (at Harvard) later, when the same course had been repeated, a thesis submitted and an examination passed. On trial, however, the great majority of students did not return for the second course. Many of them lived in towns remote from the college, thus making attendance not only tedious, because of the difficulties of travel, but also expensive. Hence the Bachelor of Medicine degree was abandoned by all colleges between 1789 and 1813, whereupon the course was condensed into the shortest term possible (twelve weeks) in order to attract more students to attend, and to encourage more to repeat the course a second year in order to qualify for the superior degree. Most of the matriculants, nevertheless, began practice after the completion of one college term and without a degree, whereas many apprentices were satisfied with nothing more than the bare certificate from their preceptor.

The originally high entrance requirements of the Medical College of Philadelphia and of King's College were likewise abandoned toward the end of the eighteenth century; and in regard to a knowledge of ancient languages, these standards were scarcely again adopted — and then rarely enforced. The following statements from an early announcement were destined to sound alien to those who controlled medical pedagogy through most of the nineteenth century: "It is required that such students as have not taken a Degree in Arts, shall, before admission to a degree in Physic, satisfy the trustees and Professors of the College, concerning their knowledge of the *Latin tongue*, and on such branches of *Mathematics*, Natural and Experimental *Philosophy*, as shall be judged requisite to a *Medical Education*." Public examinations were conducted for the Bachelor's and Doctor's degree in Physic, and for the doctorate a thesis in Latin was required. In general, no one could dispute that "the utmost care is taken to render the degrees *real* marks of honor."

MEDICAL TRAINING IN THE REPUBLIC

During the War for Independence, the advancement of medical

education and science languished. The two recently-formed colleges were disrupted by the British occupations of Philadelphia and New York, and they suspended operation. When freedom had been gained and an independent government established, a new era began in which medical progress became reactivated; yet the results from institutional teaching were not immediately spectacular. By the end of the eighteenth century ten charters had been issued to medical colleges, but only four schools were still in operation. In this period of 35 years since the first medical faculty had been organized, only 257 individuals earned degrees (M.B. or M.D.), whereas probably five times that number had attended one course of lectures and become practitioners. The total yield of graduates from all schools averaged only about seven each year. This result indicates forcefully that institutional instruction was still far from becoming the popular route into clinical practice. To be sure, the War had disrupted a courageous start, yet far more important as an explanation was the coolness of the majority of medical practitioners toward this way of supplementing medical training.

By 1850 the number of medical colleges that had been organized totaled 43, of which 36 remained in active operation. Every large city had at least one school, as did every state in the Union. Even 100 years after the Revolution, when eighty schools had been founded, it could be said that they had all stemmed from the ambition and effort of individuals, rather than from any initiative on the part of college administrations or legislatures. Some statistics will illustrate certain conditions at several periods prior to the entry into the medical scene, in 1859, of the school that was to become associated after a time with Northwestern University:

<i>Year</i>	<i>Population</i>	<i>Schools operat- ing</i>	<i>Students attending</i>	<i>Diplomas granted</i>	<i>Ratio of dip- lomates to total students</i>	<i>Ratio of diplomates to population</i>
1810	7,240,000	5	650	100	1:6.5	1:72,400
1830	12,866,000	17	2,125	597	1:3.6	1:21,550
1850	23,192,000	36	4,500	1,300	1:3.5	1:17,840

The medical situation in the Fifties was still far from adequate in any respect. No standard of preliminary education, prerequisite to

entrance into a medical college, was maintained. Twenty of the 36 schools then operating were not so located that their students could profit by any bedside or hospital instruction. In fact, only nine of the 36 professed to insist on any hospital attendance as a requirement for graduation. Twenty-five schools demanded dissection, and this constituted the only laboratory work done. The sole set of didactic lectures scheduled five or six on each day, and the term ranged from less than sixteen weeks to six months in length, 26 schools adhering to the traditional term of sixteen weeks, or slightly more.

There were other fundamental shortcomings that depreciated the face value of the scholastic standards still further. Inept students could not be dropped, because information lacked as to their academic standing. The testing of competence was done only on those who wished to qualify for the doctoral diploma; such terminal examinations were only a brief quizzing on lecture material. The sixteen-week curriculum consisted largely of didactic clinical instruction, and few students gained even a superficial knowledge of anatomy, physiology or chemistry. The "second course" was an exact repetition of the first one. Matriculation books were kept open for late comers until the middle of the term, and full credit was given to those who left before three-fourths of the lectures had been delivered. Attendance after matriculation was not checked, and Nathan Smith Davis, the most respected critic of the era, wrote scathingly of those "who spend half their lecture hours in eating houses and places of amusement, or between the house of ill fame and the grog shop." The major graduation requirements consisted of time fulfillment, taken out of the apprenticeship years, and cursory oral questioning. The general degradation of standards can be attributed in part to the complete lack of national or state supervision of medical training. A contributory factor was the ease with which any group could get a proposed medical college incorporated, under state laws, without any guarantee of a suitable faculty, building or other facilities.

Originally each province in colonial America assumed the responsibility of controlling medical practice within its boundaries, but by 1815 this authority was delegated to whatever medical societies that had arisen in most of the young states. A correlated problem arose as the medical diploma gained acceptance in almost every state as sufficient evidence of qualification for practice. The

result was that the functions of teaching and licensing became automatically combined in the faculties of the medical schools. Students soon recognized the double value of a diploma, in that it saved a year over the alternative requirement of four years with a preceptor alone, followed by an examination by a board of censors of a state or county medical society. Hence the medical-college diploma straightway became the primary objective of their pursuit, and this circumstance led to the rapid multiplication of medical colleges, as already discussed. But, at best, the existing situation was open to severe criticism, since medical faculties were not disinterested parties. This was because of the graduation-fee that was collected, and because of their financial stake in maintaining and increasing the popularity of a school through its reputation for yielding a successful graduate-grist, automatically licensed. Additionally, the brief oral examination was criticized as being superficial, based on memory recall, and not designed to test the clinical competence of a prospective practitioner.

The system of medical colleges, originating as a spontaneous outgrowth of the profession itself in an attempt to supply the needs of a rapidly expanding populace, found its constituent schools engaged in an unrestricted competition that turned their activities into two paths, divergent and conflicting. One trend was to increase the size of the faculty to keep pace with advancing medical sciences, to strengthen the teaching personnel and to improve instructional aids and facilities. These praiseworthy efforts were offset by a shortening of the original annual term from 24 to 16 and finally to 12 weeks (partly through pressure from physicians who favored "practical" apprenticeships), the abandoning of prerequisites for admission, the failure to arrange the increasing branches of medical science into a logical sequence, and the limitation of the terminal examination to a few questions.

Not only did the sharp competition between schools tend to degrade standards as an inducement to attract students, but also it encouraged prospective students, many with limited financial resources or totally dependent on earning their way, to go where a degree (and its automatic licensing power) could be gained quickest and cheapest. And this, unfortunately, was without regard to the quality of the facilities offered for scientific and practical instruction. As the eminent Nathan S. Davis remarked bitterly: "The medical college in a country village, remote from all facilities . . .

can issue its graduates just as large a diploma, couched in just as unintelligible Latin and having much the same influence with the people. . . ." So it was that matriculants of twenty of the 36 schools operating midway in the nineteenth century found themselves in communities that were remote from hospital or dispensary and handicapped with other inadequacies, including subjects for anatomical dissection.

A further result of the rise of medical schools with cheapened standards was reflected in a complete change in the relations of the private preceptor and his pupil. The system of indenture to a master, with long and serious training, all but ceased as the colleges grew in number and improved communications made travel to them relatively easy. The relationship became a nominal one of sponsorship, access to books and certification of fulfillment of the time requirement. Thus it came about that the medical course at a school, instead of being a review and supplement to a protracted period of private study, became the main source of training at the very time it had lessened its values. Yet in spite of all changes that might be thought to make the medical degree the widely accepted path to medical practice, Davis concluded (on the basis of observation and inquiry) that in the western states at about 1850 "scarcely one-half of the whole number of practitioners have ever been examined or licensed, either by colleges or societies, and very many of them have never attended a lecture in any medical institution." By the beginning of the Civil War only half of the practitioners in the nation had ever attended a medical college; and only one out of five held a medical degree, either earned or honorary.

From preceding paragraphs it is clear that serious deficiencies existed in the system of education offered by all medical colleges in the years prior to 1859, presently being reviewed. Wholly disregarded was the blueprint for a rational curriculum, as set forth by John Morgan before the American Revolution. The multiple defects and incongruities were recognized by perceptive individuals (notably Daniel Drake and Nathan S. Davis) and by at least one state society (Ohio; 1838). Their persistence had led to definite recommendations for reform by the American Medical Association in the years beginning with its founding in 1847. Indeed, the superficiality and degradation of medical practice in this country were attributed to the imperfect and restricted courses of the medical colleges and to their low standards of graduation. It would

seem, however, that an indictment of the better medical schools should not be aimed at their actual deterioration (other than that contingent on the shortened curriculum) so much as at their failure to adapt to changing conditions and advancing knowledge.

The medical course at first was an innovation, designed as a brief review or adjunct to matters learned in the period of indenture under a preceptor. Later, two factors came in that altered the initial reasonableness of this arrangement. For one thing, the role of the preceptor steadily declined as the medical colleges gained in popularity as the shorter and surer path to licensure. Hence the college became increasingly the source of primary instruction, and its three-to four-month term, which had been made as brief as possible in order not to discourage students from taking the review, became plainly inadequate for the real needs. In the second place, the field of medical science had expanded markedly, with new departments demanding attention that exceeded in extent and equaled in importance the branches constituting the original rudiments of medical education. Obstetrics was emerging from the hands of unlettered midwives; surgery was freeing itself from being an appendage to anatomy; histology, physiology and organic chemistry were advancing far beyond their original scope. To attempt to cover adequately by concurrent lectures the entire field of medicine, in both basic sciences and clinical application, in three to four months became pedagogically absurd. Actually, it was impossible in execution, and in most instances lecture courses were left unfinished wherever they might be when the time ran out.

Among other necessary comments on the period under consideration it should be said that by 1850 medical societies had increased sufficiently so that at the organizing session of the American Medical Association, in 1847, the delegates included representatives from more than forty medical societies, both state and county. Yet doubt was expressed that any state offered reasonably adequate opportunities for social and scientific contacts among its physicians. The American Medical Association owes its origin to widespread concern over the existing shortcomings in medical education, and a primary consideration of its early conventions was the improvement of premedical preparation and the medical curriculum. To this end the Association repeatedly passed resolutions strongly recommending the following reforms: a standard of preparatory education; more teachers and longer annual terms in medical colleges;

a division of the subjects taught into separate courses to be taken in successive years; an extension of the curriculum to include applied clinical instruction in hospitals; and higher requirements for gaining the degree of doctor of medicine.

These several recommendations were not adopted by medical colleges because, as Davis caustically wrote, "while the faculty of each school frankly acknowledges the defects in adaptation to the present enlarged field of medical science and art, and the urgent needs of the profession, each waits for the other to move first, lest by placing higher requirements upon the time and resources of the student it should cause its own halls to be deserted for those of its less exacting neighbor." Finally it should be recorded that the dissemination of medical information advanced considerably in the half century since the first journal began publication in 1797. Periodicals, from weeklies to quarterlies, totaled eighteen in 1850, but they were mostly controlled by the faculties of medical colleges, and naturally expressed the views of local groups rather than speaking for the profession at large.

From the preceding expositions it can be seen that medical education in America underwent three phases of development. The first, confined solely to preceptorial training, lasted 145 years; that is, until the first medical college was founded. The second period was institutional instruction, as a supplement to apprenticeship with a preceptor. For 42 years (1765-1807) such medical education was in every instance connected with a college of liberal arts. Directly afterward, a few medical colleges arose under the auspices of state or district medical societies, but not until 1818 did the first wholly independent medical college appear. During this entire second phase, lasting 100 years or more, the role of the medical college strengthened progressively, while that of the preceptor weakened until it became a nominal sponsorship, in which the student might register with a physician whom he never saw again. Meanwhile progress in biology, chemistry and physics had begun to endow the former empirical practice of medicine with a somewhat scientific basis, both diagnostic and remedial. Although the medical schools now took over all of the widened responsibilities, they did not recognize this progress and adjust to it for a half century.

The third period of development began in the late decades of the nineteenth century, when even the token role of the preceptor was abandoned as a recognized feature in medical education, and the

medical college became the sole source of instruction. One important factor, responsible for the early, limited appeal of an unshared course of institutional instruction, was a lack of agreement on the relative value of preceptorial training as opposed to institutional teaching. Educators connected with colleges of liberal arts considered scientific medicine, as presented in formal lectures, to be primary in importance and believed that a half of each year spent with the preceptor was more than adequate for what he could supply. Contrary in opinion were the practitioners in general, who maintained that the art or practical side of medicine, as inculcated by the preceptor, was paramount, whereas the college lectures were only theoretical and supplemental.

When physicians first came into control of medical schools, separate from arts colleges, state educational organizations or medical societies, they got rid of three features of which they disapproved; first, a prolonged premedical education; second, the long term of lectures; and third, the offering of two medical degrees (baccalaureate and doctoral). Hence, in independent colleges under the guidance of physicians, no standard of preliminary education was stipulated, the college term was shortened first to four and then to three months, and the total time-requirement at college was reduced from three terms to two, provided a preliminary year had been spent with a preceptor. These measures served to attract more students, and competition compelled the schools connected with colleges of arts to lower their standards accordingly. For these reasons the year 1807, when the Medical Society of the County of New York obtained the first charter for a "separate" medical college, marks the beginning of a decline in the quality of medical education that was destined to continue for decades. As will be seen in subsequent chapters, an independent college, which secondarily associated itself with Northwestern University, was destined to have the honor of instituting important reforms that went far toward exemplifying how medical education could be rescued from its low estate. The assumption of this role as innovator and leader in sorely needed reforms was a bold move, without parallel in the history of American medical education.

EARLY MEDICAL COLLEGES

The essential framework of all medical colleges and their pattern of operation changed but little in the century from their inception until the time of the Civil War, and even after. These colleges were basically private enterprises, run by a small group of physicians, and were virtually autonomous even when operating nominally as the medical department of a liberal arts college. The chartered corporation commonly acted as a joint stock company, in which shares of ownership might be assigned to the several professorial chairs, and had to be purchased by the occupant; on the other hand, the title to the school might be held by one or two resident "proprietors," whereas the rest of the faculty was seasonal, being assembled only for the actual session. After paying running expenses including, perhaps, amortization of a building debt, dividends to the eligible, participating faculty were declared on the basis of lecture hours delivered. The converse picture, however, was assessments in the case of an operating deficit.

The physical plant

The medical quarters might be an adapted college hall, a private residence or rooms in a business building. Later, if the venture prospered, a medical "edifice" would be erected, designed better to meet its purposes. Since instruction was almost wholly didactic, the physical requirements were modest: one or two lecture halls (preferably of the amphitheater type), a dissecting room and a museum were primary; other variable features were a library, chemical laboratory and dispensary.

Dissection was the only form of individual laboratory work done by students; it was, however, designated as "practical anatomy," whereas the term "laboratory" until far into the nineteenth century referred to the chemical laboratory alone. Luxurious accessories to dissection, serving as safeguards against raids by constables or aroused townsfolk, were secret concealment places for cadavers and escape stairs for the ambushed living; even the domed cupola, reached only by a ladder, might receive bodies hastily hoisted

through an inconspicuous trap door. The museum contained the "means of illustration," which included: preserved specimens, both human and botanical; charts; colored plates; surgical instruments; and drug samples. The various exhibits were, at least initially, the property of individual professors, and those who taught in more than one college would transport their teaching equipment from place to place. Instead of a chemical laboratory, there often was a mere cabinet for apparatus used in demonstration at lectures in chemistry and elementary physics. The so-called library was apt to be a miscellaneous assortment for textbooks located in the faculty room, since the books belonged to the several professors. A dispensary might be included, especially in urban colleges where out-patients were available.

The faculty

The roster comprised physicians, many of whom would adapt themselves to whatever vacancy or reorganization of personnel might occur. A common exception was a lawyer who taught medical jurisprudence, and sometimes chemistry was in nonmedical hands as well. Over a long period the total field of medicine was considered to consist of seven parts, so that this number of professors made a "complete" faculty. Of these professorships, the Principles and Practice of Medicine, which contained many subjects now considered as independent fields, was held to be the most important, and the possessor of this chair was regarded, in public esteem, as the leader of the group.

Notwithstanding this "ideal" organization, by force of necessity the early medical schools began with extremely limited faculties; Dartmouth had only one teacher, the College of Philadelphia had two, and Harvard three. The combining of separate disciplines in one chair was common, as the first four schools to be founded will illustrate. On the union of the College of Philadelphia with the post-war school of the University of Pennsylvania, the faculty still contained but five professorships, Dr. Shippen serving in a composite chair of anatomy, surgery and midwifery. At King's College (later Columbia University) Dr. Middleton had five colleagues, yet held the chair of physiology and pathology. Harvard, beginning with a

faculty of three, combined anatomy with surgery, and chemistry with materia medica. For the first decade of its existence the medical faculty of Dartmouth College consisted of one professor, the illustrious Nathan Smith, who taught all subjects with distinction. Even as late as 1832 there were schools with three, four and five professors, while in 1850 the spread ranged from three to nine.

As more medical schools arose with the years, the weaker ones (and especially those known as "country colleges") found that by offering their lecture sessions at seasons of the year other than the regular winter term they could operate advantageously. Usually one professor, or at most two, then constituted the resident staff, whereas the others were recruited from urban medical colleges or from peripatetic professors who shifted seasonally from school to school. One such teacher is known to have given seventy courses of instruction in 38 years at nine different medical colleges; during his busiest period he taught 49 courses in seventeen years. These conditions encouraged the migration of some medical students, since they could attend the required two sessions, necessary for a degree, in one year's time or even less. Moreover, the repetitive plan of teaching, whereby students listened to the same lectures on all subjects each year, naturally encouraged some student-migration for the purpose of obtaining instruction from another group of teachers, with some change of content.

In early medical colleges, and even far into the nineteenth century, teachers often shifted from one course to another to suit their own convenience and the exigencies of the moment. This versatility apparently meant that the professors leaned heavily on the cherished lecture notes of their own student days. At the medical college that subsequently became a part of Northwestern University, Dr. Nathan Smith Davis prided himself on being able to lecture from any chair. Also Dr. John H. Hollister, during his tenure on the faculty, held seven different titles: he taught, among other things, all of the basic sciences except chemistry.

The curriculum

For a century or more after the War for Independence, institutional medical education in America differed in important respects

from that in all other fields of learning. From the common schools, through colleges of liberal arts, and into seminaries of theology and law, all studies were traditionally graded into progressive series that occupied successive terms and years. Correspondingly, students were assigned to appropriate classes; proficiency was tested by examinations, grades were recorded and promotions to higher classes were awarded. On the other hand, medical colleges midway in the nineteenth century still had no educational requirement for entrance; students were not segregated into separate classes for instruction, since the subjects were not graded. Hence teachers spoke of the class (in the singular), because all enrolled students attended the single set of lectures regardless of their status as beginners or previous matriculants; college catalogues listed all students alphabetically without regard to seniority; schedules listed lectures by the speaker's name, not by subject, and students spoke of taking or passing Dr. X, rather than his subject; attendance was not checked; examinations in course were not given; and students were not dismissed for scholastic reasons, since there were no evaluations of performance and, of course, no recorded grades.

The subject matter of the curriculum was divided in accordance with tradition, which considered the field of medicine as consisting of seven parts, although some variation existed in itemizing the actual subdivisions. An average handling would apportion the several subjects as follows: anatomy; chemistry; physiology; materia medica; physic (medicine); surgery; and midwifery. Pathology and therapeutics were often regarded as belonging to physic, as were regularly physical diagnosis, pediatrics, medical gynecology, dermatology, neurology and psychiatry. The diseases of women and children were commonly combined with midwifery; surgery, prior to the discovery of ether-anesthesia (1846), was a limited field of practice. Except for gross anatomy, the basic preclinical sciences bore but slight resemblance to their modern counterparts; bacteriology was wholly unknown. Adjunct and minor in nature was medical jurisprudence which might, however, be joined along with therapeutics to materia medica. Pathology was commonly linked with physiology. The teacher of each subject-field was given the title of Professor. Subordinate titles were not used except for the person in charge of dissection and securing cadavers, who was designated as Demonstrator.

Teaching methods

Subjects were taught by formal lectures, and students wearied of the constant routine of five or six each day; in fact, the class might become quite thin by defections before the end of the term. Eloquence and oratorical style seem to have been esteemed by many students equally with clarity, and professors with such attainments were held in high regard. Limited dissection constituted the only opportunity for laboratory work, but it was not required by any college until well into the nineteenth century. When done, it was completed often in a few days, both because embalming was not employed and because the cadaver had been obtained illegally and detection was feared. Legislative action, legalizing the procural of material for human dissection did not originate until 1831 (Massachusetts) and had made little further progress outside of New England by midcentury. Elementary physics (often termed natural philosophy) was taught as a part of the chemistry course. Toxicology was given considerable attention, as was pharmacy; students were particularly eager to acquire the favorite prescriptions given in clinical lectures. A few schools, or teachers, possessed a microscope, but it was put to little or no use in the teaching of either histology or pathology.

Patients were not used to any degree in clinical teaching through the early part of the nineteenth century; this, as a phase of practical instruction, was left to the preceptor. Colleges that boasted of their clinical advantages often refrained from requiring attendance on them through fear of losing prospective students to other schools. A few urban colleges offered a private clinical course in hospitals as a supplement to the regular session, and for an additional fee.

The weak points in a short repetitive program, under which a student listened to the same set of lectures at two sessions, are obvious. Until far into the nineteenth century the student heard much, saw little and did nothing. Arguments in favor of such a system were that by repetition the subjects became fixed in mind better, and that many things became clearer at a second hearing because in the interval the student had seen with his preceptor some of the ailments being described.

Calendar and announcements

In 1825 the shortened annual session still remained fixed at twelve weeks, and until the time of the Civil War it was most commonly only sixteen weeks. The term of the twelve-week courses in urban medical colleges began in November and ran without vacation until February. This calendar, avoiding seed time and harvest, was arranged for a period when farm work was least exacting. For this reason such schools were called "winter colleges." Most of the rural medical colleges, dependent on visiting or migratory professors to round out a faculty, had to adapt to other seasons; spring, summer or autumn sessions were all utilized as they best fitted local conditions. The scholastic term started with a "public introductory," or opening address on historical, advisory, inspirational or technical matters, and ended with a "valedictory" of felicitations to those about to graduate. Florid oratory was apparently expected and appreciated; the occasions gave opportunity to a professional weakness among pedagogues toward offering sage advice.

Informational matter concerning a college was issued in an Annual Announcement which might be widely distributed. The competition for students became so acute that many schools, engaged in a veritable struggle for existence, made unblushing claims of allegedly superior advantages and described modest equipment in grandiose terms. The rivalry often led to active recruiting by the faculty and their agents; faculty members living in a region other than the college location were obligated to seek out and deliver a quota of matriculants, while their agents commonly were students earning a remission of fees by soliciting and delivering these new recruits. Sharp criticism was directed against colleges that, because of small enrollments, either failed to include in their announcement a registry of students or printed names without addresses. All announcements were deficient through failing to describe the subject-content of the various lecture courses listed. The graduation exercises were public events, often attended by a surprising turnout of townsfolk. Even in large cities they served to satisfy a craving for entertainment that not even the reading of sample student-theses could dull.

Fees and credentials

The payment of tuition was managed differently than in other educational institutions. For over fifty years, students enrolled in each professor's course by paying him a fee (commonly \$15) and receiving a printed and signed annual card. Some forgeries had brought on a trend toward the use of ornamental type and other embellishments, or even of engraved plates. Because these cards were examined by an "usher" stationed at the entrance of the lecture room at the early part of a session, they came to be called "tickets." About the year 1825, but much later in some localities, a change took place, for several reasons, whereby all fees were paid to a faculty treasurer who issued a matriculation or "general ticket" which admitted to all lectures. At the end of the session this ticket was exchanged for a set of individual tickets covering all of the teachers (*cf.* pp. 58, 59). These tickets then constituted evidence of attendance throughout the session and could be used like a modern transcript. This newer handling prevented the earlier abuse of students withdrawing with acceptable credentials before the end of a session. The individual tickets were highly prized, especially by those who did not remain to secure a diploma, since they comprised evidence to be shown censors when applying for a license to practice.

A matriculation fee of \$5 and a graduation fee of \$20 were customary. The latter was returnable if the candidate failed to pass his oral examination, but this was not a common occurrence since these two fees were designed to carry the running expenses of the college, whereas lecture fees were perquisites of the eligible, individual professors. A dissection fee of \$5-\$10 went to the demonstrator. In early times the student was expected to procure his own dissection material, perhaps aided by the demonstrator. Later, with much more demand, there arose a trade of "resurrectionists," whose price for an illicit body ranged from \$10-\$25. Some or all fees were commonly met by offering the college an endorsed note, bearing interest, collectible later and even after the student engaged in practice. These were assigned equably to individual professors, and the collection of payment was then their private concern. The term "tuition" was not used until late in the nineteenth century; instead, the phrase employed was "the cost of tickets" or "fees."

The students

The student body was a motley group, representing a fair cross-section of the populace. Anyone interested could have a try at medicine, and could become a practitioner without encountering more than some regional hindrance. The medical school presented no barrier to matriculation or continuing in course. A medical diploma or a license from a state or local medical society was not overly difficult of attainment; in default of these, practice could be entered upon in many localities, anyway. Hence students ranged from those with excellent preparation and scholarly ideals down to near illiterates whose chief ambition was to acquire a choice lot of prescriptions. Although it is said that, by the middle of the nineteenth century, more than half of the students had helped earn their way by teaching school, this qualification did not guarantee more than moderate literacy.

In fact, at this very time the American Medical Association concluded that both Law and Theology were acquiring better-educated students than was Medicine. Also Daniel Drake, the leading contemporary proponent of better medical education, was highly critical of the quality of medical students in general. He wrote: "Medical students were being recruited from those who were too weak to labor on a farm or in a workshop; or addicted to study, but too stupid for the Bar; or too immoral for the pulpit."

Since the majority of medical students had not received higher schooling, the set of formal lectures was their first contact with this method of instruction. These, which were the totality of instruction, seemingly impressed the students greatly and, to a degree, unduly. Possibly the final ratings of the individual professors as good or poor lecturers were really sound after a tyro had listened to the same discourses in successive years!

Educational requirements

Except for the early years, minimal standards for preliminary education were scarcely ever published in Annual Announcements, and still more rarely were they enforced until after the Civil War. In

general, any applicant could gain ready admission to the medical college of his choice. Even a common school education had been deemed too much to stipulate. Once matriculated, a fitness for medical studies was not tested at any time during the course.

If the student chose to seek a degree, then certain requirements for graduation were imposed, but these were not fearsome. The terms were essentially uniform throughout the country: 21 years of age; a certificate of good moral character; evidence of having studied medicine with some general practitioner for three years; attendance during that period on two full courses of lectures in a regularly incorporated medical school; the presentation of a thesis on some medical subject (and the possibility of having to defend its content); and a satisfactory oral examination, at the completion of these requirements. In schools with large enrollments, the examination must have been given to groups of candidates. Actually few failed, since this would have been unsound business both by the guaranteed return of deposited fees and as a deterrent to future matriculations through getting a "hard" reputation.

The requirement of a thesis prevailed in all colleges, and did not begin to disappear until about 1880. Until after the Civil War the thesis, which the rules commonly specified to be presented in the candidate's own handwriting, might constitute the only presumptive evidence of literacy that the faculty ever had the opportunity to review. Usually the ability to read and write was not verified either before matriculation or afterwards, except that matriculants ordinarily were required to sign their names in an official register. Davis, in exasperation, wrote: "In the almost universal neglect of a proper preliminary education we find hundreds who, while they carry a *Latin* diploma in their pockets, cannot write six lines in accordance with the rules of *English* grammar."

Theses, examinations and diplomas

The thesis varied in length from some 3,000 words upward. Faulty English frequently betrayed a deficiency in preliminary general education. Most of the theses were perfunctory compilations from textbooks that could have been assembled in a short time, like an undergraduate term paper. A few were meritorious, either showing

evidence of more extensive reading and thought, or incorporating original observations dealing with a series of clinical cases. The range of subjects was narrow and largely on clinical matters; such topics as malaria, diphtheria and pulmonary tuberculosis were favorites, often recurring. Theses dealing with any of the basic sciences, even pathology, were rare. It is revealing that the "writing of a composition" was the most dreaded task in the life of a medical student, and the final abolishment of this prerequisite to a diploma was hailed with joy by every student body.

In all early medical colleges the oral examination at the end of the second, repeated year was, like the thesis, a requirement for graduation. This was the only test of proficiency during the total period of enrollment, but it could not have been thorough when the annual candidates of a popular college might number up to 200, or even more. The "green room" was a name commonly associated with the examination site. This term was borrowed from the off-stage waiting room for actors readying for entry; it was traditionally painted a subdued green color. As applied to the medical examination, the candidate might be placed in an adjoining room, or at least be screened from the faculty. The rationale of this arrangement was that the candidate then would not be seen, thereby lessening the chance of favoritism or prejudice on the part of examiners.

The regular diploma, earned in course, was one of three kinds issued. Reputable physicians who held a medical degree from another institution (often an inferior, distant or defunct school) could apply for an *ad eundem* degree. Beyond the payment of the diploma fee and passing an examination, it would seem that applicants prior to the Civil War, at least, did nothing else to gain this type of M.D. degree. Honorary medical degrees were also granted. Even by the end of the eighteenth century, the eight medical colleges had conferred 321 medical degrees, of which 46 were honorary. Only later than the period presently under review, were the medical colleges admonished by the American Medical College Association to make these diplomas show clearly that they were other than those earned in the ordinary way. Colleges of Arts did not customarily charge for any honorary degrees they conferred, although a donation was commonly expected. On the contrary, medical colleges usually charged the regular diploma fee for an honorary medical degree, but in some it was set as high as \$100 and this practice then clearly qualified as a commercial enterprise.

Inadequacies recognized

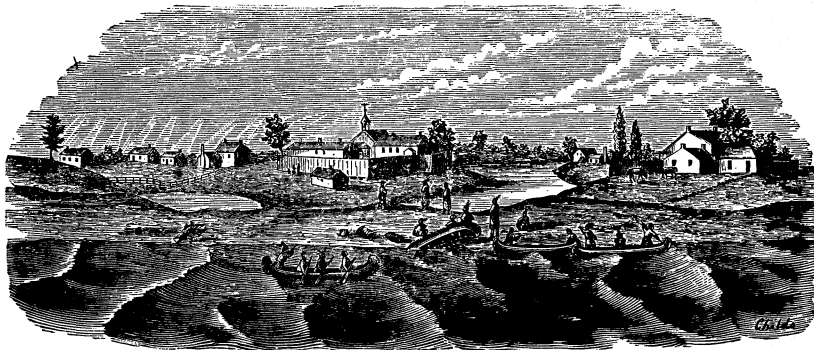
The American Medical Association established a Committee on Medical Education in 1847, charging it to report on the condition of medical instruction and graduation requirements in the United States, on licensure standards, and on allied pertinent matters. The Committee rendered an unfavorable comparison with the standards and procedures in European medical colleges, and with similar practices within other learned professions in America. It recommended fewer and better medical schools, strictly chartered. It advocated higher standards of admission, curriculum, examination and licensure. It deplored purely descriptive pedagogy in the absence of affiliated hospital instruction. The outbreak of the Civil War delayed any immediate, widespread reform, but one school (soon Northwestern) was destined to appear, just before that holocaust, that would lead the way toward multiple better standards and practices. Unfortunately other medical colleges were slow in adopting similar reforms, and decades passed before these innovations became standard.

LATER MEDICAL COLLEGES

Earlier medical schools in the United States were largely independent enterprises, even though some had the nominal sponsorship of a college or university. Even as late as 1885 only one in four schools had ever been a part of a liberal arts institution of any kind. It was not until the beginning of the present century that firm ownership and control by universities began to be accepted as the ideal arrangement. The British and French system of medical education came to be dominated by hospital-managed schools; the German system centered in the universities. Medical development in the United States chose to fuse the two methods, combining the resources and responsibilities of both university and hospital. This ideal solution is still imperfectly met since it requires a university-owned hospital with a full-time, salaried medical staff.

EARLY CHICAGO AND ITS SCHOOLS

The Chicago region was not surely known to white men until Joliet and Marquette traversed the Chicago Portage, between the "Checaugou and Des Plaines Rivers" in 1673. The first habitation was a trader's cabin, built on the north side of the Chicago River and near its mouth, about 1777; it later became famous as the "John Kinzie cabin." In 1803, Fort Dearborn was built on the south

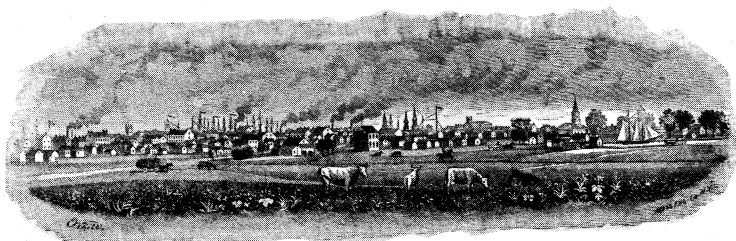


Chicago, in 1831, when the population was 60 (Guyer). At that time the stem of the Chicago River turned south before opening into Lake Michigan. The group of enclosed buildings comprised Fort Dearborn.

side of the river, and garrisoned; at this time the civil community consisted of four cabins. By 1812 there were some ten or more cabins and about forty white civilian inhabitants. This population did not increase appreciably in the next two decades, until shortly before 1833, when the community acquired 350 inhabitants and so was able to qualify as a town by having "150 or more persons inhabiting an area one mile square." The next three years witnessed an unprecedented growth, the numbers doubling each eight months. The wave of immigration, largely from the northeastern states, began in 1833 and the boom continued until the panic of 1837, when the population neared 4000. At this time, less than four years after becoming a town, an application for a city charter was approved by the legislature. Slowly recovering from the depression, the new city could boast of only 4,417 souls in 1840; but the census gave 29,963 in 1850, and 109,280 in 1860 (when the new medical school that was to become a part of Northwestern University was finishing its first term).

For more than ten years after Chicago became a city, the sanitary conditions of Chicago were primitive to the extreme. There was

neither a civic water supply nor a serviceable sewerage system. Even the streets and alleys were poorly drained, both drainage and sewage collecting in gutters and under the board sidewalks. Streets were unpaved and, according to the season, became beds of dust or canals of deep mud; for weeks, in the spring, portions of streets were impassable, and wagons could be seen stuck in every block. Manure, slops, garbage and other filth were dumped in the public alleys. Domestic animals roamed at large. A reputation for unhealthfulness gained acceptance and persisted. In common with other pioneer communities the prevalent diseases were pneumonia, malaria, typhoid fever, dysentery and other digestive ailments. Even an epidemic of cholera had struck in 1832, and this plague was destined to recur for several decades. Smallpox was first experienced in 1848 and thereafter continued constantly, with periodic flare-ups, for fifty years.



Chicago, already a city of 12,000 in 1845 (Norris).

It was not until 1849-50 that plank roads were laid in the central region surrounding Madison and Clark Streets. By contrast, already in 1848 the Illinois and Michigan Canal had connected the Great Lakes with the Mississippi, the first train had run into the city, and a telegraph line made possible communication with the outside world. By 1850 the daily press boasted that "The amount of matter handled in the Chicago Post Office very considerably exceeds a *ton's* weight each day, and hence some idea may be formed of our greatness as a people." So it was that the pioneer citizenry presently found itself immersed in an expanding population whose growth was truly phenomenal. The business of the city likewise followed a geometric rate of increase; exports in the 1840-50 decade augmented 2,000 times.

Under such yeasty conditions it is not particularly astonishing that public education was supported in a laggard manner, because

this was also general in frontier towns. Nevertheless, it was a somewhat curious display of apathy, since the settlers in the early years were from the northern seaboard states, and the New England penchant for schools and schooling had become a traditionally dominant urge, unique in the country. Midway between town- and city status, the Chicago community created its first public school (1835), whereas a public high school had to wait until after the mid-century. On the other hand, a private school had existed since 1830, and in 1844 there was opened an "English and Classical School" offering courses in art, French, Latin, Greek, higher English and mathematics. Despite parental indifference to enforcing regular school attendance, or even to electing trustees so that the schools might run (as in 1837), in 1840 nine per cent of the population was in schools (compared to Indianapolis, three per cent; Detroit, less than one per cent). Moreover, the 1840 census found no white person over twenty years who could not read or write. Libraries, however, were still private or open to the general public by fee. In 1839 began the first newspaper, the *Chicago Democrat*.

Apart from military surgeons at the Fort, the first civilian physician of the community is recorded in 1832, whereas a town census of 1835 estimated 25 (in a town of 3,265 inhabitants), a number that reflects the appeal of the then prevailing boom and the fact that the primary intent of most of the physicians was to improve personal fortune through agriculture and land speculation. Some did not practice medicine at all, and those who did set up a practice usually carried on some supplementary occupation. This number of physicians failed to increase during the depression following the panic of 1837; in fact, the 1846 directory listed but 24 at a time when the population had resumed its upward trend and had reached more than 14,000. As men of relatively superior education, they were held in social esteem, and some entered into the civic life of the community.

The years 1835-44 marked a second period of medical progress, highlighted by attempts to reduce existing factions and promote cooperative interchange by the organization of medical societies. Yet both on a local and regional level the societies, beginning in 1836, were for a time abortive or short-lived. It would seem that they exhausted their energy in preparing an imposing constitution and set of by-laws. A third period dates from 1843, when the opening of a medical college made Chicago a recognized center for medical

training. In the same year the first medical journal (the *Illinois Medical and Surgical Journal*) came into being, and the medical upsurge is reflected in the inauguration, in 1850, of the earliest medical societies to achieve vitality and to persist; they were the Chicago Medical Society and the Illinois State Medical Society. Also, in 1850, the first significant hospital (Mercy) was making a start.

It is an interesting commentary on early Chicago that both a private school beyond the secondary level and a medical college were launched before there was a municipal high school. The ambitious Dr. Daniel Brainard was the chief promoter in obtaining a charter for a medical college which was named for the deceased Dr. Benjamin Rush of Philadelphia, the most influential clinician of his time, and a signer of the Declaration of Independence. Apparently Dr. Brainard was not overly enthusiastic about this name, given in too sanguine hopes of financial assistance from heirs; at least, he twice invented another name for the college when he appeared on foreign scientific programs.

The charter of Rush Medical College (1837) was the first one granted by Illinois to any educational institution, and it antedated by a few days the obtaining of a city charter by Chicago. A contemporary newspaper reported that this college was to be "the first institution of its kind in Illinois, or indeed west of Cincinnati and Lexington, Kentucky." But this was true in corporate existence only. Owing to the financial crises brought on by the panic of 1837, the new institution was not destined to receive students for nearly seven years. Meanwhile other medical schools had sprung up at La Porte, Indiana, and at St. Charles and Jacksonville, Illinois; in fact, it was the establishment of these colleges that forced Rush Medical College to open sooner than was planned. Four professors began the first course of lectures on December 4, 1843. Twenty-two students were in attendance, and one qualified for the Doctor of Medicine degree at the end of the term. Thirteen years later, shortly before the foundation of the future Northwestern Medical School, there were 100 matriculants and 36 who earned the medical degree. A free dispensary, or college clinic, was early available, and in 1846 a library of about 600 volumes had been assembled. In 1850 two small hospitals came to be used for clinical teaching.

It is not necessary, for present purposes, to trace further the history of this college. Strong in teaching personnel, Rush was

laggard in pedagogical advances; its contribution to the modernizing of medical education was negative in nature. That is, three of the active faculty, and two others recently resigned, having become thoroughly dissatisfied with the antagonism and obstructionism of President Brainard to admittedly needed reforms, constituted the nucleus of the faculty of a new school that would revise the medical curriculum and presently associate with Northwestern University. In his opening address Dr. Brainard prophesied: "We believe the school we this day open is destined to rank among the permanent institutions of the State. It will pass in time into other and better hands; it will live on, identified with the interests of a great and prosperous city." To the regret of many, this high hope seemed shattered when an unhappy affiliation with the University of Chicago ended in abandonment after nearly 100 years of operation. But, subsequent to three decades of dormancy, a new medical school has arisen and reclaimed the historic name.

II

The Birth of Reform in Medical Education

(1859)

During the nineteenth century more than 400 medical colleges sprang into existence in the United States, and during the last half of the century this spawning was especially prolific. Illinois, with a total of 39 colleges, stood intermediate between Indiana (27) and Missouri (42). Most of these schools were opportunist-attempts by small groups of physicians to gain prestige, money or both. Some were honest but ill-advised adventures because of inferior locations, facilities and personnel; others were frankly commercial enterprises, ranging down to overt diploma mills. A select few combined high ideals with a competent faculty and adequate clinical facilities. Those who sought to launch the school that was to become a part of Northwestern University added to the essential factors, just mentioned, another feature of paramount importance and new to this country; this was to put into operation a different plan of instruction than that long in vogue. It was destined to become adopted, to rescue medical pedagogy from self-shackled restraints and to elevate it into the company of accepted pedagogical theory and practice existing in other branches of education.

Five of the seven principal founders of the proposed, new school not only had received their training in contemporary medical colleges, but also were either active or recent members of the faculty of Rush Medical College, already in operation for sixteen years and organized along the standard pattern of the time. In that College there were no prescribed stipulations as to previous formal schooling, the annual term was sixteen weeks, the faculty had consisted of four to seven teachers and, of course, all subjects were taught simul-

taneously to beginners and second-year students alike. Its original requirements for the degree of Doctor of Medicine, left essentially unchanged for decades, were as follows: "Three years of study with a respectable physician; [in this period] two [identical] courses of lectures, the last in this school (two years of practice to be accepted in lieu of one course); the candidate to be twenty-one years old, to have a good moral character, to present a thesis on some medical subject, of his own composition and in his own handwriting, and to pass an examination in all branches." In the third Annual Announcement a dissecting fee of \$5.00 was listed along with the revealing statement that "This is optional with the student to take or decline. . . ." All such stipulations, as has been noted in the previous chapter, were quite inferior in important respects to those adopted by the earliest medical colleges in the Colonies. The subsequent relaxation of standards had been a concession to expediency and, as new schools sprang into existence, sharp competition supplied a practical deterrent to the adoption of higher requirements by any of them.

THE MEDICAL DEPARTMENT OF LIND UNIVERSITY: 1859-64

It so happened that in the faculty of Rush Medical College there were some who were dissatisfied with the traditional medical curriculum used throughout the United States. Chief among these dissidents was Dr. Nathan Smith Davis, Professor of Medicine and Secretary of the Faculty, who for fifteen years in New York and Chicago had continually advocated the improvement of medical schools by elevating their standards. Specifically they were to require an adequate preliminary education for admission, institute longer annual courses of instruction, enlarge the faculty, grade the studies into three different annual courses, and make dissection and hospital clinical instruction a condition for graduation.

In 1857 these matters had reached a stage of deliberation where, through the advocacy chiefly of Professors Davis and Byford, a plan for a new curriculum was devised. This called for an extension of the annual term, arranging the studies into two sequential courses, and dividing the students into Junior and Senior classes.

Such a revised program was voted upon informally by the Rush Faculty and, it is recorded, received unanimous approval. Yet the imperious and autocratic President, who knew only how to command, and his Trustees, both admitting the propriety of the plan but fearing a loss of patronage from the adoption of higher standards, overrode this sentiment and were unwilling to commit the school to any such hazardous departure from the stereotyped pattern.

This situation had an important bearing on the development of a second school in Chicago, because it became plain that under proper conditions certain members of the Rush faculty, including Davis who matched the President in uncompromising determination and mutual incompatibility, would be sympathetic toward engaging in a promising adventure into a pioneering type of medical education. Dr. E. C. Dudley, a long-time member of the Medical Faculty, in his biography, *The Medicine Man*, wrote somewhat cryptically of how he had frequently heard Davis, Andrews and Johnson tell of "the casual meeting on the Rush Street Bridge when they initiated the idea of a radical departure in American medical education."

At this time Lind University, located at Lake Forest and later to become Lake Forest University, had received a charter (1857) and taken the name of a prospective benefactor, Sylvester Lind, who was a prosperous Chicagoan engaged in the lumber business. In 1859 only a preparatory school had been started, but the corporation was planning a college of liberal arts and was hopeful of acquiring professional schools. Informal negotiations for the establishment of a medical department were entered upon with Drs. Hosmer A. Johnson and Edmund Andrews, aided by Ralph N. Isham and David Rutter.

In this group the first two had only recently held appointments on the Rush faculty, and had vigorously supported the progressive views of Dr. Davis. In fact, Andrews, before leaving the University of Michigan, had already published essays in advocacy of graded teaching and educational requirements for admission. All aspects of the matter were discussed fully, and legal advice was sought as to methods of procedure. All conferees were of the opinion that there was a need for the establishment of a medical school, more in accordance with sound educational principles and better adapted to the present state of the science and art of medicine than any then existing in the country.

Dr. I. N. Danforth, a contemporary of the Founders, in his *Life of Nathan Smith Davis*, records that N. S. Davis and W. H. Byford were silent partners in the early negotiations, even though they played no official role until the organization was well under way and they had resigned from Rush Medical College. Danforth states: "The trustees [of Lind University] invited Drs. Hosmer A. Johnson, Edmund Andrews and Ralph Isham to meet them for the purpose of considering the matter. At a subsequent meeting these gentlemen again met the university trustees, together with Drs. N. S. Davis, W. H. Byford and David Rutter, and out of this meeting grew the Medical Department of Lind University."

Pursuant to the plans for a new type of medical school, Drs. Johnson, Andrews, Isham and Rutter met on March 12, 1859, in the office of Drs. Rutter and Isham for the purpose of considering definite proposals, signed and submitted by the Executive Committee of the new University. There were nine sections in the proposal, the more important covering the following points: (1) the University would provide, rent-free for three years, rooms in the Lind block of the Chicago business section which had been viewed by both parties; (2) at the end of three years, permanent and ample accommodations would be provided in a proposed theological building or elsewhere within the city limits and, beginning with this second period, the residue of matriculation and graduation fees, after paying the necessary current expenses of the session, would accrue to the University; (3) all expenses, except those related to housing, would be met by the Medical Faculty or out of funds accruing to the Medical Department; (4) for three years the Medical Faculty would serve without pay, the income from lecture tickets being used to provide apparatus, illustrative material and other equipment; (5) professors would be nominated by the Faculty, but appointed by the Trustees of the University; (6) degrees would be conferred by the University Trustees, upon recommendation of the Medical Faculty. A supplementary proposal that any professor "could be removed for immoral conduct or infidel or atheistic sentiments" was suggested by the Founders at a later meeting, but was withdrawn.

The four physicians, having effected a temporary organization with Dr. Johnson as chairman and Dr. Isham as secretary, after mature consideration accepted the several proposals and the conditions named, and signed the agreement. At that moment the Medical Department of Lind University came into being.

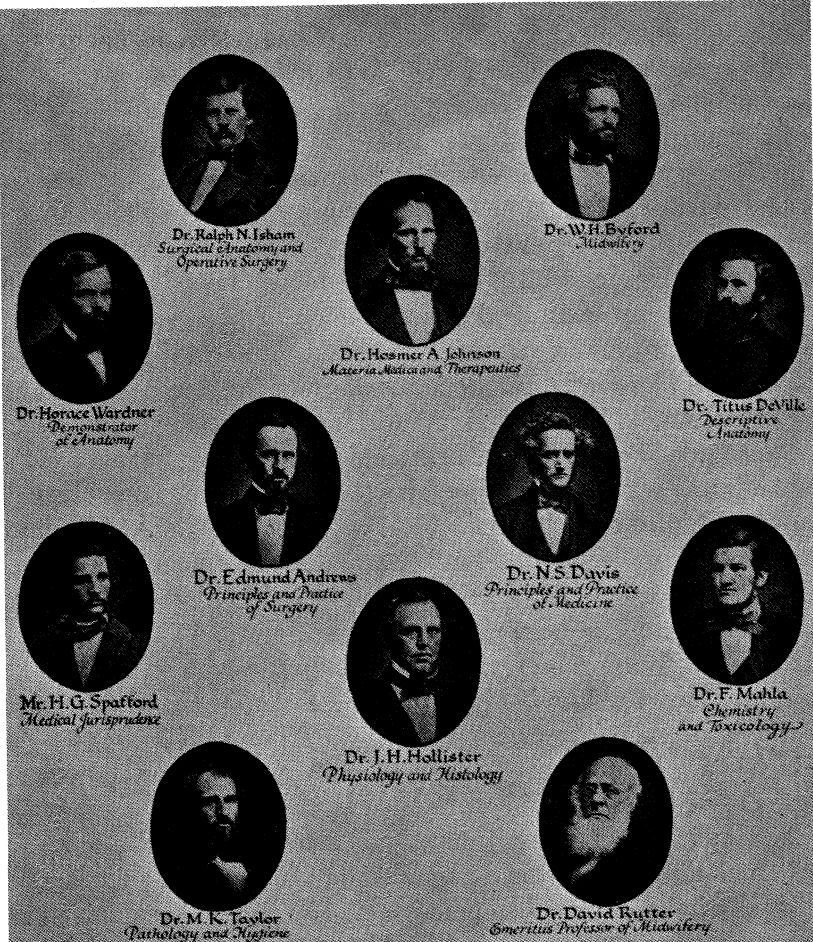
Continuing the meeting, it was decided to establish eleven professorships, instead of the customary six or seven, as follows: Descriptive Anatomy; Physiology and Histology; Inorganic Chemistry; Materia Medica and General Therapeutics; General Pathology and Public Hygiene; Surgical Anatomy and the Operations of Surgery; Organic Chemistry and Toxicology; Principles and Practice of Surgery; Principles and Practice of Medicine; Midwifery and the Diseases of Women and Children; Medical Jurisprudence. Each of the four physicians present was nominated to a chair, but in the case of Dr. Rutter the designation was qualified as Emeritus since earlier, impaired health had compelled him to restrict activities. It was further resolved that offers of other professorships be tendered to Drs. Nathan S. Davis and William H. Byford, both still active members of the Rush faculty. At this initial meeting it was also decided that there should be two divisions of the subjects taught: the first, or Junior Course of instruction would deal with the first five subjects just listed, together with dissection and laboratory work in chemistry; the second, or Senior Course would comprise the remaining disciplines. Both courses would be given simultaneously, but two years' attendance would be necessary in order to complete the program.

ORGANIZATIONAL DETAILS

According to N. S. Davis, who was not present at the founding session (and the detail is not recorded in the Faculty Minutes), it was there decided that the original list of eleven professorships should be eventually extended by making clinical medicine and clinical surgery additional chairs, which they would actually be, except in name, from the start. Such an arrangement would then permit the instituting of a separate annual course of studies for each of three years of medical study in the College. In this way a complete, graded system of instruction could be established, by which the student would pass from elementary studies in the first year to more dependent subjects in the second year, and to the strictly practical branches, with clinical instruction in hospitals, in the third year.

It was realized, however, that were the college term to be lengthened immediately to six months, the total time required for a three-

year course would become more than double the period of residence required in other colleges of the day, and this would correspondingly increase the cost of a medical education to students. Since such a marked expansion of the curriculum did not promise immediate patronage, it was deemed more prudent to begin with a two-term, graded curriculum of five months, which would be



Dr. Ralph N. Isham
*Surgical Anatomy and
Operative Surgery*

Dr. W.H. Byford
Midwifery

Dr. Horace Wardner
*Demonstrator
of Anatomy*

Dr. Homer A. Johnson
Materia Medica and Therapeutics

Dr. Titus DeVille
*Descriptive
Anatomy*

Dr. Edmund Andrews
*Principles and Practice
of Surgery*

Dr. N.S. Davis
*Principles and Practice
of Medicine*

Mr. H. G. Spafford
Medical Jurisprudence

Dr. J. H. Hollister
Physiology and Histology

Dr. F. Mahla
*Chemistry
and Toxicology*

Dr. M. K. Taylor
Pathology and Hygiene

Dr. David Rutter
Emeritus Professor of Midwifery

**First Faculty—Chicago Medical College
(Northwestern University Medical School)**
+ 1859 +

adapted to Junior and Senior students. When once the system of graded instruction and extended terms had been introduced into medical pedagogy and established as a standard educational procedure, it would then be easier to carry the grading further and add the necessary additional time. For the present, as a makeshift arrangement, a third or supplementary year of elected studies was to be recommended and urged, for which no tuition charges would be made.

Subsequent meetings disposed of many organizational matters. Drs. Davis and Byford, convinced that no material changes in policy would be made at Rush Medical College, promptly accepted the proffered chairs, whereupon a similar invitation was extended to Dr. John H. Hollister of the Rush faculty, and to others. By mid-summer of 1859 only the chair of *Materia Medica* and General Therapeutics remained unfilled, when an application for the chair of Descriptive Anatomy came from Dr. Titus DeVille, an Englishman who had resided in Paris for some years and who was recommended by the famous neurologist, Dr. Brown Sequard. This appointment was approved and made possible by a slight reshuffling of personnel, whereupon the Faculty quickly attained definitive form.

In the meantime, at the fourth meeting (on March 24, 1859), a permanent organization was set up, with officers as follows: Hosmer A. Johnson, President; Ralph N. Isham, Recording Secretary; William H. Byford, Corresponding Secretary; and Edmund Andrews, Treasurer. It is interesting, and probably significant, that the ages of the active founders of this new enterprise ranged from 24 (Isham) to 42 (Davis); Dr. Rutter, often designated in historical references as aged or well advanced in years, had just turned 58! In truth, the venture was indeed the brain-child of idealistic and courageous young men.

At the sixth meeting, on June 4, the Faculty expressed a desire to make certain that no student would graduate who would not be deemed wholly qualified to practice, and to this end it resolved to invite the Illinois State Medical Society to appoint a committee of two to attend the examinations of students, and vote upon their qualification for the degree of Doctor of Medicine. The intent was "to furnish to the profession at large the means of judging of the success or failure of the method, and also to give the fullest guaran-

tees that with the sanction of this institution none should be admitted to this responsible office whose attainments were not satisfactory to those not immediately interested in teaching." This invitation was continued from year to year, but the State Society either never made the appointment or, if so, the committee failed to respond. In such default, the Faculty still anxious to guarantee that only deserving candidates would receive the medical degree, instituted public examinations, to which the censors and members of state and city medical societies were especially invited. On those occasions some candidates were also required to read their inaugural theses.

A budget of \$1,925 for the first session was authorized, which included expenditures for furniture, equipment and supplies for a chemical laboratory, a diploma plate, janitor service, fuel, printing, postage and contingent expenses. The diploma plate, in Latin, was obtained at a cost of \$48, after conference with the Trustees of Lind University; the committee appointed for the purpose was "clothed with discretionary power to procure the engraving of a plate either in Latin or English texts, as the Trustees and themselves decide."

It should be emphasized that this school, from the first, was run under the auspices of a university. Only in the brief interim of two years between the association with Lind (later Lake Forest) University and with Northwestern University was there complete independence. This relationship was uncommon; even as late as 1885 only one medical college in four had ever been associated with a liberal arts institution.

THE FIRST ANNOUNCEMENT

The initial Annual Announcement of the College is an important historical document, and pride and good business sense must have actuated the Founders into giving it wide circulation, because a meeting in June authorized that "3000 more copies of the Announcement be published for distribution," while the postage bill for the year amounted to \$75. Correcting for the midsummer changes in personnel and assignments, the actual teaching Faculty for the first session was as follows:

David Rutter, M.D., Emeritus Professor of Obstetrics and Diseases of Women

Titus DeVille, M.D., Professor of Descriptive Anatomy

John H. Hollister, M.D., Professor of Physiology and Histology

Hosmer A. Johnson, M.D., Professor of Materia Medica and General Therapeutics

M. K. Taylor, M.D., Professor of General Pathology and Public Hygiene

Frederick Mahla, Ph.D., Lecturer on Inorganic Chemistry

Edmund Andrews, M.D., Professor of Principles and Practice of Surgery and of Clinical Surgery

Ralph N. Isham, M.D., Professor of Surgical Anatomy and Operations of Surgery

William H. Byford, M.D., Professor of Obstetrics and Diseases of Women and Children

Nathan S. Davis, M.D., Professor of Principles and Practices of Medicine and of Clinical Medicine

Frederick Mahla, Ph.D., Lecturer on Organic Chemistry and Toxicology

Henry G. Spafford, Esq., Professor of Medical Jurisprudence

Horace Wardner, M.D., Demonstrator of Anatomy

It was emphasized that although the list showed only eleven subjects, there actually were thirteen, since Clinical Medicine and Clinical Surgery are branches, distinct from didactic lectures on those subjects, which command as much attention as any others in the curriculum. It is noteworthy that the several chairs were not encumbered with shares of stock to be purchased by the occupant, as was generally the practice in medical colleges of that period.

Among further organizational details, the following are of interest. The school year was to run for five months, from the second Monday of October to the first Monday of March. The fee to be charged for each professor's ticket (except for Medical Jurisprudence) was \$10, making a total of \$50 for either the Junior or Senior course of studies. The initial matriculation fee of \$5 and the Demonstrator's ticket in anatomy (\$5) would bring the total tuition charge for the Junior course to \$60. A hospital ticket of \$6 (and an optional, second anatomical ticket of \$5) made the total for Seniors \$56 (or \$61), added to which was a graduation and diploma fee of \$20. Students electing to attend a third course were to receive lecture tickets without charge. The lecture fees, in total, exceeded considerably those of Rush Medical College (\$35) or of the next nearest

FIRST ANNUAL ANNOUNCEMENT

OF THE

MEDICAL DEPARTMENT

OF THE

LIND UNIVERSITY,

AT CHICAGO, ILL.

FOR THE COLLEGE SESSION OF 1859-'60.

CHICAGO:

WILLIAM H. RAND, PRINTER, 148 LAKE STREET.

1859.

Cover of the first Annual Announcement.

neighbor, the University of Michigan (none; \$10 for initial matriculation only), but it was explained that it was not the purpose to attempt to entice students by requiring small lecture fees and demanding only meager accomplishments.

Concerning living costs, at the start of the Civil War the Annual Announcement advised that "good board and rooms can be obtained in the city from \$2.50 to \$3.50 per week." By the end of the War these amounts had risen to \$3.50-\$5.50, and in 1868-69 they were \$5.00-\$6.50. The following years saw a drop to "about \$5.00" and then to "about \$4.00" as the inflationary effects of the War leveled off.

The plan of instruction was described as follows:

Each College Term will consist of two departments, essentially distinct from each other but carried on simultaneously. The first, called the *Junior Department*, embraces full courses of Lectures and Demonstrations on the following branches, viz.: Descriptive Anatomy, Physiology and Histology, Materia Medica and General Therapeutics, General Pathology and Public Hygiene, Inorganic Chemistry, and Practical Anatomy under the direction of the demonstrator, and is designed for all students attending the first course of Lectures. All medical students in this department will be examined at the end of the term on the branches taught in those courses, and if such examination be satisfactory, it will be final in those branches.

The second, called the *Senior Department*, will embrace full courses of Lectures on the Principles and Practice of Surgery, Surgical Anatomy, Obstetrics and Diseases of Women and Children, Practice of Medicine, Organic Chemistry and Toxicology, Medical Jurisprudence, Clinical Medicine and Surgery in the Hospital, and Dissection under the demonstrator, and is designed for students taking the second course.

The college clinics, which will be specially designed to illustrate medical and surgical pathology and diagnosis, will be open to students of both Junior and Senior Departments; and all students that can be induced to attend a *third* course will be permitted to choose such branches from both departments as they may think most profitable for them to attend. The class in each department will receive *four* regular lectures daily throughout the term, each lecture being accompanied by a brief examination of the class on the subject of the lecture given the preceding day. There will be two clinics in the college [dispensary patients] and four in the Mercy Hospital each week, and such arrangements have been made as will enable the Professor of Obstetrics to furnish the candidates for graduation with cases of labor to attend, at the residences of the patients.

The requirements for graduation were listed as follows:

1st. Each candidate for graduation must furnish satisfactory certificates of having pursued the study of Medicine and Surgery three years, including the time of attendance on Lectures; of being 21 years of age, and possessed of good moral character. 2d. He must have attended two full courses of Lectures: one in the Junior and one in the Senior Departments. Or, if he has attended one full course in any other Medical College of good standing in the profession, he may be eligible to graduation by attending *one* full course in the Senior Department of this Institution. He must also have attended to practical anatomy by dissections, and to Hospital clinical instruction during one term. 3d. Each candidate must deposit with the Treasurer of the Faculty a thesis on some medical subject, written by himself, together with the graduation fee, on or before the first day of February in each term. Both will be returned in all cases in which, from any cause, the candidate fails to obtain a diploma. 4th. Each candidate must undergo a thorough and satisfactory examination in all branches of medical science, except such as have been examined on, at the close of the preceding Junior course; such examination to take place during the last ten days of each annual course in the Senior Department.

There was appended a rather long statement "To the Profession," in which the defects in the existing system were set forth, and the remedies to be attempted by the new school were described. The topics discussed covered: a larger faculty; a longer term; the progressive grading of studies; and fewer formal lectures each day, thereby affording opportunity for reflection, the pursuit of practical anatomy and hospital clinical instruction. Two paragraphs are worth quoting:

Being fully assured of the correctness of the foregoing views, and of the paramount importance of the improvements adopted in our plan of college instruction, we place both before the profession with the full conviction that they will meet a cordial welcome and an active support.

The object of the Medical Faculty of this University is to establish a Medical School on such a basis as will afford facilities for as methodical, extended and thorough a medical education as can be obtained in the best schools of Europe. It is no part of our purpose to hold out extra inducements to students by requiring small lecture fees and still smaller literary, scientific and professional attainments; on the contrary, we freely pledge ourselves to cordially co-operate with the profes-

sion in every reasonable effort to establish a higher standard of both preliminary and professional education for those who may seek admission into our ranks. Entertaining such views and objects, we look with confidence to our professional brethren for a candid hearing and a reasonable support.

The new medical college was the product of restless spirits in a time of political and social unrest throughout the nation. Its appearance coincided with the climactic years of turbulence that would touch off a civil war. The War with Mexico was behind, but its example in no way foreshadowed the horror that large-scale internecine strife would bring. On the contrary, the clash had emphasized, if anything, the potential profits of War, because so much land had been ceded to the Union as spoils that the country now assumed its characteristic territorial shape. The Republican and Democratic Parties had recently faced each other for the first time, and on issues that were full of foreboding. Minnesota and Oregon were being admitted to the Union as States, and Kansas was clamoring for the same privilege. The abolition movement persisted, and tendencies to disunion were centering about issues on the rights of States. Just one week after the opening class of the new college, John Brown led his raiders against the arsenal at Harper's Ferry. It was a token of the collision that each day made less escapable. This was, in short, far from being the tranquil period that founders would ordinarily prefer for the launching of such a radical educational experiment.

Neither was 1859 a favorable time commercially. The financial panic of two years before, producing the direst results of any yet experienced by the country, spread its blighting effects over the entire nation. Many educational institutions either closed or were on the verge of bankruptcy. The fledgling Northwestern University, for example, had seen its donations, averaging \$6,000 annually, drop to \$525 in 1858 and to \$155 in 1859. Only the willingness of the Faculty to accept promises of ultimate pay kept the Trustees from shutting the University doors. But the young enthusiasts in Chicago, bent on putting an experiment in medical education to the test, were not in a mood to be daunted by portents of ill omen, either political or financial. And so the college readied to make a start, just three months after Northwestern University had graduated its first class of five students.

THE NATAL YEARS

In early October, 1859, the College was ready to open in quarters provided on the third and fourth floors of a new, five-story brick building, located on the northwest corner of Market (now Wacker Drive) and Randolph Streets, in the Lind Block. There were two lecture rooms, a dissecting room, a chemical laboratory, a museum, and a faculty room containing also a "library." The Chicago City Dispensary, previously organized by two members of the future Faculty to treat the poor, had already been installed in this building; in its first year more than 3,000 patients were attended. The initial library contained between 400 and 500 volumes. The museum was said to be supplied with better materials than were to be found in any other institution in the Northwest, even before Professor DeVille added his extensive collection.

At the opening of the new school, Dr. Davis referred to its location "in this magnificent block of buildings, furnished in all the comforts and conveniences usually found in the best colleges." By contrast, the embittered President of Rush Medical College wrote contemptuously in his *Chicago Medical Journal* of the "model, great Reform School" being quartered in the "cockloft of a warehouse and hide and skin depot," and characterized Davis as the "Apostle" of a false doctrine, whose role was also that of a "Jeremiah" lamenting the alleged evils of medical education. Other sneering epithets applied to the Faculty were "Pseudo-reformers," "Apostles of Reform" and "Phantoms in Black;" the last term referred to their somber dress in contrast to the less funereal Rush habit. The defection of such stalwarts as Davis, Johnson, Byford, Andrews and Hollister to the rival Faculty, along with the loss of Mercy Hospital as the principal source of clinical teaching, were humiliating blows to President Brainard of the older college, and he had met them with the lame boast that "the organization and efficiency of the college will not suffer any diminution, and the means of teaching, for the future, will be rather increased than lessened, by the effect of this withdrawal." Until his death, this proud man was never to forgive or forget the upstarts who succeeded in proving him to be a stubborn and visionless reactionary who had missed an unparalleled opportunity for educational fame, both for himself and for his college.



Lind Block, at Randolph and Market Streets, in which the Medical Department of Lind University was first quartered; 1859-63.

Hospital instruction was provided through an arrangement with Mercy Hospital, located on Wabash Avenue near Van Buren Street, and boasting sixty beds. This institution, the sole desirable one at that time, had transferred its facilities to the new school when Davis, Byford and Hollister seceded from Rush Medical College. Free professional service to the Hospital was proffered in return for the use of its clinical material in teaching. Thus began a long association, highly profitable to both institutions.

The first annual session began on October 9, 1859, with an introductory address, delivered by Professor Nathan S. Davis before an assemblage of Faculty, students and public that filled the lecture room to the last inch of standing space. The speaker immediately struck the keynote by stating that:

[The occasion is not] merely the opening of a new institution, the addition of one more to the number of medical colleges already existing in the country; but the opening of one on a different and, we humbly trust, better plan than any which have preceded it on this side of the Atlantic. Having thus deviated from the beaten path, the strict line of precedents in the establishment of this department of the Lind University, it may be reasonably expected that we will embrace the present opportunity to

develop, so far as the hour allotted to us will permit, the reasons by which we have been influenced, the nature and extent of the changes we have adopted and the objects we propose to accomplish by them. The considerations which have induced the faculty to undertake the task of establishing this institution . . . may all be included in the two following propositions:

First, the very liberal offer of the Board of Trustees of the University, to furnish all the needed accommodations for a medical department, with no other restrictions than that the plan of instruction adopted should be such as would most effectually promote the educational interests of the profession without reference to established customs and usages.

Second, a sincere desire on the part of the faculty to put into practical operation a system of medical-college instruction more in accordance with sound educational principles, and better adapted to the present state of the science and art of medicine, than that which has been so long adhered to by the medical schools of this country.

Continuing the exposition of his thesis, the speaker reviewed in detail the defects in existing medical education, the several remedies advocated by the American Medical Association and now for the first time to be put to trial, and the means at hand for carrying into successful operation the plan of organization adopted. This masterful presentation was applauded repeatedly as it unfolded, and at the end the speaker received an unrestrained ovation. The address appropriately was the first article to appear in *The Chicago Medical Examiner*, which presently became the unofficial but actual mouth-piece of the new school.

The event was reported adequately in the local press, the *Daily Democrat* giving it front-page prominence and (as also the *Daily Times*) publishing in full the long address, which "was listened to with great attention and absorbing interest." The *Press-Tribune* not only reported factually and at length, but also found in the occasion another evidence of Chicago's ascendancy and destiny:

As one of the most worthy and sterling objects of just pride in our citizens, deserves to be ranked the progress making in all departments of the educational field. . . . In the higher grades the citizen and the chance visitor to our city may find ample cause for wonder, and still more for approbation of the number and scale in which numerous splendid educational enterprises are rising. Chicago is truly preparing to become the literary and educational metropolis of the Northwest, as she

is sure of being the mistress of trade.

. . . The Medical Department of Lind University last evening was most auspiciously established in Chicago. . . . Every needed accommodation has been provided in the new and elegant row of buildings known as Lind's Block . . . and these several apartments have been already well and admirably put in readiness for their destined uses . . . Last evening was the occasion of the Inaugural Address and formal opening of the new College . . . The gathering in the large lecture room must have numbered at least five hundred, comprising many well known citizens and very many ladies.

. . . [Accepting the theme of the address] "as a more than semi-official manifesto and pledge for the new institution, the path marked out is a most worthily progressive one. The best assurance that it will become the rule and course of the new College, is found in its list of professors. The new Medical College has thus taken its place and begun its career among the educational facilities of our city. It possesses claims which will be recognized to the extent of bringing it at once into a useful and notable place among kindred institutions of the country."

The enrollment for this first session numbered 33, of whom 19 were Juniors and 14 were Seniors who had already attended other medical schools. This number was satisfactory for a start, and may be compared against Rush Medical College, which as a standard school without local competition, had attracted only 22 in its initial class. The Faculty of the new school had decided that the inducements offered to students should not consist in short sessions, low fees or easy standards of attainment, but rather in a better program and a more extended range of studies that would give a more thorough preparation for the practice of sound medicine. They did not anticipate large classes and resolved to make no sacrifice of principles to attract mass attendance.

The patronage through the years was destined to be less than the large numbers at Rush Medical College. There were several reasons for this. For a period the novelty of the revolutionary program of a newer school, so different from that experienced earlier by influential practitioners who were then the natural advisors of young men about to enter on medical studies, was bound to be considered strangely heterodox and suspect; the longer term, higher tuition and selective admission standard were additional deterrents to mass attendance. Incidentally, there is no suspicion that the Faculty of the newer school resorted to the high-powered recruiting tactics that

the older school carried on openly. For example, a letter from the dynamic Dr. John Evans, a member of the Rush faculty and a key founder of Northwestern University, instructed a colleague that during the summer he must personally round up and deliver 25 students from Michigan since Evans and another colleague were agreeing to bring in 45 from Indiana!

Eleven years later, in reviewing the initial year in an introductory address, President Hosmer A. Johnson said:

The Faculty had entered upon this experiment, for in one sense it was an experiment, with a firm conviction that it was the right course to pursue; they were satisfied, also, that ultimately the schools must adapt themselves to the increasing intelligence and higher standards of education demanded by the community; they had, however, some misgivings as to the readiness of young men to devote to this work of preparation the increased time and necessary expense. Among the class in attendance upon this first course of lectures there was a larger proportion than at that time usually found in medical schools, of young men thoroughly prepared by scientific and classical attainments for professional study. It was evident, then, that the better quality of students sought what every educated man, whose interests do not blind his judgment, admits to be the better methods. The Faculty, therefore, were quite willing to labor and to wait.

The preceding comment and a few others on the quality of the students are the only direct references found in the first decade of the school's existence concerning the degree of preliminary education attained by matriculants. One of the major measures that had been advocated to correct current defects in the medical profession was a better preliminary education of applicants, and suitable admission requirements on the part of medical colleges to enforce this preparation. The American Medical Association and individuals, such as Daniel Drake and N. S. Davis, had spoken loudly and long on this point, yet this was the one recommendation that the new school failed to embody at the outset in their initial Announcement. Presumably the Founders felt that its clientele would stand for only so much reform spelled out in a single dose! On the other hand, there is testimony from several sources that a relatively high standard of educational attainments was obtained, in practice, from the start (p. 110).

The first college year progressed according to plan in a rewarding manner. In the traditional course of sixteen weeks at other schools, all of the students listened to some 520 lectures, which embraced the entire field of medical study. In the new school the Junior student, besides dissections and microscopic demonstrations, attended 446 lectures through 22 weeks on five fundamental branches of the medical sciences. Students in the Senior year attended 600 lectures on other basic sciences, and on clinical principles and practice. Each week seven periods of clinical instruction were given at a free dispensary for the poor in one of the rooms of the medical college, at Mercy Hospital with about 60 beds controlled by the Faculty, and at an Orphan Asylum adjoining the hospital.

The term closed with a public commencement, at which nine members of the Senior class were awarded the degree of Doctor of Medicine, and two others received the same degree *ad eundum*. The importance of the initial ceremony was recognized by the *Press-Tribune* as a newsworthy item:

The first Annual Commencement of the Medical University took place at the Second Presbyterian Church. A large and intelligent audience were present, though less than would at any time, other than the evening preceding election, have been called out for this occasion.

The exercises were of a very interesting character. The address by Prof. H. A. Johnson was an admirable and scholarly production, entirely worthy of the reputation of this gentleman. The Valedictory on the part of the students was delivered by Dr. J. S. Jewell, of the graduating class. The valedictory address to the class was delivered by Prof. Deville.

... At the close of the exercises the Faculty, Students and invited guests met at the residence of Dr. N. S. Davis, on Washington Street, and passed a pleasant hour or two in social intercourse, a delightful affair throughout, and fitly closing the intellectual treat of the evening.

The second session passed uneventfully with an encouraging increase in enrollment from the previous 33 to 54. The brilliant but impetuous anatomist, Professor DeVille, had resigned and returned to England because of the inadequacy of his income as a non-practicing physician. This circumstance forced him to sell to the college for \$350 the important anatomical collection that he had brought from France, so the available "materials for illustration" (that is, visual aids) were not diminished by his departure. By the end of this

year the museum boasted of "near 700 specimens" and the library of 700 volumes.

Directly following the close of the second session came the outbreak of the Civil War, but it had little discernible effect upon the operation of the college or its student-body. No records tell of students who volunteered or were drafted. Three members of the Faculty served with the Union forces at one time or another, and two more had examining, advisory or inspecting duties. In some manner, none missed a teaching session. Professor Edmund Andrews acquired the most notable battle-experience. He became surgeon to the First Illinois Regiment of Light Artillery and saw heavy action during General Grant's campaign in Tennessee. His experiences as a surgeon are related in accounts sent to Davis' *Chicago Medical Examiner*.

The third session found the student body still increasing (63); it already equaled the schools at Albany and New York, and was quite in advance of pioneer medical departments in the East such as Yale, Dartmouth, Bowdoin and others. The third Announcement made clear that scheduling permitted every student to have access to all lectures in both years, but that the Junior and Senior students were expected to devote special attention to those assigned specifically to the Junior or the Senior Course, respectively, and would be examined on those subjects. It also proclaimed that "medical instruction in this institution continues throughout the entire year; and is divided into a Winter and a Summer Term."

Immediately after the regular term of the first session, the Medical Faculty arranged a free course of spring and summer instruction for students who chose to remain in the city. It consisted of the following program: systematic readings, and daily examination on these assignments; dissections; histology; analytical chemistry; a weekly lecture; and daily instruction covering all clinical branches. This supplementary offering was to be continued as a regular feature, as will be noted presently.

The income to the new school from tuition receipts (about \$1,950) balanced the expenditures of the first year. This showing was far better than that of Northwestern University in its initial year of operation four years previously. Of the ten students who then entered that University, all but two were on scholarships that required no tuition payments. The total receipts for the year at Evanston, including income from room rent and incidentals, were

\$176, and nearly half of this amount was paid to the college janitor. When the new medical school opened, the University had just incurred an annual deficit of \$3,000.

Numerous comments on the plan of curriculum in the Medical Department of Lind University were forthcoming in the medical and lay press. In general the reaction was favorable, ranging from a fear that the change was too great to meet with ready support, to the view that the plan marked an improvement but still not sufficient or of the kind to meet the real needs of the profession. Most of the criticisms were due to misunderstandings and petty quibblings, while a few reflected deliberate distortions and misrepresentations. For example, President Brainard, of the neighboring medical college, went out of his way to prejudge the new school, before it opened, in these words: "The mountain labored and brought forth a mouse; for ourselves we regard the plan as utterly visionary [since] it proposes to add nothing whatever to the education of the student, the requirements of graduation, or the means of acquiring knowledge." When the session closed, he disparaged it shamelessly with falsities ("diminishing the number of lectures and terms required; the pretended increase [in professorships] is a deception"); etc.

Despite such reactions of skepticism or spleen, the Founders seemed satisfied with the reception of their venture. And it must be remembered that the medical press of that day was a "kept" press that tended to reflect the self-interest of its sponsoring, proprietary schools which, at best, were willing only to pay vocal tribute to a reform that their business judgment would not permit them to embrace. Besides a threatened decrease in attendance through the adoption of higher standards, there loomed before their vision the more serious loss in personal income through students not paying twice for the same set of lectures!

The Winter Term constituted the regular lecture session. The Summer Term was a formalization of the optional course already instituted at the close of the first regular session (p. 50). The Announcement stated:

The Summer Term of instruction will commence on the second Monday in March and continue until the first Monday in October. The mode of instruction will be that of recitation and familiar explanatory lectures, in all branches usually taught in medical schools, together with dissections and clinics, both in the Hospital and the Dispensary. The in-

struction will be given by [the members of the Faculty].

The Course will be so arranged, that the Class will have one examination and one Lecture on some one of the branches named; and one Clinic, either at the Hospital or Dispensary, every day. The dissecting room will be supplied with all the material wanted for dissections, under the charge of the Demonstrator of Anatomy. The Professor of Obstetrics will also be able to furnish each member of the Class one or more cases of labor to attend at the residence of the patient. Attendance on the above named *Summer Course* will be *free* to all students of legitimate medicine who wish to attend.

The Chicago Medical Examiner commented that this course would offer one of the best opportunities for bedside instruction in the country. The eminent Dr. Norman Bridge attended it in 1867, after a year of medicine at Ann Arbor. He later commended it as "a pleasant relief from the tedium of listening to lectures at Michigan, for there was a small class, and a relatively large amount of clinical teaching."

Despite the upheaval caused by the Civil War, or possibly because of it, the number of students increased steadily. But in November of the third annual session, a communication reached the Medical Faculty from the Board of Trustees of Lind University, confirming a serious consequence attendant on the recent outbreak of the Civil War. Sylvester Lind, whose solvency was shattered by the failure of several state banks, additionally lost the Lind Block and other tangible property. For this reason he was unable to fulfill the pledges made to the University and to its Medical Department. The University, hopelessly involved in this disaster, asked to be relieved from that part of the contract covering a new building to be made available after the third year, but agreed to pay rent to the new landlord until the end of the current session, when the rent-free portion of the original contract expired. The Medical Department could do nothing but acquiesce and begin to think hard of the future.

A diploma, issued at the end of this third year of the young medical college is in the archives of the Medical School. Its heading "Universitas Lindiana," and its complete Latin verbiage contrast sharply with the simpler English used a few years later when the College began issuing diplomas under its own name (p. 83). Of great sentimental value to Seniors until well into the next century

was the zealously pursued custom of obtaining the signatures of the Faculty on diplomas (p. 198).

A FIRST BUILDING PROJECT: 1863

A steadily increasing student body (33; 54; 63; 81) and the accompanying outgrowth of the Lind-Block quarters, still rented for the fourth session, became an immediate problem that required action. In the early summer of 1863 the Faculty responded by authorizing the purchase of a lot on the east side of State Street, near Ringgold Place (later Twenty-Second Street and, more recently, Cermak Road), and the reconstruction of a three-story brick building already standing on it. The total cost was not to exceed \$8,000. In anticipation of this decision, all members of the Faculty had given further evidence of their loyalty and selflessness by pledging to donate their lecture fees to a building fund, until the new college building and its lot should be paid for.

Confusion has existed about the origin of the new College quarters. Dr. N. S. Davis, writing years later as an historian, said that the Faculty "purchased a lot and caused a college building to be erected thereon in time for the opening of the next college term," on October 12, 1863. The Faculty Minutes record a committee report that "a lot with suitable building, located on State Street, near Twenty-Second Street, could be purchased of C. Follansbee on reasonable terms." Following this information, Davis moved "to purchase the lot offered by C. Follansbee, with a suitable building *erected* thereon." Actually, however, the Faculty did not authorize the contract to be drawn up and executed until June 24. Moreover, the July issue of Davis' *Chicago Medical Examiner* announced that "the building is now advancing rapidly toward completion," an obviously impossible progress-report for a new three-story building and basement. Professor Jones, of the Faculty, in his historical account of the early College, stated that the lot and building at the State Street site were purchased. A medical student of that time, who also was employed as the College drug dispenser, wrote in his reminiscences of student life that an earlier building had been remodeled. The total evidence indicates that the account by Davis is inaccurate in regard to the erection of a new building.

The fifth annual session, beginning with 89 students, occupied this "plain but well-arranged building . . . admirably arranged for the work for which it was designed." The Announcement, less restrained, described it as "a new and elegant college building, which for convenience and pleasantness of location is not excelled by any of the Medical Colleges of this country." The ground floor contained a lecture room, chemical laboratory, and a library and dispensary room; the second floor held an anatomical and surgical amphitheater and a museum; on the third floor were the rooms for practical anatomy. The residual debt on the building and lot amounted to \$6,000, payable in ten annual installments. No picture of this first, owned home of the College can be found in local archives or newspapers.

A dedicatory address was delivered by Professor Davis before the students, Faculty and citizens at the opening of the new term. He reviewed the circumstances under which "the Faculty of this Institution . . . determined to encounter all the dangers attendant on the abandonment of long-established customs, and at once deliberately enter upon the experiment of establishing a medical college, founded on sound educational principles and, in all respects, fully equal to the demands of the profession." He also extended congratulations to all concerned "in the marked success of our enterprise thus far, and on the bright prospect that is opening upon the future." The *Chicago Journal* alone had given advance notice of the event: "The introductory lecture to the winter session of this flourishing institution will be delivered this (Monday) evening at the new college building . . . at 7½ o'clock P.M." The *Tribune*, although dissatisfied with the outcome of the battle at Chicamauga and fearful of impending disaster at Lookout Mountain, allotted adequate space on the following day to a comprehensive digest of the address.

Also in the summer of 1863 Mercy Hospital moved into better quarters, not far distant from the College. It took over a building, previously used as a girls' boarding school, which permitted immediate expansion to 100 beds. The new location was at Calumet Avenue and Rio Grande (now Twenty-Sixth) Street, on part of the land comprising the site of the present Hospital. Here it would maintain intimate academic relations with the College for nearly sixty years.

When the first academic year in the new building had ended in March, 1864, Dr. Davis volunteered to assume personal respon-

sibility for the \$6,000 debt if other members of the Medical Faculty would pay off floating debts amounting to \$1,315. This offer was accepted, six members of the Faculty contributing from \$100 to \$250 each, and the college became free of debt. A further provision stipulated that after all current expenses had been paid out of total fees received, and \$2,500 had been deducted as an appropriation to the chemical laboratory, library and museum, the remainder should be divided among the Faculty, *pro rata*, according to the number of lectures given by each member. At the end of the next (sixth) session the dividend was one dollar for each lecture, the payments ranging from \$60 to \$160.

Encouraged by these events and a gratifying, if not spectacular, patronage, the Faculty ordered 8,000 copies of the seventh Announcement to be issued. The ensuing attendance, in the sessions ending in 1866, 1867 and 1868, was 102, 104 and 113, respectively; yet the popularity of the shorter, less exacting, old-style curriculum was still evidenced by the enrollment of 374 students at Rush Medical College in 1866. The first four years at the new site passed rather uneventfully from the academic standpoint. The Faculty, however, was steadily gaining confidence that its educational experiment was succeeding, and that the reform could soon be extended further.

An important change in leadership occurred at the time of the Annual Meeting in April, 1866. Dr. Johnson resigned from the Faculty because of ill health, but retained his office as President of the Corporation. Happily, his membership in the Faculty was resumed after a year's absence. Dr. Davis, who was elected President of the Faculty to succeed Johnson, thereby became both the titular and actual head of the organization. In truth, he had steadily been increasing his role as the dynamic champion of the new order in medical education and, through his journal and manifold activities in national medical affairs, was already identified in the minds of the profession as the spiritual leader of the college. Once holding the reins of control, he was not to lay them down for more than thirty years.

Tickets of matriculation and admission to lectures: issued for 1866.

**CHICAGO
MEDICAL COLLEGE.**

—————
Matriculation Ticket.

For Mr. *J. M. C. Stillman*

CHICAGO, ILL.,
Oct 1 18*66* } *W. H. Byford*
Treasurer.

TABLE OF LECTURE HOURS.

JUNIOR COURSE.

	MONDAY.	TUESDAY.	WED'SDAY	THURSD'Y.	FRIDAY.	SATURDAY
8½ A.M.	Hollister.	Hollister.	Hollister.	Hollister.	Nelson.	
9½ A.M.	Nelson.	Nelson.	Nelson.	Heydock.	Heydock.	
10½ A.M.	Jewell.	Jewell.	Jewell.	Jewell.	Jewell.	
11½ A.M.	Heydock.	Heydock.	Heydock.	Mahla.	Mahla.	

SENIOR COURSE.

	MONDAY.	TUESDAY.	WED'SDAY	THURSD'Y.	FRIDAY.	SATURDAY
2½ P.M.	Davis.	Davis.	Davis.	Davis.	Davis.	
3½ P.M.	Andrews.	Andrews.	Andrews.	Patterson.	A. Jewell.	Jewell.
4 P.M.	Byford.	Byford.	Isham.	Byford.	Byford.	Mahla.
5½ P.M.	Mahla.	Mahla.	Mahla.	Isham.	Isham.	

Mercy Hospital Clinic, 1 P. M., Mondays, Wednesdays, Thursdays and Saturdays.
 Marine " " 8 A. M., Tuesdays and Saturdays.
 County " " 1 P. M., Tuesdays and Fridays.
 St. Luke's " " 2½ P. M., Saturdays.

CHICAGO MEDICAL COLLEGE.

SESSION OF 1866-67.

LECTURES ON
INORGANIC CHEMISTRY.

By F. MAHLA, Ph., Dr.

Admit *M. J. M. C. Stillman*

Oct. *1* 18*66*

Lesson *1866-67*

Chicago Medical College.

LECTURES ON
DESCRIPTIVE ANATOMY,

By J. S. JEWELL, M. D.

Admit *M. J. M. C. Stillman*

J. S. Jewell, M. D.

Tickets of matriculation and admission to lectures, issued for 1866.

Chicago Medical College.

— ADMIT —

Mr. S. M. C. Stillians

TO LECTURES ON

GENERAL PATHOLOGY.

John H. Woodworth
Prof. Gen. Path.

Chicago, *Oct. 1st 1866*

CHICAGO MEDICAL COLLEGE.

SESSION OF 1865-6

LECTURES ON

Materia Medica and Therapeutics,

By M. O. HEYDOCK, M. D.

Admit *Mr. S. M. C. Stillians*

Oct. 2nd 1865 *M. O. Heydock*

SESSION, 1866-7.

Chicago Medical College

PRACTICAL ANATOMY

JNO. M. WOODWORTH, M. D.,
DEMONSTRATOR.

Admit *D. M. C. Stillians*

CHICAGO, *9th November 1866.*

Chicago Medical College.

CLINICAL COURSE IN

MERCY HOSPITAL.

FOR SESSION OF 1866-7

N. S. DAVIS, M.D., - - - - - PROF. OF CLINICAL MEDICINE.
E. ANDREWS, M.D., - - - - - PROF. OF CLINICAL SURGERY.

Admit *D. M. C. Stillians*

A NEW NAME AND INDEPENDENCE: 1864-70

The Board of Trustees of Lind University, in the spring of 1863, decided to change the name of the institution to Lake Forest University; this new name, however, was not legalized until 1864. The Medical Department, in turn, felt it wise to enter into a reorganization and adopt a distinctive name. This would prevent confusion as to the location of the school and permit the Faculty to receive and hold property independently. To this end the officers of the Faculty tendered their resignations on April 6, 1863, and immediately reorganized the body under the as yet unincorporated name, Chicago Medical College.

At the close of the following college session (1863-64) the Trustees of the still-named Lind University, seeing no prospect of fulfilling their contract with the Medical Faculty, entered into discussions with that reconstituted group which ended, some state, in the contract being abrogated by mutual consent. A memorandum of the Trustees of the Chicago Medical College, replacing minutes lost in the Chicago Fire, records that "in the spring of 1864, at the suggestion of the Trustees of the University and after mature deliberation and conference with the Trustees, the Faculty voted that their former *official* relations with Lind University be terminated." There was certainly no clean break at this time. All working relations remained as before, except that free rent ceased in 1862, and the promise by Lind University to provide better housing was withdrawn. Yet shortly after the communication from the University, at the annual meeting of the Medical Faculty, active steps were taken toward incorporating the reorganized group and becoming an independent body under the name selected at the previous meeting.

At this session, on March 27, 1864, the terms of incorporation were fixed, with the present Faculty becoming the Corporators of the Chicago Medical College, and the immediate Trustees as well. The papers were filed promptly with the Secretary of State and duly certified by him on April 26, 1864. The Board of Trustees, thus constituted, was authorized to fill future vacancies in the Board, to appoint faculty members, to confer medical degrees on the recommendation of the Faculty, and to hold legal title to real estate and other property. The articles of association, as filed and certified, read as follows:

To all, to whom these presents shall come.

Know ye, that we, Nathan Smith Davis, Hosmer A. Johnson, William H. Byford, Edmund Andrews, John H. Hollister, Ralph N. Isham, Frederick Mahla, Mills O. Heydock, Henry Wing, and James Stewart Jewell — having associated ourselves together pursuant to the Statute for the purpose of establishing a Medical College in the City of Chicago and State of Illinois, do hereby certify and declare that said institution shall be named and called the “Chicago Medical College,” by which title it shall be known in *Law*; that it shall have ten trustees and that the following named persons *be* and they are hereby declared such Trustees, viz. — [names as above]; that the Science of Medicine shall be taught in such Institution and the number of Professorships therein, and until such number shall be changed, shall be *Thirteen*, designated as follows — [listed as on p. 39], and such other branches as are necessary to teach in a Medical College.

In witness whereof, we have hereunto set our hands and seals this 26th day of April, 1864.

Despite this safeguard against future contingencies, the new College seemingly still hoped for a turn of events that might restore usefulness to its university affiliation. The Annual Announcements, even through 1867-68, continued to bear a subheading, which identified the College as the “Medical Department of Lake Forest University.” Also the Faculty Minutes show that candidates for the medical degree were still being recommended to the “Trustees of the University” as late as 1867. Moreover, in November, 1864, months after the alleged contract abrogation and the change of name for the College, the Faculty had directed that “a new heading [be] engraved for the diploma plate in large and handsome letters, and with suitable ornamentation, with the name of the University [Lake Forest] underneath.”

On the other hand, directly following an action in June, 1868, to omit from the Annual Announcements all further reference to Lake Forest University, the Faculty voted “to erase, if possible, from the diploma plate all reference to Lake Forest University” and directed the Secretary “to give notice to the Trustees of Lake Forest University that the Faculty has decided to withdraw their College from connection with Lake Forest University and to give notice to Mr. Harvey M. Thompson that the Faculty will, if he wishes, refund to him the \$100 loaned by him to the Medical Department conditioned

on its remaining in the University." Possibly it is more correct to state, as was said by Dr. Davis in one account of the termination, that previously, in 1864, the University had merely released the Medical Faculty from all contractual obligations to remain as a department of that institution. This would have left the Medical Faculty with the power of determination and a free choice of action, and subsequent events seem to confirm this view. Certain it is that classes were graduated under the name of Lake Forest University as late as 1868, and that relations were not terminated until the summer of that year.

The unsatisfactory outcome of the alliance with Lind (Lake Forest) University promptly set the Medical Faculty to considering what might be done next. Even shortly after their reorganization and adoption of a new name, there seems to have been some unrecorded negotiation with the original University of Chicago (not the present one with the same name). The Minutes of August 15, 1863, contain a resolution "that we will unite with Chicago University on the terms proposed in writing by Dr. Davis and on no other considerations, and that we must have an answer definitely on Tuesday morning next." There is no further mention of this matter, and the attempted union obviously failed. Although the reorganized Faculty became a corporate body within the ensuing year and, as such, were empowered with autonomy and degree-granting prerogatives, it was not long before there were signs that the College would welcome additional strengthening by either affiliation or merger.

During the year 1866 a turn of events led to another attempt at union, and this time by merger. On the tenth day of October, President Brainard of Rush Medical College was stricken in a cholera epidemic, and died. Dr. Davis, who had recently become President of the Faculty of Chicago Medical College, was encouraged to hope that, with the removal of his militant opponent in curricular reform, the Rush group might not be adverse to an amalgamation of the two schools. This view was reasonable since the faculty of that College had become converted to the Davis viewpoint when he was a colleague and had then, it is said, even prepared an announcement embracing those reforms in the temporary absence of President Brainard. The opposite number to Davis on the Rush faculty in this matter was Dr. Ephraim Ingals, Professor of *Materia Medica* and later the second largest donor to the Northwestern building pro-

gram on the Dearborn Street site.

Extant are two letters in the private files of the Davis heirs. One, addressed to Ingals and dated December 1, 1866, proposed a detailed basis of union between the two schools. It outlined an organization essentially duplicating the educational structure of the Chicago Medical College. Rush was to erect a new building, on a new site, capable of providing for 550-600 students; a new faculty, consisting of thirteen professorships, was to be drawn from the two present faculties on a basis stipulated in detail; the major honors in these assignments went to the Chicago Medical College, and perhaps justly so. A brief reply from Ingals stated that he saw no prospects of effecting the union for which he had entertained hope. There is no record in the Faculty Minutes concerning this negotiation, and possibly it was nothing more than a private, exploratory exchange between two individuals. However this may have been, it remains as an interesting episode. Several years were to pass before another, and better, solution was found (p. 73 *ff.*); and decades would elapse before Rush Medical College, facing closure, would initiate proposals of its own (p.238).

FURTHER PIONEERING

At the introductory address of the tenth annual session, in 1868, President Davis said:

It is with unfeigned pleasure and gratitude that I welcome you, gentlemen, to the halls of the first American Medical College whose organization is in accordance with those principles of education everywhere acknowledged to be correct; whose system of instruction, both in regard to length of term and systematic order of studies, is commensurate with the field of medical science and the demands of the profession; and whose material appliances are complete in every part. I acknowledge a feeling of pride that I am identified with an institution whose Trustees and Faculty have risen so far above the mere consideration of pecuniary gain and petty competition for numbers of students, as to demonstrate to the whole profession of our country the practicability of establishing and maintaining medical colleges on a basis commensurate with the wants, the interests, and honor of the profes-

sion. [This] successful example must and will be followed, sooner or later, by other colleges in every part of the country.

On this occasion, the opportunity was also grasped to set the record straight on the motives of the Founders:

To demonstrate to all the profession that those engaged in the organization of the new college were not activated by any personal rivalry, or desire to establish a new school merely to compete with those previously existing for students, regardless of the great principles of education, the lecture term adopted was five calendar months, and the annual lecture fees fifty dollars cash and no credit, while at the same time the Rush Medical College in our own city had a lecture term of only *sixteen weeks*, and an annual lecture fee of only thirty-five dollars, and our nearest neighbor, the Medical Department of the University of Michigan, charged only an initiatory fee of ten dollars.

At the end of the decade since its founding, the sponsors of the new medical college could feel rather well satisfied with the accomplishments attained. In that span of years, student attendance had totaled 817, and 263 graduates had received the degree of Doctor of Medicine; the annual enrollment continued to show an encouraging, progressive increase. The number of different lectures was about two and one-half times the total given by other medical schools, individual subjects receiving more attention than could be obtained in a repetitional curriculum. A new college site and a larger building were in prospect (p. 76). The lengthened and graded curriculum, larger faculty, required attendance, daily quizzes, final examinations and integrated, required hospital-instruction marked this College as a pioneer with, as yet, no followers.

Thus in 1868, after nine years of operation, as Professor Jones later wrote, "The College was still in advance, no other medical school in the country having then adopted so complete a curriculum." Nevertheless, the Founders were not content to rest on these accomplishments, since several additional innovations still remained to be put into effect before the original modest blueprint of a modernized medical program could be realized fully. One was the lengthening of the annual course of instruction from five to six months. Another was the lengthening of the total required course, leading to a degree, from two years to three. A third was specifying

the moderate standard of preliminary education that must be met by prospective students. The fourth was requiring personal work in the laboratory study of chemistry, histology, physiology and pathology.

A convention of delegates from medical colleges, meeting in Cincinnati in May, 1867, recommended a revised system of medical instruction, embracing the following features: a standard of preliminary education; a faculty of not less than nine professors; lecture terms of six months' duration; division of the various medical subjects into three progressive series, with an examination at the end of each such annual course; direct clinical instruction in a hospital, as a part of the Senior course; and the requirement of all of these for graduation. This plan, proposed by Dr. Davis, received the immediate and unanimous approval of the American Medical Association, and within a few months was equally endorsed (and its adoption urged upon medical schools) by the medical societies of Illinois and other states. But, as Professor Johnson dryly said: "These propositions, no doubt, faithfully represented by the opinions of those teachers when at a distance from their institutions, but they had altogether a different set of ideas when the question was presented in its financial aspects, at home."

The Annual Announcement for 1867-68 began with the following self-congratulatory paragraphs:

For eight years past this has been the only Medical College in the United States whose curriculum embraced the whole series of Medical Sciences, a full corps of thirteen Professorships, a long College Term, and a successive order of study, with Hospital Clinical instruction, as an essential part of the Senior Course, and one of the conditions of graduation.

At a recent convention of Delegates from Medical Colleges, held at Cincinnati, for the special purpose of revising the system of Medical College education in this country, every essential feature of the plan which this College has successfully maintained for eight years, was unanimously adopted; the same subsequently received the equally unanimous sanction of a full meeting of the American Medical Association. Standing thus in the position of a pioneer institution in the great work of revising and improving the whole system of Medical Education in this country, the Faculty are steadily adding to the resources for imparting instruction in all departments.

Several of the schools represented at the 1867 Cincinnati Convention refused to co-operate. Such included Rush Medical College, which delayed action until 1891; this was even fourteen years after the Illinois State Board of Health had set up rules to regulate medical practices and the American Medical College Association had legislated similarly. On the contrary, the Faculty of Chicago Medical College took a preliminary positive action when they met in April, 1868, to discuss the circular reporting the recommendations of that Convention, and to reply to explicit questions asked concerning approval and adoption. They ended their deliberations by resolving "that the Faculty and Trustees of Chicago Medical College approve the changes in medical college organization and instruction proposed by the Convention of Delegates from Medical Colleges held in Cincinnati, May 1867; having practically carried into effect since the organization of the College all the propositions of the Convention, except those relating to preliminary education and the exacting of four years' study [including three annual courses in a medical college], the Faculty and Trustees of Chicago Medical College are ready to adopt both of these so soon as other leading colleges will do the same."

The preliminary approval just described, was implemented within a fortnight by a decision to go the full way in compliance with the Cincinnati recommendations; this was because the Faculty was finally satisfied that a sufficient foundation had been laid and that the patronage of the College now afforded a reasonable guarantee of success on the adoption of even more elevated standards. The revised curriculum, set forth in the tenth Announcement (1868-69), was extended to six months annually and was distributed over three successive courses, corresponding to three years of study; both of these measures set new precedents. The Junior Course dealt solely with scientific subjects; the Middle Course, with basic sciences supplemented by clinical instruction at the hospitals; the Senior Course, with clinical subjects and hospital instruction. In addition, "every student applying for matriculation would be required to show, either by certificate or by examination, that he possessed a good English education, including the first series of mathematics and the elements of natural sciences."

The three years of academic residence, however, were not enforced for a time in order to facilitate the transition from the former requirements, as the Announcements made clear: "We cannot too

strongly urge upon the attention of students, and the profession at large, the very great advantages resulting from attendance on three full, consecutive courses as they are adjusted to each year of study in this College. But, for the present, arrangements are made so that those, who for any reason may be unable to adopt this plan, can take all the lectures in two courses." The result of this double standard can be seen by tracing the progress of the class that entered as Juniors in the autumn of 1871 after the plan had become well publicized and tried. Of 47 students who then matriculated, 11 elected the full three years and received degrees, whereas 16 graduated after two years by taking advantage of the option; 20 failed to qualify for a degree within the three-year period. Beginning with 1875-76 the long course presumably went into full effect and became compulsory, since the Announcements for that session and later ones omit any qualification other than that students who were entering after one session at two-year schools would be admitted to either the Middle or Senior Class by examination.

A paradoxical result occurred in the instance of students who failed in examinations at the end of the first year. These could gain entrance into the second, repetitive course of a two-year school, which held only a single examination at the end, and graduate a whole year in advance of their superior classmates at the Chicago Medical College. Such happened, for example, when failed students transferred to Rush.

One immediate consequence of more rigorous requirements to admission and graduation at the Chicago Medical College was a decline in patronage; attendance had reached 113 in 1867-68 but fell within two years to 72. From this temporary low, recovery set in; by 1872-73 it had already surpassed the former high, and five years later reached 153. Instead of producing an operational balance that paid the teachers up to \$160 a year as a dividend, in excess of lecture fees, the years directly following the changed requirements showed a deficit equaling one-fifth of receipts. This, however, was one of the calculated risks that had to be taken when pioneering continued boldly and fully.

JUDGMENTS

The real need of an educational standard, among other require-

ments, is emphasized in an anecdote related by President Eliot of Harvard University. He alleged that about the year 1870, when attempting to revise the medical curriculum, including required written examinations, the head of the medical school said: "I had to tell him that he knew nothing about the quality of Harvard medical students. More than half of them can hardly write. Of course they can't pass written examinations." This verbal bomb corroborated an earlier and more sober pronouncement of the Committee on Medical Education of the A.M.A. that the standards of education and attainment in medicine were lower than those in other professions, since a thorough education was not essential to success. The report also recorded sourly that medicine had a lower percentage of Phi Beta Kappa members than other professions.

Norwood, writing retrospectively on medical education in the United States prior to the Civil War, placed our fledgling school alongside Harvard, Columbia and Jefferson among six better medical colleges in the country. Although this new school had, as yet, gained no followers, there had been no lack of definite pressures in the first half of the nineteenth century for educational reform. These pressures came principally from four quarters: (1) the establishment of regulation and licensure of physicians; (2) the growth of state and local medical societies; (3) the creation of the American Medical Association; and (4) propaganda from physicians, enlightened by medical study in European countries.

It is clear that the popular system of collegiate medical education in this country, which continued far into the nineteenth century, was an irrational retention of what had served as a general review course in colonial days. Its repetitive nature had arisen largely as a compensation for the scarcity of textbooks. The chief arguments in defense of this anachronism were two in number: first, that the ungraded course fixed the fundamentals of medicine firmly in mind by repetition of the same lectures, students having seen some illustrative cases with their preceptors between the first and second hearings; and second, that it had demonstrably produced good physicians over many decades of operation. These assertions were flimsy rebuttals advanced by those who held vested interests in colleges that were, only too often, proprietary commercial enterprises. The factor of self-interest cannot be minimized since the professors in all the traditionally organized schools stood to lose half of their income if the students no longer were compelled to pay

twice for the dubious privilege of listening a second time to the same set of lectures.

Such apologists ignored the diminished role of the preceptor, the steadily broadening range of medicine to be taught, the conflict with pedagogical principles in all other branches of learning, and the isolation of this position even from medical pedagogy as practiced in other parts of the world. They had failed to match in their works the progressive attitudes of the organized medical profession in general, as expressed in the endorsements for reform by the American Medical Association and other bodies. And the claim of grinding out good practitioners was an argument *ad hominem* that could easily be contested. The graduates were poorly trained in comparison to those of other countries with requirements of pre-medical and medical training demanding up to seven years of study, and with graded medical courses and hospital instruction. The competence of the rank and file of physicians was harshly criticized by those in a position to judge, while the practitioners who became proficient were those who had sufficient native ability and drive to surmount the shortcomings of an inferior training.

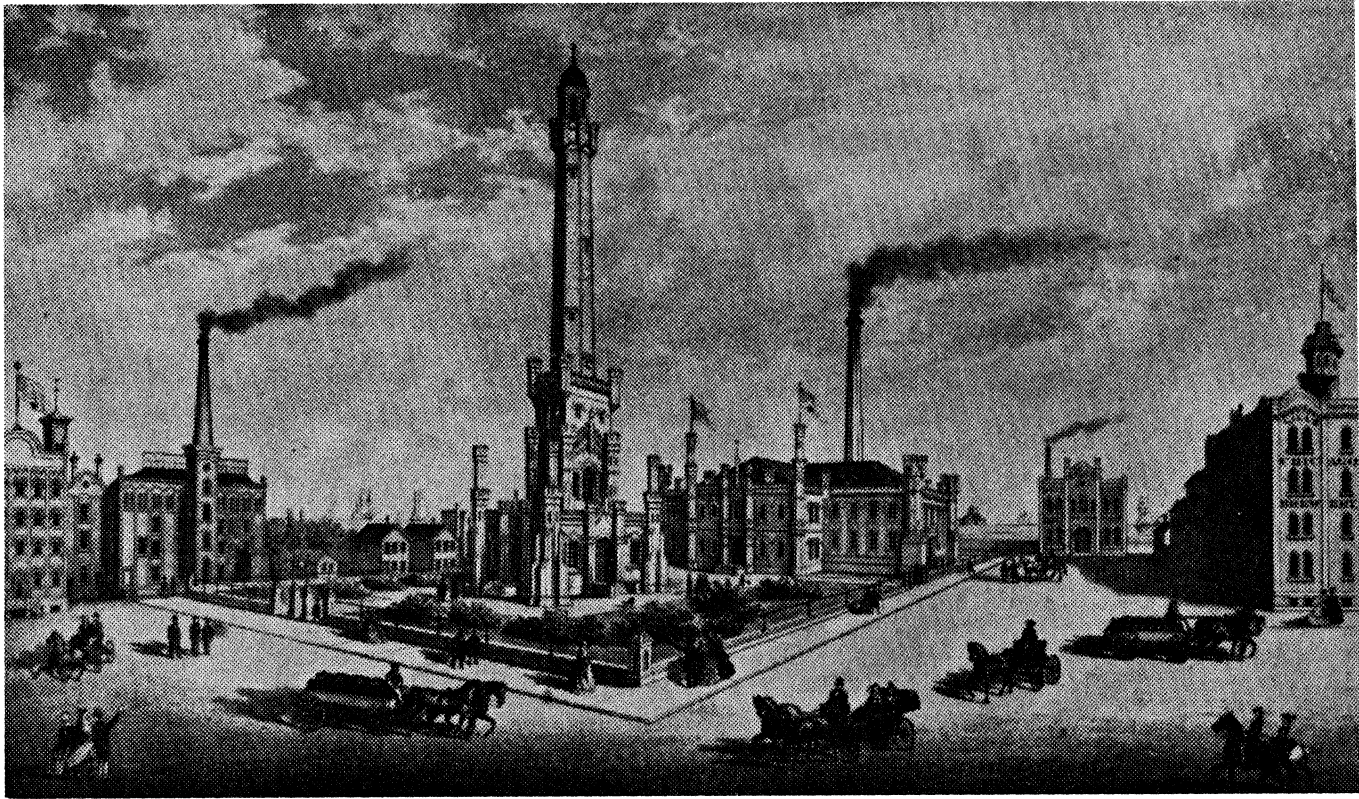
Outspoken among the critics of the old system was, of course, N. S. Davis, who wrote: "The country, especially the western part of it, is kept full of half-educated physicians who are neither capable of sustaining the character of the profession, nor doing justice to the community." A committee, appointed by the American Medical Association in 1849, reported that "to the imperfect and restricted courses of the schools, and to the low standard of medical graduation, is attributed the superficiality and degradation of medicine; the profession look to the schools to reform the evil." In the calmness of historical hindsight, the arguments against reforming the established system seem incredibly stupid. Thus, President Brainard, of Rush Medical College, contended that the real way to better medical instruction was simply to improve the quality of lectures while continuing the established system, and that the secret to producing better practitioners was to make available more teaching outside the colleges and to supply adequate libraries.

Even later, partisan apologists (Bridge and Rhodes, 1896) for the curricular backwardness of Rush Medical College solemnly wrote, as historians, that "the graded course of instruction was a sort of shibboleth, and as such was useful, but otherwise was of little consequence to the new school, for while it made the study and grad-

uation easier for the student, it did not add to the substance taught, or to the requirements or equipments of the student." A quarter of a century later, in his memoirs, the senior author, no longer constrained to defend that particular college, admitted that the Faculty of the newer, rival school contained "some notable men, pioneers in a new plan in the teaching of medicine [that was] in the beginning of the better pedagogic methods of later years in this country . . . It was logical and good, as far as it went, but wholly inadequate because it added nothing to the things taught." Obviously, the arranging of the curriculum in separate, sequential series did nothing more than bring order out of chaos, and no one ever claimed that the mere act of grading did or could do more. But Dr. Bridge was still conveniently forgetting that along with grading went: lengthening the terms; extending the total period of study; introducing correlated, required hospital instruction; introducing more subject-divisions; expanding the faculty; increasing the number of different lectures; enforcing a standard of preliminary education; quizzing of students daily; and giving promotional examinations at the end of each year. Were all these innovations "adding nothing"?

In historical perspective the truth is now plainer, and the considered judgment of N. S. Davis in his later years had been sustained. In retrospect he said that the College "has accomplished already more than most institutions and might today die glorious, for it had demonstrated to the country that a school [with such standards] could succeed." It is equally clear that October 9, 1859, when the College opened its doors, must be regarded as marking an important epoch in the history of American medicine. In his biography of Nathan Smith Davis, Dr. I. N. Danforth has emphasized this truth in the following words:

On that day, in a rather obscure city, in the then remote and little known West, under the auspices of a university destined to a brief and otherwise uneventful existence, and under the patronage of a group of medical men who, with a single exception, were not recognized [nationally] as leaders in the profession, there was inaugurated a movement that was an acute and radical departure from the traditional and venerable methods of teaching which were hallowed by the great names of the numerous and powerful professors of the schools of the Atlantic cities, and by many of those of Europe.



View along Chicago Avenue toward the Lake (about 1869), before the creation of 'Streeterville'. Until the middle Eighties the shore line was east of the pumping station (middle building with smokestack) at approximately Seneca Street.

To be sure, the pioneering and imaginative Founders had, from the start, spelled out an imposing set of innovations for medical education, and had courageously begun to put most of them into operation. Nothing can detract from the glory of their accomplishment. Yet it should be recorded that ninety-odd years earlier John Morgan, of Philadelphia, proposed a sketchy plan for a medical curriculum that would require a previous liberal education and be organized into the several divisions of medical knowledge. But these branches should be studied in orderly progression since "they may be considered as links in a chain that have a mutual connection . . . Whilst we neglect this, all our ideas are but a rope of sand without firm connections."

Northwestern Adopts the “Reform School”

(1870)

Northwestern University was the fifth institution of higher liberal education to be established in Illinois. It received a charter in 1851, eight years earlier than the medical college with which it was to become associated, but the first class of ten students at Northwestern did not assemble until 1855. Four years later, when the Medical Department of Lind University opened its doors, the enrollment of this school was 33 as against Northwestern's 36. Unlike the adventurous unconformity of the medical college, which had set out to establish a new order in education, the founders of the University were stolidly orthodox. Upholding the tradition that religion and learning should walk hand-in-hand, they aspired to nothing more than satisfying “the interests of sanctified learning [which] require the immediate establishment of a university in the Northwest under the patronage of the Methodist Episcopal Church.” Besides similar attributes of courage, faith and devotion, the two founding groups possessed one other common characteristic: they were all young men, the oldest only 42 years of age. Both institutions were the products of the daring of relative youth, not the darling projects of the elderly. And the launchings of both institutions were vibrant with youth and energy.

The financial panic of 1857, and its aftermath, were not favorable either to Northwestern University just started, or to the Medical College about to open. In the initial year of the new medical school, the struggling University could raise donations amounting to only \$155; the medical group, on its part, was the recipient of makeshift quarters alone in the way of sponsored help.

At the time of affiliation of these two institutions, in 1870, neither had attained affluence. The University operated on an annual expenditure of \$28,000, whereas the budget of the Medical College was about \$4,000.

Neither the University nor the College had solved its problems sufficiently by 1870 to be at all complacent. It was obvious that each could offer something that the other needed. Since dissolving its initial ties with Lind University, the Medical College had luckily failed in having its conditions of affiliation met by the ill-starred, original University of Chicago. Yet the Medical College was still willing to be adopted on favorable terms by an institution in which it had faith.

THE MEDICAL DEPARTMENT OF NORTH- WESTERN UNIVERSITY: 1870-91

The first "Circular" (that is, Announcement) of Northwestern University, published in 1856, sought to justify the apparent oversight in confining the organization to a single department, the College of Literature, Science and Arts, on the basis that this limitation was judged to be best adapted to the wants of the country since the various colleges of medicine, "already established, particularly Rush Medical College, will doubtless keep pace with the demands of the profession. For the present, at least, this precludes the necessity of such a department in the university." It may be wondered if Trustees John Evans and N. S. Davis, both professors at that time in Rush Medical College, did not influence this decision! The promise that a "department of law will be organized at no distant day" would not have led one to predict that a medical college would, in fact, become the first affiliate to start the "University" toward really becoming such. Perhaps the decision, one year previous to the medical affiliation, to admit women into the College of Arts was an omen of a generally expanding vision and progressive liberalization of the Trustees.

When Erastus Otis Haven came to the University in the summer of 1869 as its third President, he was already favorably disposed toward medical education as a desirable field of academic activity. In his inaugural address he said: "All learned professions should be

prosecuted [and] the medical school and law school should be departments." Hence, shortly after his arrival, he encouraged the Trustees of the University to instruct its Executive Committee to act on "the matter of negotiating with some one of the medical colleges of Chicago with reference to union with the University."

Conversations immediately ensued with N. S. Davis, who was a trustee of Northwestern University through most of the span from its foundation in 1851 until his death in 1904, and two days later Davis reported to his Faculty on the possibility of an alliance between the two institutions. This information resulted in a resolution "that a union of this College on just and satisfactory terms with the North Western University would be desirable; . . . that a committee be appointed to confer on the subject with the Executive Committee of the Trustees of North Western University [and this committee be] instructed to consent to a proper arrangement on the basis of receiving at least \$15,000 from the University."

Within a short time a proposal in two parts was drawn up. The first section offered union with the University if the latter contributed \$15,000; in return, the Medical College would agree to permit students of the University to receive free instruction in analytical and practical chemistry and, as a stimulus to better premedical preparation, would admit Northwestern students with two or more years of college training into the full medical course, free of tuition. Secondly, the Medical College offered to transfer all of its property (medical building and contents valued at \$15,000) to the University and become a permanent, but corporate, department of it if the University would agree to the following conditions: (1) hold the property in trust for the perpetual use of the Medical Department; (2) continue the present Medical Faculty and make future appointments and removals only on the recommendation of the Faculty; (3) permit all fees collected by the Medical Department to be used by it for maintenance and salaries, no other salaries being claimed from the University; (4) appropriate such additional sums, beyond the \$15,000, as might be necessary to erect and furnish a new medical building not to cost more than \$30,000.

The Trustees of Northwestern University approved the first proposal but not the second one (presumably because of clause no. 4). Negotiations of a compromise nature were completed on March 10, 1870, when the following terms of a somewhat loose union were agreed to: (1) the Chicago Medical College, although officially

becoming the Medical Department of Northwestern University, would retain its corporate name, hold title to its property, manage its finances and control its Faculty and curriculum; (2) the University would confer the medical degrees on the recommendation of the Medical Faculty, and these must be the only degrees conferred; (3) undergraduate students of the University would be permitted to receive instruction in chemistry at the Medical College without charge for the tuition [and the University separately promised \$1,000 annually toward the salary of the Professor of Chemistry, who would also do teaching for a time on the Evanston campus]; (4) tuition charges would be waived for all graduates of the Literary Department and for such students as had spent two years in that Department, who wished to register as regular medical students [tuition was subsequently interpreted as lecture fees only, and in 1896 the privilege was rescinded by mutual agreement]; (5) the University would contribute \$15,000 to aid in the erection of a medical building on a new site already arranged for with the Sisters of Mercy; (6) at any time, on the further contribution of \$5,000 in aid of the College, the latter would consent to transfer and surrender its charter and corporate rights, and become in all respects a Department of the University, it being understood that in such case the University would assume all the obligations of the College and offer autonomy in matters of curricula, calendar, fees and recommendations for appointments and removals.

This agreement was essentially a commercial contract that resulted in little more than a simple business alliance. The University gained no control over the Medical College, and committed itself to the somewhat questionable privilege of granting medical degrees under these conditions. It also reserved the right to buy the better housed College for \$5,000. The College, on its part, received \$15,000 (which it needed desperately for a new building) and obtained the use of the University name. Mutual advantages were claimed from the deals involving the partial subsidization of medical chemistry, on the one hand, and free medical tuition for University students, on the other hand. It was the first of two contractual agreements of association, before the final complete merger would take place. Apparently none of these stages of union gained public attention through publicity in the daily press.

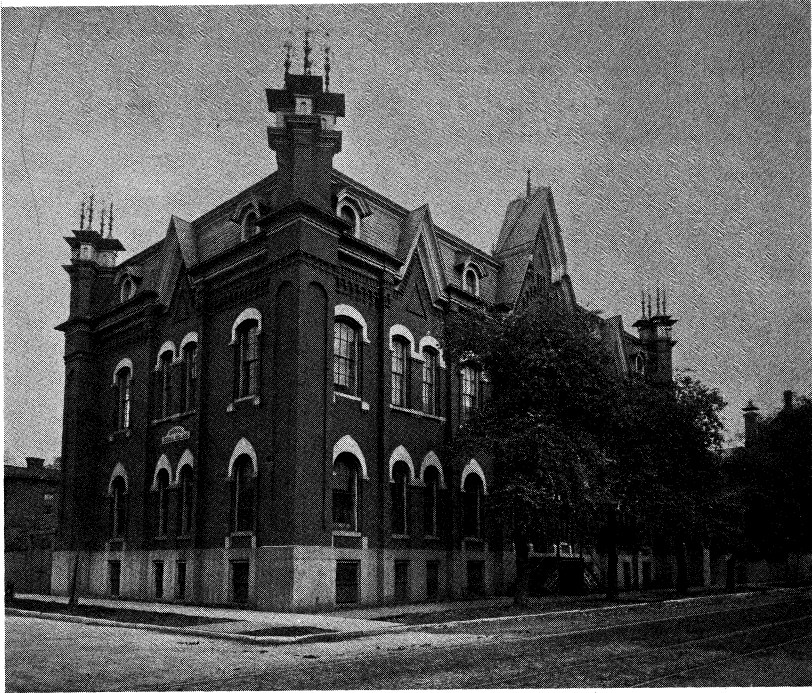
Incidentally, the time of this first union has been misdated as 1869 in all previous historical accounts and University publications.

To be sure, the Executive Committee of the University Trustees reviewed the revised contract and gave approval to it in the autumn of 1869, but the matter was not acted upon by the Board until March 10 of the following year.

At the end of the 1869-70 session President Haven, of Northwestern University, conferred the medical degrees and thus ritualized the union of the two institutions. Addressing the graduating class, he said:

Your profession is as old as the clergy, and has its regular succession of doctors of medicine from early times. Doctors are the great prosecutors of science and free thought. The principles of your profession should be better understood by the public. When a true physician discovers a new remedy or the cause of any malady, . . . he is to publish it as free as the air to all the profession. This is philanthropic and noble. A physician must be a gentleman. He should, I think, in the highest sense of the word be a Christian.

In conformity with the new University relation, the Chicago Medical College, at the next annual meeting, changed the designation of its presiding officer to "Dean," although the President of the Board of Trustees retained his corporate title. The installing of a Dean was not a novel move. The first official use of this title by an American medical college was made by the College of Physicians and Surgeons (Columbia University) in 1791; and this was the first organized medical faculty, with its own presiding officer, within a collegiate institution. For more than twenty years, until 1891 when a closer union was effected between the University and its Medical Department, the affiliated school was to operate under the cumbersome name of "Chicago Medical College, the Medical Department of Northwestern University." Possibly a record for changes in affiliation had been made since, within slightly more than a decade, the College had become the Medical Department of three different universities.



The Chicago Medical College at its third location, Twenty-Sixth Street and Prairie Avenue; 1870-93.

A SECOND BUILDING PROJECT: 1870

In 1868 a municipal ordinance authorized the widening of State Street in a way that would cut off the front part of the medical building and render it useless as a school. In this impending crisis, a new site had to be found and a new building erected. Probably the steadily increasing enrollment (113, in 1867-68) and the forecast of eventual outgrowth of the modest, present building tempered any dismay over the short tenure of the recently acquired quarters. In May, 1868, the Faculty appointed a committee "to investigate the subject of providing a new site for the College." A year later (July, 1869) the Trustees were directed to "lease a lot from the Sisters of Mercy [at the north-east corner of Prairie Avenue and Twenty-Sixth Street, adjoining Mercy Hospital], giving hospital services in lieu of rent, [and] a committee was appointed to prepare plans for a

new building." A contract for a lease of 99 years was obtained in return for staffing the hospital and making it a teaching institution. It was not, however, until the following February that plans were drawn and accepted, and authorization was given "to procure estimates, not to exceed \$30,000, for all expenses of building and fitting up, ready for occupation."

The new college building was erected on the acquired lot in remarkably short time, and it became ready for occupancy for the 1870-71 session in early October. It was, for the times, a somewhat pretentious building, facing on Twenty-Sixth Street and "possessing more of an element of permanency about it than any in which the institution had hitherto been established." More specifically, it was judged to be "commodious, attractive and as good as the buildings of any of its older eastern competitors, and for convenience and elegance superior to any similar buildings in this region." It was substantially built of brick, with stone trim, and was architecturally pleasing in conformity with the style of Mercy Hospital; there were two and one-half stories above a basement entered at street level. The cost was slightly more than \$30,000; of this amount, \$15,000 had been exacted from Northwestern University as one of the conditions of affiliation, and an additional sum toward the total requirement resulted from the sale of the State Street property, which the College had appraised at \$10,000.

This new building contained: two large lecture halls or amphitheaters, seating 240 and 260 students; well-lighted dissecting rooms; adequately appointed laboratories for chemistry and microscopy; a museum to display the expanding collections of anatomical and pathological specimens; and a library and reading room. The basement soon housed the free dispensary, with separate rooms assigned to different categories of patients and instruction. After some years of continued dissatisfaction with makeshift methods of preserving anatomical material, the basement finally incorporated a deadroom, called the "ice house" or "anatomical vault," that was the particular pride of the College. It was built in 1878, and the next Announcement bragged that "the special facilities for the preservation of material are such that the supply is absolutely unfailing." The vault had a double wall of logs; in the interspace, tons of ice were poured each season. But the logs eventually became so saturated and moldy that insulation failed, and the cadavers often reached the students poorly preserved and moss-

covered. It was a hardy soul who would pursue anatomical dissection beyond the bare requirements. The problem of proper preservation and storage of bodies would plague the Faculty until a new medical building was erected and refrigeration was employed on bodies that had been adequately embalmed. Dr. Arthur E. Hertzler, in *Horse and Buggy Doctor*, remarks that as late as his student days (1894) "The dissecting room was a mess. The preservation of material was then not understood, certainly not by our custodian."

The records supply no further details as to financing, other than that at the end the Trustees reported a deficit of about \$2,200 in the building fund, met by advances from Professor Byford, who was to be reimbursed from college receipts. This building was destined to serve for 23 years as the home of the College. Free ground rent was guaranteed to the College for twenty years certain, and as much longer as the adjacent building might be used as a hospital, payment consisting of such clinical instruction in the hospital wards as the interests of the College required. By the terms of the contract the medical officers of the Hospital came from the Faculty of the College, the Sisters subsequently gaining the privilege of suggesting preferences for appointees to the attending staff.

In an address at the opening of the new building and the beginning of the annual session, Professor Johnson said:

The location and relations [of the college building] to the hospital are such, that for all practical purposes, that institution becomes a part of the college organization. Each Didactic Chair has its corresponding Clinical Chair in the Hospital, where the theories of the lecture room are daily tested at the bedside of the patient. In this respect also it differs materially from most schools of this country, and, to the same extent, approximates in its means, as well as its modes of teaching, the best institutions of the Old World.

The *Times* and the *Evening Mail* took cognizance of the new building and its opening ceremony, and the *Times* gave a complete digest of the address. The *Tribune*, well engrossed with the encirclement and siege of Paris by the German Army, allotted no space to the local incident, but did announce that:

Dr. N. S. Davis, of this city, lectures this evening on temperance in the new Congregational Church at Oakland. There will be music on the organ by an accomplished pianist. The Band of Hope will sing.



Anatomy class in amphitheater at the Twenty-Sixth Street building; 1885.



Microscopical laboratory in the Twenty-Sixth Street building.

So it was that at the beginning of the twelfth annual session, in 1870-71, the College found itself in a rather solid and enviable position. It had dared to strike out and challenge the united front of orthodoxy in medical education. It enjoyed reasonable prosperity in spite of departures from the standard pattern, and had demonstrated to all the timorous educators of the land that a rational curriculum and higher standards would attract students even at greater cost to their time and money. It had, as Professor Johnson said, "from the period of its inception . . . been both growing and developing, [while] for the last eighty years other medical schools had only grown." It had made an alliance with a University that gave present benefits, both tangible and intangible, and would become increasingly advantageous in the years to come. It had acquired a college building, physically imposing and well adapted to its present purposes; this was located in conjunction with a new teaching hospital, staffed by the Faculty and, in effect, an integral part of the teaching unit. In addition, the Cook County Hospital, with representatives of the College on its staff, was only a short walk distant; St. Luke's Hospital, soon to become used, was equally near.

As Dean Davis emphasized: "In all of its requirements as to period of study, graded curriculum, number and length of annual terms, and number of branches taught, including laboratory, didactic and clinical, the College had already attained the full standard of education subsequently demanded by the Illinois State Board of Health, [and] seven years before the law creating that Board had been enacted by the State Legislature." Also, seventeen years before the organization of the American Medical College Association (1876), the College had far exceeded the stipulations concerning reform that were incorporated into the articles of confederation of that body.

THE GREAT FIRE: 1871

Almost exactly one year after occupying the new medical building, occurred the Great Fire of October 8 and 9, 1871. This holocaust burned out the business section of the City, extended south to Harrison Street, and locally even to Twelfth Street (now Roosevelt

Road); westward, it was restrained by the north and south branches of the Chicago River; crossing the Chicago River proper, it consumed buildings to the north, even to Fullerton Avenue. Seventeen thousand buildings were destroyed, and 98,000 persons made homeless.

No damage was incurred by the Chicago Medical College or the Mercy, County and St. Luke's Hospitals, since they were well beyond the southern limits of destruction, and all of the students escaped without injury or loss. Of the Faculty Drs. Isham and Byford suffered most heavily, losing both residence and office. The minutes and files pertaining to the Trustees, in the hands of Dr. Hollister, were destroyed in his office, whereas the more important Faculty Minutes, kept by Dr. Andrews, were unharmed. Among Dr. Byford's losses was a note for \$3,000 against the College, representing advances made to cover an overrun in cost on the new college building, which note was reissued. Classes at the College were suspended for one day only, when the conflagration was at its height. Even so, Dr. Andrews, believing that the best policy was to proceed with the work at hand, maintained his scheduled clinical hours at Mercy Hospital and performed several operations in the presence of a large part of the class, *mirabile dictu*.

The Woman's Hospital Medical College, organized just a year before the Fire by Dr. Byford and others, and later (1892) to become affiliated with Northwestern University, was burned out of its temporary rooms on Clark Street, and the Woman's Hospital, near by, was destroyed as well. Although three-fourths of the faculty members lost their homes, these personal calamities did not deter the Faculty from convening on the day after the Fire and deciding that the College should go on. The losses of this school were not great because it had accumulated relatively little physical equipment. Classes were resumed for the ensuing year in quarters on West Adams Street, and the hospital reopened a short distance away.

On the other hand, Rush Medical College was left destitute. A few years previously it had erected a wholly adequate college building at Dearborn and Indiana (now Grand Avenue) Streets, north of the Chicago River. It lay directly in the path of the spreading fire and became totally destroyed, along with its contents; even the lot was a liability since it was mortgaged for more than its present worth. The majority of the faculty suffered severe losses, and many

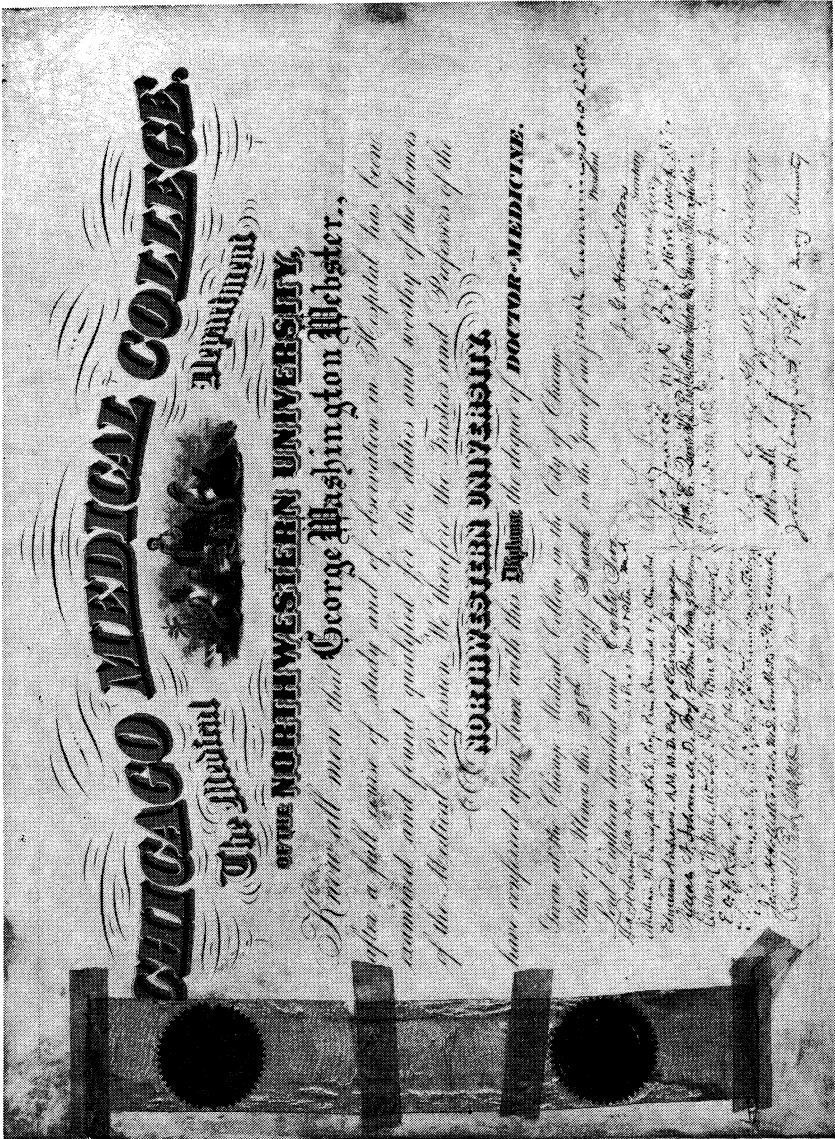
students lost books and clothing when their lodgings burned. Many physicians in the city were impoverished and a national appeal brought aid to them in the form of money, books, instruments and other commodities.

On the day following the Fire, the Rush faculty was informed that all enrolled students might attend classes, without charge, at the Chicago Medical College until teaching could be resumed in new quarters, either presently or at the next annual session. Use of the ample dissecting room for practical anatomy was accepted, whereas lectures were transferred to a little clinical amphitheater on top of the County Hospital, then located within walking distance at Eighteenth and Arnold (now La Salle) Streets. The greater part of the class returned to work and was started afresh on a new school year. This was the beginning of a profitable association of Rush Medical College with the County Hospital, which continued when both institutions moved to the West Side in 1878.

The Fire did not affect the holdings of the University to any great extent, although all of its Trustees suffered financially from the disaster. Orrington Lunt, one of the three dominant spirits in the founding of the University, played a heroic role on the day of the conflagration. When it became evident that the advancing flames would soon engulf his office, he took the records of the University from the vault and drove with them to a place of safety. This done, he returned to the building to save his personal books and papers. A Northwestern historian wrote: "So great was the fear of the spread of the flames through the woods and fields to Evanston, that furrows of defense were ploughed up and a corps of students stood with pails of water at guard between the two cities."

THE UNION IN RETROSPECT

The arrangement between College and University was unquestionably a marriage of convenience, the way of life of neither contracting party being materially altered. The University gained appreciably by expanding into professional territory for the first time and thereby laying better claim to the title of "University," which it had assumed; better chemical instruction and laboratory facilities in chemistry were obtained for it at a time when one professor at



Diploma, issued in 1882, with the treasured Faculty signatures.

Evanston was offering courses in general science, zoology, botany, physics, chemistry, geology, mineralogy and astronomy, and serving also as director of the University Museum, in which he classified and labeled 72,000 specimens; certain perquisites for students and graduates in the Literary Department were arranged; and provision was established for a more complete merger at the option of the University.

The Medical Department, in turn, attained some additional prestige by associating itself with a recognized educational institution, since a university alliance placed it a cut above the private school without such connection. Most practical was its mercenary gain of \$15,000, which would help meet an immediate building emergency. Also payments toward the salary of the chemical chair removed a worry because the compensation of nonpractitioners presented a recurring problem to the College, and especially so in years of lowered registration when lecture fees were small and 'dividends' could not be declared.

The timing of this loose affiliation, with its attendant benefits, was fortunate. Had it been delayed, the continued operation of the Chicago Medical College might have been seriously threatened, for the lack of a suitable home, and its further immediate progress surely would have been hampered. One year later occurred the Great Fire, which fortunately did not affect the University greatly, although the aftermath carried far-reaching side effects. Still recovering from this nearly mortal blow, Chicago, like the nation at large, was enveloped in the panic of 1873 and its sequelæ. The University found that its income, though increased, failed to keep pace with its growth and expansion. As if this were not enough, during the Seventies the University became enmeshed in its first great tax case, instigated by Cook County and extending to the Supreme Court of the United States (p. 284). Although finally won by the University, and freedom from all taxation was guaranteed, the years of litigation led to temporary impoverishment and hardships.

So it happened, for several decades after the alliance, that the University was not in a position to offer its new affiliate much additional help of any kind. Actually, such aid was not solicited or even contemplated. For the present the Medical College, happy in its new home and filled with enthusiasm and confidence, desired nothing other than to be let alone and to renew its campaign of reform.

IV

Union, with Independence

(1870-1891)

The period from 1870 to 1891 carried the Chicago Medical College through its first phase of affiliation with Northwestern University. To be sure, the College gained a sponsor, and the University gained its first professional school. But, under the terms of the contract, neither could meddle with the other's affairs in matters of policy, management or finance. During this 21-year period the crusading College was to enjoy fair prosperity, and take pride in seeing its basic principles gain approbation and steadily increasing adoption. In addition, it would experiment anew and introduce some further innovations.

Also in these years, an appreciation of the importance of practical experience in the basic medical sciences was implemented by the introduction of individual laboratory work. Such attitudes toward science were in sharp contrast to the previous thinking of some educational leaders. For example, at the time that the Medical Department of Lind University was founded, President Brainard of Rush Medical College was advising his students not to put too much faith in the revelations of the microscope, because "I think if you have a fruitful imagination, you can find almost anything you are looking for." Not to be outdone in skepticism, N. S. Davis, puzzled by the presence of bacteria in healthy organs, much later scoffed at their pathogenic role (p. 168). It is of some interest to record that when Davis came from the East in 1849, to teach at Rush, he brought with him a microscope which was believed to be the first in Chicago.

Clinical progress was also in the making. Even in 1880, at least nine out of ten operative wounds became infected, and three out of four abdominal operations were fatal. An eminent alumnus, Dr. F. H. Martin, who graduated from Northwestern that year, said that the six abdominal operations he had witnessed in three years,

as a student, resulted in as many deaths. But Dr. Edmund Andrews of the Medical Faculty was about to become a pioneer in practical antiseptics, and be the first surgeon in the West to employ Lister's method on a large scale. Diagnosis was beginning to assume a scope and thoroughness undreamed of in Chicago and the Northwest before Dr. Frank Billings, returning to Northwestern from European studies, instituted a local revolution in this field. Yet this advance, like many others, was just gaining momentum at the end of the current period when old ways were being replaced by more rational procedures.

As a practical matter, many shortcomings still prevailed. For example, use of the dispensary in teaching was laggard, and obstetrical deliveries were observed only when students could bribe some poor soul to let Professor Jaggard deliver her before the class in the amphitheater. Dr. Joseph B. DeLee, destined to become even more famous than the renowned Jaggard, counted himself better off than most, since he had watched two such deliveries during his student years.

CONTINUED EDUCATIONAL ADVANCES

The two decades of the current period were marked by some continued advances in educational reform. The original five-month term, which had been increased to six months in 1868, became seven months in 1889. Meanwhile an experimental eight-month session was tried for two years (1877-79). It was divided into a five-month winter term and a three-month spring term; students could enter at either term. For the following year a preliminary course of didactic and clinical instruction, lasting two weeks and introductory to a regular session of six months, was scheduled; this experiment was not repeated. In 1889 a curriculum extending over four years, instead of three, was set up and strongly recommended, although not required. This optional program continued for three years, during which time groups of 7, 8 and 27 students elected to take a fourth year. In 1892 the four-year course became obligatory. Rush Medical College, 23 years slower in moving toward a three-year course, adopted the four-year course only six years after Northwestern.

Chicago Medical College.

(MEDICAL DEPARTMENT OF NORTHWESTERN UNIVERSITY.)

PRACTITIONERS' COURSE

FOR 1882

C. H. BLAKELY & CO., PRINTERS, 55 DEARBORN STREET, CHICAGO.

Cover of announcement of the first purely postgraduate course in the United States.

The free Summer Course, which had begun as a sequel to the initial term in 1860, at first ran for seven months. This session was shortened to five months in 1862, to four months in 1864, and to three months in 1871. The Summer Course terminated in 1876 after seventeen years of beneficial service. With the regular term already lengthened to six months and about to be increased still further, the appeal of this supplement had either lessened, or the Faculty had decided it was devoting enough of its time to the regular annual teaching. The later Annual Announcements of this period carried the following revealing information concerning one offering in the Summer Course: "The Dissecting Room will also be open for instruction in Practical Anatomy while the weather will permit." This brings to mind the custom at the University of Michigan, and doubtless occurring widely elsewhere, of not starting dissection until cold weather set in.

A four-week "Practitioner's Course" was inaugurated in March, 1880, which was described as unique in the scheme of medical education. Actually it was practically coeval with a similar course in postgraduate instruction started at the University of Pennsylvania later in the same year. Both institutions can share the honor of initiating this type of curriculum, although moves in that direction had been reported elsewhere as early as 1839 and 1846. At the Chicago Medical College the course consisted of lectures and bedside teaching, designed to present the recent advances in clinical subjects; it also afforded matriculants an opportunity to review and extend their understanding of surgical anatomy, histology, pathology and chemistry.

The first practitioner-class consisted of 39 students, drawn from seven states as the result of 10,000 announcements mailed out in Illinois and to the neighboring territory. At the end of this course the offerings were formally commended by the class as "an important advance in seeking to meet a want long felt by the profession." It was promptly described in the next Announcement as "no longer an experiment, but a permanent feature of the institution"; yet patronage soon dwindled, and it was abandoned after the sixth session, in 1885. Although considered by others as an uncertain experiment, it at least pioneered toward a later general acceptance of the soundness of this procedure, and actually became the prototype of postgraduate instruction and current continuing education.

It is difficult to determine just when individual laboratory work,

apart from gross dissection, entered into the curriculum, and to what extent it was then employed. Laboratories are mentioned early, but so ambiguously that it is not clear whether they were primarily for the use of teachers or the student. Davis emphasized that lessons with the microscope demanded extra, unscheduled time of students from the start. He also wrote that in the session of 1868-69, in addition to practical anatomy, personal work was required in the laboratories of chemistry, histology, physiology and pathology. The actual performance could well have been somewhat different from what these words imply today; there is reason to suspect that demonstrations may have been substituted for individual experience in the early years. As a practicality, microscopes in early Chicago were rare (p. 85). To be sure, some chemical laboratory work, in the usual sense, was introduced in 1868; although strongly recommended, it was optional. Except for urinalysis, regular laboratory instruction in chemistry started in 1875.

Practical training in the use of the microscope was first listed in 1871. The 1878-79 Announcement shows that this beginning was augmented by a systematic study of normal and pathological histology. Apparently the students were acquainted with methods of tissue preparation at that time, but it was not until the session of 1886-87 that personal tissue-preparation was surely done. N. S. Davis, Jr., asserted that he gave the first laboratory instruction in pathology in 1885, but the Announcement merely credits this endeavor to the Lecturer in Pathology (Davis) rather than to the Professor of Histology as heretofore. Although work in physiology is mentioned in 1868-69, and some ten years later money was appropriated for the purchase of apparatus, no significant work was done until into the Nineties. Bacteriology was just getting a start as the period under consideration ended. A bacteriological laboratory was announced as established and fully equipped in 1887; individual work in it, nevertheless, was optional until 1892. Fully trained teachers in the basic sciences first joined the faculty in 1882 (chemistry) and 1895 (physiology).

It is notable that, prior to the War for Independence, the first medical colleges to be organized in the Colonies maintained admission standards that were not wholly equaled during the first century of the independent Republic. Following that War, admission requirements were ignored by the rapidly organizing medical colleges; in general, anyone could gain entrance anywhere, and the

possession of even a common education was tested only when the candidates for the degree of Doctor of Medicine submitted theses, presumably in their own handwriting. The stock excuse for the lack of preliminary educational requirements was that only concerted action on the part of all schools would prevail against the commercialized rivalry for students by most, if not all, institutions. No college was willing to risk taking the initiative in this reform and then enforcing its stipulations as published.

For nearly a century in this country there were practically no requirements in general education for admission to its medical schools. For nine years the Chicago Medical College likewise followed the nationwide pattern of maintaining silence concerning admission standards. Yet there is reliable testimony that the classes admitted were exceptionally well prepared, for the times, in regard to preliminary education (p. 110). Notwithstanding a feeling of satisfaction on the part of the Faculty concerning the quality of the student body (p. 110), the matter of publicizing some minimal standard seems to have weighed on the minds and consciences of this group.

The initial step toward entrance requirements came in 1868-69 (along with initiating a six-month term and three-year course). It merely demanded evidence of "a knowledge of the common branches of education," but after 1871 this statement was omitted from Announcements for six years. The reason for this deletion is mystifying because an educational standard had been a cardinal tenet of the program of reform advocated by the American Medical Association, the Columbus and Cincinnati Conventions and by N. S. Davis. As might be expected, a slight decrease in new matriculants coincided with the first year of enforcement of the new standards. This loss, however, did not persist, and in no way warranted a withdrawal of the educational requirement for the next six years. As a matter of fact, any effect on matriculations was much more likely to have been due to the simultaneous increase in term and course length.

In 1877 the educational prerequisites reappeared in more definite form, specifying the additional requirement of "the first series of mathematics and the elements of the natural sciences." Following ten years of fluctuating details, a noteworthy advance was made in 1888 when a diploma from a recognized high school or college was required, or the passing of a satisfactory examination on English,

arithmetic, geography and a choice of Latin, German or physics.

Even by the end of the current period, the number of college graduates in attendance at the Chicago Medical College was already remarkably high in comparison to the common trend; in the year 1887-88 college diplomas were held by 23 per cent of all matriculants and 30 per cent of the Seniors. By contrast, Dr. James B. Herrick has recorded that in his class, graduating from Rush Medical College in the same year, only five per cent had a college diploma of any kind! This difference is arresting in the light of Professor Johnson's welcoming address at the 1870-71 session, in which he emphasized that the Founders "considered medicine as a liberal profession and they determined to strive for the broadest and most liberal culture on the part of those who should come to them for instruction." Yet a proud 30 per cent is low in comparison to the outstanding record of Harvard Medical School from its founding to 1840. In this period of nearly sixty years, before any medical college (outside of Ohio) had appeared in the land of the North-West Territory, 65 per cent of the graduates held the degree of Bachelor of Arts. This performance clearly reflects, at least in part, the unusual emphasis assigned to formal education in New England while the country was still formative.

At the earliest organization of the Medical Department of Lind University, the preclinical and clinical instruction was divided into eleven (or, as was argued, actually thirteen) chairs. Some of these were unequal in weight (example: medical jurisprudence *versus* medicine); others were composites (example: the single chair of obstetrics, gynecology and pediatrics); other natural groups were split by the founders into separate fractions (example: gross anatomy into descriptive, practical, and surgical; both medicine and surgery had a didactic division, called Principles and Practice, and also a clinical division). Combining the arbitrarily divided disciplines into simpler, logical groups (namely: gross anatomy, chemistry, medicine, and surgery) would have reduced the larger assortment to eight more natural divisions, but would have still left some ill-mated combinations.

Ten years after the founding, the chair of Pathology and Public Hygiene became split into General Pathology and Pathological Anatomy, on the one hand, and into Public Hygiene, on the other; in the same year a new chair of Diseases of Respiratory and Circulatory Organs was created. During the two decades following the

initial union with Northwestern University, thirteen new "chairs" came into being, which served to fractionate markedly the existing "settees." Disregarding realignments and partial separations, entities arose as follows: nervous and mental diseases (1872); ophthalmology and otology (1872); general therapeutics (1875); orthopedic surgery and diseases of bones and joints (1876); dermatology (1876); histology (1879); physiology (1879); gynecology (1882); pediatrics (1883); obstetrics (1883); laryngology and rhinology (1886); physical diagnosis (1887); and bacteriology (1890). The chair of nervous and mental diseases was the first in America devoted solely to the study and teaching of diseases of the nervous system. Its occupant, Dr. James S. Jewell, was soon to become famous (p. 518). Coincident with these advances, the short period between 1876 and 1880 found the Faculty growing from 19 to 29 and the enrollment increasing from 126 to 214.

From the standpoint of administration an important move was made in 1878, when an Executive Committee was organized. This Committee became an increasingly efficient and powerful adjunct of the Faculty and was a forerunner of the later Advisory Council (renamed Medical Council); the latter continues to this day as the statutory legislative and executive body of the Medical School (*cf.* p. 140).

Between the founding, in 1859, and the end of the presently considered period, in 1891, certain advances had altered somewhat the requirements for graduation. The specifications concerning moral character, satisfactory examinations and a thesis remained as before, although the writing of a thesis would be dropped after one more year. Changes occurred in the following ways: first, attendance on three (instead of two) annual courses of instruction; second, hospital attendance for at least two terms (instead of one term); and third, dissection of at least three parts of the human body (instead of "having attended practical anatomy by dissections").

Several changes in pedagogical methods made an appearance in this period. In 1884 the Dean "asked the Faculty to consider the teaching of classes in part, at least, by recitations, whereby students might be encouraged to study more attentively and systematically." It was decided that either the didactic or recitatorial method could be employed, but it was recommended that the latter be carefully tested. Written examinations were first introduced in

1876 as an important feature of the annual final examinations; this was ten years before such a technique was utilized, for example, at the far older Jefferson Medical College. On the other hand, the College of Arts at Evanston had adopted from the start, as a partial measure, this "Eastern custom of written examinations [which] may be a scholarly and thorough method, but it is very wearisome to the Committee, [and] we confess our decided preference for the usual Western mode."

In 1875, a grade of five on a scale of ten was sufficient to pass a chair at the Chicago Medical College, whereas failure to pass more than two chairs in the Senior year disqualified a candidate from graduation. Indicative of high grading standards (or mediocre performance?) is an account of the results of an examination for intern appointments at Mercy Hospital; on a scale of ten the grades ranged from $4\frac{1}{2}$ to $8\frac{1}{2}$, five of the nine contestants having a grade below six. In 1877 a stiffening of the grading standard occurred when it was agreed that "the standing for passing any chair be raised [from 5 to 7]." This qualifying mark (70 per cent) for an individual subject remains unchanged to the present time as the numerical standard (*cf.* p. 261).

In 1869-70 the recommended textbooks included Gray's *Anatomy*, Koelliker's *Microscopic Anatomy*, Virchow's *Cellular Pathology* and Rokitansky's *Pathology*. Twenty years later, one indication of the rapid advances taking place in the field of medicine could be found in the fact that Gray's *Anatomy* was about the only book on the entire list that remained as a recommended text. Interestingly enough, it still finds favor as the first choice, from time to time, at this School.

PRACTICAL MATTERS


In 1891, after 32 years of operation, the original faculty roster of eleven individuals had increased to 31. Of those persons who taught at the first session, only four remained and, significantly, all of these were solidly entrenched in clinical subjects. The turnover in personnel, particularly in the preclinical branches, had been distressingly rapid. This, however, was only to be expected. Clinicians were about the only persons available who were willing and able to

take on the scientific branches for a time. Their livelihood was not dependent on lecture fees, but the complexities of a private practice and failure to keep up with scientific advances would eventually make this avocation wholly obsolete. Nonpractitioners could not manage financially unless the college income was supplemented by some other source. In profitable, outside endeavor the chemist was to be envied by those who might be tempted to teach physiology, histology and the like as a permanent profession. The following card from *The Chicago Medical Examiner* will explain how the original incumbent of the chemistry post in the Medical Faculty was able to remain with the college for eight years before he finally succumbed to extracollegiate allurements:

PROFESSOR F. MAHLA

*Professor of Chemistry and Toxicology
in the Medical Department of Lind University*

Takes the liberty to announce he is willing to execute analyses of Minerals, Soils, Ores, etc., etc., on liberal terms.

 Particular attention will be paid to the detection of poisons.

RESIDENCE 387 STATE STREET

LETTER BOX 1269

In the last decade of the 1870-91 period the well-trained Professor Long began a longtime, extensive extracurricular practice in analytical chemistry and as a consultant.

In striking contrast stands the plight of Professor Titus DeVille, who first filled the chair of Descriptive Anatomy, but had to resign after one term because his dependence on student fees (between \$200 and \$300 for the year) and on private pupils imperiled his very existence. A pathetic valedictory address before the students, in part touching on these matters, gave eloquent testimony as to what was wrong with the system of support for those who aspired to teach the medical sciences as a full time professional vocation. It also foretold what must be done to rescue rapidly growing disciplines from amateur teachers whose major interest was in the practice of clinical medicine. The following excerpt will suffice:

I embarked my little all, the accumulated savings of a number of years, and contracted debts to provide myself with a suitable outfit for carrying on with credit a course in [gross] anatomy. Nothing would have induced me to abandon the post, and leave you, but the constant battle which I foresaw that I should for a long time be engaged in, to

gain enough to meet the expenses of my moderate daily requirements. "The laborer is worthy of his reward" and when he cannot secure even a small recompense, he is driven by sheer necessity to seek it elsewhere. In the short space of twelve months, I am obliged to return to my native country, for my means will not permit me to further prolong my stay.

Yet the venture, it should be said, had been wholly on his own responsibility, since the records show that when invited to come he was "informed fully of the condition of the College, its prospects and the arrangements of use of lecture fees."

During the period under present consideration (1870-91), histology, physiology, chemistry and pathology were all expanding rapidly through new discoveries. The infant science of cytology had been made possible by improvements in the compound microscope and in the techniques of preparing materials for minute, exact examination. All this had given a wholly new impetus to the interpretations of histology and cellular pathology. With the employment of the newer tools and methods, embryology had emerged as an understandable sequence of logical events, and medical bacteriology was becoming an entity. Physiology was yielding its secrets to the direct attack of experimentation, and some of these investigations were separating into a distinct category that would soon be known as pharmacology. Chemistry had passed from inorganic to organic considerations, and the latter was now laying the basis for human biochemistry.

Hence it became increasingly absurd to have such basic subjects taught by clinicians whose own instruction had consisted of but a few hours of lectures, relegated to a minor position in a medical curriculum whose total content was encompassed in twelve or more weeks; and all of their instruction in such subjects was, in turn, by professors whose training had been the same. To add to inherent weaknesses in the system, busy practitioners were obviously not in a position to devote time to growing, as full-time specialists might do, from the old-time sciences into the fast-moving advances in all of the fields just mentioned. The full correction of these weaknesses in faculty assignments extended past the present period and into the twentieth century.

In sharp contrast to avocational teaching, the opposite extreme in preparation for teaching the basic medical sciences is illustrated by the initial appointment in chemistry. It is worthy of comment since

it was, perhaps, unprecedented for the times; this was because the appointee, Dr. Mahla, was not a physician but a trained chemist (Ph.D.). It is doubtful if any other medical college in the country had this post filled by one with better, or perhaps equal, formal training in chemistry. It is wholly certain that no other scientific subject in this new college was assigned to anyone better qualified in his field by self training or otherwise. Yet one must suspect that it was because the prejudice against the lack of a medical degree was so deeply ingrained, that the title originally awarded Dr. Mahla was only that of Lecturer. This discrimination is wryly humorous in view of the fact that no physician on the Faculty had ever been required to meet any qualifications to enter his medical training, had never been tested on proficiency during the 32 weeks while enrolled, and had passed no more than a perfunctory examination in gaining his coveted degree before a faculty that reaped graduation fees solely by passing candidates. Yet in fairness it should be said that the Medical Faculty soon recognized their Lecturer's worth and promoted him to the chair of chemistry; also they received his resignation in 1866 with genuine regret when he decided to restrict his activities to private, commercial work.

For reasons already assigned, the chair of chemistry did not have time to become really accustomed to any of its five occupants in the period of 1867-81. But in the latter year, Dr. John H. Long, a graduate of the University of Tübingen with the degree of Doctor of Science, started a tenure that was to continue until his death in 1918. The earlier experience with Dr. Mahla had taught that satisfaction and permanency could be expected only from specialists who would give a college appointment their primary attention and make it a professional career. Nevertheless, full adoption of this policy was destined to be extremely slow and, undoubtedly, largely so for financial reasons. The chemist, with outside commissions, had a buffer against adverse times as when, in 1885, Dr. Long's salary was cut drastically during a temporary decline in enrollment, accompanied by unusual city assessments against the College for improvements in streets and sidewalks. Even earlier, in 1872, the College had similarly found it could no longer pay a monied supplement to the fees collected by the then professor of chemistry. Accordingly a replacement was hired, with his college income limited to lecture fees and declared bonuses. At the end of the present period (1891), and even afterward, the professor of chemistry,

registrar and janitor were still the only full-time and salaried persons connected with the College!

During the thirty-odd years from the time of its founding, the finances of the College improved considerably, but prosperity could not be outstanding when two building programs had to be aided out of earnings, and when an unorthodox school persisted in continuing its reforms by increasing both the annual term and the total period of the medical course. Low matriculations in the late Sixties (related to requirement changes) and in the middle Eighties (which was nationwide) weathered through into recoveries, so that in 1891 a new high-point in enrollment (274) was set.

Patronage in the 1870-91 period showed a fairly steady growth from 107 to 274. When compared with the matriculants at fifteen representative schools, all considerably older, the showing was wholly satisfactory. The enrollment of the Chicago Medical College roughly matched that of such colleges as Albany, Buffalo, McGill, St. Louis and Western Reserve. It was much less than that of a few leaders (ranging from 500-600), namely: Bellevue, Columbia, Jefferson, Pennsylvania and Rush. On the other hand, it far outdistanced colleges such as Dartmouth, Georgetown, Virginia and Yale. If, in the fifteen colleges just named, the percentage of graduates from 1878 to 1884 be calculated in relation to total enrollment (equating nine of these two-year colleges to a three-year course), then Pennsylvania led (30 per cent), with Chicago Medical College close behind (28); Rush was in twelfth place (22) and Columbia was last (14). Two interpretations can be assigned to these figures. One is that a high percentage-value existed in schools with easy standards of advancement and graduation. The more comfortable interpretation is that high percentages were associated with schools that attracted and held a better class of students.

Deficits had troubled the Faculty in a few years, but in better times, when unencumbered by building problems or special city assessments, modest sums were distributed among the teachers on the basis of teaching loads. These were bonuses, not true dividends, since this school was not organized as a stock company, as most independent schools had been; in fact, even in the Eighties the College of Physicians and Surgeons (later taken over by the University of Illinois) was organized on this basis. The sums apportioned were first \$1.00 and, later, \$1.50 for each lecture hour actually delivered, so that the maximum received was less than \$300. How

long such bonuses were declared is uncertain; the last record in the minutes of Annual Meetings was in 1881. According to a statement by Dean Davis, they would have continued into the Nineties had surplus earnings not been diverted then into necessary building projects at that time. Two financial reports illustrate how the main dependence on tuition receipts made the difference between a bad year and a good one, and how modest were the expenditures at that period:

1872: Receipts	\$3,118.00	1875: Receipts	\$6,868.45
Expenditures	<u>4,948.70</u>	Expenditures	<u>3,857.78</u>
Deficit	\$1,830.70	Balance	\$3,010.67

In other parts of the country, some states had given initial grants to medical colleges or made annual appropriations. Two states ran lotteries to supply support, and a few colleges had benefited by endowments from private sources or from an associated city. But, in general, the main support of most medical colleges came from student fees; exceptional was the University of Michigan, which broke precedent from the start (1850) by putting its small faculty on a salary basis out of general funds. In the first half of the nineteenth century many schools, and the great majority of those in large cities, charged a student \$15 for each subject lectured upon; at the Universities of Pennsylvania and Maryland the fee was \$20. The annual total ran from \$50 or less, chiefly in rural areas, to \$120.

The policy of accepting promissory notes to cover tuition charges was widespread, and not confined to weaker schools. The Chicago Medical College was not exempt, and in two financial statements this type of asset is listed as such. For example, in the report of the Treasurer for 1874 the list of assets includes "Amounts in form of good notes, \$865"; in still another statement it may well have been hidden under the euphemism, "add assets in hands of Dr. Davis." The American Medical College Association, in which the Chicago Medical College became a charter member in 1876, ruled in its articles of confederation that credit could not be extended in any form. It is doubtful that this prohibition was strictly heeded.

With the expansion of the annual term and total course-length at the Chicago Medical College, and the simultaneous maturing of the institution, came various minor adjustments in perfecting the mode of operation. In the traditional sixteen-week course a breather in

the way of a vacation period was not deemed necessary, even though there were complaints that the students became fatigued in the attempt to encompass the entire fields of scientific and clinical medicine in that length of time. The professors, afflicted with the occupational disease of logorrhea, had traditionally harangued the students into school with the miscellaneous advice of the salutatory address, had lectured to them up to six hours each day of the term, and finally orated them out of school with more good advice at the valedictory. In the autumn of 1873, when the extended term of six months at the Chicago Medical College had already been operative for five years, the Faculty resolved, but not unanimously, that "until further action is taken, there shall be each year a vacation from Christmas till New Year's Day, inclusive." The insertion of a rest period into the calendar was never repealed.

In 1872 the Faculty voted that a Registrar be appointed to take over various duties that had devolved previously on the Secretary. This officer "shall register the students, collect the fees, and pay the money over to the Treasurer and take receipts for the same, shall certify all bills to be paid by the Treasurer and shall exercise general supervision over the janitor, the building and property in it." After six years he also became the Corresponding Secretary of the Faculty. In 1881 the office of Registrar was abolished by vote, and for no recorded reason; two years later a Clerk was hired who remained listed as such until 1905, when the original office and title were restored permanently. The duties, perhaps, did not differ much with these changes of name. The duties and delegated authority of the restored Registrar grew rather than diminished within the next twenty years, and he became the actual executive officer who directed and co-ordinated the manifold operational details of the School (p. 195). After 1925 an expanded system of administration absorbed all but the natural duties of the office of Registrar.

Publicity for the school was obtained in two ways. One was by distribution of the Annual Announcement which contained the usual categories of information concerning Faculty, calendar, curriculum, expenses and student body. For the first session it was deemed necessary by June, 1859, to have the original printing supplemented by 3,000 more copies; for the seventh session (1866-67) the total was 8,000 copies; for the twenty-sixth session (1884-85) it was 30,000 copies, of which 28,000 were mailed out. On the basis of the enrollment that year, one new student was gained for each 700

copies circulated.

The second method of gaining publicity was by advertisements in the public press, and these began to appear before the second session, if not earlier. The continued use of this medium was authorized, in the summer of 1868, "to advertise the College to an amount not exceeding \$50"; in 1879 and 1880 annual appropriations of \$1,000 were made. A fiscal report for 1886 gives the distribution of an appropriation of \$600, authorized for that year as follows:

In medical journals	\$255.00
In college publications	75.00
In miscellaneous publications	<u>191.65</u>
Total	\$521.65

This form of promotion found itself in the company of the foremost medical schools of the land. It was continued until 1926, when the number of applicants to Northwestern made it no longer necessary, although some leading schools were still advertising until 1930 and after.

TUITION PROBLEMS

The lack of uniformity in tuition rates presented a problem over a long period characterized by the frequent launching of new medical schools and the attendant sharp competition for students. Far into the second half of the nineteenth century, tuition was still handled by the selling of tickets to lectures, laboratories and hospitals. In 1849, when N. S. Davis joined the faculty of Rush Medical College, he gave the introductory address for the school year on the subject, "Free Medical Schools." He contended that the costs of medical education were so high that seven to ten years of the average practitioner's life were required to regain the amount lost in time and money. This inordinate expense drove some students to the country schools, where the costs were cheapest (but facilities were generally inferior), compelled others to enter practice without graduating, and impelled still others to embrace systems of quackery that could be learned in a month or less. The State, Davis argued, owes the medical profession the free education of its members, for services to

be rendered. Since, however, no immediate action by the State of Illinois could be expected, Rush Medical College was contemplating a practical solution of the problem by the abolition of all lecture fees. As a start toward this end, he announced, three of the chairs forthwith would be without charge to all regularly matriculated students.

This move by Rush Medical College lowered its total lecture fees to \$35 and caused a storm in other western schools, some of which dropped their fees accordingly in order to remain in competition. The state schools of Michigan and Iowa, on organizing, adopted a policy of no tuition and \$15, respectively. The Davis-instigated announcement impelled the *Boston Medical and Surgical Journal* to comment that a modified fee policy must be pursued elsewhere lest an avalanche of students be encouraged toward the Chicago institution, which threatened to become *Rush* College in a double sense.

The Chicago Medical College soon became embroiled in the fee problem. In the East the large-city schools announced in 1866 that annual lecture fees were to be advanced to \$140. At the time, western colleges varied widely in their charges; three schools in Cincinnati charged \$15, \$40 and \$75; in Chicago the fees were \$40 (for 16 weeks) and \$50 (for five months); at the Universities of Michigan and Iowa, no charge and \$15, respectively. That same year the Secretary of the Faculty was instructed to reply to various schools that the Chicago Medical College had adjusted its fees and lengthened its sessions to such an extent that the expense of operation was at least one-third greater than at any other institution within the region from which the students came. Nevertheless, wholly apart from this financial disadvantage, the College approved an effort to arrive at a common standard.

Within a month of this statement of policy, an invitation was received from the Medical College of Ohio to send delegates to a convention to be held at Cincinnati for the purpose of discussing and arranging a uniform rate of lecture fees in the West. Dr. Davis was appointed to attend, with the following instructions: "Resolved, that the Chicago Medical College is ready to make a reasonable *advance* in fees, provided that by doing so a uniform system shall be established and adhered to in all this region, but this rate of fees should not be raised a single dollar higher than necessary, nor should any attempt be made to coerce any college."

After meeting and deliberating, the Cincinnati Convention

agreed that: (1) competition among colleges should be based entirely on the quality and extent of its educational offerings, and not on tuition rates; (2) fees in any region should be so nearly uniform that the total cost of attendance would be practically equal; (3) the aggregate fee should not be less than \$105; (4) states endowing free medical education ought to limit such instruction to their own citizens; and (5) college terms should be lengthened to six months, if by so doing practical uniformity in charges could be secured.

A subsequent convention at Louisville in 1869 approved a uniform scale of fees, but took no immediate action since some schools had already issued their annual announcements. For this meeting, the instruction to the delegate from the Chicago Medical College was that the school would abide by the action of the Convention, on the condition that all other colleges would do the same and also adopt the high standards of the Chicago College!

Editor Davis used his medical journal as a medium for advancing his views on these matters. He favored stable, uniform fees and predicted that his Faculty would advance the rates and term-length still further whenever other schools would come up to the present standard of that College. He argued that instruction in a large city should be cheaper than in the country, because the professors reside there and hence do not have to suffer losses in practice, travel and board, as do migratory or seasonal occupants of country chairs. Since the additional reputation and consequent increased practice in a populous city more than compensate for the time devoted to teaching, the urban professor could better donate his services rather than receive \$1000-\$1500 for a period spent away, teaching in a small town.

During the twenty years following its founding the Chicago Medical College had not increased its charges, and the local fee problem languished until January, 1879, when a committee was appointed to confer with Rush Medical College on this topic. Within a month the two schools agreed to the following schedule of basic fees, which could be changed by either party only after one year's notice:

Matriculation (annually)	\$ 5.00
Lectures (annually)	75.00
Dissection	5.00
Graduation	30.00
Total	<u>\$115.00</u>

The regular medical colleges at Cincinnati agreed to adopt the Chicago rate for lecture fees; in both cities this amounted to an advance averaging fifty per cent over existing charges. The move represented an emancipation from the influence previously exerted by certain essentially free state-schools in depressing lecture fees elsewhere to an unduly low level. Davis apparently was able to square these increases with his earlier opinion that higher standards should be achieved by decreasing the costs, so that the only qualification would be native ability. He did so on the grounds that uniformity of rates regionally, which then left the students free to choose schools on the basis of educational offerings, was a paramount objective to be gained on whatever bargaining terms were necessary. In the case of the Chicago Medical College, however, a chemistry fee of \$5.00 and a hospital fee of \$6.00 were added to the list, as special charges.

An obvious remedy for some of the troubles resulting from the lecture-fee system was to put the professors on fixed salaries, as had been done, for example, at the University of Michigan, but this was not a popular solution. When proposed at another college (Physicians and Surgeons, New York) earlier in the century, the response had been: "Such a measure would dampen the ardor of literary pursuit in the professors. [It] would take from individuals the proportionate rewards due to their celebrity, and might endanger the ultimate prosperity and success of the institution." The novel idea of part-time clinicians donating their services to the cause of medical education was yet to come.

RIVAL MEDICAL COLLEGES

In the period before 1891, presently being considered, several medical colleges arose in Chicago in addition to Rush Medical College, already discussed (p. 29), and the Women's Medical College (pp. 81, 119). Most important of these was the College of Physicians and Surgeons, whose original promoter, Dr. Charles W. Earle, and two others of the five founders, were alumni of the Chicago Medical College. Dr. William Quine, who also was a graduate of the Chicago Medical College, became the third President. In an historical account he wrote that the real aim of the founders was to

provide teaching opportunities for those not finding positions in the faculties of the older institutions. Like Rush Medical College, this new school obtained the money (\$60,000) needed for starting by issuing stock. Appointees to professorships were required to invest \$2,000 in college stock, while lecturers made a subscription of only \$500. These chairs became the personal property of the purchaser, with exclusive rights to all teaching in the associated field of medicine. He could not be replaced unless he wished to sell out, and a new appointee then had to buy his block of stock.

The opening session of the College of Physicians and Surgeons was in 1882. Two ungraded terms, of five months each, led to the medical degree; there was also an optional, graded arrangement for any who might prefer it. The first decade was filled with trouble and dissension. But, during the early Nineties, this College reorganized and, for a time, became a leader in emphasizing demonstrations and laboratory teaching. A nominal affiliation was made with the University of Illinois in 1897, but the original name and autonomy of action were retained until 1913, when a final union was negotiated with that institution.

Among irregular medical institutions was Hahnemann Medical College, which opened in 1860 and continued under this name until 1922. For many years it enjoyed popular support and patronage, although the regular colleges steadfastly considered it beyond the pale. Another irregular was the Bennett Eclectic College of Medicine and Surgery, which started in 1869, and in 1910 and 1915 came progressively under the control of Loyola University. Several other schools arose in this period, but they were destined to only an ephemeral existence.

Postgraduate education was furthered by the Chicago Policlinic, commencing instruction in 1886, and the Post-Graduate Medical School in 1889. The former was the pioneer of its kind west of the Alleghenies. The latter institution came to be an across-the-street neighbor of Northwestern University Medical School. It remained in operation until about 1935. Both of these specialized schools were laudable attempts to furnish the kind of mature instruction that had formerly been available only in the European clinics. Previously the Summer Courses offered by Rush Medical College and the Chicago Medical College had been open to undergraduates and graduates, but these newer special schools carried much further the pioneer experiment conducted by the Chicago Medical College

in offering exclusively postgraduate training through its Practitioner's Course (p. 88).

TRIAL BALANCE

The year 1891, which marks the end of the period presently under review, also terminated 125 years of institutional teaching of medicine in the Colonies and Republic. Regular medical colleges in 1890 numbered 101, in addition to 75 that had already become extinct. Irregular colleges of various kinds (homeopathic, eclectic, botanic, etc.) totaled 15, whereas 71 had already closed their doors. Of the 114 regular colleges still operating in the United States and Canada, 99 exacted an educational requirement for entrance; 51 required three or more terms for graduation. Of the 139 colleges, both regular and irregular, in these two countries, the average length of term was 25.5 weeks, and 76 of them ran for six months or more. In 1890 there were 13,041 matriculants in the United States, of whom thirty per cent graduated. The age at graduation in the United States ranged from 19 to 65 years, whereas the range in Canada, England and Germany was 21 to 38 years.

In any survey covering progressive advances in the field of medical education, the Chicago Medical College not only has to be included as an active participant, but also has to be ranked as a bellwether. Hence it will be profitable to inquire, in closing the history of this period, as to what kind of medical education the College was providing after 32 years of operation and 21 years of affiliation with Northwestern University.

The scanty, objective statistics on the performance of graduates from this institution are gratifying. Unfortunately for the present purpose, most of the states still recognized a diploma as satisfying licensure requirements. In the few states that conducted examinations for all candidates seeking the right to practice, the cumulative record for graduates of the Chicago Medical College showed success in 90 per cent of the trials; the College of Physicians and Surgeons achieved a score of 80 per cent; Rush Medical College, 68 per cent.

The securing of local hospital appointments also offered some basis for comparison. In 1886 seven Northwestern graduates com-

peted for the eight available places at Cook County Hospital and captured six (all but the fifth and eighth places). In 1891 seven out of the eight places went to Northwestern. In 1889 there were 21 hospital appointments in the city open to competition. Northwestern, graduating 46 Seniors, obtained twelve of these; Rush had 137 graduates and secured five places. The College of Physicians and Surgeons gained one place. In regard to sharing the burden of providing an expanding Republic with physicians, the record shows that since the founding of the Chicago Medical College 1183 persons had received the degree of Doctor of Medicine. Diplomas had averaged less than forty a year, but this was an experimental College for adventurous students, not an educational factory.

A reminiscence of the eminent Hugh Patrick, sometime member of the Northwestern Faculty, points out certain defects that were gaps in the training provided by a contemporary school. He said: "In 1884 I graduated from one of the best colleges in the country [Bellevue Hospital Medical College], after attending two classes of lectures, each the exact duplicate of the other, without having looked through a microscope; without having seen a case of labor; and being utterly devoid of practical training in physical diagnosis, never having taken a medical history, and having received no vestige of bedside instruction."

Quite different is the impression gained from reading an historical review of medical affairs in Chicago, contributed by N. S. Davis to the *Magazine of Western History* in 1890. One paragraph concerning the Chicago Medical College follows:

During the twenty years that have intervened since the union of the Medical College with the North-Western University, its progress has been that of continuous healthy growth, in the number of students; in the number of its professorships; in the number and efficiency of its practical laboratories, including chemical, histological, physiological, pathological and bacteriological; in the extent of its field for hospital and dispensary clinical instruction; and in its museum and means of illustration.

The field for clinical instruction is furnished by the Mercy Hospital, with its 350 beds; the St. Luke's, with nearly as many, and the South Side Free Dispensary. Every practical branch and specialty taught in the College has its corresponding clinic. The second-year class have

from one to two hours of direct clinical instruction each day in the St. Luke's Hospital and the Dispensary, and the third-year class have, at least, two hours daily in the Mercy Hospital and Dispensary. By such judicious distribution, no clinical ward becomes over-crowded, and all enjoy the advantages of personal instruction.

The dispensary was treating some 15,000 patients annually and furnishing ambulatory cases for demonstration in the College amphitheater. Instruction in the dispensary was so arranged that students were divided into small groups and assigned in rotation to the different rooms, thus affording them the opportunity of making personal examination of the patients under the guidance of two instructors. Candidates for graduation were given obstetrical experience, at first in private homes and later in Mercy Hospital.

Again in an address reviewing the progress achieved to the close of this period, Davis said:

This institution, organized in 1859 as a pioneer standing alone far in front for the first twelve years of its existence, has continued, with no step backward, for 34 years to maintain its position, and is to-night still on the front line of progress in the important work of broadening, extending, systematizing and adapting the medical college education of our country to the present status of medical science and art, and to the highest interests of the people. Gratifying as has been the success of this institution, such gratification is greatly intensified by the fact that her example has been followed by other medical schools.

The new medical school had neither pecuniary endowments nor public support. The seven professors who devised the new and more advanced plan for the institution and undertook its establishment, had neither wealth in hand nor wealthy relatives. But they, nevertheless, did have two of the most potent elements of success in all human enterprises, namely, *faith* and an abundant *capacity for work*.

In the mid-Seventies an economic depression, following the financial panic of 1873, nullified President Charles H. Fowler's long-term plans for the University. Yet his successor, Joseph Cummings, soon expressed faith that through the rebuilding of departments and schools already in existence Northwestern could achieve its potential as an ideal educational institution — and nine years later he was pleased with the progress made.

The time had now arrived when two major steps toward closer union with the University were to be taken in succession. The first, in 1891, was a tighter contractual association in which the College, however, lost little of its prized autonomy. The final step, in 1906, was a true organic union, whereby independence was submerged in the larger entity of the University. This complete absorption was to be a new and not wholly unwelcome experience to those who had fought battles and won victories with only nominal encouragement and aid from any other institution, but now faced a new phase of medical development which tuition receipts alone could not hope to finance. Although the University after a time would agree to aid, this would long be solely on the basis of advances requiring repayment.

Achievements, Issues, and Appraisals

Before continuing at once with the next stage in the progress of the Chicago Medical College, it is desirable to consider some matters that pertain to what had already been accomplished in a relatively few years.

PIONEERING CONTRIBUTIONS TO MEDICAL EDUCATION

By the end of the first decade of operation, the new College had completed its primary mission of pointing the way to a more rational and improved plan of medical education. N. S. Davis, years later (1890), when evaluating the chief pedagogical contributions of the College, said that it was justly entitled to the credit of having been the pioneer in establishing and maintaining the three most important steps in the advancement of medical education in this country, as follows: first, the enforcement of a standard of preliminary education before entering on medical studies; second, the adoption of longer annual courses of instruction; and third, the institution of a graded curriculum.

Professor Jones, in a separate evaluation (1896), added a fourth, later accomplishment which was the inauguration of the first post-graduate course for practitioners. Still other pioneer advances were the initial increase in the period of study in medical school from two to three years, an intimate system of hospital instruction closely in-

tegrated with the lectures, and an augmented faculty for undergraduate instruction. Most of these assertions of "firsts" are beyond contention, and the claims of Dr. Davis must be accepted as reliable if only because of his undeviating honesty. No one was better informed on the state of medical education in this country during the middle period of the nineteenth century, as his authoritative book (*History of Medical Education*, 1851) and his selection by the Federal Bureau of Education to prepare a *Centennial Report* (1877) on this subject testify.

Some of the novel features that had been incorporated into the new school were not wholly without precedent, and the significant part of the statement just cited apparently lies in the words "the pioneer in *establishing* and *maintaining*." On the other hand, there is ample testimony to the occurrence of marked discrepancies between the claims of requirements and practices of some schools (including leaders, such as the University of Michigan), as carried in their announcements, and the actual performance of those schools.

The Chicago Medical College did not print any preliminary educational requirement until 1868, yet the spirit of such a requirement was manifest in the first Announcement, which read: "We freely pledge ourselves to cordially co-operate with the profession in every reasonable effort to establish a higher standard of both preliminary and professional education for those who may seek admission to our ranks." Moreover, it seems that some actual screening must have been done. In an historical account, published in 1896, Professor Jones was explicit on this point: "From the first the founders of the school established a high standard of attainment for the required admission of students of medicine." Also the original President of the school, Hosmer A. Johnson, in a public address (1870), commented retrospectively on the initial "larger proportion, than at that time usually found in medical schools, of young men thoroughly prepared by scientific and classical attainments for professional study." And of the third entering class Dr. Davis wrote in *The Chicago Medical Examiner*: "Every member of the present class [1861-62; 60 matriculants] has received a good preliminary and general education, and has entered upon the study of medicine with habits of industry and mental discipline, coupled with a determination to study. To such a class, it is a pleasure to lecture."

The earlier published requirements demanded evidence only of a common schooling, yet a similar easy standard was not attempted by Rush Medical College for 15 years. This requirement, admittedly, was far less exacting than that set forth by the earliest pre-Revolutionary colleges or those printed, but not enforced, by some later ones. In practice, the general abandonment of all admission standards following Colonial times had become such that the matter assumed the stature of a major point in the Columbus and Cincinnati resolutions and in the repeated recommendations of the American Medical Association. Hence any publicized admission screen, authorized within a year of that Convention and honestly administered, served to mark the College as a venturesome leader in educational reform.

Again, to be sure, restoration of the shortened annual term to six months had been tried tentatively by the University of Maryland (1840), and by others at about 1850, a decade or more before the Chicago Medical College opened on a five-month basis, whereas it was another decade before the Chicago school extended its term to six months. Nevertheless, these were notable steps of leadership in raising the medical curriculum above the level that extramural pressure exerted upon the schools of the nation, and crass commercialism within them, had depressed it. The associated move toward expanding the total period of medical-school instruction from two years to three was not duplicated by any major college until the Harvard Medical School made a similar change in 1871.

It is not necessary to elaborate further on the supreme importance of initiating a graded curriculum, distributed through first two, and then three, academic years. There could be no hope for a sound system of medical instruction until a definite number of subjects, as Professor Jones wrote, "were assigned to each year in such a natural order that the mastery of one group made the mastery of the next easier, and the accomplishment of the whole more comprehensive and complete." Moreover, it would appear that the kind of clinical instruction afforded in the hospitals was unlike that given by the few schools claiming such advantages; this regimen was also in advance of recommendations of the Cincinnati Convention and the American Medical Association. Davis described it as a system that "enables the Professor to introduce his pupils into the wards, where he may fully illustrate at the bed-side, the principles he

teaches in the lecture room; and where the student may, with the eye, the ear and the touch, learn the actual symptoms, diagnosis and treatment of disease in all its forms and stages." Additional distinctively original features in the new College were: more subject-divisions, demanding a larger faculty; fewer lectures each day, but a much greater total of different lectures in the two years; daily quizzes; and final examinations in the subjects of the first year at the end of that year.

Required dissection by students clearly took place from the start of the College, even though the promise that "the dissecting room will be supplied with all the material wanted" could be carried out only through irregularities negotiated by the Demonstrator. The legalized distribution of adequate material had to await the passage of the Illinois Anatomy Acts, fifteen and 26 years, respectively, after the new school opened. Obligatory dissection, however, was not unique, because the University of Maryland had required it in 1833, followed by the University of Pennsylvania and other schools. Instruction in chemistry, through experiments, dated from the beginning of the College, but individual laboratory work waited until 1868. Practical training in the use of the microscope was introduced in 1871. These offerings placed the College among a select few offering significant laboratory experience at a relatively early period.

Various other schools claimed in their announcements to conduct daily or weekly quizzes, but doubts have been raised that such were often carried out. Most schools were slow to conform to this procedure. Rush Medical College, for example, did not institute quizzes as a method of instruction until 1888, after this type of teaching had been included in the minimal acceptable requirements set up by the Illinois State Board of Health. Because of the peculiarities of the repetitive program, other colleges did not attempt promotional examinations at the end of the first session.

All of these novel pedagogical programs were notable advances, and even though the Chicago Medical College was not the first to experiment in every type of reform, each of its departures from standard practice was sufficiently meritorious to place it in the vanguard. The great contribution and value of this school, as an exemplar of reform, lay in that it was the first to combine so many departures from the standard procedure of the day, along with its own paramount innovations. The Chicago Medical College was unques-

tionably the first to embrace all the features of the Cincinnati recommendations, which later became the accepted principles of pedagogy in every medical school.

It is worth while at this stage of the narrative to clarify any confusion as to who was the original proponent of the reform-type of curriculum. Some assume that N. S. Davis claimed title to this honor or, at least, believe that it belongs to him. Except for an early proposal (1765) by John Morgan for preliminary education and graded studies (p. 69), such recognition should be awarded to Dr. Daniel Drake. He first aired his views in an inaugural address on becoming President of the Medical College of Ohio in 1820, published them as a series of essays in his *Western Journal of Medical and Physical Sciences*, and later (1832) issued these with additions, in book form, under the title *Practical Essays on Medical Education and the Medical Profession*.

In addresses at the opening session and the fifth session of the Medical Department of Lind University, Dr. Davis made clear the background of curricular revision. He enumerated the committee reports presented annually before the American Medical Association from 1847 to 1858, detailing all of the measures that were recommended as necessary to institute the several desired reforms in medical teaching. He also listed the similar resolutions adopted earlier by the physicians of Ohio, assembled in convention at Columbus in 1838, and gave full quotation of Daniel Drake's editorial comments on these resolutions after having characterized him as one "than whom no higher authority could be quoted on such a subject." All this was by way of showing "that the principles involved in the plan of organization and system of instruction adopted by the founders of this Institution, were neither new nor the invention of some eccentric or over-zealous medical reformer; but that they had been practically interwoven with the systems of medical education in every country on the Continent of Europe; and that they had been clearly pointed out and advocated by many of the ablest teachers and writers in America for more than twenty years past."

Again, at the opening of the fifth session, Dr. Davis reviewed all of the innovations put into practice by the Faculty and concluded: "In a word, they boldly attempted to establish practically and fully, what Dr. Drake had so happily described as the 'beau ideal of

collegiate medical instruction.' ” Although Nathan S. Davis was not the first to father the idea of graded medical studies, he had entertained independent thoughts at an early age concerning this very concept. Responding in his eighty-fourth year at a testimonial banquet sponsored by the Chicago Medical Society, Dr. Davis referred to his entrance into medical studies at the age of eighteen and said: “It was not long before I stumbled upon the fact that the system of medical education was a very ridiculous one, for I went each year to college, and went over the same thing — six lectures a day, and skimmed the whole field in sixteen weeks. I thought that was very queer. I listened to these lectures every day, but studied only three of them; I left the other three for the next year to make up. I made my own division.”

The subsequent role of Davis in curricular reform is clear to read. It was he who introduced resolutions on these matters in 1846 that led to the organization of the American Medical Association, mainly for the purpose of advancing the cause of medical education. He was, more than anyone else, the popularizer who kept the issue alive through articles and editorials, first in *The North-Western Medical and Surgical Journal* and then in *The Chicago Medical Examiner*; it was he who infected others with his enthusiasm for reform; and it was he who became the dominant figure in carrying out these principles in the new school. In a way not intended as praise, Dr. Daniel Brainard hit upon the essential truth when, in his rival journal, he continuously labeled Dr. Davis as the “apostle” of the reform movement. In terms of their contemporary times, Davis bore the relation to Drake that Huxley did to Darwin.

It has already been asserted that the Chicago Medical College was the first institution that carried into effect the various recommendations of the Columbus and Cincinnati Conventions and of the American Medical Association at numerous annual assemblies. More precisely, it anticipated them. In 1871 Harvard University revised and lengthened its medical curriculum, instituting graded studies, better facilities for laboratory and clinical instruction, and other internal reforms. Some contemporary journals and later historical writers, all of whom had to ignore adequately publicized facts, credited Harvard with a first in these matters. Years later (1896) President Eliot of Harvard reviewed the Announcements of the Chicago Medical College with respect to its curricular advances and their dates and wrote: “I was not aware, when the steps were

taken by the Harvard Medical School, that the Northwestern University Medical School had already taken them. I mistakenly thought that Harvard Medical School was the pioneer in these respects." Perhaps the President never did know that two other schools, one in St. Louis (College of Physicians and Surgeons) and the other in New York (Woman's Medical College), had fully adopted the system of graded courses and consecutive teaching two and one years, respectively, before Harvard.

Although not first to plan and put a graded three-year program into force, Harvard Medical School did score by extending its three annual courses to nine months each; moreover, its reforms included an entire change in the financial and other relations by which it became integrated closely into the University. At this particular time (1871) the Chicago Medical College was still holding to six-month courses, had only recently effected a loose connection with the University while retaining its practical autonomy, and did not restrict its students solely to the lectures of each year as scheduled. Actually, for the early years of operation, the class hours at the Chicago school were so arranged that a student, if he chose, could attend all of the lectures in the graded curriculum. On the other hand, the students were advised that, though having full access to all lectures in both years, they were expected to devote special attention to those prescribed for their particular year since they would be examined on these branches at the end of the term. Harvard clearly went further in making its medical school a highly integrated university department, in extending its annual courses to a full academic year and, apparently, in enforcing strictly a three-year graded program. Its influence toward producing a subsequent country-wide adoption of curricular reform may well have been the greater, but it was twelve years behind the adventurous Chicago school in all of the initial steps in the movement.

The cursory dismissal of the role of the Chicago Medical College in educational reform by Garrison (*History of Medicine*) is offset by the sounder judgment of Norwood (*Medical Education*) who wrote: "The Medical Department of Lind University was a noble experiment which definitely pointed the way out of the morass in which medical educators found themselves. With a teaching staff of twelve and two distinct years of training, Davis and his colleagues made a definite advance in the building of the medical curriculum." An equally just appraisal from another standard historical

source states that this college was "the first in the United States to apply the principles of scientific pedagogy to the teaching of medicine and surgery." The *Reports on Medical Education* of the Illinois State Board of Health, which, for a period of years, were the only authoritative surveys covering the United States and Canada, stated in 1891: "The Chicago Medical College was the first medical college in this country to adopt the three-year, graded course." Authorities on medical education such as Barker, Welch and Flexner likewise credit the Chicago Medical College with being the first to initiate a three-year, graded course of instruction.

It, nevertheless, should be emphasized that, despite the breaking through of barriers accomplished by the Chicago and Boston schools, there was no rush to follow in the footsteps of either. Tradition, conformism and immediate self-interest were set aside reluctantly. A graded course of three years was not introduced again into medical schools until 1877 (University of Pennsylvania; Syracuse University), to be next followed by the University of Michigan (1880) and then others. Actually, it was not until the end of the century that this program became generally adopted.

MATTERS OF POLICY

By the time the College had graduated its ninth and tenth classes, two matters of admission policy had to be faced, both of which were novel but not without precedent nationally. One concerned the matriculation of nonCaucasians and the other of women.

By the middle of the nineteenth century Negroes had registered at eight medical colleges, at least, including Harvard and Rush. Three Negroes had graduated from the Medical School of Maine (Bowdoin) and one from Rush Medical College. A decision first confronted the Chicago Medical College in the summer of 1868 when the Secretary requested instructions concerning two applicants, one a Negro; the response was to admit both. The white applicant enrolled as a Senior student, but the name of the Negro does not appear in the class lists of this period. This does not mean that he did not attend classes for a time, as the evidence in a contemporary case proves; or he may have had a special auditing status. There seems to be no way, at this late day, of identifying surely the first

negro graduate of the College, but it may well have been Daniel Williams ('83) who later attained fame (p. 407). In the twentieth century, at least, except for one period of administrative bias, there has been a continuous representation of negro students among the matriculants. Records in the same decade list the first identifiable Indian matriculant, Carlos Montezuma ('89).

Somewhat less liberal has been the long-time attitude toward women medical students, even though this country had pioneered in offering a medical education to women since 1849. In fact, by 1884 there were 41 co-educational medical colleges in the United States and Canada, and seven colleges for women alone. The local problem came to a head in September, 1869, when the Faculty "resolved that females be admitted to the College and graduation on precisely the same terms as males." Three women entered the class that autumn; one of these, Mary H. Thompson, was already a physician, and she received the *ad eundem* degree at the end of the session. This was the only medical degree ever awarded to a woman by the Chicago Medical College, and the later career of this physician brought honor to her sex and to the College alike. She became the first female surgeon in this country and helped found the local hospital that still bears her name. Straightway those male students who were about to attend the following summer session requested, but to no avail, that women not be admitted to that class. The petition charged that some patients were reluctant to be used for teaching purposes when women students were present, and that certain facts and observations of value had been omitted by the teachers during the regular session.

After reconsidering all facets of the basic problem, the Faculty voted "that the matriculating officers matriculate no more female medical students until further direction by the Faculty." Professor Byford had been the chief champion of the original measure and was straightway to promote and found the Woman's Hospital Medical College, which was spurred into being by this reversal of policy. He was directed "to confer with the ladies in the class and arrange the matter." In other words, he was to inform them that their registration was cancelled; accordingly, their names disappeared from the next class register. This denial of the opportunity to continue a second year and graduate, which short course was then still permissible, may have been expedient in response to student pressure and a feared, adverse effect on subsequent male

patronage, but it can be condoned only on the basis that a woman's college was projected for opening in Chicago that autumn. The two rejected women immediately entered this college and graduated from it.

President Davis, personally disapproving of all female aspirants to medicine, whom he characterized as a "few singularly constituted women," sought to excuse the capricious rulings of his Faculty by editorializing in *The Chicago Medical Examiner* that the original compliance had been at the urgent request of certain parties, that some patients had objected to being presented before students of both sexes, and that since measures were already being taken to establish a college for the education of women in the city, there would be no more mixed classes either at the Chicago Medical School or at Mercy Hospital. Eighteen years earlier, Rush Medical College had yielded to censure from the Illinois State Medical Society and excluded a woman matriculant. On the other hand, Davis faced criticism directed *against* the later act of exclusion at his college, during a discussion in a medical society meeting, and rose to defend the reversal of policy in that school.

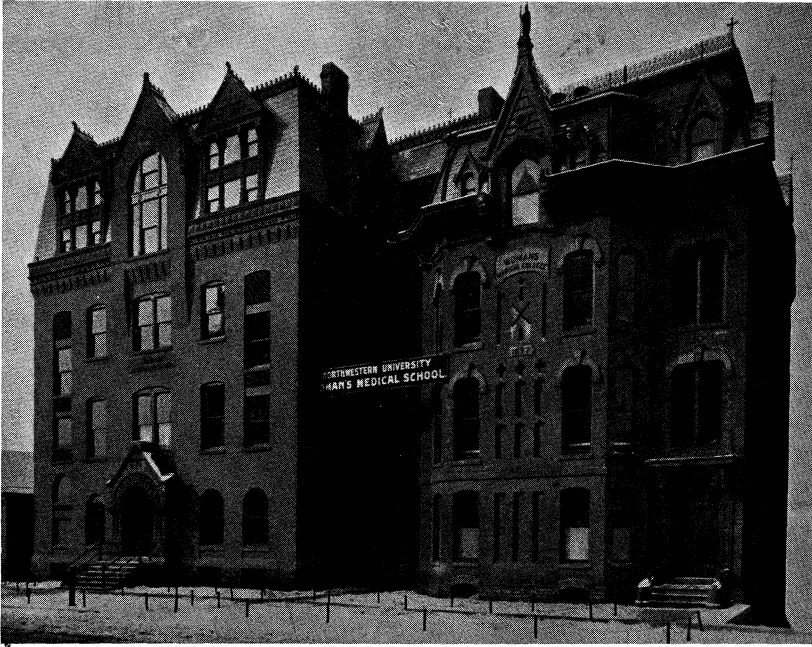
Nevertheless, in his journal Davis disposed of arguments that some topics were inherently too indelicate for female ears and eyes, that they were derogatory to the instincts of true modesty in both sexes, that the presence of women tended to disturb male clinicians and endanger lives, and that the existing barrier of respect, for these women at least, was broken down. On the other hand, he held that of all secular employments, there are few so little suited to the nature and necessities of women who, therefore, should not be encouraged in any way toward the pursuit of medicine. Yet, he continued, since there always will be a few women, so constituted mentally and physically as to exhibit a persistent disposition to study and practice medicine, it was best to open the doors to them, give them the same opportunities as men, and hold them to the same full requirements. If it is wrong for women to acquire medical knowledge, he argued, it is equally wrong to consult with women physicians in private practice or to associate with them medically in public institutions.

The contemporary bias of the medical profession in general on this subject has been preserved abundantly in print. A contributor to *The Chicago Medical Examiner* commented on the local episodes as follows: "The spirit of disobedience which ruled in the

breasts of our first parents, and for which they were cursed, is still rife. Now, as in the beginning, woman takes the lead in violating Divine commands, and breaking those seals which were written and stamped upon her by the hand of the Creator." A more intemperate judgment was voiced by Dr. Alfred Stille in his presidential address before the American Medical Association in 1871: "... All experience teaches that woman is characterized by a combination of distinctive qualities, of which the most striking are uncertainty of rational judgment, capriciousness of sentiment, fickleness of purpose, and indecision of action, which totally unfit her for professional pursuits. She usually displays a strange ignorance of the logic of reason and a profound contempt for the logic of facts." Unfortunately this quotation mirrors fairly well the popular opinion in the nineteenth century of the mental inferiority of women and their basic unfitness for the practice of medicine.

The Northwestern University Trustees, following ineffectual affiliating negotiations with the Woman's Hospital Medical College in 1875 and 1877, resolved to inquire "as to whether under the contract between the University and the Chicago Medical College, the latter is under obligation to receive into its course of instruction lady students from the former." There is no record that the committee, instructed to "report if they think it expedient" ever did so. The continuing desire of the University to sponsor medical education for women became fulfilled in 1892 when the solvent Woman's Medical College, in operation since 1870, was taken over and renamed the Northwestern University Woman's Medical School. As an integral unit of the University it was given the "guarantee that as long as it remains the Woman's Medical College [the University] will conduct it as a regular school of medicine for the education of women."

The University policy, however, was subject to circumstance, and the co-educational question was reopened in 1897 when President Rogers notified the Medical Faculty that the Woman's Medical School lacked suitable laboratories, which would cost \$25,000 to provide. Hence he inquired if these women students could receive instruction for the first two years of the course in the Medical School, either by contract or by union of the two schools. Faculty discussion resulted first in a motion to enter into negotiations for a contract, but this was inactivated by a motion to table. Three years later the question of the Medical School becoming co-educational



The Woman's Medical School, near Cook County Hospital, absorbed by Northwestern University in 1892.

came up again, unquestionably because the woman's college, as a separate division of the University, was then failing to pay expenses. The deliberating Medical Faculty resolved: "That this Faculty approves the admission of women to this School, provided terms satisfactory to the Executive Committee of the Faculty can be made with the Trustees of Northwestern University." But again, after much discussion, the motion was tabled. On a demand to discover those among the Faculty who were favorable to co-education, a roll call revealed five voting aye and fifteen nay.

The Woman's School was originally purchased by the University on the assumption that it would pay its way, like other professional schools, and thus enhance the prestige of the University at no expense. It once attained an annual enrollment of 157, but lost students progressively as more medical colleges became co-educational and offered better clinical opportunities; it then failed to meet expenses for several years. Accordingly, in 1902 the University decided to close its doors and sell the property. In other hands, the College building first served a proprietary medical school and then housed the Loyola University School of Medicine for forty years.

At the time of the decision to shut down the Woman's School a Trustee of the University (and former President of the Board) made an unfortunate public statement in which he assigned the abandonment of the School to the fact that "It is impossible to make a doctor out of a woman. Women cannot grasp the chemical and pharmaceutical laboratory work, the intricacies of surgery, or the minute work of anatomy." Alumnae, among the 475 graduates, wrathful at this calumny and at the suppression of the real reason for closing, did not permit this statement to go unchallenged, and even demanded his dismissal. A quarter of a century was to elapse before the problem of co-education would be revived, and then solely because it seemed expedient to a lukewarm Medical Faculty to open the School to women students (p. 290). Tardily the alumnae of the scuttled Woman's School were admitted to membership in the previously all-male Medical Alumni Association.

Following the custom of the times, the degree of Doctor of Medicine was conferred on some who were not regular students in course. The two categories were the *ad eundum* degree and the honorary degree. Both were awarded quite regularly from the first commencement until about 1880, and then sparingly until the time of the closer union with Northwestern University in 1891.

The *ad eundum* degree went to graduates of other institutions. For 25 years there is no record of the requirements for this recognition, other than the payment of a fee, but elsewhere the customary demands were evidence of good moral and social character and the passing of a satisfactory examination. Presumably the same stipulations held at the Chicago Medical College, because in 1884 there was faculty action that a candidate must take a full term of lectures and then pass the necessary examination. This was evidently a stronger requirement than had existed heretofore, and one year later it was further stipulated that the term spent in residence must be the Senior one. During the 32-year period since the founding and 1891 this award was conferred on 39 persons. Even as late as 1899 the Faculty voted that a Dr. Mathews would be granted the *ad eundum* degree "upon complying with the usual requirements," and in 1901-02 the degree was offered to those who might take the special fifth-year course presented as a substitute for an internship. In neither instance does the record show that the degree was conferred.

The honorary doctorate was given to persons of some distinction, usually physicians but not necessarily so. Wags had often quipped that the initials (M.D.) of the degree stood for the words *Multum Donavit*. In 1877 the American Medical College Association ruled: that not more than one honorary degree should be conferred in any year by a college; that this award should be limited to distinguished physicians and scientists who were over forty years of age; that the diploma should bear the word "Honorary" in conspicuous characters across its face; and that the same word should be appended to the name of the recipient in all lists of graduates. During the 32-year span since the founding and 1891 a total of 38 honorary degrees were awarded. That both types of irregular medical degrees were abandoned was only sound common sense, since they accomplished no strongly defensible purpose. The honorary degree was discontinued in the middle Eighties, yet in 1888 and 1890 it was again conferred, after voting that the rule prohibiting this very act be suspended in order to care for any special case.

A MEDICAL JOURNAL

When the new school was becoming organized, there was discussion by the Faculty concerning the propriety of establishing a medical journal similar to those sponsored by various other medical colleges. A committee appointed to report on the matter as soon as convenient never did so officially. But in January, 1860, Dr. Davis, who had been editor of *The Chicago Medical Journal* (the organ of Rush Medical College) at the time of his resignation, brought out a new monthly journal which he named *The Chicago Medical Examiner*. In an introductory statement he promised that the publication would fill the desire for a journal "conducted with energy, independence and liberality; embracing as its paramount object the up-building of the profession by the advancement of its practical, scientific, social and educational interests."

In recognizing the appearance of this new journal, various editors of other periodicals represented it as an organ that was created to serve as a mouthpiece of the Medical Department of Lind University. For clarification, Davis rejoined that this allegation was untrue: "The faculty of that Institution neither contribute a dollar to

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EDITED BY

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AND

E. A. STEELE, M. D.

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Cover of first issue of the Chicago Medical Examiner; 1860.

the support of this Journal, except an individual subscribers, nor control a single one of its pages . . . The *Chicago Medical Examiner* is the property of its editors, and as independent of all schools, clubs or cliques, as any other medical periodical in the United States." Ten years later, he again wrote: "The *Examiner* is neither the organ of a school nor the advertising medium of a publishing or book-selling house, but is simply the individual property of its Editor; and is published solely for the promotion of the educational, scientific, and practical interests of the profession." This insistence was presumably because of an earlier experience. In 1859, when leaving Rush Medical College, Davis transferred his editorship of *The Chicago Medical Journal* to President Brainard, who claimed that it had been started as an organ of that Faculty.

The *Examiner* was an excellent journal that can be read today with pleasure and some profit. It carried original articles, clinical reports, selections from other journals, book notices and reviews, news items, and editorials. Like other journals of its time, the *Examiner* did reflect the teachings and spirit of the local school since the contributors of original articles were, to a considerable degree, its Faculty and alumni. Also the editor used it for the propagation of his views on educational reform. Concurrent criticisms of generally existing educational methods, and the inferior results derived therefrom, stung President Brainard, who had taken over the editorship of *The Chicago Medical Journal* from Davis, to reply as if these had been personal attacks; they made him forget his promise to exclude "all discussions of a personal nature." Through a number of years these two publications conducted something of a running skirmish, in which the *Journal* was the aggressive hurler of barbed ridicule and epithets, while the *Examiner* was largely busied with correcting those misstatements and setting the record straight.

After Brainard's death the editorial section of the *Journal* resumed its dignity, and in 1875 the two publications merged to form *The Chicago Medical Journal and Examiner*, under new management and pledged to independence and freedom from bias. The new publication was discontinued in 1889 when, as was said, the united journals expired in each other's arms from inanition. The demise paralleled the rise of *The Journal of the American Medical Association*, begun in 1883. This weekly journal, edited by N. S. Davis on a national basis, became the mouthpiece for the entire profession and supplanted the necessity for less frequent, local periodicals.

APPRAISALS

It must not be assumed that the new College burst full blown into perfection, or had attained it by 1891. The Faculty, though proud of continuing achievements, was not blind to obstacles that blocked some desired goals nor to shortcomings in particulars, including faculty personal performances. Even the medical building, at Twenty-Sixth Street and Prairie Avenue, which had seemed so commodious and elegant when new, could now be viewed with a critical eye as crowded and inadequate. Its amphitheatres, with 240 and 260 seats, still accommodated the full student body, whereas the lack of space for the development of laboratory instruction in physiology, pathology and bacteriology had become truly disturbing. No longer could the pressing need for expanded laboratory work in all of the basic sciences, under specialists trained in the newer developments, be ignored. Neither could it be maintained that the outgrown dispensary was contributing its full teaching potential. A sudden (now unexplainable) drop in enrollment in the middle Eighties had been disheartening; yet the recovery, in the last five years of the decade, from 114 to 237 gave promise of better times ahead. This hope was to be fulfilled, although not until bigger and better buildings had been erected.

Dr. Isaac A. Abt, of the class of 1891 and long an ornament of the College as Professor of Pediatrics, has left an illuminating glimpse of conditions during his student days at the end of the current period. In his autobiography, *Baby Doctor*, he writes:

The College . . . occupied one building and that was dilapidated. The Dental School was across the street, thus giving the only illusion of a campus. Our facilities were extremely meager. There were laboratories for chemistry and histology [including histopathology] only, and one dissecting room. Due to a very crowded curriculum we had to do our dissecting at night, under dim gas jets. No laboratory work in physiology [or bacteriology] was required.

In addition to lecture and laboratory courses we had clinical instruction in the dispensary, which was located in the basement of the school. Here some men tried to make accurate diagnoses but the old-time Doctor in Charge, for the most part, followed the age-honored custom of asking the patient a few questions, feeling his pulse, looking at his tongue, and if he happened to be quite advanced, making a superficial

examination with the stethoscope. Usually he found that the patient was bilious or had a torpid liver, for which he was told to take at least three compound cathartic pills at night and a teaspoonful of medicine after meals.

Following such procedure, the clinical examinations of young Dr. Frank Billings were a revelation to students and fellow teachers, and his methods were an inspiration to all practitioners of the city, if not, indeed, of the Midwest. Putting into practice the methods he had learned during his recent postgraduate work in Europe, Dr. Billings did not simply note symptoms and prescribe for them, but examined a patient from the crown of his head to the tips of his toes, and made a carefully considered diagnosis.

One wonders why this brick building should be "dilapidated" after only twenty years of use. Still more confusing is a description by Dr. Franklin H. Martin, of the class of 1880, who came to matriculate when the building was seven years old, and found that "The building, old and battered, with its bare, dusty walls and unkept floors, was most unimpressive." It was then but one week in advance of the opening of the school. Was the progressive Faculty a chronically untidy housekeeper?

Dr. Bayard Holmes, who afterward was to hold the first appointment in bacteriology at the College, tells of his visits as a prospective student to the several medical schools in Chicago in the summer of 1882. He reached the Chicago Medical College by a horsecar that ambled along Cottage Grove Avenue between open ditches filled with a rank growth of ragweed:

An alert young doctor showed me several clinical rooms with strapped patients, suppurating wounds, and splinted and bandaged fractures, and I recognized the horribly dirty and inadequate equipment and the careless and trifling attention by the hurried clinical teachers. My guide then took me up to the deserted school rooms. It was the noon hour and there was no one in the office. We walked over the dusty, dirty and deserted amphitheatres, inspected the foul smelling and gruesome anatomy laboratory, peeked into the lonesome museum and at last came to the chemical laboratory [where Dr. Long was making an intricate analysis in impressive surroundings]. There was no histologic [error!] or pathologic laboratory, and the few microscopes were almost ludicrously antiquated.

Further visits were made to Rush Medical College, which also failed to impress him favorably, and to the newly constructed building of the College of Physicians and Surgeons, which was "smelly of pine and paint, but . . . destitute of pedagogic armamentarium. As the other Colleges had been offensive, dirty, dusty and stinking, so this new medical schoolhouse was alarmingly clean and new." But his fancy was finally caught by the handsome microscopes, clean rooms and friendly instructors at the Homeopathic Medical College, so he enrolled there. Later, he realized the limitations of a homeopathic degree and graduated from the Chicago Medical College in 1888.

Dr. Arthur E. Hertzler, of the class of 1894, in *Horse and Buggy Doctor*, has left a number of sidelights on his student days at the College. Since all teaching, except chemistry, was done by men in active practice, he found the instruction in the scientific branches to be, for the most part, meager. Anatomy, taught by surgeons, meant "committing most of Gray's Anatomy to memory, so that we could recite it like a devout man saying his prayers." In the dissecting room, matters were different; there they learned chiefly those things that would be useful:

. . . because the young surgeons . . . knew what structures were of practical importance and stressed them.

The result was that we learned only the practical things, but we learned those well. We came out of school with a pretty clear idea of where not to cut . . . The dissecting room in our day was a mess. The preservation of material was then not understood, certainly not by our custodian. Many a properly raised young man blew his first tobacco smoke across the dissecting table. Tradition had established that it was impossible to endure the odors of the dissecting room unless one smoked [or, if hardier, chewed].

Chemistry, after a rapid turnover of teachers, was latterly in the competent hands of Dr. J. H. Long, who in this period was the only professionally trained scientist on the Faculty. Most of the students were previously unfamiliar with chemistry of any kind and found the course exceedingly difficult. Hertzler considered the laboratory work in this subject to be adequate. Normal and pathological histology were taught by lectures and hard memorizing of textbooks. Laboratory exercises had been introduced years previously,

but the quality of the slides in histopathology was ridiculed by him. Physiology was not taught as a laboratory subject until the middle Nineties.

Didactic teaching in the clinical branches was well regarded, according to common testimony. Students took notes and committed them to memory, whereas the reading of texts fails to be mentioned. Hertzler tells of quiz classes, organized in groups of about ten, that met frequently so that the students could recite to each other. The students favored lectures over "ponderous textbooks in that the lecturer was able to stress the important points, as these had been emphasized to him in actual practice." It is clear that these compilations of notes were necessarily in the nature of an epitome, which would be valued as containing the essence of a professor's teaching, and enough to satisfy him when fed back at examination time. Also, such sets of notes were obviously only as good as the taker was competent to comprehend, and abstract and record faithfully.

Clinical facilities were rated by Hertzler as "pitiably inadequate in comparison to present-day medical schools." Clinics, held in the dispensary, College and hospital, were not highly praised, and operative clinics were rated as "shows or rest periods for us students." He complained that he learned "all the little details in the technique of abdominal hysterectomy, but no one thought to tell me not to molest the little boils that form in the upper lip." Relatively few things were known at that time in the whole range of medicine, but the saving grace, he thought, was that graduates did know the common points of diseases encountered in every-day practice. And, even if they were learned by rote, the student was well along toward recognizing them on a first encounter. Highly regarded was the saying of a later Professor, John B. Murphy: "In order to practise medicine you do not need to know much, but you must know that little well."

A general appraisal of the Chicago Medical College, in retrospect, has been given by Dr. Morris Fishbein, who wrote that although the College "was, at that time, a somewhat primitive institution, actually it was superior to most other midwestern medical schools." An opinion concerning the two early Chicago schools by Dr. Ludwig Hektoen went even further in praise; these colleges, he wrote, "kept well abreast with the time [and], when judged by the

services of their graduates as practitioners and citizens, they must be ranked as leading schools of that period.”

THE MEDICAL SCHOOL GRIST

The students were a mixed group in previous training and experience; most of them had not gone further than high school, and some not beyond the elementary level. Dr. Abt, in *Baby Doctor*, wrote: “They came from shops and factories, farms and mines; one had been a preacher, one a barber, another an iceman. They were a fine group of average Americans, eager to learn, diligent and high-spirited; but few of them had any notion of inorganic chemistry, zoology and [comparative] anatomy, which are the prerequisites of all reputable medical schools today.”

For time out of mind, medical students had been saddled with the reputation of being less refined and of coarser fiber than students of arts or of other professions. Their higher age level and the nature of their studies probably did conspire to engender a more materialistic outlook on life. Having gained such a reputation, there was apparently a certain show-off tendency to live up to it. Certainly rough-house and rowdiness often broke loose. The long hours of lectures, the relative paucity of doing things individually, and little placing of personal responsibility in the college routine of that time — probably all these account in part for the traditional outbursts of pent-up energy in lusty song between lectures, in the rough practice of ‘passing up’ of hapless classmates to the top rows of the amphitheater (p. 349), of rowdiness in the dissecting room, and in some frank riots.

Dr. Hertzler provides a vignette of the medical students of his time:

Curiosity brought many visitors to the dissecting room. The policeman on our beat was greeted by a shower of whatever happened to be at hand on the occasion of his visit. He had been called several times to quell class riots and we were all anxious to do him honor. One evening a number of students from the theological department paid us a visit. To them, medical students were a terrible lot of rowdies. They all wore Prince Albert coats and many of them received, in their tail pockets,

free donations of the various available appendages. They probably thought no better of us after this experience.

As a matter of fact, the cultural standing of the medics was not very highly regarded in the University as a whole. Once in a get-together on the [Evanston] campus the pharmacy boys hired an Italian, with his hand organ and monkey, to lead the concourse just ahead of the President. Without any inquiry whatever it was concluded that the medics were responsible, and the President came to the city the next day and told us collectively that we were a lousy bunch, not fit to mingle in civilized society.

It is, nevertheless, beyond question that giants in medicine and large numbers of wholly competent practitioners did emerge from the often unpromising lot of aspirants, in surroundings that today would seem inadequate beyond belief. The saving grace lay in the fact that the students, as a whole, were sincere, hard-working and ambitious. Many had already gained experience in dealing with mankind through work in the shop, factory, mine or farm, and had come to know people as they really are. This was significant as training, because that is how the doctor sees them — not at their best, as does the clergyman; nor at their worst, as does the lawyer. Medicine is a hard taskmaster, and those who endured had to possess certain qualities that would have led them to at least moderate success in whatever they may have undertaken. And the perceptive student did learn, by the example of his teachers, methods of clear thinking, sharp observation, logical reasoning and the arriving at sound decisions as to proper procedure in treatment. All else was then a problem in personal application and adjustment. The class of 1891 was a splendid example of the potential fruitage of the system and era. It contained such later national and international notables as I. A. Abt, J. B. DeLee, A. R. Edwards, D. N. Eisendrath, R. B. Preble, W. E. Schroeder and F. X. Walls.

At the end, the graduate was sped on his way with praise, counsel and an overpriced \$20 diploma (cost: \$1.55, including engraving). The Commencement exercises were held in the College hall until 1876, after which time they shifted successively to the Plymouth Congregational Church, Central Music Hall and Grand Opera House. In some years arrangements for proper advance publicity failed, and the event did not draw what was deemed to be a sufficient audience. To avoid this debacle, the Secretary, in 1872, "was directed to advertise the Commencement Exercises in the *Tribune*,

Times, Post and Journal." All in all, it was a free show that the public welcomed. Although academic dress was not worn until after the present period, the annual ceremony made an impressive appeal to popular interest; for example, in 1882 it is recorded that about 1800 visitors attended the exercises for 44 graduates.

On the evening of Commencement Day there was at first "an entertainment," consisting sometimes, at least, of a dinner, usually at the home of Dr. Davis. Later a complimentary dinner for graduates, alumni and guests was held at a hotel, and on this occasion both the meal and the toasts were elaborate. One of the features came to be a song by the class, in which many verses praised the individual faculty members or giped at their idiosyncrasies and foibles. This dinner was regularly recorded as given "by the Faculty," and on one occasion the record implies that the Faculty stood the bill. It would seem that the expense must have been considerable, and possibly payment was considered a proper charge against diploma fees, as had been traditional in many early schools. Since the "Faculty" acted as hosts at the occasion, this term in the records may well have been a personification of "College." Certainly, in later years the banquet for a time became a charge on the School (p. 358).

Dr. Bayard Holmes (class of 1888), himself a one-time teacher at the College and elsewhere, has left a colorful but cynical memorandum on these events:

In the year 1880, and for many years afterward, the Medical Colleges of Chicago atoned for their shortcomings and their poverty of medical education by a grand finale — a banquet and a brass band in a theatre, an afternoon distribution of Latin diplomas engrossed on real sheep skin, and a banquet at night, at the best hotel, for graduates and all alumni. This was the time when each member of the faculty patted the outgoing student on the back, shook his hand, and whispered some cheering words in his ear. It all means only: "Don't forget your old Professor. He'll help you out in consultation." There were no caps and gowns rented for the occasion, no processional or recessionals, and no scholastic distinctions of attire. It was honest bombast, parvenu and crass.

A NEW NAME AND HOME

(1891-1893)

The year 1890 marked a transition between an old and a new order in the University. The coming of Henry Wade Rogers, as the sixth President, broke the line of Methodist clergymen and introduced the community to a layman who had previously served as Dean of the School of Law at the University of Michigan. His was the task of bringing the institution into conformity with the newer methods, standards and ideals of a modern university. Hitherto the College of Liberal Arts had served as a center, about which clustered the largely autonomous professional schools. Each of the latter had its own President and Board of Trustees, received and held property, administered its affairs and observed its individual commencement exercises. An apt comparison would liken the machinery of the University to the operation of the fledgling United States government under the Articles of Confederation.

It was President Rogers who emphasized that "while this relationship obtained, the University can hardly be said to have been a University except in name." It was he who largely succeeded in amalgamating these separate units into an organic whole, under the management of a single board of control, and created deans to serve as the executive officer of each subordinate school. Not only was authority channeled and centralized, but so also trust funds, receipts and disbursements were handled by a common exchequer. For the first time the vision of President Hinman, at the very start, was made a reality, and the loose fabric of the schools was rewoven so that a uniform pattern and purpose showed throughout the whole.

The last decade of the nineteenth century proved to be a prosperous one for the University in other ways, as well. Two new Schools arose — Music and Speech. The value of its various properties increased from two to more than five million dollars; attendance doubled and tuition receipts tripled. To the Medical School, this

period brought a slightly closer relationship with the University and the first major change in administrative leadership, but only partial adjustments to rapidly shifting concepts in medical education.

In the early Nineties President Rogers wrote, "An institution which is not prepared to give graduate instruction . . . is not a university in fact, whatever it may be in name." Ten years later, President James restated this truism in the following words: "I am inclined to think that the distinguishing characteristic of the true university — that which will mark it off from a mere group of professional schools — will be found in the existence of a strong graduate school." Organized activity in this field at Northwestern began in 1891, when conditions for gaining the Master's and Doctor's degrees were adopted essentially like those in force today. For nearly twenty years the College of Liberal Arts administered the graduate work through a committee of three, but in 1911 these matters were assigned to a Board of Graduate Studies, on which Medicine, Law and Engineering were represented. Not until 1917 were graduate activities and administration dignified by setting them apart as a School of the University, under a Dean.

THE CONTRACTUAL UNION: 1891

At the end of the 1890-91 session the Medical Faculty directed its Executive Committee to confer with the Trustees of Northwestern University concerning a closer union between the Medical College and the University, and to draw up a contract for the consideration of the Faculty. There presumably was a satisfactory conference, since a detailed set of proposals was placed promptly before the Medical Faculty. A preamble in these resolutions by the Committee plunged deep into a general educational policy for the University: "We believe the mutual interests of Northwestern University and its departments of Medicine, Law, Pharmacy and Dentistry will be promoted by identifying these departments with the University, and we favor the unification of the professional schools in the University." It seems that this statement represented more than wishful thinking on the part of the Executive Committee, and that it reflected what was already shaping up among all the professional schools. At least, presently and on the same date, each of the four

schools just mentioned did consummate a contract that would make it a branch of the University. In three of the Schools the union was organic and complete, but the Medical School remained fairly autonomous for fifteen more years.

The report-proper counseled that the College, now a department of Northwestern University, could be merged more intimately, but safely, into the University in the manner and on the conditions set forth in twelve proposals. This report was accepted by the Medical Faculty, item by item and as a whole. The final paragraph authorized the President and Secretary of the Board of Trustees of the College to take such action as might be necessary to bring about the union under the terms proposed. With no essential change of meaning, the several provisions were embodied in a legal contract dated July 1, 1891, and the Treasurer of the University at once requested an inventory of all equipment and furnishings owned by the Medical College. With even tighter contracts executed for the Schools of Law, Dentistry and Pharmacy, in one concerted move the University straightway came into complete control and ownership of this set of professional schools. The Medical College, on the contrary, still retained control of its policy-making, its finances and its power to recommend for appointments and removals (except for cause). Each School was destined to benefit ultimately through the surrendering of any remaining autonomy to a recognized University; the latter, in turn, gained stature by true absorptions that put an end to nominal affiliations that had actually been little more than uncontrolled sponsorship.

The lengthy contract between Northwestern University and the Trustees of the Chicago Medical College embodied provisions that can be condensed to the following items:

1. The name to become the Northwestern University Medical School, with Chicago Medical College carried in brackets so long as both sets of trustees desire to retain it.
2. The College to continue its corporate existence until both parties agree to its surrender. This would enable the University to transfer the property held in trust back to the College if both parties agree upon this action.
3. The College to agree to conduct no medical school under its charter so long as the contract remains in force. The University to confer

- no medical degree except as recommended by the Medical School (or the Woman's Medical College if it affiliates).
4. An Executive Committee of the Medical Faculty to be constituted of five members, elected annually by that Faculty.
 5. The previous agreement to continue concerning free lecture-tuition in the Medical School for students spending two or more years in the College of Liberal Arts.
 6. All alumni of the Chicago Medical College to become alumni of the Northwestern University Medical School.
 7. The University to hold in perpetual trust, for the sole use of the College, all present property of the College and all future legacies or endowments to it. The University to devote all fees derived from medical students to the sole uses of the Medical School.
 8. The University to expend no money belonging to or earned by the Medical School except on recommendation or by concurrence of its Executive Committee. The same procedure to hold on actions involving the curriculum, fees, rules governing students, and care of buildings.
 9. The University to appoint members of the Medical Faculty on recommendation by that Faculty. The University to have the power of rejecting such nominations and returning them for further consideration and recommendation. The University to have the power to fill vacancies if the Medical Faculty fail or refuse to make recommendations. The power to remove members of the Medical Faculty to be vested in the University Trustees on recommendation by that Faculty (except in cases of removal for cause, following an opportunity for hearing).
 10. The University to pay out of its own funds so much of the salary of the Professor of Chemistry as is now paid by the College, and to continue to do so until that chair is endowed.
 11. The University to support the attempt to endow the chairs of physiology, pathology and chemistry and the attempt to erect suitable laboratories.
 12. The University to hold lots 34 to 42 in block eleven on South Dearborn Street for the use of the Medical and Pharmaceutical Schools so long as these Schools remain connected with the University.

Analysis of this contract shows that the University gained nothing new, other than having its name move into primary mention in the title of the School, and safeguarding the mechanism of faculty appointments and dismissals. On the other hand, the Medical

School got all of its property held safely in trust and its business affairs managed, while retaining full control of these funds. It received a promise of support in obtaining endowment (which did not materialize) and in a building program. In the latter instance the University did nothing more than advance money at commercial rates; the lots to be "held for use" were actually sold to the Medical School at what promised to be a handsome profit. On the whole, therefore, the new contract did not change the former alliance fundamentally, since the University retained its semblance of possessing a professional school, but still assumed no responsibility for the standards or support of its ward. Actually, the progress toward full union was small. Was the new contract a face-saving move, in view of the bolder action of the other three schools?

The name of the Chicago Medical College was carried as a subtitle on the Annual Announcements until 1910, although it was dropped from the diploma at once. Strangely enough, lethargy kept the old College seal in use until 1924. In the course of years a few changes were made in the provisions of the contract to suit existing working conditions. For example, in 1896 the fifth paragraph, the granting of free tuition to applicants with two or more years' attendance in the College of Liberal Arts, was repealed. Also, in 1902 there were further changes. The setting up of an Executive Committee in 1878 had been a move toward efficiency that relieved the full Faculty of many burdensome details and gained speed of administrative action. Now its membership was increased to nine; its name would soon change first (1906) to Advisory Council and then (1909) to Medical Council. A curious move made the deanship of the Medical School subject to annual nomination by the Medical Faculty to the Board of Trustees, but after several years the nominating prerogative passed to the President of the University without limitation of time.

INTEGRATION COMPLETED: 1906

Subsequent to a growing sentiment toward replacing the contractual relation with the University by an organic relation, the Trustees of the Chicago Medical College in April, 1903, volunteered to surrender its charter and transfer to the University full title to all

the property heretofore held in trust for the College, thereby making the Medical School an integral part of the University. This recommendation was made, however, "on the condition, or confident expectation, that the University will enact and maintain permanently the two statutes requested by the Medical School, to wit: first, that medical degrees be granted only to the individuals recommended by the Faculty of the Medical School; second, that no appointments or changes in the teaching body of the medical department be made, unless approved by the Medical Faculty." This offer was accepted by the Executive Committee of the University Trustees; it authorized the drawing up of papers necessary to a complete union, and the presentation of these to the University Trustees for final approval. The consummation of the transaction, nevertheless, was destined to suffer a long delay and, finally, important modification (p. 140).

For the first fifty years of its existence the Medical College was not a burden upon any sponsoring organization. Except for the benefit of minor donations it had always paid its way, and had made far more generous donations to other institutions than those received. The only annual expense that the University had ever stood was the contribution of \$1,000 toward the salary of the Professor of Chemistry. All this was granted by President James in the report of his short administration (1902-04), in which he also argued that the University was generous in not rendering a charge for a share of all its administrative and promotional expenses!

President James directed attention to the present relation of the University to the Medical School which, unlike other faculties, was based on a contract reserving certain rights of self-government to the Medical Faculty. In his opinion, no change in these relations should be made short of absolute, organic union. He foresaw that taking over the Medical School would create a pressure on University funds "quite as severe and continuous and irresistible as has been the pressure from the Law School and the other departments which have been added." He had no doubt that in this event the Medical School before long would become a considerable charge upon the general funds of the University. Yet he felt that there was no way of avoiding this, if the School were to keep abreast of the times, since a point had been reached in medical education when income from tuition could no longer be expected to provide for all the needs of teaching and research. In short, the President advised the

University Trustees to accept the School, and all of the outlay that it would entail, but only when the Trustees of the Chicago Medical College and the Faculty of the Medical School were willing to waive all reserve privileges and turn the School over to the absolute control of the University Trustees. No large obligations, he counseled, without larger privileges; no additional financial obligations without financial control. This was sound advice, because the University could not hope long to retain public respect and to fulfill its duty to education by an uncontrolled affiliation made originally to acquire a semblance of institutional completeness.

It is not hard to understand why the medical group was chary of surrendering all of its prized autonomy. It had attained success and reasonable security while maintaining a stable organization. It was making money and paying back the large advances that financed the 1893 buildings. The record of the University, in view of its larger scope, had certainly been no better, and its repeated turnover in leaders had made long-term policy unpredictable and stability of effort uncertain. Even to the end of the century the University had needed the association with its first professional school more than this school needed the prestige of University sponsorship. Moreover, there had been no urgent reason, previously, for the Medical College to seek cover.

Important to the pride of the Medical College were the two requested reservations, since they seemed consonant with the record of the School for responsible action. These rights were that the granting of medical degrees or the making of appointments or changes in the Medical Faculty must be subject, respectively, to recommendations or approval by that Faculty. On the other hand, it is amusing to learn why President James was so insistent that the Medical Faculty should not have "the privilege of recommending members of that Faculty for appointment or dismissal." The reason, he explained, was because "It is extremely difficult, under the very best of conditions, for a faculty to get that sense of responsibility which is necessary to make its recommendations worthwhile. It is rendered still more difficult in a professional school by the thousand and one elements of professional jealousy which enter upon the situation." His position reduced to the thesis that "no President worthy of the position, or Trustees worthy of the name, would think of making appointments without due consideration of the best opinion of the medical faculty," yet this Faculty should not

be given the absolute right to initiate such recommendations.

So time wore on for two years, with the two groups of Trustees in an apparent deadlock over complete integration. But time was a potent ally of the University, since it was becoming increasingly plain to all that if the College were to keep pace with the important medical schools being developed in other institutions, it must spend greatly increased sums on administration, equipment and services. The number of full-time instructors must be increased also and their salaries raised, in order to maintain the relative position educationally that had long been a proud claim to distinction. Only the University loomed as a prospective source of such financial support, and its realistic President advised that the University must be prepared to shoulder this burden whenever complete control and responsibility were obtained. The Medical Faculty, on its part, became more and more inclined toward enlisting the University in its overdue program of expansion. It probably was also viewing with increasing concern its isolated position among a dwindling number of schools with university affiliation, but not organically united.

The Trustees of the Chicago Medical College continued to exist as a corporate body for fifteen years after the union of 1891, and for thirteen years after moving into the new buildings erected on the Dearborn Street site. In August, 1905, the then Trustees transmitted a memorandum to the Trustees of Northwestern University, giving notice that the Chicago Medical College acceded to the terms stipulated, and authorizing the conveyance of property and powers to the University without limitation on either point previously raised. The University, accordingly, took steps to terminate the existing contract, assume complete ownership and control of the Medical School, and take charge of its work. On June 16, 1906, papers were executed by which the Trustees of the Chicago Medical College transferred and deeded all their rights in that College to the University, thereby completing the total union. The outcome was a final step in integration, yet only time could bring to pass the prediction of President James: "The university of the future will consist of a group of professional schools based on a college, and not in a group of professional schools attached to a college." Dean N. S. Davis, Jr., stated bluntly concerning the merger: "from this year, the character and standing of the Medical School, in the future, will depend upon the wise management of the

Trustees of the University.”

In reorganizing the administration of the Medical School, the University Trustees decided that its interests could best be served and preserved by the appointment of an Advisory Council of nine members besides the Dean (and a Secretary, if such were to be elected). Its appointed members should be representative of the main divisions of the medical curriculum, and to include, as far as possible, those members of the Faculty who had been longest identified with the work of medical education. This body, meeting first in July, 1906, was an elaboration of the previous Executive Committee of the same number; its name changed later (1909) to Medical Council. The Council was “to consider matters pertaining to the internal administration of its affairs.” It should make recommendations through the President to the Board of Trustees. To the Medical Faculty was reserved only “the fixing of requirements for degrees and the recommendation for degrees.”

The following financial statement accompanied the declaration of relinquishment by the Trustees of the Chicago Medical College:

ASSETS:

Grounds	\$ 26,400.00	
Laboratory Building	141,732.48	
Davis Hall	<u>37,352.17</u>	
Total		\$205,484.65
Personal property		91,506.21
Trust funds		
Nathan Smith Davis Professorship	\$ 51,000.00	
Robert Laughlin Rea Professorship	9,700.00	
Medical Research Fund	<u>1,600.00</u>	
Total		62,300.00
Credit balance with the University		<u>23,794.31</u>
Total		\$383,085.17

LIABILITIES:

Advances loaned by University		
Laboratory Building	\$ 95,329.26	
Mercy Hospital Amphitheater	<u>14,555.00</u>	
Total		\$109,884.26

Of this indebtedness, \$75,000 was in the form of a mortgage against the new Laboratory Building (p. 163); the remainder was represented by a floating debt of the University. All indebtedness was charged 4¾ per cent interest, and trust funds were credited at the same rate. The Medical School had taken out of its income in the last fourteen years (since the 1891 union), for investment in permanent property, \$91,000, of which \$30,000 was a gift to the building fund of Wesley.

The operational picture about midway of the current period can be seen from the following memorandum submitted at the Annual Meeting of the Medical School in 1896:

RECEIPTS:

Tuition	\$32,880.53	
Other	<u>2,709.36</u>	
Total		\$35,589.89

DISBURSEMENTS:

Salaries	\$ 6,720.00	
Laboratory equipment	7,826.26	
Other purposes	12,955.07	
Paid on building and interest	<u>6,325.66</u>	
Total		\$33,826.99
Credit Balance		1,762.90

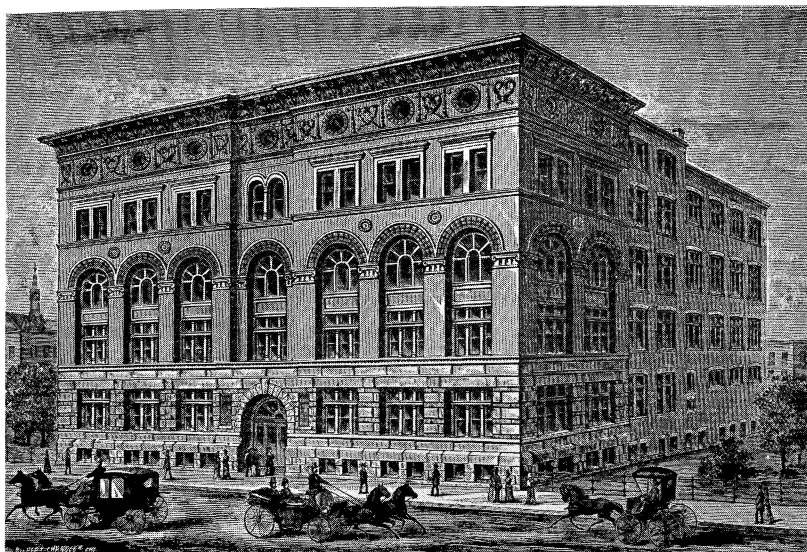
The minuscule item for salaries is arresting; two years later it had doubled and ten years later, quadrupled. Also at the end of the current period the total income would be more than doubled. Organization was still very simple. A clerk, also serving as registrar, was the only administrative aid until 1895, when "the House Committee was empowered to hire a stenographer and typewriter for the College." In 1902 a news item informed the alumni that "a new telephone will be placed in the Laboratory Building." Even in 1915, when the present writer joined the Faculty, all telephones in the School could still be counted on the fingers of one hand. Today the annual telephone bill is more than six times the total expenditures of the Medical School as just cited for 1896.

A THIRD HOUSING PROJECT: 1893

During twenty years (1870-90) of occupancy of the college building at the Twenty-Sixth Street site, the accommodations were becoming increasingly crowded and inadequate. Not only had enrollments increased from 107 to 237 and the dispensary outgrown its modest quarters, but also there was urgent need for space that would make possible separate rooms for pathology and the introduction of general laboratory instruction in physiology and bacteriology. Mercy Hospital was unwilling to assign land for such an addition since it coveted the ground, now occupied by the School, for its own extensive program of expansion. After the expiration of the original twenty-year contract with Mercy Hospital, a new contract was made whereby the Medical College relinquished its 99-year option and returned its building site to the Hospital. In return, the privileges of clinical instruction and hospital appointments were extended into 1923. The College Building was sold to the Hospital, and was used for temporary hospital services during its period of remodelling and expansion. The Sisters finally decided that the 26-year-old College Building should not be remodelled into a nurses' residence, as had originally been planned, and its demolition followed in 1896 (three years after the College moved away).

Aid toward relocation of the College was forthcoming in 1890 when Northwestern University purchased land, with 450 feet free frontage on the east side of South Dearborn Street, for \$41,507. Of this sum, \$21,506 was contributed by William Deering, a Trustee of the University and always a staunch friend. The strip extended from Twenty-Fifth Street three-fourths of the way toward Twenty-Fourth Street.

The choice south half of the strip, including the corner site, was sold to Wesley Hospital for \$15,340; the details of deferred payments were stipulated in the contract of affiliation. Actually it became a gift in 1899, when it was deeded to the Hospital on the payment of one dollar. The conveyance stipulated that the grantee should erect a hospital whose staff should "be drawn from the Faculty of Northwestern University Medical School, and that facilities for clinic teaching be afforded the students in the wards and amphitheater of the hospital as required by the grantor herein, and that on the failure of said Wesley Hospital to carry out these condi-



Laboratory Building, at the Dearborn-Street site; 1893-1926.

tions, the title shall revert to Northwestern University.” An equal amount of land was assigned to the Medical and Pharmacy Schools. For this northern half the University received \$5,000 from each School. Had the Wesley payments been made, the University would have cleared a profit of \$5,339 on the deal.

By the end of 1890 an architect had been chosen to design a new laboratory building, and in March, 1892, the Executive and Building Committees were empowered to supervise the final revisions of plans and to let the contract at the earliest date. The five-story building was ready for occupancy in the summer of 1893. It was a fairly impressive edifice, constructed of cut stone and brick, with terra cotta trimmings. It contained a large amphitheater, a lecture hall and various laboratories that were planned to meet the needs of both staff and students in the rapidly expanding area of research and instruction in the basic sciences.

The new laboratories were the first in the country to be adapted to the newer requirements in medical science. Their novel features brought visitors from afar to inspect, and sometimes to copy. One oddity of the gross anatomy laboratory was doubtless unique, and never subsequently duplicated elsewhere. The ranking scientist of the School, fearing that his chemistry laboratory might be contami-

nated or inundated from the dissecting room just above, insisted that the floor of that room be overlaid with a thick mantle of asphalt. One outcome was that during each summer the legs of the dissecting tables settled into the asphalt, so that an annual chore in September was to pull them out and reset the tables in new positions before the new class assembled.

In agreement with contemporary construction-practice, stairways and floors of the new building were wooden. Dressed with oil they comprised a prime fire hazard. This potential danger was much on the mind of the administration, even though no serious fire ever occurred. Nevertheless, as a precautionary measure an annual fire drill was held without previous warning. A loud alarm was the signal for the precipitate departure of students through opened windows and down to the ground by way of iron fire escapes. To the student this exercise became something of a lark rather than a serious drill. On one occasion an unexpected, full compliance occurred. The dissection laboratory was on the fifth floor, reached by inadequate stairs built, apparently, on the reasonable assumption that traffic to the top of the building would be light. In that laboratory was kept a collection of teaching models and similar aids, so instructions were given that, in the event of fire, students were to pick up these materials and carry them to safety. On this particular drill, one dissection-pair decided that their cadaveric remains was the most important item in sight. Carrying it by head and feet, they descended the fire escape and found ground-level on Dearborn Street.

The Demonstrator of Anatomy had been delegated to visit eastern colleges for the purpose of learning the best methods of preserving anatomical material, since this problem had constituted a long-standing annoyance. As the result of information gained, it was recommended that a room, set apart for the purpose in the basement, be equipped with the best apparatus obtainable. A four-ton refrigerating apparatus, costing \$2,700 and requiring a half-ton of coal daily, was installed. Much later, in 1912, a separate one-story morgue was built just north of the Laboratory Building, on the side opposite to Davis Hall. It was not long in full service, however, because during World War I arrangements were completed for a co-operative central plant, located near the County Hospital, which thereafter did much of the work for all of the medical schools in the city. So it was that the morgue became largely limited, in terms of

the traditional euphemism, to the storage of "the materials of dissection." An occasional, unauthorized use by upper-classmen was to lock an inquisitive freshman inside the storage room containing rows of suspended, embalmed cadavers.

The School of Pharmacy originally occupied the second floor of the Laboratory Building and shared still other space, but it moved out in 1902 when accommodations were provided in the Northwestern University Building in the business section. This permitted some rearrangements and provided increased facilities for the basic sciences as laboratory subjects. In 1913 the School of Pharmacy returned for a while, sharing laboratories with the Department of Chemistry, but it continued to be a financial burden and was soon thought to be no longer essential to the work of the University. Hence, in 1917 it was absorbed into the pharmacy school of the University of Illinois. As long as the clinics of the Dental School occupied the upper floors of Davis Hall (1893-96), its courses in basic science were given in the laboratories of the Medical School and by the Medical Faculty, under the same arrangement that had prevailed when the Dental School was located opposite the Twenty-Sixth Street site, and later on Twenty-Second Street.

The Laboratory Building was undertaken as an individual responsibility of the Medical and Pharmacy Schools, to which project the University gave only its approval and an unenthusiastic advance of money. Originally the University had not planned to assume any part of the expense, but it was forced to advance nearly \$83,000 on which it charged interest, at first at the rate of six per cent, compounded semiannually. The building was expected to cost \$100,000 but, at the time of occupation, the expense had soared to \$138,500. The anticipation of a large expenditure and the obvious need of endowment had brought about a joint meeting between medical representatives and the University Trustees as early as May, 1891, to formulate a plan toward consummating these ends. While the building was in progress President Rogers, of the University, placed before the Medical Faculty the practical problem of how to raise this money, which he set at \$500,000, at least. A detailed report of ways and means was returned by an appointed committee, but a record of accomplishment, twelve years later at the end of the present period, lists only \$62,300 of endowment restricted to specific purposes, and other gifts of \$40,000 expended on the new site and building.

The cost of the Laboratory Building was charged equally against the two occupants; hence the Medical School owed nearly \$70,000. On taking possession of the property the School paid in \$21,000; further payments out of earning brought the total to \$51,063 by 1898. Previously, in 1897, the School had suggested that the Trustees of the University appropriate \$5,000 to help extinguish the debt, but nothing came of this appeal. Again, in the following year, the Trustees were asked (p. 506) to relieve the School from its remaining indebtedness of \$26,000, in view of a proposed outlay to strengthen the basic science departments by obtaining full-time, salaried professors of anatomy (including histology) and of pathology (including bacteriology). The Trustees approved this progressive policy in principle, but felt unable to assume the residual debt on the building at once. Nonetheless, they favored the expenditure, if necessary, of the entire income of the School for the maintenance of instruction, even if this meant ceasing payments, for a time, on the debt. In addition, they encouraged the School to hope that later its indebtedness would be assumed by the University. Disappointed, but ever courageous, the Medical School went ahead with its schedule of payments. It also managed to take steps toward staff-improvement in gross anatomy, histology and pathology. Salaried appointments were made, but resignations and an untimely death failed to stabilize all of these departments immediately.

During the period of construction Dean Davis pointed out to the University Trustees that the surplus earnings of the School that had been transferred to the purchase of land and to the building fund represented a contribution from the Medical Faculty, since these monies otherwise would have been subject to division as compensation for services rendered. He said: "But fully realizing the imperative need of an early completion of the new building . . . they cheerfully forego pay . . . until that object is accomplished." This abnegation marked the end of the annual 'dividend' from earnings. Long before the building debt could be amortized, the Medical School found it must enter upon an expensive program of expansion in laboratory instruction, with full-time, salaried teachers. In this way, without fanfare, a long era of voluntary service by clinicians was being ushered in.

The School of Pharmacy immediately found itself unable to meet any part of its share of the obligation on the Laboratory Building,

or even to pay interest on the money advanced by the University. After four years in its new quarters operational deficits totaled \$18,000, and the accumulated interest on the loan was even more. President Rogers advised his Trustees that "the only way the interest loss can be stopped is by getting the Medical School to assume the whole cost of the building and occupy it for its own uses exclusively. But we cannot remove the Pharmacy School and pay rent [elsewhere] until the Medical School will take over." The solution came when the Tremont House, on Lake Street, was bought and reconstructed for occupancy by the Schools of Law, Dentistry and Pharmacy in 1902. The Medical School then did take over the entire building and assume the defaulted debt. Between the years 1906 and 1910 alone, its payments to the University totalled \$108,153. Thus the entire return by the Medical School to the University, for sums advanced on the Laboratory Building (cash and mortgage), amounted to \$159,214.

But the Medical School was not yet through with its role as host to the School of Pharmacy. Later, in 1913, this peripatetic offspring of the University returned to the Laboratory Building. This time it operated in conjunction with the Department of Chemistry, whose Chairman served also as Dean. This makeshift arrangement continued until the demise of the School in 1917.

OTHER BUILDING PROJECTS

At first it was expected that all of the work of the third and fourth medical years, as well as the dispensary service, could continue in the old College Building on Twenty-Sixth Street, but this plan was abandoned when Mercy Hospital required the land for its own expansion. This new crisis led to the erection of a smaller building, named Davis Hall by the Trustees, alongside the Laboratory Building and just south of it. Although its necessity was not announced to the Faculty until January, 1893, this clinical building got a prompt start and was finished only a few months after the larger one. The first plans called for two stories, but the University decided to add two more in order to house the Dental School. Its style and construction resembled somewhat the Laboratory Building. Besides a large and a small amphitheater, there were the rooms

related to the dispensary. Originally it also accommodated the executive offices and library; and until 1896 the third and fourth floors were given over to the clinics and specialized classes of the Dental School. In 1894 the University Trustees ordered that "the [chiseled] name 'Davis Hall' be taken from the present building, so designated, and placed upon the Laboratory Building in recognition of the services of the Dean of the Medical School." This was not done, and the official change of name was never observed by the Medical Faculty, students or alumni.



Laboratory Building and Davis Hall, 1893; Wesley Hospital, 1910.

Davis Hall originally cost \$34,500, of which sum \$25,450 (74 per cent) was immediately charged to the Medical School, even though the Dental School occupied equal space above the basement. The South Side Dispensary, a lineal descendant of the original College dispensary, contributed its invested funds (amounting to \$10,000) to aid in the construction of the new building. In return, it demanded adequate space and the promise of an annual subsidy of \$500 from the Medical School (which would offset the lost interest from endowment). The proceeds from the sale of the former medical building to Mercy Hospital supplied \$10,000 more. The remainder was subscribed by members of the Medical Faculty, among whom the most generous contributor by far was N. S. Davis. When the Dental School outgrew its quarters and moved away in 1896, the University proposed that the Medical School take over these "two upper stories . . . upon payment of \$9,000, the cost price [actually, the *charged* price] of that part of the building." A counter proposal of \$4,000 was accepted by the University, which then extracted \$5,700 from the Dental School for past rent, since nothing had been paid toward building costs. As a result, the entire building became used thereafter by the Medical School for clinical purposes.

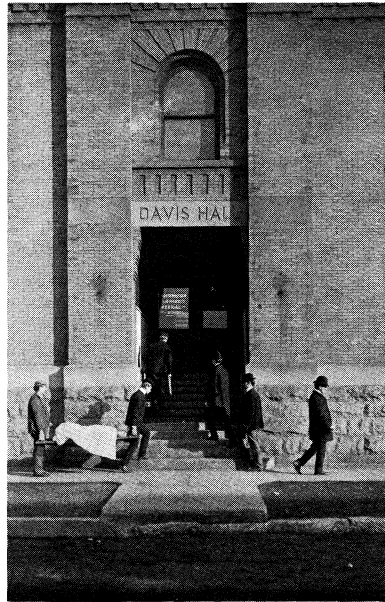
The thirty-fifth annual session of the School opened in the new buildings in the autumn of 1893. As on the three previous occasions when the School had occupied new quarters, Dean Davis gave the introductory address. He welcomed the students and Faculty "to the occupancy of the entire new and elegant buildings, which, with the grounds, have cost over \$200,000." He praised this fourth "and, I hope, permanent location and building," and then continued with congratulations and an admonition:

The progress during the thirty-four years of the history of this medical school, from nothing but the temporary fitted up rooms in Lind's block, to the buildings and grounds we now occupy, should satisfy the most ambitious in that direction. But stately buildings and costly furnishings do not constitute the whole, nor even the most essential part of a medical college or a university school. They constitute only the shelter and tools, while the actual work done in, and with them, afford the more important criterion of progress and educational success.

The Chicago press ignored the newsworthy event completely, but devoted columns to a descent of hordes of Oddfellows on the Columbian Exposition. Yet the *Tribune* found space on its front page for the ordinary annual opening of Rush Medical College, and on page two for that of Bennett Medical College. Three days before it had described a newly completed Rush secondary building and pictured it. The failure to gain publicity for the significant Northwestern move into unique housing on a new campus site may have reflected laxity with respect to public relations on the part of an aging Dean.

Wesley Hospital, recently organized, in 1891 erected a small, two-story brick building on the Dearborn Street site, at the corner of Twenty-Fifth Street. For ten years this served as a modest hospital of 35 beds, but it was inadequate in every way. Patients who were operated upon in Davis Hall had to be carried to and from stretchers. The student-porters were popularly dubbed "pall bearers," and the clinicians were in continual anxiety lest injury befall in transit. At one period in the Nineties a canopied sedan chair was used for the transportation of obstetrical patients, delivered in the amphitheater of the School. It had been salvaged from the 1893 Columbian Exposition in Jackson Park, and patient-carriage extended even to Mercy Hospital, a half-mile distant.

The definitive, six-story Wesley Hospital was erected between Davis Hall and Twenty-Fifth Street at an initial cost of \$237,000. When the beginnings of work on this project were delayed by lack of funds, the Medical School decided to suspend payment on its own debt and to pledge \$30,000 toward the Hospital building-fund. This was a generous act, and of the total amount, \$20,000 was paid within two years. The new building opened in 1901 with a capacity of 171 beds, whereas the final wing that added 54 more beds (at a cost of \$110,000) was not erected until nine years later. This, and the morgue (1912), completed the medical group on the Dearborn-Street site, since a large clinical building which the Medical Faculty urged in the early years of the new century, and President James supported as a pressing need, never materialized. Yet, as a protection against future growth, the remainder of the half-block between the east side of Dearborn Street and the alley was purchased, and most of the facing land on the opposite (west) side of the street as well.



At left, entrance to Laboratory Building. At right, entrance to Davis Hall; porters conveyed patients in the manner shown.

One further building enterprise featured the years just after the turn of the century. The School, wishing to maintain and improve its historic relations with Mercy Hospital, built a complete surgical pavilion to replace and extend the former clinical amphitheater, now become inadequate. This project is said to have cost something more than \$25,000; the amount paid by the Medical School was \$22,400, whereas the remainder was to be contributed by the surgeons who would use the improved facilities. At the time when the Trustees of the Chicago Medical College conveyed all property to the University, and rendered a statement of assets and liabilities, there was said to be an unpaid balance of nearly \$15,000 due on a loan advanced by the University to finance the project. On the contrary, the report of Dean N. S. Davis, Jr., for the preceding year records that the full amount had been paid out of earnings of the School.

This complete surgical unit contained, as a special feature, a gigantic clinical amphitheater with seats for 511 persons. The arena was finished in marble and white tile. It was designed for the exclusive use and benefit of the Faculty and students of the School, and embodied every recent improvement that a touring committee could seek out and approve. Dr. John B. Deaver, of Philadelphia, made the dedicatory address in 1902; it was followed by a surgical clinic under the auspices of the Chicago Medical Society, which organization attended the exercises in a body. Here for nearly twenty years were held the famous operative clinics of Drs. John B. Murphy and E. Wyllys Andrews, the medical clinics of C. L. Mix and A. R. Edwards, and others; visitors were drawn there from all parts of the world, especially to witness the "Murphy Clinics." Suddenly, in 1920, the existing contract with the Hospital was abrogated preemptorily by Church command, the long relations were severed and the use of all facilities lost. The pavilion itself had been a gift to the Hospital, and technically was not a direct property loss. It is only fair to state that the Sisters, whose Hospital had been staffed by the College for sixty years, were presumably in no way responsible for the decision that repudiated the unexpired contract and made these facilities available to another school. Northwestern University never received any notification from the Church of its edict, nor of the ambiguous effect of this on those members of the Medical Faculty serving as a clinical staff.

THE OUTLOOK

All of these developments of 1891-1906 plainly placed the School in a far stronger position potentially than it had previously enjoyed. On the other hand, responsibility for financing the School was the price that the University would sooner or later have to pay in exchange for complete control. For several years after the absolute union, however, large enrollments continued not only to meet running expenses of the School but even to amass large, favorable balances that repaid the University for monies advanced for the several building projects. Yet the picture would reverse later when entrance requirements became raised twice, the intern year became obligatory and the laboratories continued to expand in personnel and activities. Then the true value of the merger to the Medical School would be made plain to any and all dissidents.

Physically the School was immeasurably improved, both initially and especially after the departure of the Pharmacy and Dental Schools. Only the dispensary quarters would become embarrassingly inadequate during the total period of occupancy. In truth, this new group of medical buildings was, for a time, a notable set. Erected in the period of rapid expansion of practical work in the basic sciences, laboratories had been carefully designed to care for class- and investigative work in these branches. It is said that these arrangements were highly regarded by visitors, among whom were medical educators and administrators who journeyed from afar to inspect an example of what might be done in regard to their own problems of rehabilitating or building anew. But, naturally, no one could foresee in the early Nineties the rapid advances that were still to come in the basic sciences and the slower, but even more dramatic, expansion of the clinical horizon. For a decade or two, however, the new accommodations were to seem adequate, except for the overcrowded dispensary, and even luxurious in comparison to the simple, Spartan arrangements that everywhere characterized medical housing in the first century of the Republic.

Improvement in clinical facilities seemed assured. The relinquishment of the leased land to facilitate the expansion of Mercy Hospital and the gift to it of the surgical pavilion should strengthen the historic ties with that institution, which hitherto had borne the brunt of clinical teaching. Faith in the potentiality of Wesley

Hospital was made manifest by the gift of land by the University and the generous donation of money, in a time of dire need, by the Medical School. It was little suspected that the near future would entail disappointment in the clinical opportunities at both institutions. But, for the present, both hospitals could be counted on heavily; also the size and services of St. Luke's Hospital were increasing, and Peoples and Provident Hospitals were helpful. Before long Michael Reese would supply added strength; and the Calumet Dispensary, built alongside Mercy Hospital at University expense, would open. No other college in Chicago could offer bedside teaching such as Junior and Senior students were then receiving. The School faced the future with optimism and confidence.

Some statistics concerning the University and its Medical School at the start of each of their three phases of association can be ascertained from the following table:

NORTHWESTERN UNIVERSITY:	1870	1891	1906
Enrollment	184	998	2,560
Income	\$28,350	\$193,700	\$ 560,800
Endowment	none	\$275,700	\$4,120,200
MEDICAL SCHOOL:			
Enrollment	107	243	456
Income	\$ 4,000	\$ 27,000	\$ 82,800
Endowment	none	none	62,300

The University, in 1870, though lacking endowment in the form of trust funds, owned salable land (both productive and unproductive) valued at \$680,300. The proceeds from sales of land were used commonly to meet running expenses. In 1891 the remaining land had appreciated to \$1,753,500.

The wholly tax-free status of the University was apparently settled by the ruling of the Supreme Court of the United States in 1879 (p. 300). Yet toward the end of the present period a new Collector of Cook County brought suit on the claim that the decree did not show that the exemption applied to property acquired subsequent to the tax-free amendment to the original charter. In the end, nevertheless, the Supreme Court of Illinois ruled (1908) that all property of the University, whenever acquired, is to be forever exempt from taxation. Once again this kind of challenge seemed to reach an end, but it did not (p. 284).

A Period of Transition

(1891-1906)

The Nineties can be taken as a transitional period between a pioneering type of medicine and what may be considered as the forerunner of the modern era. It was at this time that a rising wave of medical progress became apparent inside the schools and out. Laboratories of physiology, pathology and bacteriology were being established, and part-time clinicians in the basic sciences were being replaced by full-time teachers with special training and investigative interests in their chosen fields. Hospitals were taking on increasing importance as working laboratories for clinical instruction and research. These several factors naturally were conducive to efforts being directed concertedly toward the pursuit of systematic research. All such progressive activities brought to the minds of medical educators the necessity of adapting their colleges to the rapidly changing advances, and of aligning them with the widening vision of things still needed. Only by so doing could they make the medical colleges worthy members of the University family.

Dr. James B. Herrick, in *Memories of Eighty Years*, concluded that those whose medical birth occurred about 1885 were fortunate above others because the next few decades were so packed with epoch-making events. These he enumerated as follows: "development of bacteriology; discovery of X rays; invention of instruments of precision; birth of allergy; growing importance of biological chemistry and physiology; more scientific views of public health; clearer recognition of the inter-relation between medicine and its cognate sciences, like physics and zoology; new standards for medical schools and hospitals; evolution of specialism and group practice; endowments of institutes for research; rapid growth in size and power of the American Medical Association." Those who graduated in the third decade of the twentieth century might make a counter-claim for the privilege granted them of standing at the threshold of a door that opened onto miracles hitherto unvisioned, but there is no denying the revolutionary aspect of the period that Dr. Herrick favored.

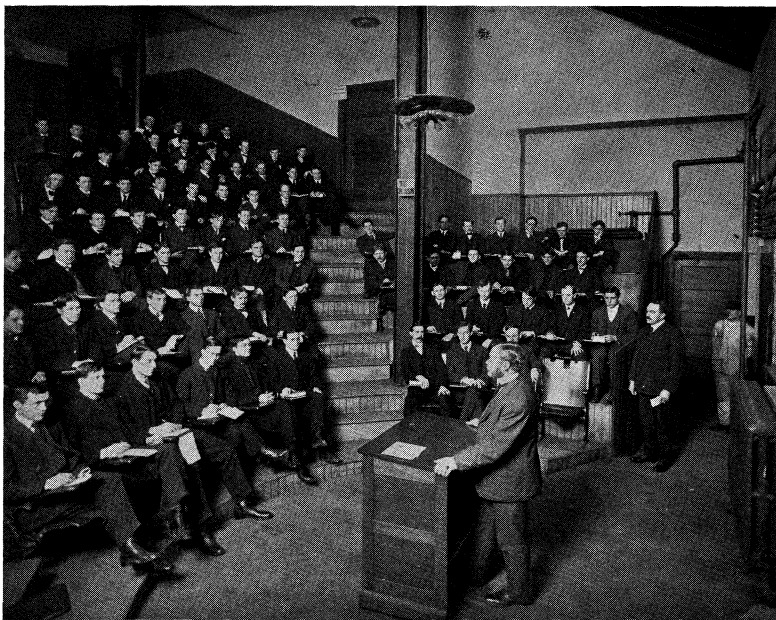
A unifying influence in the University was introduced in 1891, when the several professional schools were accepted as organizational units, through the creation of a University Council. This representative body was empowered at the outset to consider matters of interest to the University as a whole, and to make recommendations for honorary degrees. Its views and recommendations were to be transmitted through the President to the Board of Trustees. Later, its membership and powers broadened, and its name changed to "University Senate" in 1928.

The turn of the century made the University realize that this event brought close the observance of the semicentennial of its charter. For a decade its total enrollment had run third to that of Harvard and Michigan; graduates numbered 15,000. The initial endowment of \$5,000 had been converted into property worth \$2,000,000 in 1890, and \$5,000,000 in 1900; the total endowment received amounted to \$900,000 (and two-thirds of this in the last decade), yet 86 per cent of this sum had been contributed by six persons. Hence, through contemplative retrospection, the University gained the conviction that it did, indeed, have a meritorious past even though the achievements were not outstanding.

More important still, at the threshold of a new century vision was brought to focus on present conditions within the University, and on prospects for the future. It was sobering to remember that the total annual income was only one-tenth that of Harvard. Also, current debts gave some pause for thought. They amounted to \$1,700,000, demanding annual interest of \$73,000; this indebtedness was twice as much as the total endowment received in the whole fifty years of existence. Most of the debt had been incurred by improving the Chicago educational properties. The Dearborn Street project still was only partially paid for, but the Medical School had already reimbursed the University for much of its share, and would presently assume and pay off the total loan on the properties. A far greater incubus was the Chicago home for the Schools of Law, Dentistry and Pharmacy on Lake Street in the business section. This Northwestern University Building, occupied in 1902, had cost \$500,000 to purchase and, astoundingly, \$287,000 more to renovate (instead of an estimated \$70,000). The University Trustees, taking a deep breath, undertook to liquidate the debts and to enlarge the endowments as well.

As the new century began, the University consisted of the College

and Schools of Medicine, Law, Dentistry, Pharmacy and Music. It still needed graduate and technological schools to round out the standard essentials of a University of the first rank. Actually a theological school was also lacking, although Garrett Biblical Institute had been interlocked with the University ever since it started, at the same time and on campus land. Other schools eventually to come, such as Engineering, Speech, Commerce, Education, and Journalism, were as yet largely undreamed. When in 1904-05, at the end of the period currently under consideration, the University was celebrating the semicentennial of its actual opening to students, the Medical School, had it been ceremony-minded, would have been looking forward to one of the same kind only a few years away.



Amphitheater in the Laboratory Building; Dr. Mix lecturing.

ADVANCES AND ADAPTATIONS

The three-year graded course, which had once seemed an ample expansion of the customary single-year (though repeated) condensation of studies, was no longer adequate to cope with the newer

needs. To meet the demands for additional time, an optional four-year course was first set up by the Medical School in 1889 and students were urged to take it. Three years later it became compulsory. The sharp decrease in first-year enrollment, following the announcement of a required additional year, was quite temporary. At the time when Northwestern extended the period of instruction through four years, it was one of six schools to have taken this step. Rush Medical College, less laggard than before, waited only until 1895 to adopt this advance.

Only a slow, national conformity had followed in the wake of the radical move made by the Chicago Medical College when, in 1868, it lengthened the graded course to three years and strictly enforced it from 1875 onward. Even in 1885 there were still 103 medical schools giving two years of instruction, while only five required three years. But, in 1899, only two schools required two years, ten required three years, whereas 141 demanded four years. There had been more progress nationally in medical education in the fourteen-year span (1885-99) than in the previous 150 years. Also an indication toward a better control of medical practice was clear as early as 1890, when the number of states requiring examinations for licensure reached 26. The seven-month session, also instituted by the College in 1889, was lengthened to eight months in 1894 and to eight and one-half months, or a full academic year, in the following year. In part, these advances seem to have been an adjustment to the University calendar and to administrative pressure.

Midway (1897-98) of the period presently being considered the enrollment totalled 356, and 22 per cent of these matriculants held college degrees on entering. This was not much less than the figure of 27 per cent 25 years later (1922-23), but small in comparison to 95 per cent of today. It is not complimentary to medicine to learn that a national survey in 1890 had shown that a medical career was unpopular with those who had gone on to complete a college course. Law and theology, each, attracted forty per cent of those about to graduate, whereas medicine claimed only five per cent. Among those presenting secondary-school credentials for entrance to our Medical School in 1897, there were deficiencies in eighteen required subjects, of which nine had been removed by examination within a month after classes began. It had already been ruled in the previous year that all such deficiencies in entrance requirements must be cleared before admission to the sophomore class would be per-

mitted. The loss in enrollment, incurred in 1897 by withdrawal before the final examinations, was twenty per cent of the freshman class and ten per cent for the school as a whole. The Spanish-American War caused no decrease in patronage, and apparently had no direct impress on the operation of the School. Records are silent on any relations of the Faculty or students to this national episode.

In 1895-96 the matriculants in all classes numbered 321; they came from 21 states and foreign countries, and 31 different colleges and universities were represented; 185 of the 321 students were from Illinois. The Seniors of that year were highly regarded, and the Executive Committee recommended that "the Secretary send notices to prominent medical journals of the country announcing the high literary grade of the class of 1896, and also making prominent the fact that about thirty members of a class of 74 had taken hospital positions by competitive examinations." By comparison, in 1957-58, the same number (321) of Freshmen, Sophomores and Juniors came from 33 states and foreign countries; they had attended 132 different colleges and universities, and 122 of the 321 students were from Illinois. Thus eighty years ago, as now, the diverse origins and collegiate backgrounds of the students of this School were a matter of justifiable pride. In 1902-03 the enrollment had reached 608, surpassed only by Columbia and Illinois, and it remained at about this level through the succeeding years of the current period.

The entrance requirements, which had advanced to the high-school level in 1889, and had stipulated courses in English, mathematics, physics and Latin, soon looked elementary in comparison to the complete college course and baccalaureate degree demanded by the new medical school of the Johns Hopkins University (1893). In truth, only minor changes occurred at Northwestern Medical School in nearly two decades. For instance, in 1897 the entrance requirements were specified as then conforming in detail to those of the College of Liberal Arts. Yet even beginning with 1896, prospective students were "strongly advised to pursue a course [in college] which shall include the following branches: physics; general biology; zoology; chemistry; botany; German." Soon, however, at least two years of college, with specific, recommended courses were advised, and this counsel continued beyond the period under present consideration. Although the limitation of the requirement to a high-school education seems meager today, this was the recommenda-

tion of the Association of American Medical Colleges in 1890, and in 1904 only three of the 166 medical colleges in the United States demanded more.

It seems that two incompatible forces came into play in the Medical Faculty: one was a desire to raise requirements consonant with University dignity; the other was the fear, in some quarters, that such was unnecessary and undesirable because it might reverse the advancing tide of matriculation, which in 1902-03 exceeded 600. Bayard Holmes, reviewing losses from the faculty of the College of Physicians and Surgeons, wrote: "Van Hook went to Northwestern [in 1896] where his enthusiasm was slowly drowned out by the economic and pedantic exploitation of the splendid foundation laid so patiently and devotedly by N. S. Davis, H. A. Johnson, Edmund Andrews and J. S. Jewell." It would be another decade or more before a discordant faction would fulminate real trouble. (p. 293).

There is also a suspicion that by the turn of the century the aggressive daring of the Founders had dwindled, and that the new policy-makers were unequal to the task of picking up the pioneering torch and carrying it forward. To be sure, the pressing need for expenditures on the laboratory sciences demanded fresh money, but so had the building ventures of the Founders. The advancing of entrance standards was no more risky now than previously. In fairness to the progressive wing of the Faculty, it should be said that the University was not at all helpful throughout the 1870-1906 period whenever educational progress entailed a threat of reduced tuition receipts, or required the expenditure of fresh money. For the University, medical prestige was desirable as a gift, but not as a commodity to be purchased at standard rates.

The Founders had been progressive innovators when they instituted final examinations for the subjects of each year, at the end of that year. With the lengthening of the annual session from five months to nearly nine months, it became apparent that a break midway in the single long term was desirable. Division of the year into semesters was done in 1896-97, but the introduction of more frequent examinations was not authorized until 1899, when it was agreed that "hereafter examinations shall be held at the end of each semester, and that students be given credit for each semester's work." Just the year before, a long-standing refusal to release grades to students was reversed, and in 1899 letter grades (A, B, C,

D, F) replaced the former numerical scale (0-10).

The requirements for graduation underwent changes chiefly related, directly or indirectly, to the total length of the course of studies. In 1875 the required curriculum had lengthened from two years to three, and in 1892 it was extended to four years. Earlier, at the beginning of the period under current consideration, the 1891-92 session had seen the last of the unpopular thesis requirement. Four years later the name of his preceptor ceased to be listed after each student's name in the college register. This was logical because such historic sponsorship had been wholly nominal since the introduction of a three-year course. Dissection had been specified as a graduation-requirement from the beginning. For twenty years no precise statement was made; then, for 23 years, "at least three parts"; thereafter, from 1893 onward, "a median half of the body." Not until recent years, since 1945, when scarcity of material compelled two students to share each half, has all reference to dissection been omitted. Apart from quantitative changes, the only significant alterations in the list of graduation requirements at Northwestern in 100 years were discarding of the thesis and the adding of a stipulation that the candidates "must have discharged all financial obligations to the University." For a time an internship became an additional requisite (p. 186). Since 1962 the stated requirements have been simplified to a bare "12 quarters of the medical curriculum."

In the spring of 1892, President Rogers transferred the commencement exercises to the Auditorium Theater in Chicago because the First Methodist Church of Evanston no longer was large enough. He expressed the wish that the Medical School either lengthen or arrange its courses so that its commencement exercises would occur in June, coincident with those to be combined that year by the College of Liberal Arts and the Law School. At first such a calendar was considered impractical, because of the then shorter (seven-month) medical session. Hence the Medical School continued by itself, as also in 1893 when the School of Pharmacy and the Woman's Medical School became additional participants in a gala commencement convocation, at which President Theodore Roosevelt was the speaker. But in 1895, when the adoption of an eight-month calendar had advanced the end of the annual session to May 28, the Senior medical students voted unanimously to postpone their graduation until the time of the University Commencement on June 13. This conformity differed diametrically from the

much later longing of Seniors to get free of the University convocation and have a more intimate graduation of their own.

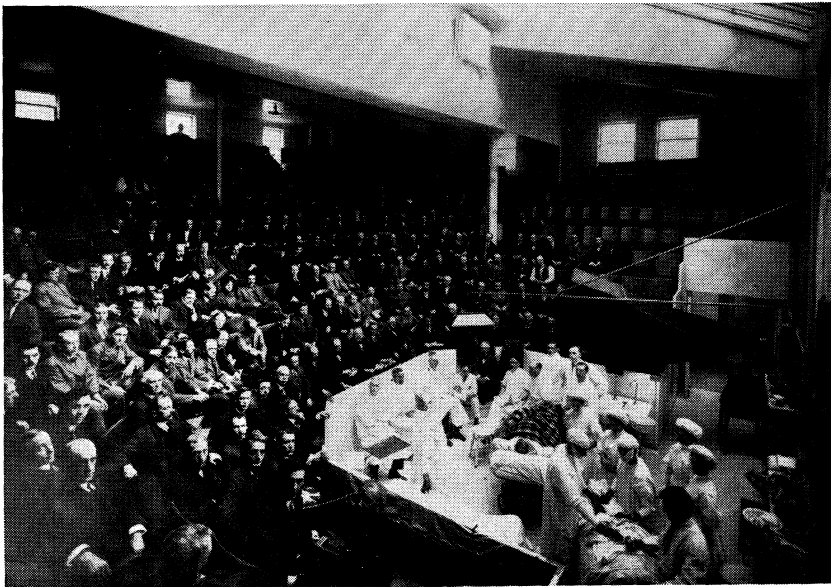
Earlier in the same year (1895) President Rogers had prevailed upon the University Trustees to decree that students and faculties of the University must wear academic costume on all ceremonial occasions. In preparation for the imminent pomp, the Medical School ordered 3,500 engraved invitations, for the use of the Faculty and to send to alumni, and rented caps and gowns for the Faculty and graduating class. The ceremonial took place at the Auditorium "in the presence of the President, the several Faculties of the University, guests and a very large [overflow] audience." A feature to become permanent was the commencement address by a speaker of national reputation; this innovation abolished the previous custom of filling the program with numerous student speakers. On this occasion, recognition was given for the first time to outstanding scholastic achievement in medical studies, and three diplomas were awarded *cum laude*. During the next year a system of general and special honors was set up for medical students that could yield at graduation the citation of *cum laude*, *magna cum laude* or *summa cum laude*. The bases of qualification were simplified after three years, and in 1929 were changed to *cum laude* alone. Later, the designations "with distinction" and "with highest distinction" were adopted and are still used.

It was not until 1908, however, that the University, now led by President Harris, succeeded in combining in one commencement ceremony all of its component schools. And it was another year until the erection of the original Patten Gymnasium provided an auditorium of sufficient size to permit the united graduation exercises to be brought back to the Evanston Campus. The symbolic merit of a single university convocation is obvious, and it has persisted. But the medical students yearned perennially for a private ceremony, and this they finally obtained as an additional feature (p. 255).

With the physical and educational expansion came increasing costs of operation. The original tuition fee of \$50 became \$75 in 1879, \$100 in 1890, \$125 in 1896, \$135 in 1900, \$165 in 1903, and \$175 in 1906. The latter three amounts were reduced by \$10 to \$15 when paid in advance. Although these increases in tuition were steady, when once the advance was begun, the amount (\$165) in 1903 just equalled that charged by eastern, large-city schools nearly

forty years before; by 1903 a few of the eastern schools were charging from \$200 to \$300. The Executive Committee of the School pointed out in 1896 that slowly increasing the price of tuition would obviously augment income, but that this measure was not a satisfactory or competent solution of the total problem. To be sure, the School had been making money and paying off indebtedness on its new building at a commendable rate, but the Committee warned that only a greatly increased endowment would permit improvements that could match the achievements of the leading medical colleges of the nation. It cited, as an example, that Harvard paid in salaries for instruction \$146 for each student enrolled, whereas Northwestern spent only \$43 per student.

The administrative officers and some of the Faculty grew with the times. In his annual report of 1890 President Cummings wrote: "The truly scientific professional schools of a great community are its protection against charlatans and incompetency; hence the University conducts them . . ." How different was the outlook, a dozen years later, of President James, who drew attention to the great change that had taken place from the old-fashioned, didactic school that could be run at little or no expense for salaries, and the



Amphitheater in surgical pavilion of Mercy Hospital, erected by the Medical School, 1901; Dr Murphy's clinic in progress.

later school needing large budgets and endowments to provide salaried teachers, student laboratories, clinical facilities in a university hospital, and the means and equipment for research. And he concluded: "We must look forward to the liberal endowment of our own Medical School if we expect it to hold its relative place among American medical schools . . . We have certainly reached a point in the development of medical education when we can no longer expect fees of the students to provide the necessary facilities for research [and] for teaching, which are a necessary part of a modern school." In the first years of the new century Dean N. S. Davis, Jr. also repeatedly urged the need of generous endowments and held that entrance requirements could not be raised further without them. The amount necessary, he thought, must yield an annual income of \$40,000. At this period no one could envision that by midcentury the maintenance of a dispensary alone would cost ten times that sum.

Early in the present period the Medical Faculty, after mature consideration, resolved to make an effort to secure \$150,000 for permanent endowments for the professorships of chemistry, physiology and pathology (including bacteriology). Within a few years a one-third share, benefiting physiology, was obtained. Also an unexpected donation made a start on the endowment of the anatomical chair, which had been omitted from the recommendation presumably because no one imagined its imminent release from the custody of volunteer surgeons. But the full and adequate endowment of departmental professorships would have to wait many long years for fulfillment. When, in 1898, the Medical Faculty recommended "that the professors of anatomy and pathology be employed to give full time to teaching and research, and that they be paid salaries," the cautious President thought "the request entirely reasonable, and salaries can be paid in the cases mentioned and still leave sufficient income to meet the interest on the building and something beside." For their part, the University Trustees refused to make any monetary contribution toward modernizing the preclinical departments (p. 506).

Discussions arose from time to time concerning the remission of fees in special situations. The curious arrangement whereby persons who had attended the College of Liberal Arts for two years or more would be charged only incidental and laboratory fees, was terminated in 1896. If its intent, to encourage better premedical

preparation, was not realized to any degree, then many students missed a bargain. Remission of fees had been approved "to students recommended by some recognized Missionary Board, the same being pledged to missionary work and conditional on their completing a thorough medical course." This privilege was abolished when it was amply proved over a dozen or more years that many of the numerous beneficiaries never entered a foreign field of service. Remission of fees had also been granted to an Apache Indian, to Filipinos and, as late as 1918, a rebate of forty per cent was approved "to sons of ministers if their scholarship averages B."

The general question "of the propriety of reducing the annual fees to worthy and poor men" was discussed in 1894, but no steps were taken at that time. Five years later, when the tuition was being increased to \$135, the Faculty authorized four scholarships to be "awarded annually to those students who can demonstrate that they have the best preparation for the study of medicine." In 1902 the number of such scholarships was increased to ten, but after the 1903-04 session they were withdrawn. A similar fate ended a genuine bargain sale that had been conducted at the founding of the University when needed funds were raised by peddling perpetual scholarships, at \$100 each. These entitled the purchaser to educate his children, one at a time, and a bequeathed line of descendants, tuition-free, for all time. The Medical Faculty, in answer to a prospective beneficiary of this valuable possession, ruled that such an exemption did not apply to that School which was not in existence at the time of the sale. This is in accord with the general policy of the University which still restricts their validity to the undergraduate "literary and scientific departments."

NEW CURRICULA

The advances begun by the Medical Department of Lind University, and especially those related to course-grading, session-lengthening and an increase in the total time of instruction, were accepted slowly by others in succeeding decades, yet the adoption had become general (though not complete) in the decade of 1890-1900. Much credit is due the Illinois State Board of Health, whose reports contained the only reliable information on medical schools

and medical education in the period between 1880 and 1900, and whose supervisory influence was a potent factor toward improvement throughout the country.

In these two decades came also an amplification of the program of instruction, and of its method of presentation, that made a good start toward what was becoming an educational revolution. The old method of teaching large groups by exposition, at long range about things not seen, was giving way to individual participation and first-hand knowledge by the student. He now became a tyro investigator, learning by personal experience, weighing the evidence and arriving at reasoned conclusions. Still these steps were but a beginning in a reformation, long overdue. Although, in 1896, the United States harbored half of all the medical colleges in the world, in general they were inferior to those of other progressive countries.

Even though the climax of this revolution belongs to the next period to be considered, young Americans in increasing numbers were already returning from Europe with a new knowledge of physiology, pathology and bacteriology that had to find a place in the curriculum. Equally important, they were returning with a clearer understanding of the need for sound preparatory education. In 1896 the Executive Committee of the Medical Faculty made a forceful report in which it declared that compulsory work in anatomy, physiological chemistry, pathology, and materia medica (meaning, actually, pharmacology) should be increased, and more laboratory work required. In spite of recent improvements in the preclinical and clinical offerings, the Committee warned that the policy of the School in respect to bettering the curriculum should be settled at once, since the eastern colleges, in particular, would be advancing rapidly and the leadership of Northwestern was in danger of being lost. The failure of the Committee to emphasize what the Johns Hopkins had already accomplished as a new pace-setter is astonishing. In terms of any attempt to retain leadership, the response to the challenge of the Committee was as inadequate as it was laggard. But this is a story that belongs better in the chapter to follow.

In the Nineties the Faculty was repeatedly pleased with the relatively large number of its graduates who elected to serve internships. These averaged more than one-third of each class, and had even exceeded one-half; in comparison to other schools, this record was said to be outstanding. Feeling that ultimately every stu-

dent should have a year of hospital work, the Faculty decided to provide a course that would afford many of the advantages of residence in a hospital to those who failed to obtain such an appointment. This opportunity to gain more experience took the form of a fifth, optional year, during which the students were assigned to tasks in the hospitals under the direct supervision of the professors of medicine, surgery and pathology.

The specific duties of these quasi-interns were to examine for themselves incoming patients; to serve as externs in the hospitals; to study the literature pertinent to the cases assigned; to learn the methods and imbibe the spirit of research in clinical diagnosis, in medical and surgical pathology, and in bacteriology. The several specialties also came in for attention, as did original experimentation under the departmental heads. It was hoped also that such a year would appeal to graduates already out of school, and to practitioners of still longer standing; through it, graduates of other schools would be able to qualify for an *ad eundem* degree from Northwestern. In order to encourage students to take the course, twelve fellowships were to be awarded; the tuition was \$200. The announcement of this course appeared in 1901-02, but not thereafter. Presumably it did not attract sufficient patronage to warrant continuance.

From the first year of its operation the School had conducted a summer course, but this feature was abandoned after 27 successive sessions. In 1902 a half-semester summer course was revived, with offerings in both the laboratory and clinical fields. These opportunities, it was hoped, would attract: students from other institutions whose clinical advantages were inferior; Northwestern students preparing for competitive hospital examinations; and transfer students with work to make up. Presumably students with failures to work off must have been tolerated as well. Practitioners wishing newer and more scientific methods of clinical diagnosis and pathology, or experimental work in physiology, therapeutics and surgery, were eyed hopefully. The attendance grew steadily from 28 taking three courses in 1898, to 128 taking 21 courses in 1901. The last attendance record extant shows an enrollment of 164 in 1902. The scheduling of this annual summer course came to an end in 1910, when it was decided that the session had become a haven for conditioned students and the quality of work was inferior.

Earlier advice in the Announcements, urging prospective medical students to enroll in colleges of arts and science before attempting medical studies, led to specific recommendations concerning the best preparation to be gained. Moreover, in 1892 the Medical School began admitting to the second year, with a deficiency in gross anatomy only, those who had completed the medical preparatory course of two years in the College of Liberal Arts (or its equivalent in other institutions). Again, in 1898 it was explained how a combined course, with gross anatomy to be worked off, could yield both the Bachelor and medical degrees in as little as six years.

Additional interlocking with the College of Liberal Arts existed from the time of the first union in 1870, since that College controlled and, for 47 years, continued to administer the master's degree. At first it was conferred for five dollars on bachelors who had "sustained a good character, and pursued professional or other advanced studies." After 1890 a thesis and examination were required, and the degree "was not to be conferred on those who receive a professional degree with distinction, without additional work." By 1894 a half year of advanced work, beyond the full professional course, was stipulated for students of law and medicine. Essentially the same arrangement continues in force today, since preclinical courses (not used for the baccalaureate) can substitute for the remaining half of the required year in residence. Dr. F. S. Johnson (1881), later professor of Medicine and Dean of the Medical School, was the first medical student to gain the masters award at graduation solely by sustaining a good character and completing professional studies.

Beginning in 1893-94 advanced work, beyond the prescribed medical curriculum, was offered in a terse statement, and all Junior and Senior students were advised to pursue some line of research. Eight years later the potentiality of these opportunities was made clear: "A few optional courses are offered to small classes of students, to whom special laboratory and clinical instruction will be given. Many students who have taken the B.S. or B.A. degree before entering upon their medical studies improve this opportunity for doing the work required for the M.S. and M.A. degree, which may be granted with the medical degree at the end of the course." The next year the offerings were elected by 258 students, which represented 72 per cent of the enrollment. Today this seems an amazing response. These electives became listed in the Annual An-

nouncements, and similar offerings toward advanced degrees have continued, without interruption, to the present day.

A start had been made in 1882 toward reforming teaching in the School by appointing a full-time, highly trained Professor of Chemistry. During the current period, other important changes were introduced into the Faculty and curriculum. These involved the basic sciences, which not only were advancing in breadth and depth but also were developing new aspects that had to be accepted as entities worthy of separate recognition. Most spectacular was medical bacteriology which, after a stormy birth, could no longer be denied its rightful place. It was only in the previous decade (1880-90) that some of the organisms responsible for common diseases had been isolated. The readiness of the Medical School to introduce such matters, some of which were still controversial, into its curriculum placed it in the forefront of progressive action. This was all the more commendable since Dean Davis had been a stalwart opponent of the germ-origin of disease, asserting that it was a passing fad and warning against its too wide applications. Dr. Samuel C. Plummer, of the class of 1886, and a member of the Faculty in the present period, wrote later that in his textbook (*Lectures on the Principles and Practice of Medicine*) Davis made practically no mention of germs as the cause of disease, but did occasionally speak of germs to make fun of them, once making the prediction that some of his hearers would "ride into fame on the tail of some newly-discovered microbe."

Beyond doubt the School was progressive in this newest field. Professor Curtis, as early as 1882, reported on micro-organisms found in a victim of tetanus. And the next year Dr. Henry Gradle, Professor of Physiology, presented a series of lectures on *Bacteria and the Germ Theory of Disease*, the earliest in Chicago. He was among the first in America to study systematically the whole range of bacteriological investigations, and his book on the subject became famous enough to gain translation into several languages. Dr. Bayard Holmes, who had set up a laboratory while an intern at Cook County Hospital in the early Eighties and had become a self-taught bacteriologist, was appointed to give a lecture and demonstration course on this subject in the year 1889-90; he was given the grandiose title of Director of the Bacteriological Laboratory. Dr. Isaac A. Abt wrote in *Baby Doctor* of how he collaborated with

BACTERIA

AND

THE GERM THEORY OF DISEASE.

EIGHT LECTURES DELIVERED AT THE

CHICAGO MEDICAL COLLEGE,

BY

Dr. H. GRADLE,

PROF. OF PHYSIOLOGY, CHICAGO MEDICAL COLLEGE; OCUList TO THE
MICHAEL REESE HOSPITAL.

CHICAGO:

W. T. KEENER, 96 WASHINGTON STREET.
1883.

Title page of Professor Gradle's pioneer book on bacteriology, which was translated into several languages.

Holmes, together with fellow-students Daniel Eisendrath and Adolph Gehrman (all later becoming notables), in prosecuting laboratory experiments:

During our second year [we] began the study of bacteriology in a closet under the amphitheater. This was about seven years after Koch had published his investigations on the tubercle bacillus and bacteriology had begun to receive a place in some medical school curricula. Dr. Davis did not believe in bacteriology . . . Since we were determined to find out something about it, however, the college gave us its blessing and the only available space. We bought some simple sterilizers, stoves, test tubes, and all the other equipment within our means, and spent our spare time making culture media and studying bacterial growths under the microscope.

Laboratory work in Bacteriology was scheduled in the "timetable" of 1891-92. But the first description of a formal course came in the following year; laboratory work was required in the staining of pathogenic bacteria, while instruction in the making of pure cultures was optional. Bacteriology continued as a separate discipline (except for one year) until 1902, when it was combined with pathology under the full-time supervision of Dr. F. R. Zeit. The joint department continued in operation until 1912, when Bacteriology assumed a separate status with a greatly expanded program.

An older field, in which the Medical School was less alert, although well in advance of the other Chicago colleges, was physiology. This had been a rapidly expanding science whose method of attack, through the invention of recording devices, was making the living organism supply much desired information. Even though Americans, trained in the newer experimental techniques, had been returning from Europe for a considerable number of years, the course at Northwestern remained one of lectures expounded by a general practitioner, without special training or an equipped laboratory. The first attempt to introduce laboratory work was assigned in 1894 to Dr. Isaac A. Abt, a recent graduate already committed to pediatrics as a specialty. This task of organization, he later recorded, was a doubtful privilege in view of the lack of available laboratory equipment.

The outlook for physiology, however, changed in 1894 when William Deering gave \$50,000 to endow what was to be known as

the Nathan Smith Davis Professorship in this subject. This title was appropriate since Davis had taught physiology at Rush for ten years, had published 31 papers in this field and retained a life-long interest in the subject. Dr. W. S. Hall, who was then finishing his physiological training at Leipzig under Professor Ludwig, was appointed to this chair, and under his direction a laboratory was equipped and a modern course instituted in 1895. The endowment for the chair was subsequently increased to \$100,000 by various alumni and friends, and the title has continued almost uninterruptedly.

Another sign of the times was the changing of *materia medica* and therapeutics into an experimental course under a new name, pharmacology. The first break from tradition came in 1896, when laboratory work was introduced not by the then professor, but under the direction of Drs. W. S. Hall and H. M. Richter, long to be identified with the School as highly trained physiologist and surgeon, respectively. Three years later the name of this discipline became changed to the Department of Pharmacology. It gained a new head, who announced that students would participate in laboratory experiments "to demonstrate on animals the physiologic action of the more important drugs"; in this practical work, up to 150 dogs were said to be used each year. In addition there was classical instruction in *materia medica* and pharmacy, supported by "a collection of 3,000 crude drugs and pharmaceutical preparations, properly classified and labeled to correspond with the text book used."

Dissection, although the oldest form of laboratory work, strangely was not thought of as such in this country until about the current period. The "laboratory" in all earlier years referred to the chemical laboratory alone, and the concept of any other kind of laboratory work, qualifying as such, was not even entertained. The chair of anatomy and the sub-office of "Demonstrator" at Northwestern were long held by a succession of clinicians who also became renowned as Chicago practitioners. For many years the work of dissection went on at night, usually from 7 to 10 o'clock, under dim gas jets. Not until after the new laboratory, at the Dearborn Street site, had been occupied for a year did this routine change to daylight hours.

By student acclaim one of the most inspiring teachers in the history of the School was Dr. Robert L. Rea, a part-time anatomist.

It is said that he was the first to point out that Rembrandt's famous "Anatomy Lesson" at the Hague shows the superficial flexor of the digits originating from the wrong side of the ulnar bone. On his death the University received, in 1902, a bequest of \$10,000 for the beginning of an endowment of the chair of anatomy, which became named after him. In 1904 Dr. E. C. Gregory, of the University of Minnesota, was brought in as the first incumbent of this chair and as the first full-time Professor of Anatomy. Subsequent to his resignation, three years later because of a family emergency, the title was not used again until 1925, after the chair was more adequately endowed by the widow of Professor Rea.

Among minor adjustments in this period, surgical anatomy, historically coupled with descriptive anatomy, split away in 1892 to become a separate course in surgical anatomy and operative surgery. This alliance, under the aegis of the Department of Surgery, continued as long as instruction was given in either practical discipline. Embryology first was mentioned by name in 1892, linked with similar demonstrations in histology; the earliest description of it as a course came four years later. Histology had already been emancipated from physiology in the previous period (1879). Of peculiar interest is a course in the history of medicine given by the aging N. S. Davis after he resigned from the chair of medicine in 1892. These lectures were delivered to the Senior class annually from 1892-97, inclusive, and spanned from the earliest times to the end of the nineteenth century. Shortly before his death, in 1904, they appeared in revised form as a book (*History of Medicine*), which was one of the first comprehensive treatises to be published in this country on that subject. More than thirty years were to elapse before another attempt was made to revive formal instruction on the cultural heritage from the medical past.

As the nineteenth century drew to a close, biomedical advances were beginning to have a strong impact on medicine in Western European countries. Developing rapidly were all of the 'academic disciplines' then becoming recognized as the sciences basic to the future progress of clinical medicine. America soon began to realize the importance of this relationship and, accordingly, directed its attention toward improving the status of these several basic sciences.

The steps that placed all of the basic sciences in the hands of full-time teachers, especially trained in those subjects, reflected a major

change of policy that was crystallizing not only here but elsewhere about the country. It infused a different spirit and substance into teaching that presaged a new day for scientific medicine. Dr. Franklin H. Martin, of the class of 1880, wrote in *The Joy of Living*: "We were in medical school during the days when the 'art of medicine' was practised to the exclusion of the 'science of medicine.' We were approaching the development of the 'science,' which was more and more to share with the art; and then the time came when we began to speak of the 'science and art of practice,' rather than the 'art' or the 'art and science of practice.'" This shift was the fruit that was to come from the laboratory approach to those sciences that had to be basic to any marked advances in the practice of truly scientific medicine.

ADMINISTRATIVE CHANGES

The final integration of the Chicago Medical School into Northwestern University occurred on June 16, 1906. In order to complete the sequence of the contractual union in 1891 with the final absorption and surrender of financial and some other powers in 1906, this historical account was included in a previous chapter (pp. 136-141).

Of the principal Founders, Johnson and Byford died as the present period began. In 1894-95 Davis, Andrews, Isham, and Hollister were finishing their thirty-seventh year with the School. Davis, aged 78, had already been relieved of his professorship three years previously, but remained as Dean. Andrews and Hollister were 71; Isham, 60. In that year (1895) Hollister was teaching for the last time; and Isham, the youngest of all the Founders, continued only three years more. At the end of the 1898-99 session Davis resigned his deanship, and two years later Andrews became the last of the Founders to retire. The leadership by an inspired group of innovators then, of necessity, passed into other hands.

Nathan S. Davis had been the driving force behind the new school from its inception, and had been its chief executive for most of those years. At the end of the 1891-92 session he tendered his resignation as Professor of the Principles and Practice of Medicine,

and of Clinical Medicine, feeling no longer capable of meeting the strenuous demands of that chair. Four years later he offered his resignation from the deanship, which the Board of Trustees was advised by the Medical Faculty not to accept. At the end of the 1897-98 session, this request was renewed in the following remarkable letter to the President and Trustees of Northwestern University:

Honored Friends and co-workers—

I am fast approaching the completion of 82 years of life, 62 years of which have been devoted faithfully to the general practice of medicine, which means daily efforts to alleviate human suffering and prolong human life. During the whole of those 62 years I have labored diligently, by investigation, by writing and by teaching to promote general education, both intellectual and moral; and especially to elevate and systematize the standard of medical education in this country. To the Northwestern University and to its Medical School I have given freely all of both time and money that I could spare from the time of their organization to the present time, with the addition of twenty years service as Lecturer on Medical Jurisprudence in your Law School. All the great leading objects for which I commenced to labor sixty years since, have been substantially accomplished. During that time I have been abundantly honored both by the professors at large and the University, and until the present year I have been able to give some important instruction in the Medical School and serve as its Dean. But the ordinary infirmities of age render me incompetent to give active instruction longer, and consequently I have not attempted to give any the present College term.

The University Statutes make it the duty of the Dean of the Medical School to preside at the meetings of the Faculty in the absence of the President of the University, and to report annually on the work of the School with such recommendations as he may deem proper. To discharge these duties properly, the Dean should be an active member of the teaching faculty, and so frequently in the college as to be personally acquainted with the work and needs of both faculty and students. For reasons already given I can no longer fill these requirements properly, and therefore, hereby most respectfully tender to you my resignation of the office of Dean of the Northwestern University Medical School to take effect with the close of the present College year. Your acceptance of the same will relieve me from a feeling of responsibility that I should no longer bear, but will never relieve me from a lively interest in the University and all its legitimate departments.

This communication was referred to a special committee that returned the following report and tribute:

A careful review of Dr. Davis' statements and a full consideration of the circumstances, including his known preferences, induce us unwillingly and with sincere regret, to recommend that the resignation be accepted as hereinafter stated.

Dr. Davis' professional requirements and services are known to his profession in our own Country and in every civilized land. Of his nearly eighty-two years of life, he has given sixty-two years to the practice of Medicine, and thousands of American homes have had abundant reason to thank God for his skill and scholarship. While the homes of the wealthy have been beneficiaries of his rare medical insight, we happen to know that other thousands of the poor, who often may have been unable to pay him in gold, surely have recompensed him in the gratitude and love which are "coin of the realm" in the Kingdom of God in Heaven and on earth.

Dr. Davis has been an apostle of the higher medical education. While we are proud that our medical department has led the way in demanding higher and severer tests from its matriculants, and has exacted both an increase of years for its curriculum, and more thorough scholarship from its graduates, we do not forget that these exactions for the good of the medical profession, are fruits in greater part of Dr. Davis' insistence and untiring advocacy. Through him, and at the hands of his devoted and accomplished co-workers in the Medical College, great honor to the University and great good to the world have come. The retiring Dean leaves his honored Chair an authoritative author in medical literature, a revered chairman and leader in many State, National and inter-National Medical Conventions and Congresses, a beloved teacher, a trusted Christian gentleman, and as a practitioner who has earned, as he deserves, the benedictions of the rich and the prayers of the poor. Your Committee recommends that Dr. N. S. Davis be constituted *Dean Emeritus* of the Medical School of Northwestern University, and that his resignation of the active Deanship be accepted, to take effect when his successor in the latter relation has been elected.

The recommendation of the Committee was adopted by a rising vote of the Trustees.

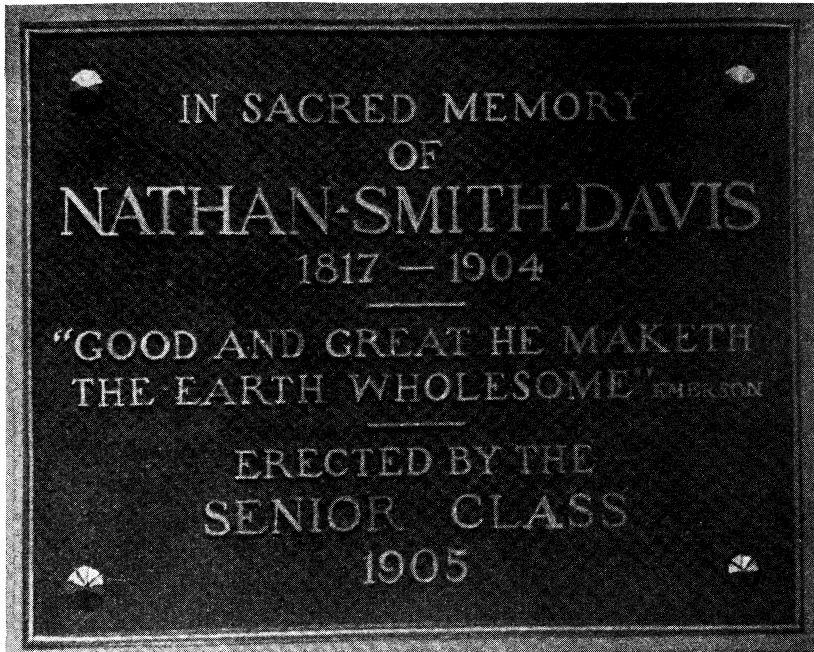
On the recommendation of the Faculty, Dr. Frank S. Johnson, Professor of Pathology and son of the revered first President of the Faculty, assumed office as Dean before the 1898-99 session and served until 1901, when he was compelled to resign because of ill

health. He, in turn, was succeeded by Dr. N. S. Davis, Jr., Professor of Medicine, and for the previous five years the Secretary of the Faculty. His term of office (1901-07), although somewhat longer than Johnson's, was brief in comparison to that of his distinguished and durable father. It continued into the next period to be described.

SUCCESS AND CHALLENGE

The question arises as to the kind of product that the School was turning out in the general period being considered. Available statistics indicate that it was good. One test was the competitive examinations for internship at Cook County Hospital and elsewhere. In the eight years comprising 1886 to 1893 Northwestern had 404 graduates, of whom 67 took the County examination and 31 (or 48 per cent) were successful. In the same period Rush had 1,184 graduates, of whom 96 took the examination and 18 (or 28 per cent) placed. The College of Physicians and Surgeons had 446 graduates, of whom 57 took the examination and 9 (or 14 per cent) placed. Of other hospital appointments statistics are complete in six of the eight years. These show that Northwestern placed 83 contestants, Rush 37, and Physicians and Surgeons 16. Especially in consideration of having the fewest graduates as potential competitors this record by Northwestern is remarkable. Computing to the same basis in the number of graduates, indicates that the relative success of Northwestern was seven times that of Rush and six times that of Physicians and Surgeons.

Figures are available for the class of 1899, which placed 25 of its 65 members in hospital appointments. This led *The Bulletin* (forerunner of the *Quarterly Bulletin*) to conclude: "Such a record is gratifying proof of the growing appreciation of higher education. There need be no anxiety for the future of American Medicine, when over one-third of a graduating class is willing and anxious to extend its four years of required work by one or two years of voluntary work in a hospital." This sentiment sounds archaic today, yet years later an arbitrary edict, effective in 1919, was necessary to force participation in hospital training onto every member of a class. Additional details on the results of competitive examinations to Cook County Hospital are on record for the class of 1900, which



Bronze tablet, now in Ward Building, honoring Nathan S. Davis.

obtained six of the twelve appointments and also took the two alternate positions.

The results of all state-board examinations gave a national rating to schools. In 1903 Northwestern stood sixth, and Rush tenth. In 1904 Northwestern stood second (two failures out of 159 board examinations taken); Rush, twelfth; and Physicians and Surgeons, fifteenth. In 1900 four schools had no failures in state examinations throughout the country: of these, Northwestern had 57 examined; Syracuse, 28; Woman's, 31; and Yale, 1. In the five years between 1903 and 1907, the licensing records show that 39 schools presented more than 250 candidates. The percentage of failures for the leaders were: Cornell, 1.2; Johns Hopkins, 1.4; Harvard, 2.1; Northwestern, 3.5. Such results may be compared with, for example, Maryland, 49.3 per cent. Both Cornell and Johns Hopkins were schools too young to have rusty graduates attempting the examinations and downgrading their scores.

The quality of the medical graduate did make a wide and favorable impression in medical circles. It was generally conceded that Northwestern turned out unusually competent practitioners. Accordingly, from small groups of students who dared embrace an adventurous and more expensive type of training in the early years, the enrollment expanded until latterly it included nearly 600. The roster of alumni in 1906 numbered nearly 2,500, of whom one in eight was either teaching or in attendance at hospitals in Chicago. Keeping pace, the Medical Faculty nearly tripled its personnel in the thirty-odd years between the founding (nine professors and two others) and the second contractual union in 1891 (22 professors and nine others). The next fifteen years saw the total Faculty increase further to 115, of whom only 29 were professors. The large numbers of "others" reflected the growing importance of individual work, done by students in laboratories, clinics and lecture rooms.

In 1890 the medical-college property, including cash and equipment, amounted to not more than \$40,000; sixteen years later, acquisitions had increased these assets by \$343,000. In the same span of years, the annual income grew from \$30,000 to \$83,000. Although in this period there had been paid out from the earnings of the college (and some gifts) approximately \$230,000, the amount still owed on the building account was \$90,000. It was to be only a few years, however, until this debt would be liquidated. Also from earnings, \$30,000 had been given to Wesley Memorial Hospital and \$22,360 had gone into building the surgical pavilion for Mercy Hospital. In all, the College had invested, from earnings, approximately \$170,000 in permanent property, and in existing equipment for it. During the years 1890-1906, benefactions had amounted to \$102,000. Recently the School had gained control of all of the space in the two college buildings, and had finally conveyed all powers and properties to the University, which thereby assumed complete ownership of the School and full responsibility for it.

The early leadership of the School in bettering medical education had succeeded in pointing the way to educational reform. The various steps, once looked upon with suspicion and even hostility, had slowly gained recognition and general adoption, so that Northwestern (in thus being overtaken) had lost its role as a continually path-breaking pioneer. This situation presented the challenge that the Executive Committee analyzed so clearly: the

School must step boldly forward or relinquish its former position to others. As a matter of fact, by the end of the century the main, opportune moment had already passed. Good fortune had made it possible for another university to plunge boldly into experiments, all of which would shake the complacency of other schools, and some of which were destined to be adopted as standard procedures. Many years were to pass before Northwestern again showed innovative leadership in advancing medical education (p. 279).

VIII

Adolescent Adjustments

(1906-1926)

The next period in the life of Northwestern University Medical School extended from its complete absorption into the University, in 1906, to the final days on the Dearborn-Street college site, 1926. It was a time of continuing adjustments to rapidly changing standards. Any previous hesitancy in plunging boldly into the progressive action that the changing times required was soon abandoned, and the School did all that it could to maintain a position in the first rank of medical colleges. Its successful adjustment in the preclinical years was praiseworthy, whereas the reorganization of the clinical years encountered unexpected difficulties even after the means for providing free beds was in hand (p. 294 *ff.*).

Just previous to this period the University had lost, by resignation, Edmund J. James, its dynamic but discouraged seventh President, and obtained in Thomas F. Holgate, Dean of the College of Liberal Arts, its sixth Acting President. Whether conservative by nature or not, an interim executive is not likely to conduct more than a holding operation because of the presumptive shortness of his tenure, and the implied lack of full confidence in him on the part of the Trustees. Within the current period of discussion the University was to have three Presidents and two terms of interregnum. From the beginning of University organization into the early Twenties, when President Scott began to serve, there had been chosen nine Presidents and seven Acting Presidents. The average length of these sixteen terms was slightly more than four years, and extended comment on the medley of unfinished policies enveloped in that statistic is needless. In contrast to this succession of Presidents, none of whom had a tenure long enough to finish his task, may be cited Yale University — three of whose Presidents had successive

terms aggregating 76 years; or Harvard University — two of whose Presidents had successive terms totaling 64 years.

President James, in a brief period of leadership, had used his mastery of public relations to bring the University forth “from the quiet shades of its oak grove . . . and set it beside the great and recognized institutions in the country.” Abram W. Harris was chosen to maintain and improve this position. Between 1907 and 1916 he succeeded in adding Schools of Commerce and Engineering, and installed the latter in Swift Hall, erected for its use; the Graduate School likewise emerged as a separate entity. He also built eleven units of open dormitories and fraternity houses, in quadrangles. Harris Hall, and the original Patten Gymnasium, which also was convertible into a spacious auditorium, were other conspicuous monuments to his leadership. Then, once more, Dean Holgate was to bridge competently a break in the presidential succession, and this time to bear the additional burden of the War years. After the ephemeral term (1919-20) of President Harold L. Hough, the University chose its first alumnus and nonMethodist as a leader. But the relatively long and highly spectacular regime of Walter Dill Scott belongs more to the next period than to this one. Establishment of Schools of Journalism (1921) and Education (1926) rounded out the University diversification. Momentous was the acquiring of a campus for unifying the city professional schools and the raising of sufficient funds to house them on it; these events merit treatment in a separate chapter (pp. 206-222).

CONSTRUCTIVE SELF-CRITICISM

The younger Dean Davis, and Dean Edwards who succeeded him, were not complacent over the standing or progress of the Medical School in the first decade of the new century. As early as 1903, Davis began urging the need of additional land and a modern clinical building designed better to accommodate the dispensary and its greatly increased clientele. Davis Hall, in which the Junior and Senior students received instruction, had become so overcrowded that it was difficult even to keep it in a sanitary condition. But, more important still, it was no longer well adapted to care for the various kinds of services that advancing medical science was mak-

ing necessary. The Dean estimated that a suitable building and its land would cost between \$150,000 and \$250,000. Far-sighted President James was convinced of the soundness of this appeal, and advised his Trustees that the rest of the Dearborn-State block should be purchased at the earliest opportunity. In addition to this provision for ultimate expansion, he supported the recommendation for the immediate erection of an adequate clinical building.

As it happened, land values on the State-Street half of the block suddenly soared beyond reach, so that a different plan had to be adopted. The remaining land in the half block along the east side of Dearborn Street was purchased, as was most of the facing land on the west side of the street (the Postgraduate School and Hospital owned the northernmost lots). These acquisitions provided insurance against future building demands, but the currently needed clinical building never came to pass. The probable reason is that with the complete absorption of the Medical School in 1906, and the assumption of full responsibility for it, the University soon found itself sufficiently involved in meeting deficits; these accompanied the development of the laboratory departments, and the decreased patronage following required college preparation for entrance. No longer could the University advance money for building projects, secure in its faith that the Medical School would repay, with interest, out of operational profits!

In a more comprehensive way, Dean Davis pointed out that the Medical School had enjoyed the reputation of inaugurating reforms in medical education, and keeping abreast of the highest requirements and the best methods of teaching. If this position among medical schools were to be maintained, the following changes and improvements must be made as soon as possible: first, the advancement of entrance requirements; second, the procural of endowment sufficient to provide \$40,000 annually; and third, the improvement of housing for the dispensary. President James was not slow to espouse a move toward higher standards. Perhaps unwittingly he hammered home the same point that Acting President Marcy had emphasized in 1876, but in different language: "An increasing attendance is not necessarily an indication of rising standards or improved quality of work, oftentimes quite the contrary — and therefore we may not flatter ourselves that simply because the attendance has been increasing, the University as a whole is rising in public esteem or in actual excellence." This was a timely warning to

a School that had not recently kept pace with stricter entrance requirements and other innovations, but had seen its enrollment more than double in fifteen years.

Dean Davis withdrew from leadership and was replaced by Arthur R. Edwards, an 1891 graduate, who was then Professor of Medicine. Dean Edwards assumed office in 1907 and, like a relay runner, took over the baton of pressing needs. He reviewed proudly how for many years the graduates of the School had stood in the first rank in the percentage of those passing the examinations of State Boards. For example, in the preceding four years only Cornell, Harvard and Johns Hopkins had done better. This record was indicative of the thorough training given in those disciplines that prepare practical physicians and surgeons. But, he declared, it was now necessary for the School to enter a higher and even broader field — that of medical research. Such activity, nevertheless, must await adequate financial support. The great and immediate need was for endowments. The laboratory departments should carry on investigations for the better understanding and cure of disease; there was an equally imperative need for money to care for charity patients used in teaching.

It is interesting that the Dean did not include, among desirable objectives, investigation to advance fundamental knowledge that might not yield an immediate application to clinical use. And it is still more interesting that he omitted the desirability of research in the clinical departments. But he was addressing the President and Trustees, and perhaps tempered his language to what he thought would impress them best; later he did speak of endowment to support clinical investigations. In 1910 Dean Edwards was again emphasizing that endowment was imperative and inevitable if the School were to continue in the first rank; some of the best investigators had been lost through offers of better salary and advantages elsewhere. The total annual budget, he wrote, must be at least \$150,000 (in that year it was \$81,000); in short, "the time has now come when less than these resources means less than first grade work."

Some of these immediate objectives of the two Deans were realized within a reasonable time. Others remained unfulfilled throughout the twenty-year period under discussion. On the one hand, admission requirements were raised; the laboratories became adequately staffed; research by the preclinical faculty was moderately

supported; the University learned to absorb operating deficits contracted by their newly owned school, and these seemed destined never to cease; land was tardily provided for future expansion. On the other hand, endowments remained wholly inadequate; clinicians neither became salaried, nor had adequate research space or support for such; dispensary inadequacies intensified; hospital facilities did not keep pace with the times, even though bedside instruction had been generously paid for (but withheld) in one hospital. The large benefactions bestowed in the middle Twenties came too late to affect the record of unspectacular performance in these regards during the current period.

EDUCATIONAL ADVANCES

In the 150 years between 1765 and the middle of the current period, 335 medical colleges had arisen in the United States, as well as 118 other institutions of dubious legitimacy. The period presently under consideration started with 161 medical colleges in the United States, and ended with 79; in that span, enrollments shrank from 24,300 to 18,800. Nationally, the middle part (1910-20) of this period was characterized by a more inclusive association of medical schools with universities, and the general establishment of medical education, with definite educational standards, as one of the university disciplines. About half of the schools in 1906 had a term 31 to 36 weeks long, whereas in 1926 almost all gave a 33- to 36-week session. Advances in the standards pertaining to requirements and the quality of teaching were responsible for these changes. For example, those institutions demanding some college work for entrance increased from three per cent of all medical schools in 1906 to 88 per cent in 1916; ten years later, all of the better schools required two or more years of college preparation.

Even early in the present period, the medical course throughout the country was generally graded and four years in length; scholastic progress had been quickest and best in the realm of laboratory teaching. On the other hand, a certain amount of ungraded teaching persisted in the southern and western states, where the length of the college term might still not be more than six months. Although conditions in many medical colleges deserved the

humiliating exposures that investigations were about to reveal (p. 286), the nation was beginning to exemplify a third stage in the evolution of world-wide medical teaching. The first stage had been the era of dogma, headed by Hippocrates and Galen. The second was the era of empiricism, in which the principles of explanation were preconceived or preternatural, and the student's concurrence was won by insistence rather than proof. The third stage, now entered upon, was the scientific era in which medicine became recognized as a part of biological and physical science, and was tested by the critical handling of evidence. Scientific experience was already setting boundaries between certainties and risks in medicine. In obtaining this newer and more rational training, the student not only looked, listened and memorized; he also did things himself and learned from personal experience.

In 1908 the Medical School advanced its admission requirements to one year of college preparation, which should include work in biology, chemistry and physics. This placed Northwestern in the company of about two dozen medical colleges that demanded from one to four years of liberal preparation. The adoption of this standard followed the recommendation of a committee of the Council on Medical Education (of the American Medical Association), of which John H. Long, Professor of Chemistry at the Medical School, was chairman. Three years later, in 1911, a further advance was made when two years of college preparation were required by Northwestern, and organic chemistry became an additional prerequisite; at this time 28 schools were enforcing this standard of preliminary training and seven required three years.

Although not a leader in these moves, Northwestern was still well in advance of the pace-setting Illinois State Board and the American Medical Association. This latter organization, proceeding cautiously, set one year as minimal standard for entrance in 1914, and did not extend the requirement to two years until 1918. The immediate effect of preliminary college residence on enrollment at Northwestern was drastic; it declined from 599 in 1908 to a low of 187 in 1913-14, before the upswing began. This natural shrinkage had been predicted and feared by a reactionary faculty group that for some years worked to block the adoption of college work for entry. They, nevertheless, failed to appreciate that there would be a real recovery, and must have been chagrined at its speed.

The chief change in the graduation requirements during this twenty-year period was the addition of a compulsory year of hospital internship. Midway of the period, when Northwestern adopted this fifth year, only seventy per cent of the nation's graduates were taking internships voluntarily. The move toward this requirement had been initiated by the University of Minnesota to affect its 1915 graduates. Northwestern was the fifth school to adopt the same measure; it became mandatory on those finishing the regular course in 1919. The innovation never became popular nationally, and only fifteen schools ever conformed. An integral part of the five-year plan was the deferment of the doctoral degree until the satisfactory completion of the internship, but dissenters argued that there was little justification for a degree-requirement carried out in an institution not under university control. A prompt consequence of the measure was that students found themselves unqualified to take licensure examinations in some states that required interns to hold a medical degree. To circumvent this handicap the School began, in 1929, to grant the degree of Bachelor of Medicine at the end of the regular, four-year course. Curiously, Northwestern, although one of the first to adopt the intern year as a requisite to the degree of Doctor of Medicine, was one of the last schools to abandon it (1951).

In the earlier years the withheld degree did force into internships a few who would not have obtained this training voluntarily, and still others into better (approved) internships. It also exerted some threat-value in encouraging good deportment and hospital performance, and this continued control, though remote, was an argument advanced for its retention. Among the interns the withheld degree was never popular, although it actually made little difference to them, since they were all called "doctor" anyway. An alternative to the hospital year was a year of research, spent in one of the preclinical laboratories of the Medical School. This choice was elected by only a few individuals who were headed toward teaching or research. More logical than the requirement of an internship by medical colleges was the same demand exacted from those applying to states for a license to practice. Yet this standard, begun by Pennsylvania in 1914, was adopted slowly by other states and is still not required by three.

In the twenty years between 1906 and 1926 the curriculum underwent considerable change. By 1910 some 250 hours had been elimi-

nated from the Sophomore studies, and the schedule for each class then adhered closely to the 1000-hour program advocated by the American Medical Association as a standard curriculum. The span of years saw important changes in the presentation of the basic sciences. Gross anatomy was consolidated into the first year. Several phases of chemistry disappeared from the first year, namely: general (inorganic) chemistry, organic chemistry and qualitative analysis — all being made prerequisites. Also the Department no longer taught elementary electricity, since a knowledge of general physics had become an entrance requirement. Physiological chemistry moved from the second year into the first; blood analysis and colorimetry were introduced into the second year, and Seniors received instruction in the applications of physiological chemistry. Physiology, previously divided between the first two years, became solely a Sophomore subject. Pharmacology assumed additional stature by taking over the physiological action of drugs, previously a part of the course in physiology. Bacteriology split away from Pathology to become a separate department in 1912; it dropped the teaching of hygiene and added instruction in immunology. Pathology, formerly spread through the second and third years, became consolidated in the second year (except for its clinical techniques). In addition, certain intermediary courses were introduced into the second year to provide practice in the application of the methods of the basic sciences to clinical problems; such exercises dealt with renal, metabolic, digestive and cardio-vascular diseases.

Between 1906 and 1926 instruction in the upper two years of the medical course underwent changes in which the student did more things himself, and came into closer contact with patients. The arrangements, nevertheless, were but partial improvements when compared with the offerings of the most advanced schools. The Junior year, which had gained additional time through the abdication of special pathology, shifted from long hours in the dispensary to overly concentrated didactic instruction. Innovations in the Senior year were introduced through instruction in roentgenology (1913) and oral surgery (1917).

All hospital offerings were hampered by the limitations imposed through a lack of controlled beds. Dean Edwards emphasized that clinical instruction should follow the laboratory method, in which instance the patient represents the laboratory. But only in the De-

partment of Medicine had teaching to groups of five or six students been possible, as yet, for lack of funds. The Senior work, after some previous (and even pre-War) experimentation with clerkships, was divided at the very end of the current period into three phases: first, hospital clerkships; second, dispensary clerkships; and third, hospital clinics and ward walks. The last-named service included a final patronage of the old-time, dramatic amphitheater clinic; its actors, scenery and spotlights were about to take a last bow. The early College had been truly progressive in being the first to require bedside instruction, co-ordinated with the didactic lectures. By contrast, the later School was laggard in adopting a clerkship program that had been transplanted from England so successfully, long before, by Dr. Osler at the Johns Hopkins Hospital.

In the previous chapter it was explained how a combination of college and medical work could lead to baccalaureate and doctoral degrees in seven years, or even six (p. 167). Those who chose to take the first year of medical studies on the Evanston campus were not then registered as medical students, and they found themselves lacking in gross anatomy, which had to be made up later by work at the Dental School. In 1910-11 an instructor was sent by the Medical School to teach human anatomy on the Evanston Campus to those who had completed two years of college preparation. This arrangement permitted students to register in Evanston for the entire first year in medicine, and it was the hope of the University administration that the remaining year of the complete preclinical course would follow. The number of students thus accommodated was very small, and the arrangement was not profitable. For example, in 1915-16 the tuition-receipts from the three students in gross anatomy were \$315, as against a salary of \$1,100 paid the part-time instructor. After that year the program was abandoned.

The degree of Bachelor of Science in Medicine was adopted in 1911. It provided a baccalaureate degree for students from other institutions who entered the Medical School without having completed the requirements for such a degree. If the premedical preparation were the equivalent of that leading to the six-year combined course at Northwestern, a student could become a candidate for this new degree at the completion of his medical course. Adoption had been urged by the Medical School, partly for self-protection, since six nearby state universities had already taken this step. Also the University of Chicago was allegedly attracting students by

offering such a package deal. A similar plan, leading to the regular B.S. degree, had been vehemently opposed and blocked by the "Old Guard" of Liberal Arts professors when President James presented and approved this recommendation from the Medical School and Law School in 1904.

The proposal of 1911, merely modifying the name of the degree to Bachelor of Science in Medicine, received the approval of the University Council, but went to the Trustees along with a strong dissent from the College of Liberal Arts. The final passage of this measure had importance far beyond its immediate application. A recent revision of the University Statutes had invested the University Council (the forerunner of the present University Senate) with increasing functions in order to make it an adviser to the Trustees on educational matters affecting any School. Among new, specific charges was the supervision of programs leading to degrees. The issue, therefore, became a heated and trying test of the new powers of the Council. The outcome settled once and for all that the concerted will of the College of Liberal Arts, historically dominant, was not necessarily to remain supreme in the evolution of a broader University governance and spirit.

Graduate work in the Medical School made a significant, but modest, start during the 1906-26 period. In the first ten years an average of four persons were registered each year; in the last ten years, seven. In 1922 the first degree of Doctor of Philosophy was awarded, and to a woman, Margaret Wilson, in the Department of Anatomy. It was also the first in any professional school of the University.

It was recommended to the University Trustees in 1905 that the training schools for nurses of Mercy Hospital and Wesley Hospital be affiliated with the University, and diplomas were first presented to graduates of these Schools at the Annual Commencement of 1906. The details of contracts were completed the following year when the Northwestern University School for Nurses (later the Program of Nursing Education) was established to sponsor training in all affiliated hospitals. Matters concerning admission, curriculum, methods of instruction, personnel and graduation were to be determined by a joint committee drawn from the Medical School and hospital. This was a novel step, looked upon with some disdain in the College of Liberal Arts, but Dean Holgate, then Acting President, approved it and his influence prevented open hostility. He

pointed out that: "The instruction is given in a thoroughly scientific manner by members of the faculty. The preliminary education required is the full equivalent of that [now] demanded for admission to the Medical School, and the examinations passed in course are as severe tests of scholarship." His final statement could not have withstood impartial investigation. The establishment of such a School was without precedent in the country; it was, perhaps, the last "first" of major importance to be scored by the Medical School in its initial century of existence.



Laboratory class in physiology; about 1900.

ADMINISTRATION AND ORGANIZATION

The organization of the Medical School stood in need of concentration and systematization. Acting President Holgate called attention to the conditions prevailing in 1907; faculty relations were controlled by the Dean; student relations by a Junior Dean; finances by one of the professors; admission, scholarly requirements and records by the Secretary; certain matters by the Clerk; and still other matters by the Secretary to the President. He warned that it was too much to require or expect the maintenance of success from a Dean

so long as there existed such a large division of authority and function. Some of these obvious faults were perhaps inherent in a system where the chief executive was a practicing physician, who was also trying to run a school and teach classes. Yet a thorough delegation of authority was destined to come about later (p. 241) when administration became really complex.

The twenty-year span of 1906-26 saw four Deans and two Acting Deans in charge of the Medical School. After a term of six years, N. S. Davis, Jr., was replaced as Dean by Arthur N. Edwards under conditions that are not now fully interpretable but may have been a well-intended attempt to correct the diffusion of authority just reviewed. At a meeting of the Executive Committee of the University Trustees in July 1907, President Harris recommended that Dr. Davis "be made Director of the Medical School, or President of the Advisory Council, using the title which he may prefer, with duties in general the same as those now exercised by him as Dean, to be decided later by the President after conference with Dr. Davis and others . . . [and] that Dr. Arthur Edwards be appointed Dean and to be the General Executive." It would seem that the Advisory Council of the Medical School and the Trustees in general (of which group Dr. Davis was an *ex officio* member) were not consulted concerning this action which was "to go into effect very soon and without much discussion." A strong letter of protest against what was considered summary use of the powers which the Chicago Medical College had recently and hesitantly surrendered to the University, but had not thought would actually be exercised, was sent to the Secretary of the University Trustees and to certain other Trustees by the eminent Professor W. E. Casselberry. He had received information concerning the action when it was still unknown even to all Trustees. His indignant remonstrance was to no avail; the recommendation of the President was supported by his Trustees.

It is known that Dean Davis was a proponent of higher standards for the Medical School; that a strong wing of the Faculty was opposed to this; that Dr. Edwards was a more forceful person; and that the first college requirement for entrance went into effect the year after his assumption of office. One might suspect that the President wanted a more vigorous executive, and went about to get him by 'kicking upstairs' the then incumbent. On the contrary, after a conference with President Harris, Dr. Casselberry accepted the

view that:

. . . . the avowed intention and desire of President Harris for Dr. Davis to remain in the faculty in a position of actual supremacy, under a newly created title, should be literally fulfilled and, in connection therewith, that Dr. Davis should be placed on the Executive Committee of the Board of Trustees of the University, the latter being regarded as essential to sustain his supremacy under the changed conditions and enable him, as formerly, to guide the policy and conduct the affairs-in-chief of the Medical School.

The new arrangement was not acceptable to Dr. Davis, and he at once withdrew from all active relations with the School, although he never resigned as Dean. His name was still carried as a Trustee of the University until 1914, and on the Faculty roster as Professor of Medicine until his death in 1920. There was no official reaction of the Advisory Council of the Medical School to this episode. The Minutes remain silent, as they do relative to a contest for control of the School during the ensuing Edwards regime. The latter years of his incumbency comprise the only internally stormy ones in the long history of the institution.

Dean Edwards (1907-16) served in a period made difficult by reduced income because of raised standards. It was also made dangerous by a clique of ambitious clinicians trying to usurp power, and made frustrating by the intransigence of the Superintendent of Wesley Memorial Hospital, who blocked all efforts to use a fund given specifically for clinical teaching (p. 294 *ff.*). Dean Edwards gave the School a new impetus, although decisions that he was forced to make were not always popular, and estranged some friends and previous admirers. When it became known that Mr. James Deering advocated that only a full-time Dean should attempt simultaneously to run the Medical School and induce the Wesley Trustees to put the Deering endowment (p. 202) to its intended use, Edwards resigned gracefully and probably with genuine relief, since administrative duties had exacted a high toll from his clinical and scientific life. After continuing one year at his original post as Professor of Medicine, Dr. Edwards resigned. Efforts to obtain a reconsideration failed, and he was lost from the life of the School.

Dr. Arthur I. Kendall, Professor of Bacteriology, was chosen as Acting Dean in the autumn of 1916, and at the end of that aca-

demical year was appointed Dean. He was the first leader who was neither a founder of the School nor an alumnus. Of much more importance, he was the first administrator who could devote all of his attention to School affairs. During his regime the departmental structure was reorganized to secure more effective administration and teaching, the curriculum was revised, clerkships were introduced, a difficult war period was surmounted, qualified applications for entrance began to outrun facilities and, at long last, a hope of eventual compromise-settlement with Wesley Memorial Hospital was raised. With such accomplishments already gained, and a new campus and medical building just assured, Dr. Kendall chose to accept a post at Washington University that offered an enticing prospect of considerable freedom for research. This decision, influenced by the knowledge that there was a plot to unseat him, left the Medical School leaderless at a critical moment in its history.

The University then decided to go the whole way and bring in a Dean who should devote his entire time to administrative affairs alone. While these arrangements were being made, Dr. James P. Simonds, Professor of Pathology, was appointed Acting Dean and served for the year 1924-25. Meanwhile, Dr. Irving S. Cutter, Dean at the University of Nebraska for the previous ten years, was appointed to the new post and took over the office in the summer of 1925. His productive administration (1925-41) belongs to the next period in the history of the School, rather than to this one.

On the final absorption of the Medical School into the University in 1906, its administrative powers were largely assigned to a body first called the Advisory Council, but renamed in 1909 as the Medical Council. It replaced the former Executive Committee of the semi-independent Medical College. As the School increased in complexity, this representative body naturally grew in size. Starting with nine members, besides the Dean and Secretary of the Faculty, it came to include the President (and latterly the Dean of Faculties). At present it consists of about forty members. The original Council was elected by the Medical Faculty, but within a few years its membership became appointive.

The Medical Council is the main executive arm of the Medical School, with power to administer its internal affairs and to formulate policy. Its recommendations on appointments and other matters of importance are channeled through the President to the Board of Trustees for approval, modification, or rejection. Matters

involving other schools have to be routed through the University Senate, whose recommendations, in turn, pass to the President and the Board of Trustees. The general Faculty is left with but few prerogatives (stipulated below) and, except for sporadic attempts to activate it, the necessary meetings became routine and poorly attended. The current University Statutes define these matters explicitly in the following language:

In the School of Medicine the functions of the Faculty, except for the fixing of the requirements for admission and for degrees, and the recommendations of candidates for degrees [which are reserved to the full Faculty], shall be vested in an administrative board to be known as the Medical Council. This Medical Council shall consist of the President of the University, the Vice-President and Dean of Faculties, the Dean of the School of Medicine, the Secretary of the Medical Faculty, and such other members as may be appointed annually by the Board of Trustees or its Executive Committee on the nomination of the President of the University, with the knowledge of and after consultation with the Vice-President and Dean of Faculties, and upon the recommendation of the Dean of the School of Medicine.

The original organization of the Medical College was by "chairs," personified by the professor who was the sole expositor of that branch of medical lore. For 36 years the student had no occasion to think of departments or subjects as such; he was intent on "taking and passing Professor X." Not until the Annual Announcement of 1896-97 were the various disciplines listed as 'Departments' and was the nature of each component course described. The first official organization of the School into Departments was (apparently) proposed by Dean N. S. Davis, Jr., in 1907, and the recommendation of his Advisory Council was adopted by the Trustees. For the present there were to be nine Departments, as follows: Anatomy; Chemistry; Pathology; Physiology; Pharmacology and Therapeutics; Medicine; Surgery; Obstetrics and Gynecology. Included as a subdivision of Pathology was Bacteriology; Medicine had eight subdepartments, and Surgery two.

Also in 1907 the titles and ranks of the teachers were first regularized in the following descending categories: Professor; Clinical Professor or Associate Professor (equal in rank); Assistant Professor; Associate; Instructor; Demonstrator; Assistant. This listing

remains in use, except that the posts of Clinical Professor (p. 250), Demonstrator and Assistant have disappeared. From early years, as now, the title of Lecturer had come to designate one whose relation to the School is incidental or tenuous. A similar series of ranks was adopted by the Trustees, for the University as a whole, in 1909. The grade of Associate is seemingly peculiar to this School. It was introduced, and has continued in use, to designate individuals who deserve recognition beyond that of Instructor, but do not yet qualify for an assistant professorship.

With the passing years it became apparent that this departmental organization, with simultaneous clinical programs in several hospitals, failed to prevent overlapping of effort in different departments, repetitions within the same department, and the omission of significant areas, including borderline fields. Hence, at the meeting of the Medical Council when Professor Kendall was made Acting Dean (1916), President Holgate suggested that the School could be reorganized to advantage on a simple and lasting basis. Promptly Dean Kendall presented a plan that employed a new category, called a Division. For purposes of major administration there were six Laboratory Divisions and five Clinical Divisions. For instructional purposes some of the Divisions were departmentalized. It was believed that a divisional organization, with responsible chairmen, would remedy the existing defects in overall administration and curricular design, without relieving the subordinate departmental heads of responsibility in enforcing the effective teaching of a standardized curriculum, or of equal responsibility in minor administrative matters. This plan continued until 1942, when a return to the departmental type of organization was made. It was then decided that it was advantageous to spread responsibility directly among the specialties, and to recognize and reward professional merit in those diverse fields by conferring additional titles of chairmanship.

The first half of the current period found the School headed by a clinician who was not in residence and had neither office nor desk. Hence the general management of the School came to be assigned to the Registrar, Charles W. Patterson, who, as the practical executive officer, acquired a breadth of duty and delegated authority that seems incredible today. His ordinary line of duty encompassed the customary range relating to an admissions officer and registrar. But, in addition, he served as superintendent of buildings and

grounds, overseer of the School Bank and Clinics, administrator of the budget (including the authorization of all purchasing and paying), dean of students, contact man for faculty and alumni, and liaison officer between the School and the University Administration at Evanston. A veritable academic factotum!



Dissection group; 1890. In white apron, the future Professor Menge.

MISCELLANY

Several heterogeneous items of significance fall within the two decades under consideration. For example, the dispensary services underwent various expansions. In 1903 a diet kitchen was installed; it was the pioneer to be so directly connected with a medical school in Chicago. Beginning under the supervision of one graduate nurse, it served to supplement the theoretical aspects of the dietetics of infant feeding by practical applications. The excellent results obtained made a profound impression on the student participants. The institution of a Social Service in 1920, delayed of necessity during World War I, was a significant forward step in promoting efficiency among the services rendered by the Dispensary. It increased the

value of the work to the patient and student alike, and augmented the dispensary attendance in all its branches. X-ray equipment was first obtained in 1917, a prenatal clinic was authorized in 1921, and a course for laboratory technologists was begun in 1922.

Other events, at least indirectly related to the present period, are of interest. A first attempt by Dr. Joseph B. DeLee to launch a prenatal registry at the Dispensary, through which women were to book for home delivery, failed. The patients about the clinic apparently would not believe that worthwhile obstetrical care could be obtained without a fee. The Medical School deserves only indirect credit, through the renewed efforts of Dr. DeLee, for the establishment of the first care for expectant mothers among the poor of Chicago. Situated in the Maxwell-Street district, his Chicago Lying-In Dispensary conducted 204 deliveries even in the first year (1895) of the experiment. At first Northwestern students were summoned for all of the births, which Dr. DeLee conducted in person. Within a year they were required to participate actively on a two-week service; this arrangement continued for 75 years. It then became optional, and finally ended when the service was absorbed into the Prentice Memorial Hospital. Another first in Chicago was the Fresh-Air Sanitarium, established by the School and some of its graduates in 1909. Not directly a School product, but a project conceived and organized by a group of the Faculty and alumni, was the American College of Surgeons (1913).

Early in the period under review the Medical School was subjected to two inspections, first by the American Medical Association and soon after by the Carnegie Foundation for the Advancement of Learning. The School fared well in the first set of findings and gathered only mild criticism in the second report. Details of these results and the import of such inspections nationally are recounted in Chapter XI.

The cramped Office of the School, about which Acting President Holgate had previously commented disparagingly, was moved in 1917 from Davis Hall into larger rooms in the Laboratory Buildings. At this time the closing down of the School of Pharmacy, and the combining of Physiology and Pharmacology into a single division, permitted a corresponding invasion of the medical-dispensary service into part of the first floor of the Laboratory Building. An additional dispensary had been built in 1908 on Calumet Avenue,

adjacent to Mercy Hospital (p. 410). This well-equipped unit served the School until 1914. It may have been a compromise to the insistence of Dean N. S. Davis, Jr., that either a large clinical building be erected near the Medical School, or that Davis Hall be torn down and a many-storied clinical building replace it.

The first manifestation of a sense of obligation toward providing vacations for employees of the Medical School came in 1907, when the Advisory Council voted:

... that the office force, fireman and engineer be given two weeks vacation with full pay each year, and that the Druggist and Head Nurse be given two weeks vacation each year with full pay, but with the provision that they must find and pay for their own substitutes.

Apparently janitors and other helpers were not deemed worthy of consideration. The handling of the druggist and head nurse followed the original University pattern for leaves of absence by professors in the College of Liberal Arts (p. 250), but in this instance was niggardly. By custom, the Medical Faculty took one month of vacation annually; this was in contrast to a full summer for teachers on the Evanston campus.

Medical graduates were unhappy over a decision reached in 1910 concerning diplomas. Hitherto it had been customary to have diplomas signed by the whole roster of professors. The new ruling of the University Council limited signatures to the officers of the University and Medical School. Even a year later, the second Senior Class to be affected by this ruling petitioned unavailingly "that the signatures of all members of the Faculty might appear upon their diplomas." Previously, in 1908, President Harris had advised that recipients of the medical degree should no longer have any degrees, previously earned, appended to their names on the diplomas.

The Chicago Medical College early designed its official seal, and imprints were affixed to diplomas. This device was ring-shaped, with a vacant center. It bore the name of the College, in English at the top, and showed five stars at the bottom where the date of founding customarily appears. After the first affiliation of the College with Northwestern University, in 1870, diplomas were issued under a joint sponsorship: "Chicago Medical College, the Medical Department of Northwestern University," and seals of

both institutions were affixed. Subsequent to the firmer union of the two institutions in 1891 diplomas were issued under the name of Northwestern University alone, and only the Northwestern seal was used. This action anticipated the complete absorption of the College in 1906, and the new diploma title became permanent. Strangely enough, the old College seal, although an anachronism, remained in use for many years; a correct seal for the Medical School was not acquired until 1924. It is used to authenticate transcripts and other official documents.



Seal of the Medical School, replacing that of the Chicago Medical College.

Both students and faculty of the Medical School became deeply involved for a period during World War I. These disruptions included the organization of Hospital Unit No. 12 and its service in France, and the virtual take-over of the School by the Medical Department of the U.S. Army in 1918. An account of these activities is given in Chapter XI.

During Dean Kendall's term of office a proposal of union came from the Hahnemann Medical College, located not far distant, which would also make available its Hospital. For many years these old institutions received strong support from influential Chicagoans, and they still had some stalwart backers, among whom was

Victor Lawson, editor and publisher of the *Chicago Daily News* and chairman of the Hahnemann Board. It was he who initiated the negotiations, but on terms that were unrealistic in view of the declining vogue of that medical cult, and the obvious desire and need of the institution to seek cover if it were to enjoy even token survival. The proposal was unacceptable to Northwestern, and a little later (1922) the College, only one year younger than Northwestern University Medical School, closed its doors.

Founders' Day, which has become an important feature of the academic year, was started as an improvisation. Dean Kendall invited three of the older alumni to address the 1922 reunion of the Alumni Association briefly on biographical topics. Emeritus Professor George W. Webster appeared with a bulky manuscript whose reading would have consumed much of the time allotted to the entire program. Rising to the emergency, the Dean convinced the essayist that his contribution was too important for the occasion. He then announced to the assembly that a new feature was to be introduced to start each ensuing academic year. This was to take the form of a special convocation, known as Founders' Day, and the first address would be delivered by Dr. Webster. In this unplanned manner a traditional landmark was inaugurated, although it was not dignified by mention in the Dean's annual report.

A perennial criticism of educational systems is the loss they entail and the lack of good relations they forego through not utilizing the broad experience of their faculty members when retired from active service. The Medical Council sought to meet this problem in 1922 by creating a small board of Medical Counselors, selected from the retired professors and elder alumni. It was planned that these should be called together twice a year, at least, to discuss matters of general policy, and that each should deliver one lecture to the Senior class annually. Three members were selected from the emeritus rank and three (subsequently five) from the alumni. It is not clear how successful this experiment proved to be, although there were attempts to utilize the Counselors; they were invited to attend Council meetings and were ranked as a special committee of that body. None was replaced as the list became depleted through deaths, and in the early Forties there were no survivors. Not until 1974 did a better organized and more vigorous board of this sort come into being (p. 242).

Money matters are apt to be prosaic, but they do reveal much about educational institutions. At the time (1909) of its first major inspection the income of Northwestern University Medical School was \$89,000. This put the School in the same rank with Rush and Toronto; the showing was much better than that of Western Reserve (\$63,000), Washington University, Yale, Syracuse, and Vanderbilt (\$25,000); it was slightly inferior to Johns Hopkins (\$103,000), Tulane and Jefferson; yet it was wholly outclassed by Harvard (\$251,000), Columbia and Cornell. Like four out of five schools at this time, Northwestern was essentially dependent on fees alone. In the past there had been no difficulties on this score. For example, residual debts amounting to \$108,000 had been paid off in the years 1906-10, just before the increased entrance requirements began to take damaging effect on enrollments. Thereafter, conditions changed; annual deficits became routine, and the return of larger classes did not compensate for the increased costs of running a School that tried to keep pace with the times.

The expenditures for 1913-14, when the enrollment was lowest, was \$96,000; of this amount, earned income accounted for \$73,500. This budget was twenty per cent short of the \$120,000 recommended in the recent Carnegie Report. Yet the showing for the pre-clinical division was commendable because the difference lay in the lack of paid clinicians and in the teaching beds made available without cost by the hospitals. About ninety per cent of the budget went for laboratory teachers and courses, research, administration and upkeep. The remaining ten per cent supported the dispensary.

The earlier prediction of President James that the University would have to become reconciled to meeting deficits was fulfilled. Earnings in 1906, when the University absorbed fully the Medical School, were \$83,000, overtopping expenditures by \$13,400. Three years later the operational profit was three times this amount. By contrast, the income in 1926 reached \$179,600, but this amount had to be supplemented by \$68,700 from general University funds in order to meet expenditures. Acting-President Holgate, in anticipating these contributions from general funds, was willing to justify such expenditures not because of any excellence on the part of the School in preparing young men to earn a useful living, but solely to the degree that a public service would be rendered in adding to the universal store of knowledge and in maintaining scholarly stand-

ards. He refused to concede that supplying practitioners, competent to alleviate human suffering and improve national health, was in itself worthy of support from University funds.

The total cost of operating the Medical School in 1926 was \$248,300. This was the year in which the move was made to the new Campus, and the annual expenditure was 3.6 times that of twenty years before at the beginning of the current period. Yet the 1926 cost can be put in perspective with present day spending by stating that in 1974 our telephone bill alone was twenty per cent higher!

A restricted benefaction came fairly early in the present period, and it was most opportune at a time when income was becoming halved. In 1910 Mr. James A. Patten gave \$250,000 for the endowment of a laboratory of experimental research, with the request that the immediate object of study be tuberculosis. This laboratory was established, under the direction of Dr. A. I. Kendall, in 1912. The improvements made in the several other laboratory departments, in the years directly following the gift, could not have been effected without the liberality of the donor in permitting the application of its income to purposes somewhat divergent from his original intent. More lavish was a gift of \$1,000,000 in 1914 by Mr. James Deering, intended to convert Wesley Hospital into an effective teaching arm of the Medical School. How this gift passed into the control of the Hospital, and how the plain conditions of the benefaction were disregarded for decades, is told in Chapter XI.

Another, and much greater, gift to support instruction and research came near the close of the present period. The Medical School's share of this endowment, made jointly to the medical and dental divisions by Mrs. Montgomery Ward, amounted to \$3,200,000. It was to play a large part in the expansion of activities on the new campus now readying for occupancy. Promise of support for the library was given in 1924 by Dr. Archibald Church, Professor of Nervous and Mental Diseases, and Mrs. Church, who made an initial deposit of \$100,000, subject to annuity restrictions. Some other substantial gifts had raised the total endowment earmarked for the Medical School to \$4,700,000 in 1926, as compared with \$62,300 twenty years earlier at the beginning of this period. Donations related to the new campus and its medical building will be described in more detail in Chapter IX.

The simplicity of operation still present in the 1906-26 period is reflected in a Minute of the University Trustees in October, 1913. The School of Pharmacy and its Registrar were then transferred to the Medical School buildings with the hope that the joint office, with a common Registrar, could be conducted "with a force consisting of a cashier (who keeps the accounts, conducts the student bank, attends to correspondence relating to bills and other financial matters, answers the telephone, etc.) and a stenographer (who takes dictation for general correspondence, keeps the scholarship records and has charge of the library). [On the contrary,] this office force is found to be insufficient, especially for the personal correspondence with prospective students." Hence permission was granted to hire another "stenographer from October 1 to June 30, at a salary not exceeding \$60 per month." The manifold duties of the Registrar at an earlier period and in this one have already been enumerated (pp. 99, 195). Until about 1910, at least, it was customary for Dr. J. H. Long, Professor of Chemistry since 1881, to go about the various departments turning off gas cocks and disconnecting electric connections before he left for his summer vacation — so personal was his feeling of responsibility, as the senior professor, for the building that he had helped design.

END OF AN ERA

The middle Twenties, when the current period came to an end, also marks a transition from a phase of clinical medicine that had already based itself firmly on scientific principles into an era that would advance with giant strides. Trained investigators were coming into maturity who would revolutionize treatment with newly discovered means such as vitamins, hormones, extractives and antibiotics. Already the control of killing diseases such as diabetes and pernicious anemia was at hand. The importance of vitamins, viruses and allergies was becoming understood, while discoveries on Rickettsia organisms were introducing a new insight into the causative factors of disease. Knowledge of blood groups had enlightened the technique of transfusion. Reliable tests for diphtheria and scarlet fever were being used. Cures or methods for preventing various diseases and epidemics were available. The possibilities for the future

were, indeed, inviting and seemingly limitless.

Clinical pedagogy was advancing rapidly into the field of individual student-participation and, correspondingly, the operative clinic and mass instruction were disappearing, if not gone already. Everywhere a greatly increased interest in medicine had developed through observing the importance of its science and art, as exercised in both civil and military life. One result of this awakening was being expressed in a surplus of applicants for matriculation, so that the quality of the student-body began to improve, and there was less wastage by the weeding out of incompetents.

For the Chicago-located professional schools there was about to develop something of a university-sense that had been lacking previously because of their manner of origin, and their physical isolation. Each arose as an independent entity and, even after its affiliation or absorption into the University, the tradition of independence delayed the growth of a true university consciousness and sense of unity. Hence it was formerly customary for the professional schools to speak of the "University at Evanston" when referring to the College of Liberal Arts, and for many years to consider the University Trustees as belonging largely to the College of Liberal Arts alone. Northwestern, although chartered as a university, remained for some years simply a college of arts — and for a far longer time the College was supreme in the University. For this reason it is perhaps natural that this hard institutional core shared and fostered the feeling of its primacy and superiority. So it was that both its prestige and influence were jealously guarded.

But with the Medical School at last absorbed fully, like Law, Dentistry and Pharmacy before it, and with other Schools arising, President Harris sought to bring about a change in attitudes. He came early to regard, as one of the prime objectives of his administration, the promotion of a feeling of unity throughout the University and the binding of the individual schools into a composite "whose units would consider themselves peers in privilege, in loyalty and in duty." To a limited extent he may have been successful, but geographical separation of the professional Schools from Evanston was an obstacle, and the completely isolated location of the Medical School for more than half a century did not help matters. The sense of "apartness" was to be remedied, to a considerable degree, only later. This was when those Schools, needing a

city environment, consolidated on a campus that had initial dignity — and gradually developed atmosphere and charm.

IX

A UNIFIED CAMPUS

(1926)

Even before the changes brought on by World War I etched so clearly the realities of a new era, and how ill-prepared the University was to meet them, the Trustees had envisioned the general problem that lay ahead. The several student bodies had been growing steadily, and the needs and opportunities for more extensive and diversified educational offerings were evident to all. The imperative demands were for more buildings, a consolidated professional campus, strengthened faculties with higher salary scales, and greatly increased endowments. Until these shortcomings were remedied, further well-rounded progress would continue to be blocked effectively. The thought that had been given to these general problems evolved into a plan, after the War, that was christened "Greater Northwestern." It proposed what seemed then to many to be a grandiose blueprint of the unattainable. The definitive plan crystallized from a survey, conducted in 1919-20, to determine the needs to which established policies committed the institution, if its present position and purposes were to be maintained. The plan provided for all of the wants just enumerated and set a decade as the period in which the seemingly colossal sum of \$25 million would be sought to accomplish these ends. Owing to the munificence of two benefactors, who supplied half of the total amount, the goal was exceeded by some \$5 million.

The years following World War I found the University confronted with staggering deficits, some of which were met by the generosity of two Trustees and other timely aid from the General Education Board. After two contributions, the Board offered to appropriate \$600,000 if the University would complete a fund of \$2,000,000 for the purpose of establishing and maintaining salary

scales in certain areas. With a deadline date to meet, it was decided to organize for immediate objectives within the University. The tract for a consolidated, professional-school campus had been provided by funds raised in 1920. Hence the new money to be solicited for all purposes totaled \$5,100,000, of which amount \$600,000 was assigned for a building and its endowment for each of the Schools of Medicine, Law, Dentistry and Commerce. In nine months, ending in June, 1924, \$8,500,000 had been pledged. Only the School of Commerce of the Chicago group failed to meet its quota by that date; in sharp contrast, the Medical and Dental sums were over-subscribed three and one-half times by an unforeseen act of philanthropy (p. 213 *ff.*).



Chicago Campus site, viewed from the future location of Passavant Hospital, at the time of the Campus purchase; 1920.

ACQUIRING A SITE

William A. Dyche, Business Manager of the University, pointed out as early as 1908 the savings that could be gained then from a relocation of the professional schools a few blocks north of the Chicago River. Again, as early as 1913, the feeling was intensifying that the professional schools should abandon the locations then oc-

cupied and consolidate on a new site. James A. Patten, Vice-President (and soon President) of the Board of Trustees, was the chief proponent for transferring all of these Schools to Evanston. On the other hand, Dean Wigmore of the Law School had proposed earlier that this unit should move to a site adjacent to the Criminal Courts Building at Dearborn and Austin (now Hubbard) Streets. All agreed that the present accommodations of the several Schools were outmoded and outgrown, that the buildings and locations could never convey a university atmosphere, and that their lack of centralization hindered administration and fostered a feeling of isolated neglect.

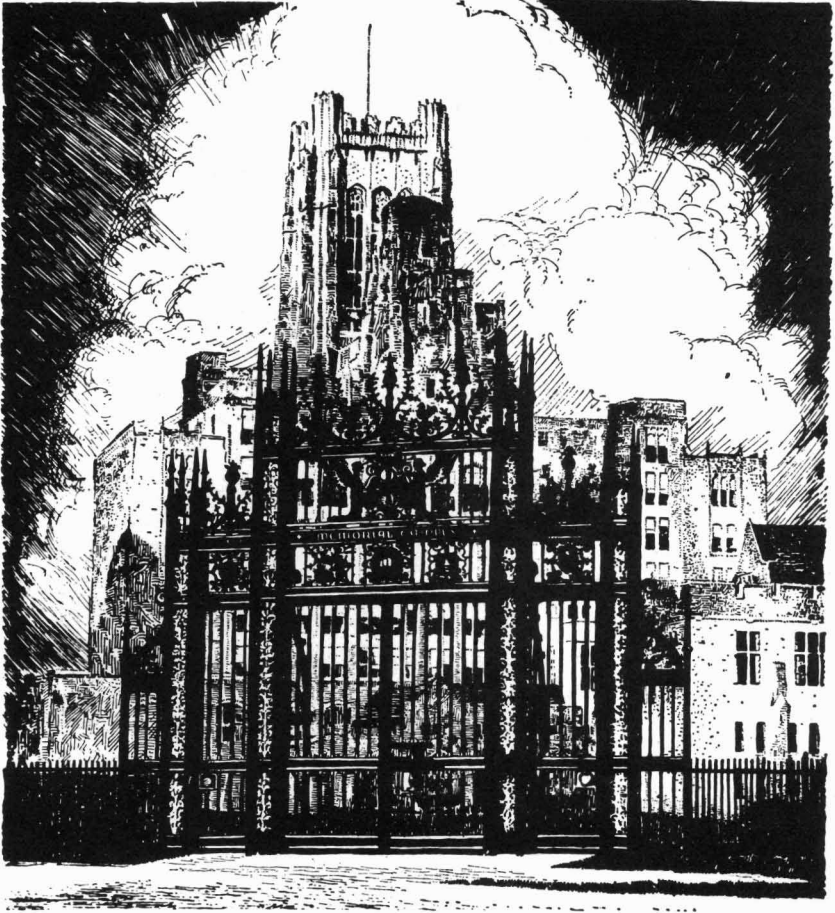
Nathan W. MacChesney, a Trustee, urged a plan for a unified, single campus to be located on the rapidly transforming Near North Side of Chicago, at Chicago Avenue and Lake Shore Drive. In 1915, when first proposed, it was "a dreary expanse of rubble and mud." It was a part of the so-called District of Lake Michigan, or Streeterville, extending from the Chicago River to Oak Street. This property the redoubtable Captain Streeter and his equally formidable wife claimed by right of discovery and squatting, following the grounding of their boat on a sandbar at the foot of Superior Street in a storm. Partly built up by drifting sand through wave action, they claimed it was not a Chicago domain but, rather, a new dominion which they named the District of Lake Michigan. They were still defending a portion of it against the police through the first two decades of this century. The particular property that interested Mr. MacChesney consisted of nearly nine acres, known as the Farwell and Fairbanks tracts. About where the Ward Memorial Building now stands, Billy Sunday, the evangelist, was soon to pitch his huge tabernacle-tent and try to convert Chicago.

Opposition to any new Chicago location was encountered from some members of the Trustees and of the College of Liberal Arts, who feared that such a development would interfere with progress at Evanston; they were supported by Mr. Patten, who favored a completely unified University at Evanston. When MacChesney presented his plan for a Chicago Campus to the Trustees, Deans and selected representatives of the Faculties in December, 1915, Patten said: "You are crazy. What you are suggesting will cost three million dollars!" The reply was: "Mr. Patten, what I am suggesting will cost at least thirty million dollars, if it is successful."

MacChesney did not exaggerate. Today the lands purchased and the buildings erected on them aggregate an expenditure of several times that amount.

A majority opinion came to agree that the various schools of the University should be concentrated in two centers, and that the Chicago units should be removed to the Near North Side of Chicago. The preparation of a comprehensive plan of buildings, to satisfy both present and future needs, was interrupted by World War I. Meanwhile (January, 1917) a self-constituted committee of three Trustees secured an option on the coveted property, without cost to the University. On June 15, 1920 the Trustees voted (but not unanimously) to purchase the tracts for \$1,420,000. Trustee Patten resigned immediately, but eventually acknowledged his error in judgment and contributed \$50,000 to the fund. In the interval since 1917, William Dyche, one of the three Trustees, had kept the option alive and had worked valiantly to persuade other Trustees to favor the plan. Particularly important, he had succeeded in interesting Milton H. Wilson, without whose generous support the campus-project would have failed of fruition (p. 210).

At the close of the inaugural ceremonies of Walter Dill Scott in 1921, as tenth President of Northwestern University, it was announced that a gift of \$250,000 had been pledged toward the purchase of the new campus. The prospective donors were Mr. and Mrs. George A. McKinlock, who wished to create a memorial to honor their son, killed in France during the War. This pledge was made conditional on the University naming its new property the "Alexander McKinlock, Jr., Memorial Campus." Payment of the money was promised during the lifetime of Mr. McKinlock, or by his last will; meanwhile, interest on the sum would be paid regularly at current rates. By order of the Board of Trustees the campus was so named. Because of financial troubles neither Mr. McKinlock nor his estate was able to meet his capital pledge. Accordingly, all payments (totaling \$156,000) were returned and, in 1937, the city campus was renamed the Chicago Campus. Long before this, in 1930, monumental Memorial Gates, costing \$25,000, had been installed at the corner of Superior Street and Lake Shore Drive. They serve to commemorate the son's heroism and the temporary campus name. These beautiful gates are probably the largest pieces of ornamental wrought iron ever executed in this country.



The Alexander McKinlock, Jr., Memorial Gates, erected at Superior Street and Lake Shore Drive; 1930.

Crucial to the success of Campus-funding was the contribution of \$625,000 by Trustee Wilson who gave so generously at numerous other crises in the life of the University, and on death bequeathed it \$8,000,000. He shunned publicity with respect to his gift for the Campus site, which represented two-fifths of the total cost of acquisition.

The original purchase comprised land between Chicago Avenue and an alley halfway between Superior and Huron Streets. In the other direction it extended from Fairbanks Court to Lake Shore

Drive. Additionally there was a plot of land facing Chicago Avenue and extending west from Fairbanks Court to a still-existing alley. Later this would be leased to Wesley Hospital as half of its building site.

Two adjustments of street relations became important. One involved McClurg Court, which had been planned to extend northward through the land that became University property and end at Chicago Avenue. By order of the City Council this portion of the thoroughfare was vacated and became added to the Campus. The second proposal was to close Superior Street between Fairbanks Court and Lake Shore Drive, and add this land to the Campus. Superior Street would then bend at Fairbanks Court and continue along the alley between Superior and Huron Streets to the Drive. The University would deed sufficient land (30 feet and 60 feet, respectively) to permit the necessary widenings. All signs pointed toward a favorable action. The City Council approved the measure; the Press urged its passage; the Mayor, who had just received an honorary degree from the University, was a supporter. The approved bill reached the Mayor's desk when he was vacationing. A few hours before it would have become an ordinance without his signature, he returned hurriedly, went to City Hall and vetoed the measure. It was understood that pressure had been exerted on the Mayor by the Catholic Diocese of Chicago, with property rights considerably farther west on Superior Street.

Had the rerouting succeeded as planned, the Campus of that day would have lain wholly within broad, bounding streets. This seemed highly desirable at the time because no one was thinking of future needs that could not be accommodated within a nine-acre tract. But now that the Campus was to remain split from east to west by Superior Street, the desirability of securing the entire strip between Superior and Huron Streets became an expensive imperative, and this addition was acquired in 1928 (p. 227).

The idea of consolidating the Chicago Campus into a single unit did not subside, and it took another turn. The new suggestion was to end Superior Street by a turn-around that would invade an otherwise single tract and thus provide a vehicular approach to Passavant Hospital. This dream faded as new buildings arose to the east, the Veterans Hospital built to the south and the Campus expanded even to Erie Street. Presumably it will remain indefinitely

split into three east-west strips.

The daily press saw correctly the prospective merit and value of a university campus in the midst of a city. Thus, in 1921, the *Chicago Evening Post* predicted that "Such a campus, ornamented by impressive buildings overlooking the blue waters of Lake Michigan, would make another beauty spot in the 'Chicago Plan' now gradually unfolding before us." Two years later, Mr. MacChesney reviewed the history of the Campus and concluded: "It is the most constructive enterprise contemplated in Chicago since the founding of the University of Chicago and the building of the World's Fair in 1893."

Fifty-odd years have elapsed since construction began on the new Campus. At that time, the view toward the north encompassed little more than a City playground and a partial waste land, leading to a fringe of buildings and the Drake Hotel, all facing Oak Street Beach. To the south-east and Lake Michigan, more waste land interrupted only by the original, blocklike Furniture Mart. Toward the Loop, an unobstructed view, except for small houses until the eye was arrested by the Wrigley Building, Tribune Tower and the mosque-capped Shrine Club (now the Radisson Hotel). To the west, many picturesque dwellings done in a variety of styles; regrettably only a few remain to hint of a period when this neighborhood, bordering the once residential Pine Street (in 1920 renamed as North Michigan Avenue), had something of an old-world atmosphere. The spanning of the Chicago River by the Michigan Avenue bridge, also in 1920, signalized the impending change that would transform a former residential street into the "Magnificent Mile," disrupt an adjacent neighborhood, and turn a lakeside wasteland into a forest of multistoried buildings.

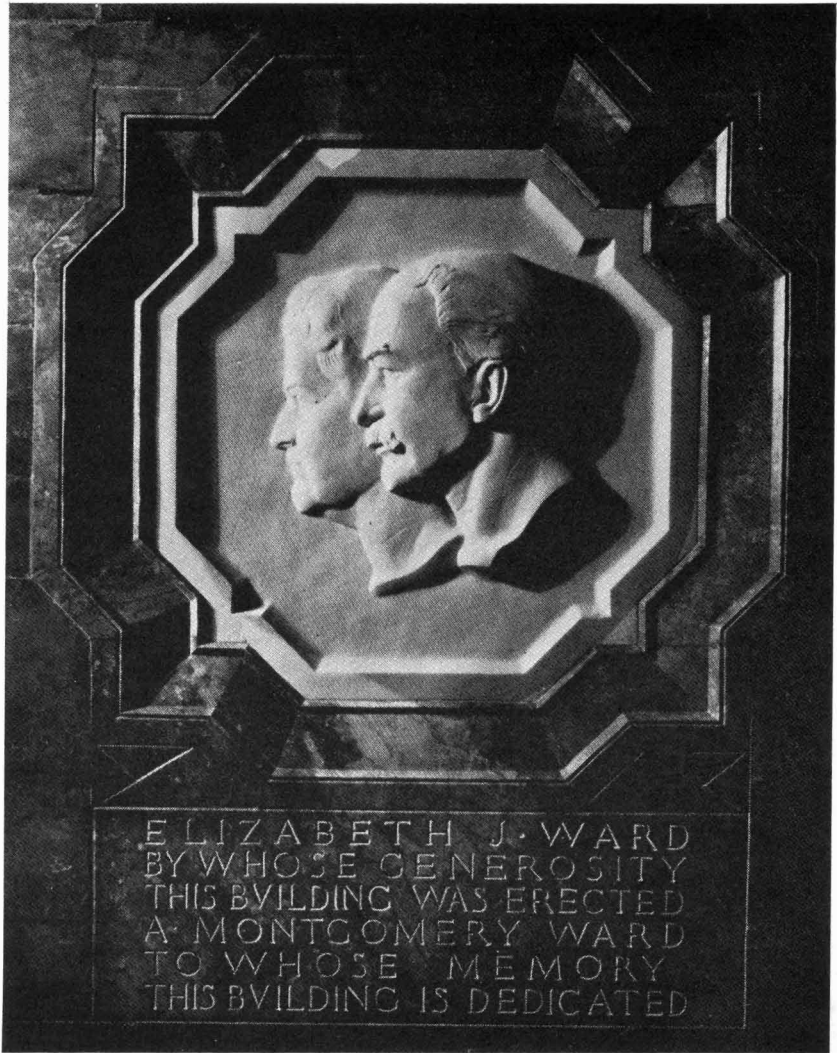
A CAMPAIGN FOR HOUSING AND ENDOWMENT

The original estimate that a building for each professional school, and its endowment, would require \$600,000 seemed at first formidable, and had the task been left to ordinary contributors, it could well have remained such. Fortunately, however, donors of large sums grasped the opportunity to create memorials, and the

programs as a whole expanded toward more ambitious goals. Mrs. Rachel Mayer made possible the Levy Mayer Hall, which provided luxurious quarters for the School of Law. Judge Elbert H. Gary gave the Gary Library of Law, set at a right angle to the main building. Much later, the original plan of a complete law quadrangle was fulfilled. The Wieboldt Foundation erected Wieboldt Hall for the use of the School of Commerce, the Medill School of Journalism, and soon the University College (evening studies). Mrs. Ellen M. Thorne gave money for a hall, including an auditorium, in memory of her husband, George R. Thorne. Provision for immediate needs in the Campus project was completed through the guarantee of adequate housing for the Medical and Dental Schools, as will be related presently. Hospitals were necessary for effective co-ordinated work, and a student dormitory was highly desirable in a region each year becoming less suited for rooming purposes. These, however, could wait for a time, and had to do so.

In preparation for the campaign to provide a medical building the importance of favorable publicity was stressed, and a series of attractive booklets was prepared. A supplementary pamphlet, setting forth the cause of the Medical School, bore the title *The Battleground of Disease*. Also an extensive compilation furnished a fund of information covering the achievements of the Medical School and its Faculty. In it, all significant aspects of scientific, educational and civic contributions were set forth. The intensive campaign opened in October, 1923, and ran for nine months. October and November had yielded \$80,000 toward the medical quota when announcement was made of a gift from Mrs. Elizabeth J. Ward that changed all sense of values. Six months later, at the final accounting, the general fund had, nevertheless, been raised to \$145,000. This total was more than was pledged for building purposes by any other School on either campus. For the University as a whole the total campaign more than doubled all gifts received in the previous 72 years of its history.

In late autumn, 1923, the outlook seemed dim indeed for the completion of the medical quota on time. Gloomy predictions were setting an indefinite number of years before any move to the new campus could be expected when, without warning, lightning struck. The not-so-secret hope of everyone had focused on the possibility of



Bas relief of Mr. and Mrs. Montgomery Ward, in the foyer of their Memorial Building.

a large donor, who would become the major contributor. Even so, no one was prepared for the announcement on December 15, 1923, that Mrs. Elizabeth J. Ward had given three million dollars to be used for the creation of a Medical Center, including dentistry, on the new campus. She had decided to create a memorial to her hus-

band, Montgomery Ward, the pioneer mail-order merchant and also the civic leader who had succeeded in preserving the lake front for the use of the people. Over several years no prospective venture had fulfilled the desired requirements of magnitude, wide scope of usefulness, and permanence that Mrs. Ward envisioned. But now the plans for a Northwestern campus in Chicago, and the drawings of the proposed buildings, were sufficient to indicate to her that this project would meet the requirements; and so the decision was made. Events had proved again that the advice of Daniel Burnham, the creator of the Chicago Plan, was sound when he said: "Make no small plans, for they have no magic to stir men's blood."

In proposing the gift, Mrs. Ward made clear the reasoning that led to her decision:

It seems to me that a memorial should contain the following elements: It must be a visible thing that adds something to the values of a city. It must be enduring. It must be useful to humanity.

The urban campus of Northwestern University offers opportunities particularly appropriate for the memorial which I have in mind. The proposed style of architecture is fitting, and sufficiently impressive to stand out even among all the buildings overlooking the Lake. Chicago is destined to become a great city, including in its greatness permanent centers for all forms of philanthropic and educational institutions. Endowed universities seem to me to be the most enduring of all human institutions, and Northwestern University, by its location and by its history, seems destined to endure.

I am led to believe that the ideal of service dominates the various schools of Northwestern University. I have selected as a memorial the Medical Center because of its commanding site overlooking the Lake, because it will render a large measure of service to humanity, and because it will be as enduring as any memorial that can be devised.

This initial gift stipulated that \$2,500,000 should be used for the building and its equipment, whereas \$500,000 should be set aside as endowment for maintenance. A month later, 300 diners gathered to do homage to Mrs. Ward and give her thanks. The tables were turned on the hosts when it was announced that she had decided that more money would be necessary to provide adequate facilities and had, therefore, transferred to President Scott another million

dollars. The securities representing both gifts actually realized \$4,234,000. This was the largest benefaction in the history of Chicago that had been made in the lifetime of a donor. In accepting the gifts, the Trustees ordered that the building should be officially designated the "Montgomery Ward Memorial," and promised that the new medical center would conduct activities in the three categories that Mrs. Ward had specified: first, *individual*, by imparting knowledge to students; second, *humanitarian*, by advancing the frontiers of knowledge, and by improving the prevention and treatment of disease; and third, *civic*, by rendering community health-service.

In this manner, provision for a medical building and its equipment was well taken care of by the beginning of 1924, but there still remained the problem of how to support the enlarged activities that should be made commensurate with the physical plant. For some fifteen years the University had been absorbing operational deficits incurred by the Medical School, and these had become onerous (\$68,700 in 1926). Only endowment offered a satisfactory long-term solution. Happily, the administrative viewpoint had changed since the time of President Harris, who held that medical endowment was justified only insofar as the strictly scientific instruction and laboratory facilities resembled those furnished by the College of Liberal Arts!

In March, 1926, when the construction of the Ward Memorial was well advanced, came the surprise announcement that Mrs. Ward had matched her previous gifts to the medical center, and this time for the support of improved teaching and research. A letter from her financial counselor to the University read:

In order that her gift may yield the fullest measure of service, Mrs. Ward has instructed me to give to you securities approximating \$4,000,000 in value for the purpose of enabling you to obtain the highest quality of personnel for the instruction and research staff of your medical and dental schools, permitting them to attain the highest standards.

The tremendous import of this benefaction for the immediate productive operation of her memorial vision cannot be overestimated. It was decided that the share of the income from this principal allocated to the Medical School should be eighty per cent. Some

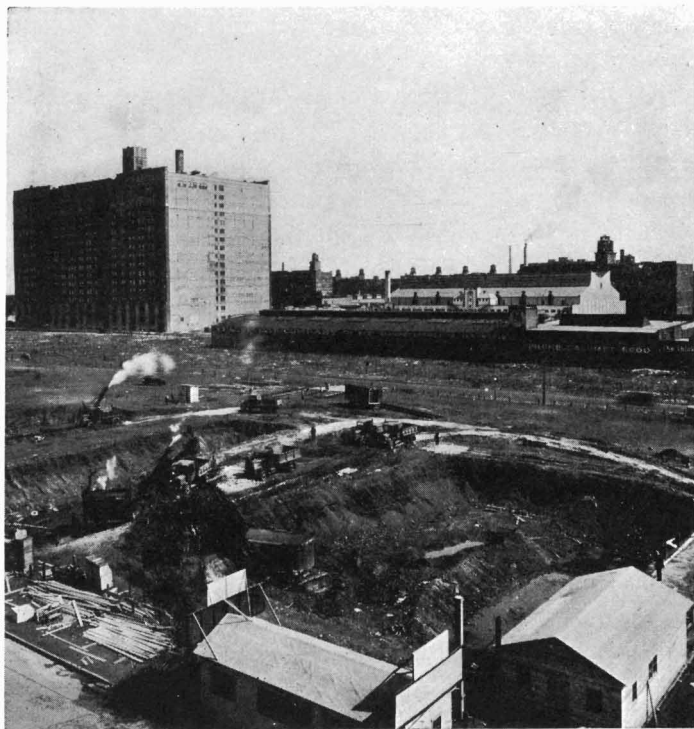
other endowments were received in the period focusing on a "Greater Northwestern." These, and later gifts, will be described in the following chapter.

A FOURTH BUILDING PROJECT

With money for a building in hand, the Faculty turned to the problem of how to spend it to the best advantage. Several basic facts had to be learned at the outset. A beautiful building of stone is costly. The foundations of a tall building that has to find support on hard pan, many feet underground, take a sizable cut from the total sum available for the project. The money then assigned for the building proper buys a fixed number of cubic feet of construction, and only shape can thereafter be altered. It soon became clear that the net space, outside that of service areas, would be much less than was originally imagined, and that the Dental School was demanding far more spacious accommodations than had been anticipated. So at the very outset there were hard problems to face.

The original concept of a medical center, in the minds of both Dean Kendall and Charles H. Thorne (Mrs. Ward's counselor, who had been delegated by her to discover a project suitable for benefaction), definitely excluded any participation by the Dental School. Subsequently, and without Dr. Kendall's knowledge, the Dental School became included as a beneficiary through the intervention and urging of President Scott, who had been a participant in the earlier conference. The President naturally felt responsible for seeing all of the professional schools transferred to the new campus. The line of reasoning ran: since the amount made available for a building was two and one-half times the total sums originally set as the goals of both Schools, why not get both Schools under cover?

The Dental Dean was an aggressive person, close to the administration, who at one stage submitted his resignation to enforce a demand. And so he straightway chose numerous floors and drew plans to stake out the space he proposed to appropriate. By contrast, just as the serious planning for the new building was about to begin, the Medical School found itself handicapped through its deanship becoming vacated by resignation in June, 1924. Worse



Beginning excavations for the Ward Building; May, 1925.

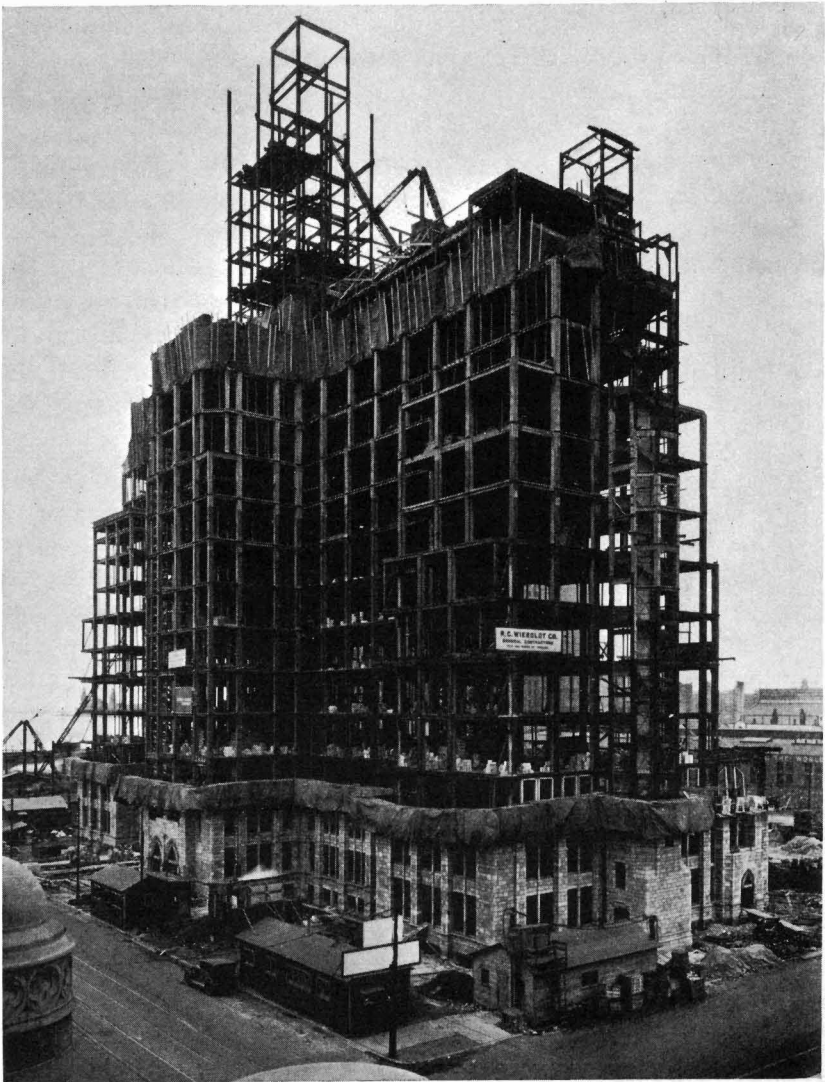
still, although Dr. Cutter was selected in January, 1925, as the next Dean, he could not assume duty until July of that year.

As planning for the Medical School gathered impetus, the new Dean at once found it necessary to make trips from Omaha to Chicago to secure what seemed like a more equable allocation of space, and in this he was successful to a degree. The argument of Dean Black was that whatever accommodations the Dental School obtained then for basic instruction, research and clinics, would be all that could be foreseen ever, whereas the Medical School would surely acquire hospitals and other buildings as time went on. The Medical School, for its part, felt that wholly too much space was being pre-empted for a small segment of the total activities of a Medical Center; it reduced to the claim of teeth against the rest of the body. In reviewing the plans of the Dental School, it was difficult to see the justification for blocks of space marked "Tooth-

brush Drills” and the like. In the end, with the removal of the University offices for business and administration years later, the Medical School obtained the basement, floors 1-7 and 14, and the tower. In 1945 the lowest floor of the tower was extended to become the fifteenth floor of the main building.

A comprehensive survey of each School of the University was conducted in 1924-25, by a largely external committee, in order to define primary objectives, to ascertain how well these goals were being achieved, and to recommend what was needed to accomplish the desired results. The several reports were doubtless highly informative to the President and Trustees, and afforded them a more sympathetic understanding of aims and performance. From the viewpoint of the Medical Faculty the findings and recommendations were rather obvious, trivial or both of these. The heralded, presumptive value of the survey in planning for a new building, and operating within it, proved to be slight indeed.

Floor plans were “completed” in the spring of 1925 in order to meet a time-schedule that called for occupation for the 1926-27 session. More deliberate planning would have been advantageous and, in the end, saved money as well. Ground breaking for five buildings and the dedication of the Campus itself were celebrated in elaborate ceremonies on May 8, 1925. This particular day was chosen because it was the seventy-fifth anniversary of the founding of Northwestern University by a small group of men, assembled in a law office less than a mile from the new campus site. The ceremonies were designed primarily to honor the donors who had made possible the consummation of a major stage of the Chicago share of the Greater Northwestern plan. A parade of purple-draped cars and buses, bringing faculties and students from Evanston, joined similar groups from the Chicago professional schools. Officials of the University, prominent alumni, civic dignitaries and leaders in various civic affairs gathered to give formal recognition to this addition to the life and beauty of Chicago. An impressive ritual was employed in the dedicatory and groundbreaking ceremonies. As soon as the spade of each donor turned the sod, monster steam shovels began the excavation in earnest. The Northwestern Band and the A Capella Choir had already contributed more formal music. A reporter for the *Chicago Tribune* wrote lyrically:



The Ward Building, rising in steel and stone.

Silver spades gleaming in the sunlight against the new black earth, purple robes and mortar boards of collegiate rank invading the downtown district, youth trailing at the heels of a group of elderly millionaires planting the seeds of a future civilization, and on the wings of song the chant of *Quaecumque Sunt Vera*.

It was, beyond contradiction, a momentous occasion.

Construction proceeded rapidly, and the impressive grouping of all of the new buildings, designed in a modified Gothic style under the direction of James Gamble Rogers, soon became evident. The cornerstone laying, set for June 11, 1926, found the buildings so far advanced that their obvious magnitude and dignity added much to the effect of the occasion. Five hundred of the Faculty, trustees, alumni, students and friends attended a luncheon; a quick decision had transferred the principal addresses there because of a down-pour of rain. Soon, however, the skies cleared and a colorful academic parade led the way to the nascent campus. Here the cornerstone of each building was laid, employing an elegantly conceived, special ritual. For each cornerstone a metal strong-box had been prepared in which were deposited: a biography of the donor; a copy of the program and addresses of the day; a copy of the *Alumni News* containing pertinent historical material; a copy of *The Story of Northwestern University*; and lists of all professors through the years, all alumni, and present students. All of these documents had been treated chemically so as to ensure permanency. Aware of the significance of this event, the *Chicago Tribune* reported as follows:

Northwestern University realized the work and the dreams of a quarter of a century yesterday only to see a new goal ahead . . . Four cornerstones were laid under the towers of the collegiate gothic structures that have already made a new skyline near Chicago Avenue and the lake . . . Such a scene and such a purpose probably was never in the minds of the nine lawyers, clergymen and business men who met in Grant Goodrich's office over the hardware store in Chicago's town square 75 years ago to start an institution for sanctified learning and a literary University. The wholesale cornerstone ceremony was carried out amid an appropriate setting of academic dignity, student parade and civic interest. . . .

In the brass cornerstone box Mrs. Ward placed these words: "Within this box my hands have placed as a sacred trust and as a tender memorial a brief account of the life of my beloved husband, Montgomery Ward, in whose memory this building is erected. His life was founded upon integrity, and he, being dead, still serveth the community which he loved. May this building stand from generation to generation as a symbol of faith, of hope and of love."

The beginning of the 1926-27 school year in September, saw the Ward Building occupied and awaiting classes. It was a beautiful, but functional, edifice of fourteen stories, surmounted by an ornate, six-storied tower. Construction and furnishings had cost \$3,373,000. The building faced northward on Chicago Avenue, leaving room toward Superior Street for future developments. The basic construction was of concrete on a steel framework; the exterior was of gray Indiana limestone, exquisitely carved at the doorways, above the central windows and in the pinnacles of the tower. The group of buildings on the new Campus drew citations from two architectural juries.

This impressive building, with its new equipment and pleasant surroundings, contrasted sharply against the accommodations left behind. Yet such is the nature of modern construction that the relatively fresh appearance of the Ward Building has been maintained through fifty-odd years of hard use. This is in sharp contrast to the 33-years occupancy of the Dearborn Street buildings, whose interiors of wood and plaster had come to seem so time-worn and dingy. When the school year began in the new building, Dean Cutter reported: "There was a lot of suppressed excitement and a show of real enthusiasm by the members of both classes when they were first assembled this morning, but no display of undue exuberance."

At the conclusion of the first academic year on the new campus, three days (June 15-17, 1927) were devoted to the dedication of the Montgomery Ward Memorial Building, in conjunction with dedications of the other buildings. Throughout the entire week alumni clinics were conducted in all Departments of the School; programs of scientific papers were also presented. On June 15 occurred the formal dedication of the Archibald Church Library. A bronze bas-relief of Dr. Church was unveiled, as were portraits of Founders and distinguished, former faculty members; in the evening there was an Alumni Dinner. On June 16 dedications of the Frederick Robert Zeit Museum of Pathology and of the James A. Patten Research Laboratories were observed, as was also the formal installation of incumbents into professorial chairs of Physiology and Anatomy, endowed in honor of two early teachers — Nathan Smith Davis and Robert Laughlin Rea. In the evening of the same day a Dedication Convocation took place in the John B. Murphy Memorial Auditorium.



The Montgomery Ward Memorial Building, completed in 1926.

Additionally, June 17 was reserved to solemnize a general dedication of the Campus. Throughout the day various dedicatory exercises were conducted in the new buildings, broken by a largely attended general luncheon. In the evening, after the President's Dinner, an academic procession moved to the Fourth Presbyterian Church, where a special Convocation was held, featured by the con-

ferring of numerous honorary degrees in the fields of Medicine, Law, Dentistry and Commerce.

Shortly after the dedicatory observances, the President of the Board of Trustees made known plans for the erection of new hospitals "that would make Northwestern University and the City of Chicago the greatest medical center in the country." These were to cost approximately \$20,000,000, and at least three of them were scheduled to be completed within five to ten years. The five were designated as follows:

- a 300-bed general hospital; including a training school for nurses;
- a 200-bed maternity hospital;
- a 125-bed children's hospital;
- a hospital for industrial injuries.

None of these projected developments came to early fruition, owing in part to a catastrophic national depression and World War II.

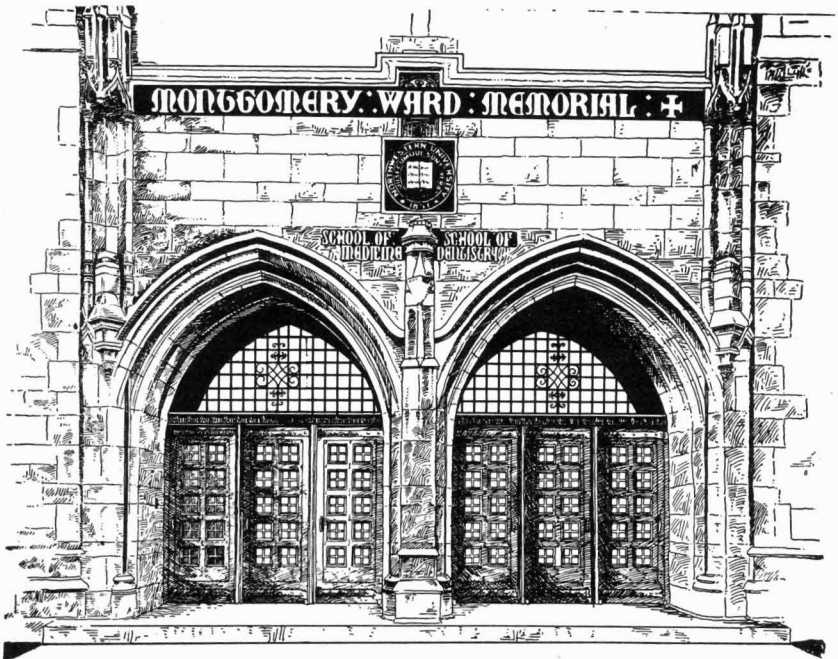
Six weeks later, a tragic happening followed on these jubilations. Mrs. Ward, returning from a winter in California, was driven from the railroad station to the Campus to see, for the first time, the completed Ward Memorial Building. It was not opportune for her to enter the building on that occasion. From the Campus she was driven home, where she was taken ill that night and died the next morning. The Board of Trustees recorded a resolution which read, in part:

The gracious gentlewoman, who gave so generously that medical science be advanced and that humanity might be served, is gone from us but lives in our affectionate remembrance and grateful appreciation.

She was lovely in her type. Her splendid benefaction and the influence of her example will ever make for whatever things are true and good.

Because her gift was so splendid, it is doubly tragic that she should not have lived to see its full unfolding. The Ward Memorial Building and the work now going on in that building, made possible by her vision in behalf of the suffering, are the memorial which she created for her husband and in which she will live with him.

Flanking the main doors to the Ward Building are two recessed, chiseled inscriptions that cannot be bettered as guiding principles for the investigator, teacher or medical practitioner. The one at the right of the entrance is from William Harvey: "I profess both to teach and to learn from the fabric of Nature." The one at the left of the entrance is the sublime declaration of Hippocrates: "With purity and holiness I will pass my life and practice my profession."



Main entrance to the Ward Building.

ADDITIONAL LAND

Of the five habitations of the Medical School, only three of them sat on land that was owned by the School or University. And only the last is extant. The first was loaned rooms in the Lind Block, located in the central business district and a chance survivor of the Great Fire of 1871. With the years only one of the three original units remained, and this was the part at the northwest corner of Ran-



The Hippocratic inscription, left of the main entrance to the Ward Building (woodcut by Krieg).

dolph Street and Wacker Drive that housed the infant School. It became a casualty to civic progress in 1962. The second home and land, on South Michigan Avenue, were victims of street widening, and the third building was sold to Mercy Hospital and soon

demolished. The fourth property, on Dearborn Street, was evacuated in 1926 and purchased by the adjacent Wesley Hospital for \$100,000 to insure against encroachment by some undesirable buyer. Since the empty buildings constituted a fire hazard, they were razed.

It soon became clear that the original Chicago Campus should be increased by land purchases necessary to the long-term expansion of a medical center. Of primary importance was the "Newberry Library tract," a half-block strip facing Huron Street and extending from Fairbanks Court to Lake Shore Drive. This tract, abutting the half-block already owned, was bought in 1928 for \$2,185,000. Its cost was fifty per cent more than that paid for the total original campus site, but such were the skyrocketing prices over a period of eight years in a region then made desirable by the completion of the Michigan Avenue bridge in 1920. Next, a two-stage purchase obtained control of the entire block just south of the Newberry tract and Huron Street. It was sold, at cost to the Federal Government as a site for the Veterans Administration Research (now Lakeside) Hospital.

Still later, in 1952, the block just west of the Veterans Hospital was obtained for \$2,000,000. A gift from Robert R. McCormick supplied two tracts of land, directly north of Lake Shore Park, valued at \$1,000,000; the larger property is now leased to the American Hospital Association. Another McCormick gift was a plot south of the Veterans Hospital. In 1973 the City of Chicago sold to the University the block south of Wesley Hospital that contained two municipal garages and an open parking facility; the cost was \$7,300,000. In 1974 the University bought for \$1,400,000, the land and building west of Wesley Hospital that originally was the headquarters of the American Dental Association. In 1977 the land and building (p. 231), located at 850 Lake Shore Drive and used by the Lake Shore Club was acquired for \$7,500,000.

Through all of these purchases the expanse of land now comprising the total Chicago Campus, and related to University purposes, totals some 25 acres.

SUPPLEMENTARY BUILDINGS

The erection of the George R. Thorne Hall, with its Thorne Auditorium and other rooms, was deferred until the accumulated income would make possible a building best fitted for its purposes. When the original gift of \$250,000 had grown to \$320,000 the construction proceeded and the edifice was dedicated in October, 1932. Its employment for special lectures, large classes, convocations, scientific meetings, and dramatic and musical presentations has made it an indispensable adjunct of effective campus life. This handsome and functional building faces the Lake, near the northwest corner of Superior Street and Lake Shore Drive. Relatively low, like the Law quadrangle, it contributes to the effect of increasing mass and height in a campus group that culminates in the Ward Building and the affiliated hospitals. The total, staggered composition, as viewed from the Drive, is both imposing and satisfying.

The problem of housing for students became an increasingly pressing one on the Near North Side. At first, off-campus fraternity housing took care of many, but these groups found it difficult to operate successfully as business encroached and old mansions were razed. The estate of Dr. and Mrs. Wallace C. Abbott, founders of the Abbott Laboratories, yielded most of the \$1,750,000 that was assigned to build a student dormitory named "Abbott Hall." The twenty-story building, bordering on Lake Shore Drive and facing Superior Street, was completed in 1940. It was constructed of steel, concrete and limestone, like all others in the earlier campus community. Even though of modern lines, it bore the dignity and external impressiveness of a private club. The basement contained recreational facilities. Sixteen floors, each with a lounge, housed 750 students, while the two top floors were given over to apartments. Soon fraternity groups of the various professional schools took blocks of space in the Hall; also after indefensible delay, women were grudgingly admitted to residence as well, but for a time these segregated floors were overseen by a nocturnal chaperone. Always an excellent money-maker, the Hall not only paid guaranteed interest on the Abbott fund, but also paid off indebtedness on some campus land-acquisitions and even repaid the principal advanced from the Abbott bequest.

A further building project of the University underwent a metamorphosis between conception and construction. In 1940



Abbott Hall, erected in 1940 as a student dormitory.

Mrs. Margaret G. Morton gave \$1,800,000 for the erection and endowment of a hospital in memory of her husband, Joy Morton, founder for the Morton Salt Company. A neurosurgical hospital was proposed but restrictions on building during the War period prevented the immediate execution of her wish, and afterward the runaway costs became prohibitive. With the consent of heirs and the Court, it was finally decided to erect a building devoted primarily to research. This seven-storied Morton Medical Research Building articulates with the south wing of the Montgomery Ward Memorial. Dedicated in September, 1955, it constituted the first new medical facility to be erected by the University since the completion of the Ward Building in 1926. In the fifteen years since the gift was received, the accumulated capital had become \$2,700,000.

The cost of construction and equipment was \$1,280,000, whereas the remainder of the fund serves as endowment. With the passage of years and the erection of the Searle Building, the original purpose and allocation of space have changed somewhat. The Morton Building marked the end of construction in costly limestone on the Chicago Campus.

New buildings which came to be added to the original group, the expanding hospitals, and the obsolescence of equipment after thirty years' use made it necessary to augment the central heating service, originally located in Wieboldt Hall. This was done by erecting a separate plant in 1960, located west of Abbott Hall and costing \$2,600,000. Since the smoke stack abuts on Abbott Hall, this quali-



Research Buildings. At front, Morton (1955); at rear, Searle (1965).



Lake Shore Center, purchased 1977.

fies the building as an extension of the Hall, and thus circumvents the zoning restriction against separate heating units in this area.

In May, 1965, a fifteen-story building was dedicated and named for John D. Searle, Chairman of the Board of Trustees of Northwestern University, who was the principal private donor. Designed primarily for research, its cost was \$9,300,000. It extends from the east wing of the Ward Building to Superior Street, and also connects with the east wing of the Morton Building. The exterior walls are in general conformity with older buildings on the campus, yet it tends somewhat to more modern design. The first floor serves as an extension to the Archibald Church Library, the fifth and seventh floors are given over to student laboratories designed as multi-disciplinary units for the basic sciences (p. 252), while the two top floors provide facilities for animal care.

A 2,200-car garage, costing \$5,300,000, was completed in 1973 on the westerly one-third of the University-owned block located due west of the Veterans Hospital. This construction was imposed by the City of Chicago, since the sale to the University of its block directly across Huron Street to the north would eventuate in the destruction of municipal garages situated on that land.

In 1974, at a cost of \$1,400,000, the University purchased the land and six-story building, located west of Wesley Pavilion on Superior Street, that originally served as the headquarters of the American Dental Association. This renovated property (photo, p. 390) is occupied by the Northwestern University Medical Associates who use it as an ambulatory-care facility for private patients and for others who formerly sought the outpatient clinics of the Medical School.

In the more recent years the adequate housing of students and others living on and about the Chicago Campus became an increasingly urgent need. This challenge was met on August 28, 1977 by the purchase, for \$7,500,000, of the land and eighteen-story building then occupied by the Lake Shore Club at 850 Lake Shore Drive. In this way the renamed Lake Shore Center provides 441 living units with bath, as well as excellent athletic facilities that include a swimming pool.

Most recent is an eight-story Health Sciences Building, to be completed in July, 1979. It was erected at a cost of \$42,000,000 on previously purchased land across-streets from the Wesley and Passavant Pavilions. As a hospital adjunct it has been named the Walter E. Olson Pavilion and houses the following: all operating and recovery rooms; intensive care; emergency services and in-patient radiology. The top floor is occupied by the Cancer Center, while the basement and first two floors contain the several clinics of the Dental School. The transfer of the Dental Clinics from the Ward Building, and the previous closure of the Medical Clinics, left five floors in that building available for other purposes.

Following the removal of the School of Commerce to the Evanston Campus, where it became the School of Business Management, the Medical School has benefited by obtaining additional office space in Wieboldt Hall, and also larger class rooms to accommodate the expanded freshman and sophomore enrollments.

A comparison of costs in a fifty-year span is arresting. The



Health Sciences Building; erected 1979.

twenty-story Ward Building, built in steel and stone, cost (when equipped) \$3,373,000. The eight-story Health Sciences Building, constructed in steel and fabricated blocks, cost \$106,000,000, when furnished. But astoundingly cheap in comparison is the Liverpool Cathedral, just finished in England. Built handsomely in stone, and next in size to St. Peters in Rome, it cost only \$11,000,000!

As time passed, medical administration became increasingly complex and scientific departments expanded and entered into newer kinds of research. These and other needs for adjustments to current pressures have forced many changes in spatial locations that once seemed so definitive in the Ward and Morton Buildings. Yet such changes had been foreseen from the time of initial plannings, and so walls of hollow tile were installed to facilitate remodelings.

The need of teaching hospitals on the Chicago Campus led to the erection of Passavant Memorial Hospital (1929), Wesley Memorial Hospital (1941) and the Veterans Administration Research (now Lakeside) Hospital (1954). Still later came the Rehabilitation Hospital (1974), the Prentice Women's Hospital and Maternity Center (1975) and an Institute of Psychiatry (1975). These and other associated hospitals are treated in detail in Chapter XIV.

X

MATURITY ATTAINED

(1926-1979)

The half century following the mid-Twenties was one in which remarkable advances were made in the physical plant of the University, in its endowment, in its educational offerings and in its scholarly productivity. Steadily increasing strength permitted it to assume a place in the top rank of well-rounded educational institutions of the country. Today the various schools and centers of the University occupy land and 179 buildings valued at \$219,700,000; the living alumni number about 150,000. Enrollment grew from 6,700 in 1920 to 18,700 in 1976. In the same time span the full-time faculties increased from 370 teachers to 1309, the annual expenditures from \$1,398,000 to \$130,842,000 and the endowment from \$5,625,000 to \$247,128,000. Midway of the 1926-79 period a comprehensive survey of the entire University was made for the first time. It proved to be helpful in guiding the needed organizational adjustments that would enable the University to achieve its goals more effectively.

It was during the presidency of Walter Dill Scott, whose term of office (1920-39) was much longer than that of any predecessor, that this rapid expansion and enrichment of the University began. It marked the primary waking-time in the arousal of a comparatively dormant Northwestern into an institution that advanced materially and scholastically, and made a move toward eminence. Previously national prestige had rested primarily on the reputations of its off-campus Schools of Medicine, Law and Dentistry, as had been particularly true for Law and Medicine elsewhere about the country in the early Twentieth Century. But also during the Scott regime came a serious setback, brought on by the great national depression of the Thirties and shared, in common, with other institutions of learning. An initial decrease in attendance in the years 1930-32 necessitated a

serious retrenchment in the budget and entailed two successive salary cuts of ten per cent throughout the University. A partial restoration in salaries was made after six years, but deficits continued until 1939, even though radical economies were practiced.

A major problem, related to the material losses brought on by the economic depression and aggravated by the concern of some for the future, caused much discussion in the year 1933-34. President Hutchins, of the University of Chicago, proposed an amalgamation of the of the two institutions in such a manner that the strong points of each might be utilized and a large annual saving effected. This would result, he asserted, in the creation of a completely developed university without equal in the country. Both President Scott and some influential trustees became ardent advocates of the plan, whereas legal opinion differed as to the possible loss of Northwestern's unique tax-immune basis. Press reports and inaccurate rumors produced misunderstandings, and heated discussions continued unabated. In time it became evident that the majority of the Northwestern Schools were decidedly against such a merger, as were the alumni, and that sufficient support could not be obtained from the Board of Trustees. Accordingly, the proposed union was laid aside, the only direct profit being that, by self-examination and appraisal, much had been learned about the University. In addition, all Schools became more conscious of their interdependence, while the alumni and public became more appreciative of Northwestern than ever before.

Leading the opposition against the abortive proposal of merger were the Medical School and the Graduate School, both of which had vital interests at stake. Any suspicion of lethargy on such basic matters was dispelled as the negotiations toward union served to generate intense heat among the medical alumni, faculty and students. The latter even organized a parade of protest, and promoted a mass meeting in Thorne Hall, with prominent speakers. As prosperity returned and the passage of time added perspective, even the most rabid proponents of the union must have acknowledged that the proposal was fundamentally unwise.

On the retirement of President Scott, in 1939, Franklyn B. Snyder, Dean of Faculties, became the eleventh President and he, in turn, was followed by Dr. J. Roscoe Miller who advanced from the deanship of the Medical School in 1949. Twenty years later Dr. Miller was elevated to the new post of Chancellor and was suc-

ceeded by Professor Robert H. Strotz as the thirteenth President.

It was during the Snyder-Miller administrations that the University, as a whole, underwent a meteoric rise in campus-acreage, buildings and endowments; in parallel came the upgrading of faculties, graduate studies and research. At last it gained an enviable position among the premier educational institutions in the Western World. This was attested by a 1969 report of the American Educational Council which ranked the top twenty private universities on the basis of their nonprofessional departments. Northwestern was placed in the eleventh position — a rating that the University Administration felt was somewhat too low. In the number of nonprofessional doctorates conferred, the Northwestern standing was tenth; the average faculty salary paid was seventh highest. The faculty-student ratio had been reduced to the excellent ratio of 1:7.5.

The annual salary for full professors in the University rose from \$7825 in 1949 to \$30,000 (nonclinical) in 1979. The average salary scale for teachers led the Big Ten university group in 1961, and was among the top nine nationally; sixteen years later it still remained in the top eleven nationally.

The approaching Centennial, in 1951, of the founding of the University was anticipated, fifteen years before the event, by the presentation of a program embracing physical improvements, endowment increase and academic strengthening that was calculated to stir the imaginations of all. This Century Plan was so organized as to start with annual subscriptions, and to attain a climax of fundraising in 1951. The campaign was a success, and from it \$389,000 was earmarked for the library of the Medical School. Gifts during the period of the campaign totaled \$17,904,000. The concluding convocation of the University honored 100 men and women, selected for their distinguished services to society while residing in the six-state area, once known as the Northwest Territory, from which the University took its name. Another Centennial — that of the One-Hundredth Commencement — was celebrated in 1958. It was featured by the attendance of the presidents of sixteen similar, private universities belonging to the Association of American Universities.

A major advance in educational offerings marked this total period of expansion within the University. In addition to the locational moves of Medicine, Dentistry and Law, the evening

classes in Commerce and Journalism were at once transferred from their site in the business center of Chicago to the new campus. A further innovation was made in 1928 when evening classes in the liberal arts were begun, followed by classes in science, speech, music and education. All of these studies, combined under one administration, came to be called the University College, then the Evening Divisions and, recently, the Division of Continuing Education. Such offerings constituted the oldest and largest program of evening study in the Chicago area. After many years the Schools of Journalism (1970) and Commerce (1972) moved to the Evanston Campus, whereupon the latter became the Graduate School of Management.

In 1962 an important solution to pressures for physical expansion of the Evanston Campus began by making an extensive land-fill into Lake Michigan. It added 84 acres (from 152 acre-rights purchased), enclosing a lagoon. This expansion was completed in 1964 at a cost of \$8,000,000, much less than would have been expended in the purchase of existing land. It became named the James Roscoe Miller Campus, after the then President and former Dean of the Medical School. Needed buildings promptly arose on it, as well as on the older campus, yet there is still ample room for future developments. Along with these advances went a successful campaign for \$180,000,000.

The growth and strengthening of the University can be seen in a tabulation covering the period since the Medical School became an integral part of the University by virtue of its complete absorption:

	1906	1926	1958	1976
Enrollment	2,560	10,433	22,742	18,697
Income	\$ 560,800	\$ 2,699,900	\$ 25,248,600	\$131,128,000
Endowment	\$4,120,200	\$14,138,700	\$100,988,700	\$247,128,000*
Plant Value	\$3,626,300	\$ 4,067,300	\$ 53,568,600	\$219,700,000

*This figure represents a value in a period of financial recession.

Within a century Cook County, Illinois, had twice tried unsuccessfully to tax the noneducational properties of Northwestern University (p. 284). A new attempt, using a 1969 amendment to an earlier Revenue Act, now sought to impose a use-tax on lessees of University property. This indirect taxation was finally upheld by the Supreme Courts of Illinois and the United States (p. 285).

Northwestern's ties with the Methodist Church became tenuous with the years, and long served no useful purpose. In 1972 Church representation on the Board of Trustees became vacant by default, and in 1974 the national office of the United Methodist Church agreed to remove Northwestern University from its list of members.

GENERAL EVENTS

Despite enlarged faculties, enhanced finances, better physical conditions, improved clinical teaching and intensified research, the first half of the 1926-79 period in the history of the Medical School seems, in retrospect, less dramatic than the more recent years. This may be because fundamental innovations had already been introduced and numerous basic problems had been conquered, so that the School entered into a state of relative maturity through the fulfillment of a modest dream. But also significant progress had suffered from the interruption by World War II. In general, the first 25 years was a period marked by the rounding out of programs already in use, by expansions in many directions that could not have been afforded earlier, and by the making of adjustments in keeping with the march of progress. On the other hand, the succeeding years of the total period became noteworthy through another wave of eye-catching advances — material, scholastic and innovative.

Consideration of plans for merging Northwestern's Medical School with Rush Medical College recurred through the years. One early exploratory interchange of letters has already been recounted (p. 61). Again, in 1916, there was sufficient basis to have reached the consideration of the Trustees of the University, and to have called forth some strong opinions from the Medical Faculty. In 1937 Rush, on the verge of being abandoned by the University of Chicago, suggested severing its relationship with that institution and becoming a part of Northwestern University. After considerable investigation of the problems involved, but without consulting the Medical Council as to points of fact, President Scott and Vice-President Snyder advised the Trustees that an affiliation would be unwise because of the prospect of Rush becoming a drain on the all too meager resources available for the support of a

clinical program. These negotiations did not gain publicity, so there was no general agitation or concern.

World War II affected the Medical School markedly in comparison to a transient, though turbulent, involvement in the previous War. The School contributed directly to the war-effort by staffing four hospital units, and in so doing the Clinical Faculty became badly depleted. Students were enlisted in the two Armed Services, though permitted to continue their medical training. Their chief sacrifice was related to an educational loss owing to the absence of 170 members of the Faculty. A more detailed summary of our involvements during this period is given in Chapter XI.

The general observance of the centennial year of the University (1951) has been mentioned (p. 236). Cultural contributions to the celebration were made by the Medical School. These culminated in a Centennial Conference, lasting two days, in which *Problems of an Aging Population* were discussed by numerous experts in the social and biological sciences, and also by outstanding leaders from government, industry and labor.

Eight years later the one-hundredth anniversary of the Medical School was also celebrated appropriately. The morning of September 29, 1959, was given over to a Centennial Convocation, featuring the conferring of the Doctor of Science degree on eight distinguished medical leaders in the nation.* The afternoon was devoted to a Colloquium of Medical Sciences. An Awards Dinner included the giving of Merit Awards to twenty prominent medical alumni,† and Service Awards to eleven of the Departmental Chairmen of the Medical School.‡

A further centennial observance occurred at the annual Alumni Reunion Dinner, one feature of which was a display of a just-released, historical treatise on the Medical School. This book was entitled *Northwestern University Medical School, 1859-1959*, and bore the subtitle, "A pioneer in educational reform." It comprised the sole comprehensive historical narrative on the Medical School; the author was Leslie B. Arey, Emeritus Professor of Anatomy. Twenty years later, a thorough revision and extension provided the present rethought and updated account under a slightly modified title.

The erection or purchase of nine buildings, other than hospitals, in this period has been treated in the preceding chapter on Campus

development. Similarly, accounts of seven teaching hospital facilities, added to the Campus, are given in Chapter XIV. The establishment of the McGaw Medical Center is described on p. 244 *ff.*

*Charles Herbert Best; Horace Winchell Magoun; Irvine McQuarrie; Joe Vincent Meigs; Isadore Schwaner Ravdin; William S. Tillitt; Shields Warren; and Conrad A. Elvehjem.

†C. Knight Aldrich, '40; Robert A. Aldrich, '44; Franklin L. Ashley, '41; John R. Brobeck, Ph.D., '39; Sam L. Clark, M.S., '24; Robert P. Knight, '33; Joseph J. McDonald, '40; Chester B. McVay, '37; Walter J. Nungester, '43; John I. Nurnberger, '43; James L. Orbison, '44; Ben L. Peckham, '42; Charles A. Poindexter, '30; George N. Raines, '31; Rulon W. Rawson, '38; Bronson S. Ray, '29; Duncan E. Reid, '32; Randall G. Sprague, '35; Thomas H. Sternberg, '34; Frank E. Stinchfield, '35.

‡Leslie B. Arey; Howard C. Ballanger; James T. Case; Alexander A. Day; Chester J. Farmer; Edward L. Jenkinson; Philip Lewin; Paul B. Magnuson; Lewis J. Pollock; James P. Simonds; Arthur W. Stillians.

The year 1974 marked the beginning of an end to the traditional outpatient clinics as conducted since the founding of the School, and always largely on a volunteer basis by unpaid members of the Faculty. This adjunct-service became progressively less used for teaching purposes as the clinical-clerkship programs advanced into dominant, favored positions. And so, within a few years, the Medical Clinics passed through obsolescence to abandonment. The colorful history of this 'dispensary service' is included in Chapter XIV.

Novel in the University Administration was the appointment of a Vice-President for Health Sciences in 1970. This office was designed to provide a link between the two campuses on health matters, to act as a mediator in issues involving more than one School, and be concerned with educational affairs pertaining to Medicine, Dentistry and Nursing. Following two appointments the post became vacant, and resumption awaits administrative policy.

ADMINISTRATIVE AFFAIRS

Officialdom

In an interim (1924-25) following Dean Kendall's departure, Dr. James P. Simonds, Chairman of the Division of Pathology, served as Acting Dean, as he did again for half of the year 1933, when the new Dean was ill and away. The first Dean in the 1926-79 period, Dr. Irving S. Cutter, had the good fortune to come to office at a time when he could direct the planning and shaping of a medical school that was about to inhabit far better quarters and to acquire greatly improved financial backing. As a vigorous leader he boldly set about to upgrade and expand all aspects of organization and operation. On retiring in 1941 he was succeeded by Dr. J. Roscoe Miller, who had been serving as an Assistant Dean. The disruptions of World War II, followed by his selection as President of the University in 1949, prevented the young Dean from carrying out most of his plans for reorganization and revitalization. During the war-period, when Dean Miller was absent in naval service, came an interim that was filled by Acting Dean George H. Gardner, Chairman of the Department of Obstetrics and Gynecology.

On Dean Miller's elevation to the Presidency in 1949, Dr. Richard H. Young was appointed to the vacated post. Ill health forced him to retire in 1970, after a span of 21 years. Only Nathan Smith Davis held the title longer (28 years). During Dean Young's administration there was material expansion, curricular revision and the emergence of Medical-Center organization. The current Dean is Dr. James E. Eckenhoff, previously organizer and first Chairman of the Department of Anesthesia (1966), whose vigorous leadership has brought the School to a new level of performance.

It is interesting to note that of the ten leaders of the Medical School in the 120 years of its existence, eight were chosen from the specialty of internal medicine, and that only one was from outside the clinical fields. Of this group of ten, seven were either founders or graduates of the School. Biographical sketches of all Deans can be found in Chapter XVI.

Until the middle of Dean Cutter's term of office there was no official subdivision or delegation of internal authority. But, in 1933,

he introduced an innovation by appointing two from his faculty to act respectively, first as Assistants to the Dean and later as Assistant Deans in relation to the preclinical and the clinical years. This apportioning of authority has expanded until now there are thirteen individuals (including eight associate deans) in charge of administrative activities. In the upgrading, the category of Assistant Dean lost representation.

Another feature that increased with the years was the rise of committee organization, one of which now largely takes over the powers specifically assigned by the University statutes to the Medical Council. Currently there are sixteen committees. Most powerful is the Council of Chairmen, created on the advice of an *ad hoc* Committee on Reorganization (1970) to replace an existing Educational Policy Committee. Containing also some members of the general faculty, it is an advisory body that co-operates with the Dean in establishing policy and handling educational issues. It is, in effect a powerful Executive Committee. As a result, the Medical Council (p. 140), supreme by University Statute, has to a large extent become a body acting solely on faculty promotions and new appointments. But dominant power still resides legally and latently in it.

In 1974 the Alumni Association organized an Alumni Board of Counselors, chosen from thirteen geographical areas of the Nation. The aim is to give experienced alumni an active role in the review, appraisal and determination of educational policy. They meet annually or oftener, to inspect and evaluate all aspects of medical education and training at the Medical Center, and to submit a report to the President and Dean with recommendations based on their findings.

Departmentalization

In the period under review organization into unit groups increased. Subdivision of the Faculty into Divisions (1916-42) reverted to the earlier and more common designation, Departments. Out of the former category of Medicine emerged the autonomous Departments of Dermatology, Neurology and Psychiatry. From out of Surgery came Orthopaedics, Radiology and Urology. The Division comprising Eye, Ear, Nose and Throat dichotomized into

Ophthalmology and Otolaryngology; the latter recently added Maxillofacial Surgery to its official name. Physiology and Pharmacology abandoned their previous union. Former entities, such as Physical Medicine (1926), Experimental Medicine (1947), the Institute of Rheumatic Fever and Nutrition and Metabolism (1947), have entered into relations with existing departments. The Department of Bacteriology, expanding into such fields as virology and microbial genetics, changed its name to become Microbiology, and finally into Microbiology-Immunology. New Departments are Anesthesia (1966), Rehabilitation Medicine (1966) and Community Health and Preventive Medicine (1972). In 1979 a division of Cell Biology was authorized that would absorb Biochemistry and include the renamed Department of Anatomy and Cell Biology. A Department of Audiovisual Education was established in 1942, when some generous, expendable gifts became available. This organization was intended to co-ordinate the services of motion pictures (including production), medical art and medical photography. The original elaborate plans underwent simplification as the funds were depleted, yet the individual units remained as useful non-departmental services until 1974.

An *ad hoc* Committee on Reorganization, reporting in 1970, called attention to the increasing complexities involved in managing an academic department (because of more students, research, technicians and sources of support), and to a prevailing reluctance by some of the Faculty to accept these responsibilities as chairmen. It recommended that consideration be given to providing Departments with business administrators who can minimize many routine aspects of the administrative load. This innovation has become a routine feature of departmental organization.

Within the Medical School complex there are several special Centers of focused research. The oldest embraces Endocrinology, Nutrition and Metabolism. Others are a Cancer Center, a Center for Clinical Pharmacology, and a Center for Sports Medicine. In addition, multidisciplinary programs of activity have been established in such fields as atherosclerosis, biomedical engineering, biological materials, diabetes in pregnancy, perinatal care, prosthetic-orthotics, speech and hearing, and spinal cord injuries. To already established programs, such as Medical Technology and Physical Therapy, have been added educational schools in Nursing

Education, Public Health, Prosthetic-Orthotics and Respiration Therapy. An Associate Dean of the Medical School has been recommended to act as an official counselor for all allied health programs operating on both campuses of the University, and in its hospitals.

Goals

A report by a Committee of Clinical Chairmen in 1967 recommended urgently, among other important things, that the University and the Medical Center take the steps necessary to plan the development of a general hospital (under the sole control of the University), a University Clinic, and a Maternity Center. Only the first of these objectives remains unattained. Three years later the Committee on Reorganization, already mentioned, rendered a frank report that examined the traditional organization of the School in relation to that operating in other leading private universities of the Nation. It reached several general conclusions considered to be vital if Northwestern is to compete among the leading medical schools of the Country. Also submitted were specific recommendations in ten categories embracing needs, goals and reforms. Some of these objectives have been gained; others require longer maturation.

CONSOLIDATIONS

The McGaw Medical Center

A professional survey, conducted in the early Sixties, resulted in the University, its affiliated hospitals and the Chicago Maternity Center entering into an agreement to co-operate and work at best efficiency through an organization that became known as the McGaw Medical Center of Northwestern University. Made final by incorporation on April 6, 1966, as a separate entity, its purposes are: (1) to provide a liaison among the member institutions; (2) to encourage each unit to make its maximum contribution in things it is best qualified to do, thereby eliminating duplication of effort,

service and facilities; (3) to foster the development of joint and co-operative effort in areas of common advantage; and (4) to encourage the interchange and common use of the personnel and facilities of each member institution by other members.

In achieving these ends toward a more cohesive organization, the Constitution made clear that the constituent members recognize the following guidelines: (1) the desire to preserve the human incentives inherent in the private practice of medicine through the existing system of attending physicians; (2) the desirability of continuing each member's existing status as an independent and separate entity, with sole management and control over its own funds, operations and affairs — each, nevertheless, dedicated to the purposes previously stated, and with the willingness to co-operate for the achievement of higher goals in service, research and teaching; and (3) the recognition that the creation of such a Medical Center will bring substantial advantages to all its members by providing additional clinical, teaching and research facilities — thereby making available the benefits of higher learning and creating additional and more efficient resources for medical research and for the improvement of patient care and medical service.

This consortium of equals is the actual and legal representative of the several hospitals and the Medical School. It has its own Board of Directors composed of representatives from its six autonomous institutions, namely: Children's Memorial Hospital; Evanston Hospital; Northwestern Memorial Hospital (Passavant, Wesley, Prentice, Institute of Psychiatry); Northwestern University (Medical School, Dental School); Rehabilitation Institute; and Veterans Administration Lakeside Hospital. Toward the development of the Medical Center, Mr. and Mrs. Foster McGaw (the latter a Life Trustee of the University) made gifts totaling \$20,000,000. A spin-off of this consolidation came about through the creation of the Northwestern Memorial Hospital.

Northwestern Memorial Hospital

A merger of vital importance came on September 1, 1972 when Chicago Wesley Memorial Hospital and Passavant Memorial Hospital set aside long-standing rivalries and united to become the Northwestern Memorial Hospital, a co-operating working unit. By



Aerial view of the Chicago Campus; 1968.



Aerial view of the Medical Center, in part; 1975.

pooling resources and services, better patient care at a reduced cost would presumably be provided. Each participant was to be known henceforth as a Pavilion of the main Hospital, and the two buildings were physically connected by an enclosed, overhead footway. Subsequently, in 1975, the Prentice Women's Hospital and Institute of Psychiatry also were incorporated into the combined hospital superstructure. The total of 1,280 beds makes the Northwestern University Memorial the largest private hospital in Chicago and the sixth largest in the Nation.

THE FACULTY

Growth

In contrast to the comparatively modest growth of the student body in the current period, the Medical Faculty came to surpass it greatly both in rate of growth as well as in final size. Between 1906 and 1926 there was no change in the number of full professors, but teachers in the subordinate ranks increased rapidly until the Faculty had doubled its former size (115 to 227). Between 1926 and 1975 the number of full professors advanced from 28 to 150, while the total Faculty expanded from 227 to nearly 1,400 (of which fourteen per cent were women). The explanation of this sextuple increase in faculty size is linked with the increment in fully affiliated hospitals from one to eight; yet their clinical staffs still teach mostly on an unsalaried basis.

It was only twenty years ago that the first member of the clinical faculty began to receive a major portion of his income as salary from the University. By 1974 clinicians receiving compensation numbered 137, of whom 67 were full time. Best represented was the Department of Medicine which had 53 full-time salaried members and 16 on part time. For the whole Medical School (clinical and preclinical) there were 351 teachers on full time and 174 on part time. About 35 per cent held medical doctorates from either Northwestern University or the University of Chicago. The average age of those on full time was 44 years, the same as for the University as a whole.

Organization

The University Statute creating the Medical Council stripped the originally dominant general faculty of all powers except those governing the fixing of the requirements for admission and for degrees, and the recommendation of candidates for degrees. Some participation of the Faculty in policies and activities was restored in 1971, largely in response to faculty insistence and to a recommendation from the *ad hoc* Committee on Reorganization of Medical Affairs. As a result, a Faculty Senate was created which maintains critical vigilance over the Administration and helps shape policy by providing a forum through which recommendations can surface dealing with the solution of problems arising, and already existing, within the Medical School. It also serves in advising the Dean on matters referred to it by him.

Titles

When, in 1896 (made official in 1909), the Chairs (p. 194) in the various teaching disciplines were replaced by a departmental type of organization, there was still only one so-titled Professor in each specialty. But sooner or later, in order to recognize and retain valuable colleagues, somewhat similar rank had to be accorded to others. Such new appointments were designated by distinguishing titles, such as Professor of Clinical Surgery (1881) and Clinical Professor of Nervous Diseases (1902). Yet as early as 1869 the title of Adjunct Professor had arisen, but the basis for its adoption is not wholly clear. In general, the holders of such modified professorships did not give formal lectures, while in influence and prestige they rated below those with the simpler title. A still more subordinate grade, that of Assistant Clinical Professor, was first assigned in 1909. Not until 1913 did two persons in the same department bear the unembellished title of Professor.

At the beginning of the present century another basis began to differentiate two categories in the same clinical discipline. A straight professorship recognized demonstrated clinical ability, and especially rewarded a competency in research or writing; on the other hand, the clinical professorship recognized respected clinical ability and competent teaching, but implied a deficiency in schol-

arly productiveness. The last appointment in this distinctly designated 'clinical' category was in 1924, and the last holder of such a title was listed in the 1931 Annual Announcement.

Abandonment of such amplified titles rested on a decision by the University to sanction only the term, Professor, and simple modifying adjectives such as Associate and Assistant. In 1973 the recently created Faculty Senate of the Medical School sought to restore the clinical category, citing its practical utility and its current use elsewhere. A compromise of sorts was obtained, inasmuch as approval was granted for the insertion of the modifier, 'Clinical', *before* the name of the specialty, but not elsewhere. Straightway titles, such as Professor of Clinical Surgery, began to appear in the faculty roster. Curiously enough, this style of title agrees exactly with the first deviation, in 1881, to designate an alternative clinical rank.

Compensation

The minimum salary of professors in the College of Liberal Arts was elevated to \$2,000 in 1867, and to \$2,500 in 1887. When Dr. W. S. Hall, fresh from training in a famous German university, was made Professor of Physiology in the Medical School in 1896, his salary was set at \$2,100. At the beginning of the current period (1926-79) a full professor in the basic sciences might draw as little as \$3,500; by the end of that period, more than nine times as much. The salary range of full-time clinical teachers is on a considerably higher scale. Instructors were once cheap; the present writer put in charge of courses in 1915, began at the rate of \$100 a month. Incidentally, instructors are currently almost an extinct species in the basic medical sciences, novices exacting assistant professorships because of the competition produced by the influx of new medical schools throughout the land. Nationally, professorial salaries came to depend increasingly on aid from Federal grants. Even in 1960, eighteen per cent of full time members on faculties received half of their salaries from this source, while fifteen per cent received a lesser portion. By contrast, the policy of our Medical School has been to maintain professorial salaries on 'hard', budgeted money and thereby avoid crises when sponsors might withdraw their support.

Teaching recognition

In various medical colleges awards are made annually for excellence in teaching. These may be designated by terms such as "The Golden Apple Award." For more than a decade at Northwestern similar recognition has been made in the teaching fields related to clinical medicine and the basic sciences. In 1973 the financial backing for such annual awards was assured through a bequest in memory of Dr. George H. Joost, a member of the 1920 class.

Leaves and retirement

Originally, when leaves of absence for significant study and research were permitted in the College of Liberal Arts, a professor received whatever amount of his salary remained after hiring a competent substitute. In 1905 a policy was adopted of granting a sabbatical leave on half salary. By 1924 any teacher in the professorial grades could qualify for full salary for a half year when the leave extended for a half year or more. Currently the University authorizes leaves under conditions determined by circumstance and merit; they are not automatically sabbatical. Through the years, leaves have been taken infrequently in the Medical School, and then usually by younger members seeking special opportunities and techniques. This is in agreement with the response of medical teachers throughout the country; all tend to take advantage of such provisions less frequently than might be expected. The explanation probably lies in the fact that a mature scientist works more efficiently in his own laboratory than under strange surroundings as a guest. Hence the novelty of new surroundings alone is not adjudged to compensate sufficiently for the inherent disadvantages encountered.

Retirement provisions for faculties were changed from individual arrangements to a unified basis in 1928, when the University entered into co-operation with the Teachers Insurance and Annuity Association to provide retirement allowances on a plan of mutual participation. Sixty-five years was set as the retirement age, and not until 1957 was there a tardy elevation of this limit of service to 68 years. Federal action advances this end-point to 70 in 1980.

Academic freedom and tenure

Northwestern University, like other education institutions, came eventually to recognize the right of its teachers to freedom in acquiring, exchanging and imparting knowledge. This freedom is to be unrestricted as long as scholarly objectivity is preserved, extraneous opinions are excluded from the classrooms, and personal and institutional roles are distinguished and observed. Without this guarantee of freedom, effective faculty performance would be seriously impaired. Along with intellectual freedom goes tenure, or guaranteed incumbency and the safeguarding of teachers against unwarranted dismissal. These several principles were formulated and pronounced by the American Association of University Professors in 1915, and have been incorporated into the official regulations of many colleges and most universities.

It is known that a chapter of the A.A.U.P. was in existence at Northwestern in 1928, but previous records are lacking and even the exact time of establishment is unclear. One of the distinguished founders of the national organization was Dr. John H. Long, long-time Chairman of the Department of Chemistry at the Medical School. Since he was broadly interested in the affairs of the total University, it seems likely that he may have been the moving force behind the early establishment of a local chapter here. In the later Thirties a vigorous letter from this chapter to the University Trustees asked for official validation of various rights and privileges. On April 26, 1939, the Trustees incorporated into their by-laws a provision guaranteeing the principles of academic freedom, and they revised the article dealing with academic tenure. These regulations regarding both academic freedom and tenure are set forth in the Faculty Handbook.

THE STUDENT BODY

Numbers

In the years following World War I important advances became increasingly frequent both in the basic sciences and in clinical medicine. Bringing to attention the scarcely tapped potentialities of medical discoveries and their practical applications, these advan-

tages began to attract the interest of an increasing number of college students toward pursuing medicine as a career. A few statistics will illustrate this change. In the academic year 1913-14, just prior to the outbreak of World War I, the entering class at Northwestern numbered 38 (a low point, reflecting the elevation of entrance requirements to two years of college work) and the total enrollment was 187. Five years after that War ended, and shortly before the first gift by Mrs. Ward, in 1923, freshman matriculation had risen to 81 and the total enrollment had more than doubled. Presently it would no longer be necessary for the school to run small, weekly notices in *Science* inviting correspondence with the Registrar concerning prospective enrollment (p. 100).

An upturn in applications to our Medical School also naturally followed the move to improved and endowed quarters on a unified professional campus. In fact, the number of applicants rapidly outran by far the available, though somewhat expanded, accommodations. By the late Thirties they totaled 1,500 or more, and this number leveled off and continued, little changed, into the Sixties. By contrast, in recent years the increase has become astounding; in 1971 there were 4,600 applications, and in 1974 there were 7,700 for the then 108 assigned places outside the honors programs. Unless additional laboratory space is provided, the student body can be expected to stabilize at about its present level of 700. It is interesting that this number does not exceed greatly the total enrollment at the turn of the century when entrance still demanded only the completion of a high school education, even though two years of college were recommended.

The new laboratories in the Montgomery Ward Building were planned for 112 medical students, but the first class swelled to 120 and thus pre-empted some space originally planned for graduate and special students. Quite promptly the physical limitation of 128 places was reached. Hence it was not until the erection of the Searle Building, in 1965, that augmented accommodations could be provided. This was accomplished by joining the new space on the fifth and seventh floors of Searle to adjacent space in Ward. Such allocated laboratory space for Sophomores and Freshmen was then organized into two sets of nine unit-laboratories each set accommodating 144 students. Later readjustments and a new unit for Freshmen brought their available working places to 178.

The widespread interest shown in 1893 (p. 143) over the first laboratories ever to be designed specifically for the expanding national instruction in the basic sciences was paralleled in 1965. Many visitors came to the new Searle Building to inspect the unique multidisciplinary laboratories in which all subjects, including gross anatomy, could be taught in compact, unit rooms.

Composition

In 1972, for example, 170 students were admitted, of which 61 (in the Honors Program, p. 262) entered with two years of college work; five had three years and 104 had four years; five had earned the M.S. degree and two the Ph.D. Ninety per cent of all entrants ranked in the top fifteen per cent of their high school graduating classes. As in colleges in general, the matriculation of students from the minority citizenry has expanded in recent years; it has reached thirteen per cent in a class, but currently runs at about eight per cent. Existing records identify the first Negro as graduating in 1883, and the first Indian in 1889. An analysis of class-composition with respect to parental occupation shows that about forty per cent are in the professional category, forty per cent in the white collar group and twenty per cent in the blue collar group.

No women were matriculated in the Medical School between 1867 and 1926. On moving to the new campus four women were enrolled in a class, since this constituted a natural dissecting unit and, at that time, it was deemed unseemly for men and women to dissect at the same table. This token number of women was not exceeded until after World War II, but by 1963 nine were admitted and in 1978 there were sixty. The current ratio to male students (33 per cent) exceeds considerably the national average of 25 per cent. The reluctance to adopt co-education at Northwestern is described on p. 117 and 354.

Severely handicapped applicants have been enrolled whenever normal academic progress seemed feasible. The first recorded instance in Northwestern annals is also the most remarkable of all. Robert H. Babcock was totally blinded by an explosion at age thirteen. He continued his education successfully at several leading colleges, graduated from this Medical School in 1878, and pursued postgraduate studies for three years in Germany. He became a

recognized specialist on pulmonary ailments and heart disease, and was the author of two books on these subjects. The University of Michigan awarded him the honorary LL.D. degree, and one hundred leading physicians of Chicago honored him with a testimonial banquet in 1925. Seemingly, beyond doubt, he was the first blind student in the United States to earn the M.D. degree.

For many years students transferring from two-year medical schools constituted an increment to Junior classes that was also helpful to the School's income. In the case of Northwestern it could reach 35 or more annually. This increase explains why the roster of Junior and Senior classes in our earlier Annual Announcements exceeded strikingly those of the two lower classes, and why (despite losses by withdrawals and failures) the total registration for the school in the years following World War I approached that of the present time with considerably larger entering classes. In the more recent decades, the two-year schools increasingly expanded into complete medical schools, and so the sources of transfer correspondingly diminished. Recently, however, about twelve Illinois students from foreign medical schools are qualifying for admission to the Junior class, and this acts to swell the annual number of graduates appreciably.

In regard to the composition of classes, it should be recorded that since 1965 teaching of the basic sciences has included the responsibility for instructing dental students as well, and partly in combined classes. This merger resulted from the difficulty encountered by our Dental School in staffing its scientific departments adequately. It reverses the long time refusal of the Dental School and its national accrediting organization to consider consolidation of staff and teaching facilities with that of a medical school.

One of the fringe benefits to our medical students through the years has lain in the nationwide heterogeneity of the student body. Students, reared in various parts of our land, have brought with them cultural backgrounds and viewpoints that broadened horizons, undermined substantially provincialisms, and fostered tolerance. But of late the State of Illinois contributes to the support of all medical schools within its borders. The *quid pro quo* is that at least one-half of each class must be drawn from residents in the State. As a result of this stipulation the Illinois representation has increased, at the expense of out-of-state applicants. The admission

of sixty students annually into the six-year Honors Program and the enforced Illinois representation combine to reduce the places available to other out-of-state applicants to the regular program. This number is now 57 places out of a total of 178. Unfortunately these altered factors reduce somewhat the chances of some medically oriented offspring of alumni to gain admission.

Graduation problems

A small side-benefit of the World War II period to our medical students was related to the concurrent, year-round classes and the consequent irregular times for graduation. Since these finishing dates quickly got out of synchrony with the customary University Commencement in June, several special ceremonies were held in Thorne Hall. These were done in style, with the President officiating and important military personages present as principal speakers. The graduating Seniors were delighted with the innovation which, to them, was both intimate and meaningful. With the coming of peace, requests were made for a continuance of the separate event, but such appeals were refused. The University Administration held that a unified ceremony at Evanston was the only time in an academic year when all schools met and participated as an integrated whole. Hence a separate observance would be not only a fractionating act, but also would lead to similar demands by other schools and end in the total disruption of the traditional, unified convocation.

From time to time in subsequent years the proposal was renewed by medical Seniors who had to acquiesce, but unwillingly, to the standard ruling. Finally, in 1972, permission was granted for a Chicago Campus ceremony which, however, was to follow medical-student participation in the regular commencement program at Evanston. Unfortunately only a few of the Seniors went to Evanston, which embarrassed the Dean, and angered the Chancellor. Further permission for a Chicago Campus ceremony by any of its schools was withdrawn, but a compromise was reached through Seniors agreeing to attend the regular graduation exercises and then to adjourn to their own observance, also in Evanston. This substitute arrangement, with eminent speakers, is second place in desirability to students and parents alike, but it presumably will endure as an annual event.

Involvements

In 1967 students from the Medical School took the initiative in establishing a free, weekly medical clinic at Erie Neighborhood House, a mile west of the Campus, to aid families in that area. Now named the West Town Community Health Center, it is staffed medically by volunteer Northwestern students and Faculty. In 1970, by community request, students and Faculty also helped to establish two new free-care centers: These were the Young Patriots' Uptown Health Services and the Latin-American Defense Organization Clinic, located respectively in north and northwest regions of the City.

Medical-student unrest, coincident with that on college campuses, around the turn of the Seventies, might seem to have been an unlikely phenomenon. Yet such occurred on a small scale at Northwestern. Two 'causes,' one impractical and the other legitimate, led to a token seizure and sit-in by a small group of militantly concerned students. This incident is treated in more detail on p. 304. Out of it came a spin-off in the form of a Student Senate, organized in 1970 to facilitate student communication with the Administration, Faculty and the student body. As a result, goals and issues are now better formalized, and representatives of the student body gain a voice in various administrative areas of the Medical School framework. It is a variant of a Student-Faculty Council, instituted in 1916 by Dean Kendall, but lapsing with his resignation in 1924. A beneficial outgrowth of the issues and unrest that led to the development of two Senates (student and faculty) was the establishment of the Department of Community Health and Community Medicine.

A more comprehensive account of medical-student life and activities can be found in Chapter XIII.

ACADEMIC MATTERS

Admission requirements

The educational requirements for admission to the Medical School tightened early in the current period. After maintaining the stand-

ard of two years of college preparation for two decades, the requirement was elevated to three years in 1931. In practice, the minimal required time is almost always exceeded. At Northwestern, in the last season of the two-year stipulation (1930), only three per cent of entrants limited their preparation to the acceptable minimum. By comparison, this excess preparation was somewhat better than the national average. Currently about 95 per cent of our regular Freshman entrants have already acquired the bachelor's degree. The mean overall scholastic grade of these students while in liberal arts college was more than 90. Additionally, in recent years, evidence of rounded interests, rather than sole concentration on science and high grades, has become a definite factor in the selection of medical classes.

Even through the years closely following World War I there was still no urgency in applying early for admittance. Summer applications were welcomed and, in some instances, a student might even enroll at the opening of the autumn term. But soon afterward came a gradual shift toward earlier deadlines, until now candidates are advised to apply twelve to sixteen months in advance. The upper age limit for consideration has decreased in modern times. The present writer recalls a retired dentist who, shortly after World War I, entered our Medical School at the age of 54. At present, entrants rarely exceed thirty years.

In subject requirements for admission, a standard course in physics remains. Chemistry added qualitative analysis (to the previously demanded general and organic courses) in 1926, but replaced it by quantitative methods in 1935. Spanish was added to French and German as an acceptable foreign language in 1942; a few years later any language, ancient or modern, became acceptable. Since 1950 only a recommendation for a language other than English is advised. Comparative anatomy was introduced in 1927 as a prerequisite, in addition to the general course in biology; this additional requirement was replaced by Embryology in 1951. The latter, in turn, along with genetics became a recommendation in 1961.

The recent intrusion of the U.S. Government, through its H.E.W. division, into the setting of admission policy ("affirmative action"), using the threat of grant-withholding, is disturbing. Even more perturbing is its ambition to modify the curriculum and post-

graduate training. These are areas that should be left to professional educators rather than to a political agency.

Curriculum

Instruction, organized on a quarter system rather than by semesters, and on a year-round basis, was discussed by the Faculty as early as 1901 and again in 1913, but without action. In viewing the imminent move to the new campus, the subject was again considered in 1924 and was laggardly adopted for the 1926-27 session. At this time the Dental School was the only other division of the University to have abandoned the semester plan. For the Freshman and Sophomore classes this manner of dividing the year became, except for the War period, a sequence of three terms without Summer offerings. Summer attendance in the Outpatient Department had been available, for many years previous to the present period, to students beyond the Sophomore year. Beginning in 1927, an optional summer quarter was offered to students ready to enter the Senior year. Taking advantage of this, students were presently finishing at different times in the calendar year. The full clerkship program initially put both clinical years on a full four-quarter basis, but this became modified by granting an 'off-quarter' for vacation or research in each year.

The subjects taught underwent some change in the period bounded by 1926-1979, and especially so in the last decades owing to phenomenal advances in the medical sciences. Moreover, emphasis shifted with the years, as did also the modes of presentation. In general, the passage of time has brought changes in medical pedagogy the better to prepare students in their approach toward patient-care as an integrated whole. The basic and clinical branches tend to merge as scientific disciplines, and boundaries between these two categories become increasingly blurred. Even more striking is the instructional overlap within the several basic sciences, where some medical schools now are not organized on a traditional, departmental basis. Of local historical interest is the fact that a belated, general recognition of the cultural value of the basic courses in our medical curriculum was first made evident in 1926, when the College of Liberal Arts agreed to list them among the offerings of the Departments of Zoology and Chemistry as accept-

able credits toward the baccalaureate degree.

In the preclinical years, Embryology gradually disappeared as an entity in the Fifties, although some instruction on the applied aspects of this discipline continued in correlation with other anatomical courses. As a shortened, clinically-oriented presentation it became an elective in 1977. The clinical years were marked by a decrease in didactic instruction and an increase in the time spent in contact with patients. Clinical clerkships, tried earlier in an exploratory way, were inaugurated for Seniors at the several associated hospitals in 1926. This experience extended through one quarter only, and continued on this basis until 1950, when Seniors devoted three quarters to hospital clerkships and one to outpatient service. In the same year, Juniors changed from a highly didactic program to instruction, with ward walks, in the hospitals.

In 1956 the curriculum was revised drastically. It was the first general overhaul in forty years. The hours of formal instruction were reduced for the purpose of liberating more unassigned time, during which medical students were supposed to be, in part, veritable scholars in the pursuit of unscheduled medical learning. Clinical instruction was extended through eight quarters, including an optional elective quarter. Junior clerkships, previously decried, were adopted. Both Junior and Senior students then became engaged in clerkships in associated hospitals, with their work so graduated as to provide increasing responsibility for patient care. Opportunities existed for elective studies or for experience in research. In order to prepare for Junior clerkships, integrated instruction amplifying clinical diagnosis and introducing a survey of disease were inserted into the Sophomore schedule. In aid of these instructional experiments the Ford Foundation granted \$2,700,000 to the Medical School. Even in a trial stage, the new curriculum seemed to bring marked improvements to the clinical years. Yet encroachment of clinical teaching into the Sophomore year resulted in shortening the time allotted to all of the basic medical sciences. For example, clock-hours decreased 40 per cent in Physiology, 33 per cent in Gross Anatomy and 25 per cent in Histology; but Embryology was phased out.

Further experimentation in curriculum revision resumed in the early Sixties and has continued to the present time. Interdisciplinary programs in the basic sciences have been tried, as has

restoring somewhat more time to the basic sciences. A significant amount of clinical instruction has been scheduled in the first two years of study. One change that may cause some lifting of eyebrows among alumni is the total elimination of laboratory work in certain of the courses in basic science. It would seem that in those disciplines there has been a virtual return to the didactic period in historic medicine when students "heard much, saw little and did nothing." As now in most medical schools, an all-elective Senior year has been designed in order to aid students in their aims toward career development. This means that students can now graduate without ever acquiring meaningful experience in various specialties, or without observing the ambulatory sick in outpatient clinics. And the end of curriculum-tinkering is not yet!

The fourth instructional year, as a career-development phase of the curriculum, has 200 courses open to election. This freedom of choice is designed to facilitate and confirm career decisions through specialization; alternatively it permits further course exploration or the gaining of experience in research. Presumably, this early selection of career-preference will significantly decrease the former number of misjudgments. In 1966 our graduates of 1944 and 1945 were checked to ascertain how well their graduating preferences for fields of practice coincided with their current activities. As a whole, the agreement was quite good, but 37 per cent originally opting for general practice had dwindled to 13 per cent, and surgery had reduced from 14 per cent to 8 per cent.

Any curriculum is, of course, a trial pattern, hopefully designed to facilitate the learning process. This it can do; yet, when provided with opportunities, any eager student of average ability will learn medicine, regardless of the curriculum, whether good or bad. Much more important than the curricular blueprint set forth are the actual teaching methods employed, and the enthusiasm, competence and attitudes of instructors. Also until proved by trial, curricular innovations do not necessarily denote true progress.

In 1963 dental students began attending classes in the anatomical sciences taught by the Medical School; in ensuing years all basic sciences became similarly merged. These students also make use of one set of the unit, multidisciplinary laboratories. In exchange, the School acquired some space on the Dental floors. This teaching amalgamation resulted from the dearth of competent science

teachers seeking employment in dental schools. The present merger contrasts sharply with a refusal by the Dental Administration, when the Ward Building was being planned, to conserve space by similar co-operation.

Tuition

The original annual fee in 1859 was \$50, and during the first fifty years of the School's existence six raises elevated the charge to \$175. But during the last half century this sum escalated horrendously, as is true of collegiate tuition in general. In 1926 it was \$300; in 1948, \$600; in 1960, \$1,200; in 1970, \$2,400; and, in 1978, \$7,260. Only in later years have these charges at Northwestern exceeded a middle position with respect to those at other private medical schools. At present, six medical colleges in the Nation have a higher fee, while four others are within \$200 of our rate. The total annual tuition now being paid by our student body equals only fifteen per cent of the annual cost of running the School. For parents whose incomes have kept pace with the inflationary spiral, college bills come only as expected bad news, but they must strike terror in those parents with fixed incomes, once considered adequate. Fortunately, since 1965, Federal 'capitation grants' extend some temporary relief to the cost of education. In 1977-78, sixty per cent of our students received \$3,000,000 in aid that came from Federal, University and other sources.

Grades

Originally the system of grading was on a 1 to 10 basis, with 5 denoting a pass, but for years such information was not released to students. In 1899 this policy was reversed and letter grades (A-F) were adopted. Later, a tighter system came into use whereby the distributed grades indicated a range of five points. For example: B minus denoted 80-84, whereas B denoted 85-89. Nevertheless, actual numerical values were recorded on the Registrar's books (70 denoting a passing grade), and these were used in computing standings and promotions. Student requests for a reduction in "stress" through the practical elimination of scholastic competition for grades has currently resulted in the virtual abolishment of signifi-

cant, released ratings. Despite small faculty backing their petition was granted in 1969, so that the official information received by them is now limited to 'honors', 'pass' or 'fail'. A criticism of the pure pass-fail system is that it acts chiefly to identify failure, but does not reward superior achievement. Not every medical student favors this system, and all will come to learn that life, as embodied in clinical practice, is highly competitive and not lacking in stress and trauma.

Honors program

As early as 1892 the Annual Announcement explained how a combined course might be arranged to yield both the baccalaureate and medical degree in as little as six years (p. 167). Sixty-four years later a committee was appointed to direct its attention toward the possibility of integrating premedical and medical education for a group of highly qualified students, with the aim of effecting some reduction in the total time required, as well as improving the premedical preparation in science. This planning, led by Associate Dean John A. D. Cooper, produced an Honors Program in Medical Education, which has again brought acclaim to the Medical School for pioneering insight and performance. The first group of 25 students started in 1961.

Qualified students may apply for the Honors Program during their senior year in high school, and all of the 60 students (selected from more than 700 applicants) now enrolling annually in the Honors Program do so. The quality of these talented students is indicated by their records in high school. An investigation at one period of time showed that nearly fifty per cent of accepted students stood at the very top of their high-school graduating classes, and the remainder were in the top two or three per cent. Acceleration of the premedical phase of the Program permits the M.D. degree to be obtained in six years after entrance into the University. The first two years are spent in the College of Liberal Arts and Sciences, during which half of the time is assigned to a specially enriched science curriculum. Weekly seminars also provide some insight into clinical specialties and problems. The degree of Bachelor of Science in Medicine is awarded after the second year in the Medical School, and two years later the M.D. degree is gained. It is possible to com-

plete a combined M.D.-Ph.D. program in eight years after entering the University, and a few have done this.

The success of this accelerated program is shown by comparisons with classmates in the regular program. The special group experienced fewer personal problems and fewer academic difficulties while in medical school. It achieved greater honors in academic studies and performed equally well as clinical clerks. These students were involved in more summer experiences related to medicine. They attained higher scores in the examinations of the National Board. An in-depth evaluation of the Program after ten years showed no significant difference between the two groups in their acceptance into quality internships, residences and into specialty certification. Without doubt the success of the Honors Program has impressed a special quality on the student body and the School. It is gratifying that our Honors Program has been followed by similar programs in eleven other universities.

Graduate programs

Medical students with baccalaureate degrees were permitted to qualify for the Master's degree from the time of the first union of the Medical College with Northwestern University in 1870. One such student (future Dean Franklin S. Johnson) received the A.M. degree on graduation as early as 1881, but solely in recognition of engaging in a scholarly pursuit (*e.g.*, medical studies) three years beyond the bachelor's degree. This low standard of attainment was common practice nationwide at that period. More on the regulations for qualifying for this degree through the years is explained on p. 167. By contrast, many years elapsed before the first Ph.D. was awarded to anyone in the Medical School — and this was the first in any professional school of the University. The person to receive this degree was Margaret Wilson, a graduate student of anatomy in 1920.

The Medical School and the Graduate School of the University also offer the opportunity for combining medical and graduate study. The program leads to both the Ph.D. and the M.D. degree, with overlapping course- and residence requirements that permit the completion of the program in as little as six years. Currently about 100 medical and dental students and a few young clinicians enroll annually in graduate programs of some kind.

Licensure and board examinations

The record from State Board examinations in the years 1913-27 was not as good as previously or later. The percentage of failures was 4.3 for Northwestern, as compared with 2.5 for Rush and 5.0 for Illinois. Yet, in 1922, the fiercely competitive Cook County Hospital examinations for internships were taken by 37 Northwestern Seniors, of whom 24 passed and 17 received appointments, including first place. Again, in 1931 seven of the first ten places were captured.

In sharp contrast to the 1913-27 results, the record of graduates examined as candidates for licensure during the years 1929 to 1936 was included in a general survey of the Medical School, and the results were highly gratifying. They showed that among large private schools, Northwestern led all others. Of eighteen cosmopolitan schools, whose graduates appeared before fifteen or more state boards, Northwestern stood third, followed (sixth; seventh) by Johns Hopkins and Harvard; Rush was in tenth place, Illinois eleventh, and Loyola sixteenth. In the National Board Examinations for the 1929-35 period, only one school (presumably Harvard) had a better record. On the basis of the numbers taking those national examinations, twenty per cent of the Northwestern candidates obtained honor rating; this attainment compared with Harvard (13%), Rush (4%) and Illinois (0%). In recent years the results have consistently bettered the national average. In Part III, testing clinical judgment and problem solving, our interns stand in the top five per cent.

Specialization among our graduates is high; 42 per cent are accredited by the various National Boards, and some alumni qualify in more than one Board. Interestingly, 55 per cent of our alumnae are diplomates. The cited figure (42 per cent) for all graduates surpasses considerably the national average of 34 per cent; it is slightly less than the figure for Harvard, but exceeds that for the University of Illinois or the University of Michigan.

THE RISE OF RESEARCH

In the forty years (1890-1930) following the second contractual

union of the Medical School with Northwestern University, a latent function had made vigorous progress in medical schools throughout the land. This development was supported-research, which received its impetus when some, at least, on the medical faculties were hired on a full-time basis. With opportunity thus made available to them, these specialized teachers became also investigators. To support their activities, the budgets had to provide not only for salaries but also for equipment, supplies and some technical aid. In this way Northwestern University and similar institutions became the original sponsors of medical research, but on a relatively modest scale even when experimental investigation was rather inexpensive. And, for the most part, individuals followed lines of personal interest rather than co-operating in teams working toward a common goal.

A native concept of 'proper restriction' in research fields is illustrated by an incident at Northwestern in the mid-Nineties. Dr. W. S. Hall, a product of a famous German University, came to head the Department of Physiology as its first adequately trained incumbent. On starting a research project with chemical involvements he was warned off by Professor J. H. Long, already well established in the chair of chemistry: "Keep out of chemistry; that is my field."

Research departments

Four research departments arose, flourished and died at the Medical School during the 1926-79 period. Most famous was the Institute of Neurology, established in 1928 on the recall of Dr. S. W. Ranson from Washington University, but terminated only seven years after his death in 1942. During the 21 years of its existence, this Institute attained more national and international acclaim than any other branch of the University. Also recalled from Washington University, former Dean A. I. Kendall conducted a Department of Research Bacteriology between 1928 and 1942. A spectacular, but short-lived (1927-29) Department of Biophysics was set up by Dr. W. T. Bovie. The Department of Nutrition and Metabolism (1947-73) was an off-campus research institution in its own building, whose prominence was interrupted by the untimely death in 1960, of its founder, financier and Director, Dr. T. D. Spies. Both assets and goals, however, were transferred to the Medical School and,

since 1973, have been consolidated by Dr. N. Freinkel into a Center of Endocrinology, Metabolism and Nutrition. An auxiliary facility from 1969 to 1974 was the Department of Biological Materials. As a long established entity in the Dental School it broadened its activities when the basic sciences of the Dental and Medical School merged.

Sponsored research

Not until the Twenties and Thirties did medical schools begin to find that subsidy for specific research projects could be obtained from outside agencies. It was, nevertheless, World War II that really opened a new era in sponsored medical research. At the outset of the War, the Federal Government turned to the universities to seek aid in getting information on particular problems of military value. The experience with these co-operative enterprises was so satisfactory that, with the coming of peace, Congress continued to appropriate tax funds to competent investigators for similar purposes. Also private philanthropies and commercial organizations in the health field, as well, began to bid for the same kind of arrangements. The plan of awarding grants of limited duration for specific ventures had already proved its merit and was continued. In part this pattern was necessary because many funds were raised solely for limited purposes, and also because many came from appropriations or subscriptions whose continuance was not assured.

So it came about that the medical schools in the postWar period gained more than eighty potential sponsors for their important function of advancing knowledge. To the administrations of universities with medical schools these sources of financial aid were vitally important, because the cost of supporting all of their committed schools had skyrocketed so as to put severe strains on the common purse. At Northwestern contributions from private and Federal sources were two per cent of the total income of the Medical School in 1941 and 52 per cent by 1958, well above the national average. Since then the percentage has changed but little although the dollar amount has doubled.

Dependence upon outside grants clearly opened a new phase in medical financing. Besides the direct benefits of princely underwriting, sundry indirect advantages also accrue to the institution.

For instance, significant research programs contribute heavily to the general morale and elevate departmental and institutional prestige. They also may help to attract or retain desirable members of the Faculty. Yet the largely roseate picture does have a reverse side, since there are hidden costs and hazards in all projects. Even with substantial grants at hand, and liberal allowances for overhead, the indirect costs (administrational services; maintenance; depreciation; library; etc.) are not trivial, and may be onerous. Moreover, certain innate dangers exist under an external grant system. Vigorous investigators may dissociate themselves from other activities and even neglect teaching. Large projects may become autonomous — isolated in self-contained groups or research institutes, while the participants tend to become grateful and loyal to their sponsors as they lose touch with School affairs. Successful ventures may also attract such prideful support from common funds as to create serious financial imbalance within the school or university. Also traumatic crises may confront projects and participants when sponsors cut back or withdraw support.

A potential disadvantage in the outside sponsoring of research is that the kind of project pursued may be consonant with the program of a grantor, rather than within the primary interest of the investigator. The most progressive industrial corporations have found that the largest rewards have often come from investigators who were permitted to follow their bent in attacking basic research, rather than conforming to the immediate goals of management. Indeed, some of the most important outcomes have been serendipitous. In the history of modern medicine there is ample proof of this principle. X-rays were discovered because a physicist was curious about the action of electricity in a vacuum. Antibiotics developed because a bacteriologist was curious about how a mold could dissolve bacterial walls. Both were endeavors in pure science: Roentgen was not seeking a diagnostic aid; Fleming was not searching for a therapeutic drug.

In the decade of 1941 to 1951 the increase in the amount of research funds and general operating funds in privately supported medical schools of the Nation rose 850 per cent and 220 per cent, respectively, whereas in a recent period (1961-1973) the research rise was 321 per cent. This tendency toward an increasing emphasis on research may even come to jeopardize the primary function of all

medical schools, which is the teaching and training of students to become competent practitioners. Promotion in academic rank has come to depend heavily on investigative output and the ability to obtain grants, and this in contravention to the avowed primary purpose of educational institutions. Such a paradox could lead to a complete reversal of the ordinarily accepted order of values.

Whether we like it or not, our Medical School and others must look forward toward a continually expanding role in governmental and private agencies as sponsors of research and dictators of policy. The period of independent and largely autonomous schools is passing. It is not necessarily a question of eventual survival, but rather of freedom from ill-advised governmental requirements and restraints. Universities must strive to create a co-operative climate that will avert clumsy legislation and stifling, bureaucratic demands. Medical schools must aim toward responding to legitimate public needs without being subject to restrictions that impair their ability to be of continuing, optimal use to society.

Student research

The accrediting of the full medical or legal course toward the master's degree was authorized by the University in 1894 (p. 167). Thirty-one years later, effective in 1926, it was agreed that the degrees of B.S. and B.S. in Medicine could be awarded at the end of the second and first year of medical progress, respectively, instead of at the end of the four-year course. Currently about 35 students qualify annually for these degrees. This arrangement permits students who enter into medical studies without a baccalaureate degree to pursue graduate programs while still in school. Such a mixed program was most easily managed during the years of the highly flexible clinical curriculum, before clerkships began in full scale.

Also a certain amount of the basic-science studies, not used for the baccalaureate, can be applied as graduate credit. Partly because of this advantage, registrations for graduate work increased with the years until the onset of World War II, when almost all of the medical students went under military control. Unfortunately, student participation in graduate work was not restored fully after the termination of that War and during subsequent military episodes.

This was because of the necessity for medical students to maintain normal progress in their professional training in order to obtain temporary military deferment. The increase in clinical teaching to seven quarters acted as another deterrent, although a vacation quarter and an elective quarter could be arranged in sequence for research purposes. Currently the elective Senior year also helps facilitate a research program. In later years, however, the M.S. registration has declined greatly because many departments have lost interest in taking on students for short-term, modest programs. In the decade before 1926, seven was the average number of students registered for research in the Graduate School. At present the number in Ph.D. programs averages about 120.

In the decade of 1931 to 1941 medical students and recent graduates to the number of 240 received the M.S. degree, and 100 achieved the Ph.D. During the life of the School (and mostly in the last 45 years) 1242 advanced degrees were awarded; of these 401 were the Ph.D. degree. At present the number of Ph.D.'s earned annually averages 10. Traditionally graduates of this Medical School were categorized by their peers as excellent clinicians, and this evaluation was accepted with pride, despite the accompanying implication of a deficiency in research activities. It is true that no medical student or graduate had earned a Ph.D. degree until 1923 (Loyal Davis, class of 1918). Yet today there is confidence in a reasonable balance among our graduates in the twin pursuits — clinical excellence and productive research.

AUXILIARY PROGRAMS

Clinical training

Dr. Franklin H. Martin, of the class of 1880, suggested as early as 1912 that medical schools should assume the responsibility of post-graduate medical education. Thirty years later Dean Miller expanded this advice and advocated looking forward to 'postgraduate' teaching and the training of medical graduates. He suggested the laying of long-term plans to accommodate those who had completed their nominal medical training. This increment of mature

students, he thought, might permit a corresponding decrease in the size of undergraduate classes. Were such an opportunity grasped, it would lead to a graduate school of medicine such as that at the University of Pennsylvania, since it is obvious that the ordinary clinical experience of a recent graduate does not suffice to give the familiarity or skills requisite for practice as a specialist. Incentives to the entry of the Medical School into this field were furnished by the prospect of postWar demands, coupled with Federal subsidies to be made available to veterans. And so a program was inaugurated under the aegis of a newly-created Graduate Medical Training Division of the Medical School. Originally the project was run by our affiliated hospitals, but in 1969 the Medical School established a Graduate Division and took over the direction and administration of the venture.

At the outset it was decided that the so-called postgraduate programs of short, refresher courses would not be handled, since the Cook County School of Graduate Medicine provides amply for these wants. Later, however, some short courses came to be offered in certain fields of highly technical specialization. From the beginning the main planning was toward a long-term program, which may include study in the basic sciences. It extends from three to six years of clinical training in a hospital residency or fellowship. Besides offering sound training, a subordinate objective is to satisfy the requirements of American specialty boards. The enrollment is about 560 in 19 programs and specialties.

In 1978 the conjoint Wesley-Passavant School of Nursing admitted a final class in its traditional three-year program, designed primarily for high-school graduates. Also at this time an Associate Dean of Nursing Education and a faculty-nucleus were appointed by the Medical School to establish in 1979 a replacing Baccalaureate Program in Nursing. Admission to this two-year program requires the satisfactory completion of prescribed courses in two years of undergraduate study pursued elsewhere. It aims at producing scholarly developed practitioners and building a potential base for graduate study.

Continuing Education

Beyond the clinical programs, just described, the Medical School

has recently inaugurated another type of instruction that will provide a continuum between immediate postgraduate training and long-term active practice. Its objective is to supply the needs of practitioners in improving both cognitive and technical skills. In doing this, the quality of programs is stressed by the careful selection of teachers from the existing Faculty and by the addition of eminent guest specialists. Quarters in the Ward Building are provided in the new Alumni Center, containing its featured Turnbull Auditorium.

Collateral programs

Among the responsibilities of the Medical School is the sponsorship of several programs in allied activities, which in the aggregate constitute the Auxiliary Medical Services.

Oldest were the traditional Schools of Nursing Education, run indirectly through conjunction with four long-affiliated general hospitals (p. 189). Wesley (1892), Mercy (1892), Passavant (1898) and Evanston (1899) Hospitals, in that order, organized teaching programs that met satisfactory standards in this field and, by contract (the first in 1906), entitled graduating nurses to participate in the Commencement ceremonies and to acquire certification from the University (p. 189). In 1950 the University began granting students with two years of college preparation the opportunity to qualify for the degree of Bachelor of Science in Nursing, but in 1966 this arrangement was cancelled. Students of Wesley and Passavant Hospitals could also apply the nursing program as credit toward the degree of Bachelor of Philosophy from the Evening Divisions of the University. For a time students of Evanston Hospital likewise qualified for the degree of Bachelor of Arts from the College of Liberal Arts of the University.

Within the last half-century several training programs have been established. Oldest (1922), long under Dr. Opal Hepler, are offerings of courses in Medical Technology. One, leading to a Certificate in Medical Technology, is on the verge of discontinuance. A second qualifies for the degree of Bachelor of Science in Medical Technology. A third program prepares holders of a bachelor's degree for the degree of Master of Science in Clinical Pathology.

Programs in Physical Therapy were instituted in 1926 by Dr. John S. Coulter. Besides training leading to a Certificate in

Physical Therapy there came courses qualifying for the degree of Bachelor and Master of Science in Physical Therapy.

A Prosthetic-Orthotic Center, organized in 1959 by Dr. Clinton L. Compere, trains physicians and others in the fundamental and advanced techniques of managing the amputee and the patient requiring orthopedic braces. Northwestern is one of three universities in the United States that offer such intensive postgraduate courses.

A School of Respiratory Therapy (1969), a division of the Department of Anesthesia, offers a didactic and clinical course to competent students with the Associate of Arts degree. The program qualifies toward acceptance in the American Register of Inhalation Therapy.

A curriculum in Public Health, leading to a Master's degree, was organized in 1974 by Dr. Jeremiah Stamler. It provides comprehensive instruction in epidemiology and in key aspects of contemporary public health, preventive medicine and health-care delivery.

A Center for Sports Medicine was instituted in 1976 under the lead of Dr. Jacob R. Suker. Its purpose is to provide basic instruction to coaches and athletic trainers that places special emphasis on conditioning and the prevention, recognition and care of injuries.

MATERIAL GROWTH

Expansions of the Chicago Campus, since the time of the original purchase, to more than twice its original size are described on p.227. Buildings erected in relation to the Medical School during the 1926-79 period are treated on p. 228 *ff.*, whereas hospital-building is covered in Chapter XIV. The size of the student body reached a first maximum not long after occupation of the Montgomery Ward Building on the new campus. Its later growth in the current period, and the more astounding increment in applications to the freshman class have been treated on p. 252 in conjunction with other matters pertaining to the student body. Similarly the Faculty, with its sextuple expansion and the addition of salaried clinicians, has been dealt with on p. 247.

The occupation of better planned space in the Ward Building and the simultaneous expansion of activities into new fields required

more office and technical help than before. Rapidly an organization, fairly simple in operation, became increasingly complex in many ways. After some years, salaried clinical teachers appeared on the scene as the clinical instruction shifted its emphasis onto the hospital patient, and emphasis on clinical research strengthened. The outpatient department acquired a full-time Medical Director and an augmented staff of administration. Correspondingly, the Social Service branch stepped up its personnel and activities; in 1954 it became a separate entity. Supervision and servicing of student health in all schools on the Chicago Campus became an additional responsibility. In 1943 the property and other assets of the Illinois Social Hygiene League and the Public Health Institute were absorbed by the School; thereby, the Louis B. Schmidt Clinic (for the treatment of venereal disease) was added to the Medical Clinics as a special unit. Expanded activities, concomitant with the occupation of the Morton and Searle Buildings have added greatly to the previous number of adjunct helpers. Currently, employees in the secretary-technician category total 470. Expenditures and personnel seem to expand indefinitely to fit available income, following a kind of Parkinsonian Law.

Research activities and housing for them increased greatly during the fifty years of the current period. Especially was this noticeable in the fields of clinical investigation. At the Dearborn-Street site there were little to no opportunities for clinical research, except such as could be pursued on a guest-basis in the basic-science laboratories. In the Ward Memorial Building, space for such activities by clinicians was still meager. But first with the opening of the Morton Research Building in 1955, and then the Searle Building in 1965, there appeared to be reasonable research quarters for all. Yet after another decade the demands became such that the now completed evacuation of the medical and dental outpatient floors was awaited with impatience. Such expanding increase in the space allotted to research is a national trend; even new construction in the years 1960-62 assigned 17 per cent to teaching and fifty per cent to research. Among the augmented activities made possible in clinical research should be mentioned older groups such as the Department of Nutrition and Metabolism (p. 265), the Florsheim Heart Institute organized in 1936, and a program on rheumatic fever (later broadened to infectious diseases) which was established in

1947 and funded by the Samuel J. Sackett Foundation in 1954. More recently there have been established multidisciplinary centers in various fields (p. 243).

Until 1926 the Library of the Medical School was confined largely to routine textbooks and the more common files of journals related to the basic sciences. In all they totaled some 12,000 bound volumes. Its custodian at that time, not a trained librarian, served also as a typist attached to the Registrar's office. In the new building on the Chicago Campus, the collections and staff grew rapidly until today its bound volumes number 194,000. This places it among the foremost medical libraries of the country; compared to others owned by medical schools, in 1951 it rated sixth in the size of its collections and in its expenditures. It is especially rich in old and rare medical books and in medical portraits. The library gained the name of the Archibald Church Library when, in 1924 and 1928, the University received from Dr. and Mrs. Church \$200,000 on an annuity basis, earmarked as endowment for the Library. Also the fund-raising activities of the Medical School, at the time of the University Centennial, designated the Library as the beneficiary. This appeal yielded \$389,000 in additional funds. Expansion into the first floor of the Searle Building, and the capture of space between the Ward, Searle and Morton Buildings, nearly doubled the previous accommodations, yet this amount of space is still inadequate for all present needs. A full account of the Library, which began at the opening of the Medical School itself, is given in Chapter XII.

On moving to its new Campus, the Medical School prospered financially beyond earlier years, but the larger fields of operation that were entered, and the mounting costs that were incurred, outran income and entailed much greater operating deficits than before. A dependence on annual supplements from general funds of the University seemed destined to continue indefinitely. It became a constant and increasing factor in the planning of budgets. In attempting, futilely, to cope with operating deficits, tuition increases became a recurring necessity, yet they tended merely to follow in line with advances initiated elsewhere. In the 1926-79 period the increase was 24-fold, but it failed dismally to keep pace with the augmented costs of operation. A happy reverse trend was an increase in student aid which, in scholarships and loans, reached

\$3,000,000 in the 1977-78 academic year; this amount assisted sixty per cent of the student body.

Some idea of the financial growth of the School during the seven decades since the time of its complete absorption into the University can be gained by the following tabulation, which for 1976 alone includes monies related to grants and similar aids:

	1906	1926	1958	1976
School income	\$82,800	\$ 179,000	\$ 3,938,300	\$32,689,000
Expenditure	69,600	248,300	4,022,400	32,689,000
Endowment	62,300	4,672,100	19,112,400	41,620,000

The total budget for the year 1950-51 can be compared with forty other privately owned medical schools. In that year the Northwestern figure was \$2,313,700, which made it tenth in rank within a spread at other schools ranging from \$5,008,000 down to \$305,000. These sums did not include expenditures for outpatient clinics and hospitals.

The first endowment for medical purposes in America came in 1770, when Ezekiel Hershey left a bequest for the establishment of a chair of anatomy and surgery at Harvard University. Endowment came slowly to the Northwestern School. The beginnings of two professorial chairs have already been mentioned (p. 171). One, the Nathan Smith Davis Professorship of Physiology, gained a final increment of \$21,700 when, on sale of the Dearborn Street properties, the amounts that had been contributed to the erection of Davis Hall were applied to this fund, thereby making a total of \$100,000. The second, the Robert Laughlin Rea Professorship of Anatomy, started with a \$10,000 bequest and became augmented by gifts totaling \$150,000 from Mrs. Mellie Manlove Rea in 1923 and 1928. The Trustees of the Clara A. Abbott Trust assigned \$1,250,000 in 1937 to support the chemical, medical or surgical sciences through the Wallace C. and Clara A. Abbot Professorships; initially there were five beneficiaries in the preclinical departments. The Irving Samuel Cutter Professorship in Medicine and other instruction in that department were endowed in 1949 by an anonymous gift of \$750,000. A lucrative donation from Edward S. Elcock in 1923 established the Elcock Professorship of Surgery. In 1949 Dr. Anna Ross Lapham left a bequest of \$90,000 for research in obstetrics and gynecology, which has been designated as a professorship bear-

ing her name. Two endowed chairs in nutrition and metabolism, the first anywhere in this field, were created by the Spies Committee for Clinical Research in 1958. Each chair is endowed for \$500,000. One was designated as the Tom D. Spies Professorship; the other is the Charles F. Kettering Professorship. A fund of \$2,700,000 earmarked for medical education, came from the Ford Foundation in 1956 and 1957. It provided for a number of unspecified salaries.

In the twenty years since its Centennial the Medical School has added other endowed chairs. These are in Cardiology (Harry W. Dingman); Dermatology (Walter J. Hamlin); Medicine (Ernest S. Bazley, two; Ernest H. and Hattie H. Magerstedt; J. Roscoe Miller; Ortho S. A. Sprague; Samuel J. Sackett); Neurology (Charles L. Mix; Benjamin Boshes); Obstetrics and Gynecology (Thomas J. Watkins); Oncology (Genevieve E. Teuton); Ophthalmology (Ernest H. and Hattie H. Magerstedt); Orthopedic Surgery (Edwin W. Ryerson); Pathology (Ernest H. and Hattie H. Magerstedt); Psychiatry (Owen L. Coon); Rehabilitation Medicine (Paul B. Magnuson); Surgery (Ernest H. and Hattie H. Magerstedt); and Urology (Herman L. Kretschmer). Additionally there is one in Pediatrics (Irene and John Givens) assigned to Children's Memorial Hospital and five assigned to Evanston Hospital. The latter are in Cardiology (Judson B. Branch); Education (Chester W. Tripp); Medicine (Owen L. Coon); Neurosurgery (Arlene and Marshall Bennett); and Surgery (Margaret and Rogers Palmer).

The incomes from many other funds, both large and small, are specifically assigned to the Medical School for the support of various activities. Almost all of these benefactions have been received by gift or bequest since 1926. In all, the endowment funds for medical purposes brought an income that increased from \$479,500 in 1951 to \$3,507,500 in 1977. This aid is impressive, but it does not signify leadership. Corresponding 1951 data from forty other privately owned medical schools showed that Northwestern's position then was eleventh. Were Northwestern to run a general University Hospital and maintain a wholly adequate, salaried clinical staff in all Departments, the present budget would have to be increased substantially. For example, the departmental budgets (exclusive of special funds) for Medicine and Surgery at Northwestern in 1950-51 were \$47,000 and \$5,800 respectively; the highest corresponding budgets among privately supported schools

were \$689,000 and \$287,400. Yet it has been proved that strong teaching hospitals can make money and contribute. In 1960 seven such in the nation showed profits into the millions. Strength begets strength.

Even without the luxury of a privately owned general hospital and its paid teaching staff, which many would classify as necessities for a top-flight institution, the annual budget of the Medical School is already so large as to create chronic, worrisome problems for the Northwestern Trustees. The shift in certain sources of income, expressed as percentages of total income, can be seen in the subjoined tabulation:

	1940-41	1950-51	1957-58	1975-76
Tuition	46%	33%	16%	11%
Federal grants	0	21	29	28
Miscellaneous receipts	12	23	31	51
Endowment income	42	23	24	10

Notable was the decline in the role of tuition and endowment, and the rise to dominance of Federal grants and Miscellaneous (chiefly other grants and gifts). In 1972-73 Federal and private grants comprised 52 per cent of the total income of the Medical School; this compared with a national average of 39 per cent. This shift toward grant support, in harmony with the national trend, shows that the money-emphasis is now on research rather than on teaching as historically had been the case. Such loading reverses the values traditionally placed upon these objectives as major functions of a medical school. The Medical School's income (apart from grants and gifts) increased from \$1,898,000 in 1966 to \$5,498,000 in 1973; the latter amount was 28 per cent of the total income of the School. The average income from unrestricted endowment in private medical colleges of the Nation was seven per cent of the total. Northwestern's endowment yield doubled that percentage.

If the total assets of Northwestern University Medical School were being listed, it would be only fair to include the contribution of time and effort by the voluntary clinical faculty. Placing all of these services on even a nominal pay basis would require an enormous increase in the salary budget. It is estimated that ten to fifteen per cent of all practitioners in this country are connected with the teaching

programs of medical schools. This large contribution of services is unique among the professions, and the medical schools are, in this regard, set apart from all others in the family of professional schools.

The costs of medical education give trouble and embarrassment to everyone from the Trustee, who is trying to maintain some balance among the different Schools of the University, to the parents who find that monies saved and set aside for college and professional-school expenses have shrunken in value beyond any power of prognostication. In the period of 1926-50 the total costs of operating medical schools rose 700 per cent, whereas the cost of educating students was said to have increased 250 per cent, or less than the advance in ordinary living expense. The calculation of costs in medical education has often been unreliable, and not comparable from school to school because essential factors are either included or ignored. In this regard it is clear that the direct cost of teaching medical students is only one item in the total expense of maintaining a medical school.

Figures are available for 1927 that placed the average cost to the universities of the country in educating a medical student at \$700. In 1940 it had risen to \$1,052; and in 1949, to \$2,577. A study by the Association of American Medical Colleges, in 1973, on twelve representative private and public medical colleges set the average cost per student at \$20,000. A similar average for 1978 was estimated to be \$31,500. A still higher figure can be obtained for Northwestern if the total income of the School is divided by the number of students in attendance. This quotient then becomes \$45,000. All data on teaching costs have sometimes been criticized as being loaded with expenditures for research, library, personnel *et cetera*, not directly related to teaching expense. The reply, of course, is that lacking such monied parameters, a competent faculty could not be recruited or retained, and students would not care to enroll in such a school.

If the total amount spent by 79 medical schools in this country for the purpose of financing all their activities in 1951 seemed like a large sum (\$106,000,000), it is revealing to learn that this was only one per cent of the amount spent by the populace on medical services or alcoholic beverages in that year. Since the stability and progress of these medical services and the supply of physicians in at-

tendance throughout the country stem from the total activities of medical schools, their cost of operation in relation to services rendered is small indeed. In view of their real contribution to the public welfare they embody the bargain of the age. In cold fact, the maintenance of medical schools is a part of the general problem of public health. All expenditures by medical schools in 1958 could have been matched by the public purse at an expense equaling three per cent of the financial aid then given to foreign countries.

INNOVATIONS AND ACHIEVEMENTS

The various curricular reforms and advances that characterized this School as a leader in its earlier years, summarized on pp. 67, 68, were accompanied by the establishment of the first chair devoted solely to nervous and mental diseases (p. 92) and the first postgraduate course of clinical instruction (p. 88). Also a modest priority was set when the University awarded diplomas to graduating nurses of its newly affiliated schools (p. 189).

In the current period the first programs in Physical Therapy were inaugurated (p. 271). The Honors Program for talented students, though not the first organized, had distinctive, pioneering features (p. 262). Also the integrated Postgraduate Program was the first to be developed in a private medical center (p. 269). To these scholastic advances could be added certain practical achievements in clinical practice, such as the following: the pioneering repair of the pericardium; the first end-to-end anastomosis of arteries; the nitrogen-collapse of the lung; the saline-drip method of infusion; the initial early operation for acute appendicitis; a standard correction of the 'blue baby' cardiac defect; the discovery of the hormone, cholecystokinin; the perfection of whooping-cough and mononucleosis vaccines; the curing of placental cancer. Among technological advances are: the first incubator for premature babies; the first electrically driven breast pump; the 'Murphy button' for intestinal anastomosis; the first apparatus to detect congenital heart disease; the first direct-wiring electrocardiograph and electroencephalograph; the first myo-electric prosthesis with proportional control; a new type of artificial larynx; the detection of fetal defects

by early analysis of amniotic fluid; and a by-pass for aortic coarctation.

RECOGNITION OF EXCELLENCE

Some bases have been established through the years for the recognition of high performance by members of the Faculty and student body. Several lacked permanence, whereas those noted here are soundly supported. For the Faculty it consists of annual awards, by student vote, to the outstanding teacher in the basic sciences and in the clinical program. These are funded in memory of George H. Joost ('20). For students, scholastic superiority qualifies for membership in Alpha Omega Alpha, the national medical honor society, and for citation at Commencement time as graduating "with distinction" or "with the highest distinction."

There are several monetary awards given annually to students with the highest achievement in specific endeavors. The Leslie B. Arey award was established by the Phi Beta Pi Medical Fraternity for outstanding scholarship in the several anatomical courses. The George A. Dennis award is given to the student attaining the highest grades in the required clinical clerkships. The James A. Patten award aids, each of his four medical years, the Northwestern pre-medical student who gained the best preparation for the pursuit of medical studies. The Frederick K. Rawson award honors the student who attained the highest average during the first two years in our Medical School. The Sigmund S. Winton award goes to the freshman student who excelled in the field of biochemistry.

FUTURE PLANS AND PROBLEMS

The past is a closed book, recording the finished business of success and failure; the present is expended in meeting temporal demands; the future alone excites the imagination by its potential for improvement. No institution with sound leadership fails to clothe its ambitions with a well-conceived plan of long-range scope. In 1955 Northwestern University announced such a program, following a study by the administration and deans that extended over two years.

It envisioned the future goals for the University, and its scope was both imaginative and daring. A "First Plan for the Seventies" raised \$182,000,000, primarily for improvements benefitting the Evanston Campus academically and physically. In 1973 the University began the second phase of its long-term development program by launching a campaign for \$177,000,000, called "Toward the Eighties." In this endeavor, the first year solicitations netted \$70,000,000. The Medical Center instituted its own drive for \$75,000,000, earmarked for new construction, for reconstruction and for endowment to the Medical School.

The addition to the Campus complex, within the past five years, of three new hospitals, a Health Sciences Building, a group of Medical Associates, a dormitory and a high-rise parking facility engenders satisfaction and pride, but a longtime objective still remains unfilled. This is a general hospital, owned and managed by the University and staffed by full-time, paid clinicians. Also it would seem that the not too distant future will enforce an expansion of group practice, such as is performed by the Medical Associates (p. 390), so that most, at least, of the salaried practitioners of our clinical staff will eventually engage in that type of endeavor. A pressing, practical need for additional housing is to provide an apartment-type building for married students and young teachers in the several professional schools on the Chicago Campus.

To indulge in speculation on things yet to come is beyond the clairvoyance of the present writer. But with confidence in the reality of an 'expanding medical universe' one can hopefully predict that a prideful Past is but a prologue to an equally honorable Future.

Dean Eckenhoff's forecast

As this history goes to press, I have been asked to provide a projection of the problems anticipated for the Medical School in the next decade. Without any inherent sense of insight and with no crystal ball, but with an awareness of signal flags flying, the following is offered.

One month prior to the death of Dean Young, I asked for his advice and his projection of the problems of the 1970's. His entire con-

versation concerned the financial foundation of the Medical School as a private institution. He did not believe the School could stabilize or expand its programs without outside financial support. He had no faith in the Federal government reliably supporting medical education. He could not envision a private university being able to support a medical school of quality completely, barring a windfall.

Nine years have elapsed and the words of Dean Young ring true. Federal governmental support, as promised, has come through only in part, although programs and increased enrollment have been mandated. When the pressure mounted for governmental appointment of students to medical schools, we among a few other schools resisted and Washington backed down. In the foreseeable future Federal support of medical education appears unreliable, and highly likely to disappear completely. Medical schools will be left to deal with the mandated and expanded student body, faculty and programs. At this juncture, State support has continued without interference and with no indication of abatement. The requirement that fifty per cent of the class must come from the State of Illinois remains, but we have not had difficulty so far in filling the quota with quality students.

In the meantime, both the cost and requirements of education have escalated. There is a highly competitive market for quality faculty, but we have been surprisingly successful in our recruiting efforts. In the future, however, tuition alone cannot supply the funds required. Northwestern has a paucity of endowed funds for medical education. A search for endowed chairs and trust funds for education and research in the Medical School, to secure medical education in the future, assumes prime importance. Northwestern's principal claim on the national medical scene has been its production of well-trained clinicians. If these clinicians believe in the future of the institution, then a fraction of the benefits of their education should be directed to the education of their successors.

At the same time, the School must continually evaluate its faculty and its programs, streamlining the curriculum, eliminating the unnecessary elements and providing new and improved programs needed to prepare appropriately its graduates for medical practice and to educate students of the future. In the 1970's we have gone far to prune our medical educational tree, to remove the dead and the dying wood and to allow for growth of new and vigorous branches. An educational system must never be static and repetitive; it must



The Chicago Campus buildings, viewed from Lake Michigan; 1940.

be introspectively aware of the present while planning for the future. I believe that the caliber of the faculty we have will continue these processes throughout the 1980's.

The record of Northwestern University Medical School in the 1970's will have to stand on its own merits. The current administration believes progress in that decade will compare favorably with any other decade and with the ideals expressed by the founders of the institution. The success of medical education at the School is dependent upon the maintenance of excellent relations among the institutions of the McGaw Medical Center. The recognition of the Center's hospitals as parts of one of the country's outstanding medical centers depends on a close rapport with Northwestern University. The basis of sound medical education is strong life-science departments (University) and superior clinical departments both in education and in the delivery of health-care service (hospitals). One without the other is like male without female trying to produce progeny to advance medical care appropriate to the needs of the nation. The 1980's should see life sciences strengthened through closer rapport between the faculties on the Evanston and Chicago campuses, a process already underway. The excellent relations now existing between the Medical School and the hospitals must be continued at all costs.

I encourage all of the graduates of Northwestern University Medical School, its faculty and its supporters to think clearly of the problems of the future and of their obligations to quality medical education.

Trials and Troubles

From time to time events occurred that put wisdom, fortitude and patience on trial. The School withstood these tests creditably and without lasting damage although, in one instance, long-suffering was endured beyond the ordinary limits of forbearance.

TAX CRISES

Through the years, since the first affiliation with Northwestern University, a potential danger to the support of the Medical School came through several attempts of Cook County to enforce taxation on the properties of the University despite the complete tax-exempt covenant in its charter. Throughout the Seventies of the nineteenth century the University was enmeshed in its first great tax case, which finally was won in the Supreme Court of the United States (1879). Although freedom from all taxation was then guaranteed, the litigation had entailed a debt of \$200,000, much of it demanding interest at eight per cent. The resources of the University in this period were threatened with confiscation by the State. So uncertain was the outcome that no repairs or improvements were made, while the teachers who remained at their posts had their salaries reduced, and then saw them fall into arrears.

Nearly thirty years later the Collector of Cook County was not satisfied with the precedent-making decision of the Supreme Court. He brought suit on the claim that the decree did not show that the exemption applies to property acquired subsequent to the early amendment to the University charter through which the University had originally sought immunity from taxation. This was again a momentous crisis for all noneducational investments within the University. Happily in 1908 the Supreme Court of Illinois, by unanimous opinion, adjudicated: first, that the Amendatory Act of 1855 is a contract between the State of Illinois and Northwestern

University that cannot be in any wise impaired by any subsequent legislation; and, second, that all of the property of the University, whenever acquired, is forever exempt from taxation. Again the University breathed a deep sigh of relief as the door shut against the tax collector and, this time, seemingly locked.

Not deterred by these defeats, the County recently made another attempt. Using a 1969 amendment to a 1939 State Revenue Act, a tax was imposed on all lease-holders of Northwestern's tax-exempt property. The litigation again reached the Illinois Supreme Court which ruled that this use-tax on renters is valid. An appeal by the University to the United States Supreme Court was dismissed without an opinion. The resulting harm to the University is a large loss in income through decreased lease-revenues.

INSPECTIONS

The question of uniform standards, which had motivated the Columbus (1838) and Cincinnati (1867) conventions, demanded renewed consideration as expanding medical knowledge focused attention on the need for commensurate teaching in the laboratories and hospitals. In 1904 the American Medical Association created a permanent committee assigned to the improvement of medical education. It established, for immediate adoption, a minimal admission standard corresponding to a high-school education, and a medical course extending through four years. A second "ideal" standard was prepared that would require initially (in 1914) one and subsequently (in 1918) two years of college credit for admission; a year's internship would then follow the regular four-year medical course.

All medical schools were inspected by the Association, and were classified in 1907 after being graded on ten categories of qualification. Three classes (*A, B, C*) were established, corresponding to *acceptable, doubtful and unacceptable*. The country-wide distribution was as follows: *A*, 82 colleges; *B*, 46; *C*, 32. That Northwestern stood in the first category was only an endorsement of its position among institutions with respectable attainments. The wide publicity given this total report proved to be more powerful than all of the resolutions and legislation of the preceding century. As a result, a

great wave of improvement swept over the country, and within a few years nearly forty schools disbanded. Yet not a little resentment had been aroused, even though considerable leniency characterized many of the ratings. Hence the Association sought to strengthen its position by eliciting the co-operation of the Carnegie Foundation for the Advancement of Teaching.

In 1910 the Carnegie Foundation published a report, following inspections made in the previous year by Abraham Flexner, a discerning layman, jointly with the American Medical Association. The Foundation did not attempt to act as a standardizing agency, but left standards and classifications to be handled by the Association. It did, however, discuss the peculiarities and shortcomings of medical education in America that resulted from the prevalence of independent colleges, even though many of them had acquired the nominal sponsorship of reputable Universities. The almost complete lack of controlled hospital services throughout the land was also brought sharply to attention. These defects were set against the medical conditions at the Johns Hopkins University, which had a relatively large endowment, a university atmosphere already conditioned to education above the ordinary college level, admission requirements necessitating a baccalaureate degree, a faculty selected with emphasis on productive capacity, a hospital under complete control (soon with the same salaried men serving as departmental and staff chiefs) and Senior students engaged in the hospitals as clinical clerks. Incorporated in the report were summaries of conditions at 155 medical colleges visited and inspected.

The "Flexner Report" was one of the most remarkable and influential publications in the entire literature of education. Its good sense appealed not only to professional opinion, but to university and public opinion as well. The strictures against general medical conditions excited a storm of comment and protest, many inferior schools resenting the revelations and the advice to improve or go out of business. Despite the oftentimes sharpness of language employed, there could be no doubt that Abraham Flexner reported what he saw truthfully and sincerely, and that many of the findings were, indeed, shocking. The emphasis placed by the American Medical Association ratings, and by the Carnegie Foundation report, on the need for fewer and better schools with better university control and increased financial support, had far-reaching

results. Between 1906 and 1926 the number of medical colleges decreased from 161 to 79; the exaction of college requirements for entrance increased from five schools to 74; and there was a rush into true university affiliation.

The reduction in the number of medical schools, with the survival of the better ones, was not so much due to direct attacks on the poorer schools as it was owing to the rapid elevation of admission standards and to the improvement of teaching in the superior schools. Correspondingly, the proprietary schools and those with only a nominal association with a university found themselves unable to meet the financial outlay forced upon them by the progress in the physical and biological sciences and by the need for adequate hospital teaching. Illinois, which had given birth to 39 medical schools by 1909 (and 44 in all), still harbored fourteen in Chicago, but these were reduced to five by 1926.

The Carnegie investigation gave essentially high marks only to Johns Hopkins, Harvard and Western Reserve. Comparatively, Northwestern did not fare badly in the report. The inspection judged the laboratories to be well equipped for routine work, but found that the ten full-time teachers lacked an adequate corps of assistants. Provision for research was rated distinctly inferior to that at the University of Chicago, which had taken over the pre-clinical years of Rush Medical College. The clinical material at Wesley, Mercy and Cook County Hospitals was found to be abundant in both amount and variety; in fact, it was more than could be put to good use. Wesley Hospital, with eighty free beds, was not primarily a teaching hospital, although it might advantageously be reorganized as such. All dispensary requirements were amply met. There was no substantial difference between the clinical offerings of Northwestern and Rush. The hospital situations of both were rated as "tolerable," having the defects inherent in the lack of financial resources and absolute control. Northwestern was criticized for not enforcing strictly its admission standard of one college year; strangely, no consideration was given to the fact that the inspection occurred just after the new requirement had been approved and inserted in the Annual Announcement.

The needs of the College of Physicians and Surgeons (University of Illinois) were adjudged to be greater than those of the other two principal schools in Chicago. But at both Northwestern and Illinois

the inequality of the student body was said to be frankly conceded by the faculties, and only an elevation and maintenance of standards would produce a remedy. The remaining ten schools wholly within the city were subjected to strong criticism, since it was said that they prepared candidates for the Illinois examinations in unmistakable contravention of the law and the rules of the State Board. Their continued existence was considered unnecessary, in which event the medical colleges in Chicago would be reduced to three. This conclusion was important to Northwestern, because the College of Physicians and Surgeons withdrew, for a time, from its alliance with the University of Illinois, while retaining its admission standard at the high-school level. This act placed Northwestern in sharp focus with the Chicago-Rush combination as the sole school with similar standards and aspirations. It presented a challenge, especially in staffing the laboratory departments and in furthering basic research, that could not be disregarded without loss of prestige.

Again, in 1934-36 the Council of Education of the American Medical Association conducted inspections of all medical schools. There was considerable dissatisfaction among the Faculty over the report concerning this School rendered by the Committee consisting of a pathologist and a former teacher of biology. While the inspection was in progress, no one seemed to be impressed with their particular competence for the task, nor with their haphazard and uneven procedure. Accordingly, the Medical Council directed that a thorough survey be made of the present educational policies, facilities, Faculty and students, with the following purposes in mind: to determine their present worth; to evaluate the graduates who represent the products of those factors; and to point out the requirements necessary for the future development of the Medical School. This voluminous compilation brought to light many interesting and significant facts. In various ways it contravened the adverse allegations of the inspecting Committee.

Subsequent reports of periodic inspections by liaison committees of the American Medical Association and the Association of American Medical Colleges were judicious and fair. They called attention to inadequacies in space, teaching beds, curriculum, faculty- and student voice, departmental and hospital interrelations, administrative staffing and long-range planning. Step by step these

deficiencies were corrected. The latest report (1970) ended with a gratifying summarization:

The record of the School in experimentation and development of new academic programs, in improving the academic qualifications of applicants, and in the stability and foresight of its leadership has produced an enviable reputation in the last two decades.

In general, the nationwide system of inspections, aimed at bringing to light legitimate needs as well as patent shortcomings, not only produced an initial surge toward acceptable standards but also has continued to prod mediocrity and commend excellence. Early in its operation it served indirectly to reverse the previous flow of students and graduates to European centers in search of the best instruction and methods. Today medical education in America is in its maturity, following two centuries in which it evolved from a crude, undisciplined infancy and childhood. Even fifteen years ago some 4000 foreign students and 8500 physicians were coming to this country for a basic medical education or for further training.

PROBLEMS OF POLICY

As related elsewhere, fundamental decisions concerning standards had already been reached by the Medical Faculty, and partly put into operation, before the appearance of the Carnegie Report in 1910. Nevertheless, the full implications in that report for the future of American medicine were plain to read, and they must have shaken those of the Faculty who had stood against progressive action. But much still remained to be done at Northwestern. The comparative data in the Report brought home cogently, to School and University alike, the need for strengthening further the laboratories, encouraging more research and improving hospital services. Some help was about to appear through generous gifts from James A. Patten and James Deering, but the determination to continue the advance had already been made, and the University soon learned that it must face increasing deficits. The latter fact was important because an immediate practical problem to be faced was how to spend more money on progressive developments while the

tuition-receipts were declining steadily through smaller enrollments. The decreased patronage was, of course, attendant on elevating the minimal entrance standard from a high-school requirement (*cf.* p. 185), to first a Freshman- and then a Sophomore college level (1908; 1911). Before the upswing began in 1914 the registration slipped to one-third of its high point in 1903. Had the University not accepted this financial challenge in these critical years, the history of the Medical School might well have ended in the early 'teens.

The question of medical co-education was not settled by the reversal of policy following a single year's experience with women students in 1869-70 (p. 117). Neither did the exploratory inquiry on the subject by the University in 1877, nor its direct invitation to the School, in 1897, to take over the scientific courses of the Woman's College, meet with favor. Three years later, when the Woman's College was *in extremis*, the Faculty first resolved to approve the admission of women, provided satisfactory terms could be arranged with the University. But after much discussion the motion was tabled, by a vote of fifteen to five. The subject then lay dormant until 1913, when "after some discussion as to co-education in the Medical School, without any definite agreement or even consensus of opinion, the meeting adjourned."

The issue finally came to a head following the initial gifts to the University by Mrs. Montgomery Ward in the years 1923 and 1924. In the course of conversation with President Scott, she expressed surprise on learning that women were not admitted to the Medical School, but did not comment further. Long before this, the President had requested the Medical Council to state its policy concerning co-education when the new medical building would be occupied. A committee, appointed to consider the matter and not reporting at three subsequent meetings, suddenly came to life and recommended favorably, but not unanimously (four to two). A motion that women be then admitted, on the same terms as men, won by a vote of 13 to 3. This was largely an act of policy, rather than heart, since it was considered good business sense not to seem unchivalrous under the circumstances. Those who voted in favor of the measure, but against their true feelings, doubtless felt vindicated when the final Ward gift, in 1926, proved to be truly munificent by doubling the amounts given previously for the building and its up-

keep. The perennial student gossip that the Ward gift was conditional on the admission of women is groundless, as is the allegation that she stipulated that the number be, at least, four.

At the start (1926), the representation of women in each class was set at four (since this represented a complete dissecting group, and mixed groups were considered to be improper). This number of female dissectors continued until after World War II. The final realistic motivation toward co-education followed somewhat the same pattern as that evidenced at the Johns Hopkins University when money to finish the Medical School ran short and the Trustees were in a quandary. In that extremity a group of prominent women proposed to raise the needed half-million dollars on the condition that women would be admitted on the same basis as men. The reluctant Trustees were forced to listen and accept. At Northwestern the crafty suggestion from the President was that gallantry might pay off! And it did (p. 215 *ff.*).

When the admission of women was under consideration by the Medical Council, advice was sought from individuals with experience in medical coeducation. A neighboring Dean replied that his school was disillusioned since not enough women persisted in practice or became satisfactory clinicians to justify the cost of their training. This opinion has not been substantiated by the outcome of Northwestern female graduates. A 1964 questionnaire sent to all alumnae elicited an 89 per cent response. Sixty-seven per cent had practiced continuously since their training ended, and 77 per cent full time. Fifty-five per cent were diplomates of specialty boards, twice that of a national survey of woman physicians and 1.4 times that of a similar survey of males. Incidentally, the performance of all women in National Board Examinations matches that of males (slightly inferior in first-year subjects; equal in Part 2).

ANTIVIVISECTIONISTS

For a period, and especially in the Thirties, the School was subjected to harassment by antivivisectionists and those concerned with the welfare of "man's best friend, the dog." Through a roundabout sexist influence one of the local newspapers was pressured into joining the campaign, and did so with shameless intensity and distort-

tion. Horror stories of mistreatments, cruelties and purposeless experiments were circulated, as were such falsities as refusals to permit the observation of animal quarters. High priestess of the cult was Irene Castle, a former dancer, who headed a refuge, "Orphans of the Storm," for stray dogs. A spurious charge, after she had abducted a dog from the animal quarters, brought a member of the Faculty and the President of the University into a City Court, but the case was dismissed. An attempt to rescind a City ordinance permitting the use of animals for teaching and research led to an investigation by a committee of aldermen and a hearing at City Hall. The Council voted to retain the ordinance, and further harassment dwindled and died.

DISSENSION

Disagreement and strife were common in the medical colleges of the nineteenth century, and many of them led to the resignation or dismissal of professors. In a period when there were no fixed salaries, controversy frequently arose when the time came for a division of the net proceeds of tuition at the end of the session. Satisfaction might be gained by malcontents allying themselves with a rival college, or by setting up a new college as a competitor. For example, Jefferson Medical College arose in 1825 through dissatisfaction in the faculty of the University of Pennsylvania. Immediately, almost the whole body of professors in the new school became involved in a controversy, growing out of jealousies over the fee system, that threatened the very life of the College. Again, somewhat later, certain members of the faculty were at variance regarding the policy of the College, and all attempts at an amicable adjustment failed. The trustees were forced to dissolve the faculty; in the reorganization the illustrious founder of the school, who had been its devoted friend, valiant defender and guiding spirit, was ignored. At about the same time as the troubles at Jefferson came a quarrel in the College of Physicians and Surgeons (Columbia University), when group after group formed in order to gain control of the school or, failing that, to attempt the founding of a new college. Closer to home, of course, was the dissident group that seceded from Rush Medical College to help found the new school that later

became a part of Northwestern University.

A burr under the saddle of the Medical Administration at Northwestern came in the first decade of the present century when a strong reactionary group in the Faculty delayed and tried to block the requiring of any college work for entry into the freshman class. Their resistance was based on the fear of smaller enrollments, and this prediction was immediately verified. But recovery from a two-thirds shrinkage in patronage, entailed by the initial requirement of one college year (1908), was delayed still further by the addition of a second required year in 1911. The faculty Cassandras must have been chagrined at the speed of partial recovery at a time when only 28 of some 160 medical colleges in the country were adopting similar elevated standards and it was still easy for applicants to choose a much quicker route into the practice of medicine.

There have been only two serious contentions during the long existence of Northwestern University Medical School. Both hinged on matters of policy, in which animosities came to be a far too important factor. The first episode was an internal struggle for control that took place during Dean Edwards' term of office. It centered around the educational aims of the School and manifested itself in an attempt to wrest control from the Dean and his loyal supporters. The insurgent group of the Faculty was ambitious and hungry for power. The period of the contest was a trying one because, for a time, the fate of the School hung in the balance, and all loyalists felt the gravest concern over the outcome. The reactionary educational theory of the opposition was that every effort should be made to increase the size of the School, without disturbing relatively easy entrance requirements or modernizing the type of instruction. After several anxious years, these militant dissidents were silenced, partly by disciplinary action against the leaders. The affair was not without aftermath because bitterness and even hostility, among those defeated and chastened, became inextricably entangled in the second episode. It centered around fulfilling the terms of certain deeds of gift made to advance clinical teaching.

The second dissention was not internal, but stemmed from early gifts to Wesley Hospital of \$30,000 and a building site, alongside the Medical School, to Wesley Hospital. The cash came from earnings of the Medical School; the land, from Northwestern University. The conveyance of land was on the express condition that

Wesley Hospital should erect a hospital building on it, that the staff be drawn from the Faculty and that clinical teaching in the wards and amphitheater be afforded as required by the grantor. On the failure to carry out these conditions, it was stipulated that the land would revert to the University. The only obligation on the part of the Medical School was to supply physicians to staff the Hospital. In the event that the Hospital declined to accept physicians so designated, or admitted unrecommended physicians to its staff, such action would constitute a breach of contract.

An important judgment in the Carnegie report emphasized that "A hospital under complete educational control is as necessary to a medical school as is a laboratory of chemistry or pathology." Spurred by the needs so clearly revealed in this report, and desirous of implementing the intention so plainly stated in the deed of gift from the University, James Deering gave \$1,000,000 to Wesley Hospital, in 1914, as a memorial to his father and sister. A condition of the gift specified that "Wesley shall become a teaching hospital and in both the charity work herein provided for, and everywhere else in the hospital, it shall give all proper teaching facilities consistent with the principle that the patients' welfare is the first consideration. The Medical School must provide an adequate staff for the Hospital."

The rights of the Medical School concerning staff and instruction, as specified in its earlier deed of land, were in no way lessened by the acceptance by the University of the conditions and obligations in the Deering gift. Neither were the original obligations imposed on the Hospital modified by the later benefaction. On the contrary, the Medical School *must* provide an adequate staff, and clinical teaching *must* be afforded it. In retrospect on the decades of disappointment and frustration that followed, it is tragic that the control of this money for clinical teaching was not assigned to the University. It is said that when the matter of naming the direct beneficiary was raised by Mr. Deering, he was advised casually by President Harris to let the Hospital have it since it was to be used to further clinical teaching!

Wesley Hospital was the only hospital solidly affiliated with the Medical School at the time. Theoretically it was the nearest approach to a university hospital, yet it was far from being one. Nevertheless, Dean Edwards was optimistic enough to predict that

the Deering endowment would become the nucleus of an arrangement approximating the conditions of a university hospital, and that "Mr. Patten's further gift for general endowment of medical education [p. 219] places the School in a position which promises to become supreme in Chicago." Soon, however, the Medical School became uneasy because the teaching conditions at Wesley Memorial Hospital did not improve. Then, as the months grew into years, the prospect of anything approaching a teaching hospital faded as inaction and overt noncompliance continued. The long history of the ensuing controversy is well documented in the Minutes of the University Trustees and in a summarizing report of a committee to the Medical Council. In contrast is the failure of the Hospital to find any records of the controversy in its files.

The University complained that the Hospital erred in various ways, such as on the following counts: Means had been provided for a teaching hospital, but previous conditions remained unchanged. Less than six per cent of all clinical work was provided by the Hospital and, contrary to a condition in the gift of land, students were not even admitted to the wards. The Superintendent, uninterested in the scientific side of medical education, dominated the policies and management of the Hospital. He had furthered decentralization and even encouraged some Faculty members on the staff to urge more dissociation of the two institutions. Further evidence of his unfitness as director of a teaching hospital found proof in his statement to University Trustees that "a hospital should be run like a shoe shop—to make money."

The University charged further that the Superintendent had handled the situation so as to cause some of the most eminent members of the Medical Faculty to withdraw from the Hospital, because of unsatisfactory service rendered to their patients. Equally valuable members of the Faculty had been peremptorily dismissed because they had the courage to complain about intolerable conditions; in one instance the Superintendent admitted the dismissal was only "a good opportunity to give the Medical School a blow." Eminent members of the Faculty, properly recommended, were excluded from the staff. Physicians dropped from the Medical Faculty for good and sufficient reasons (one of whom reportedly boasted that he would live to see the Medical School destroyed), had been retained on the Hospital staff over protests from the School.

The University cited further grievances: The by-law of the Hospital governing staff appointments had been changed so as to omit reference to the nominating prerogative of the University previously agreed upon, and appointments had been made on this altered basis. Advice from Mr. Deering that the Superintendent should be replaced was answered by his re-election for a long term — a direct affront. An offer to submit the charge that the conditions of the deeds of gift were being disregarded to an impartial board of review was rejected. In short, the University felt that the Hospital had found it irksome or unprofitable to live up to its contracts, and so paid no heed to them. Failure to observe the conditions of the contract of affiliation with the Training School for Nurses was cited as another instance of disregard of solemn agreements.

The replies of Wesley Memorial Hospital to these charges made clear its position, regardless of the degree to which they outraged the record of inaction and obstruction, or the patent meaning and spirit of simple agreements. The Hospital denied that the changed by-law and its operation constituted a breach of the conditions of the deed of gift of the Hospital site. It intended to draw its staff from the Medical Faculty, so long as competent men were nominated by the School, but it wished to select one-fourth of the staff through its own choosing. A staff member, once appointed, must have security of tenure so long as he gave satisfaction to the Hospital. He could be removed only on reasons sufficient to the Hospital, whereas his retention or release from the Medical Faculty was a prerogative of that School. Some staff members furnished by the School had not been loyal to the interests of the Hospital. Those clinicians who, in the dark days when closure seemed imminent, had set the Hospital on its feet by filling its beds, would not be dropped now because of dismissal from the Medical Faculty.

The Wesley rejoinder professed that it was the wish and intention of its administration to become a teaching hospital, within the terms of the Deering gift, but this must be accomplished under the direction and management of the Hospital. Mr. Deering had not provided funds for operating a hospital, but merely income for charitable purposes (note the significant omission of "teaching hospital" and "teaching facilities," since this statement, as made, epitomized the Wesley concept of its essential obligation). Wesley must conduct its business and must control its property and staff; it

alone must decide who may or may not become clinical patients. The Hospital had accepted the conditions named, and it intended to live up to them. At the same time it wished the Medical School to receive benefits "so far as is consistent with the principles of patients' welfare." The Hospital would not concede that the gift of land by the University, and its attendant obligations, had any bearing on the Deering gift.

Relatively early in the disagreement, at Mr. Deering's suggestion, Henry S. Pritchett, President of the Carnegie Foundation, was invited by both parties to examine the conduct and management of the Hospital, and to include an examination into the relations of the Medical School to the Hospital. He accepted the commission and rendered a report notable for its practical common sense. He found a wide variance of opinion as to what a hospital ought to be and how conducted. The Hospital gave great attention to pay patients, the profits going for the use of poor patients. Although its obligations toward teaching had been increased enormously by the Deering gift, it did not provide the opportunities for medical teaching that it should. By contrast, the Medical School thought in terms of a University Hospital, utilizing all clinical material, rich or poor, that was available for teaching purposes. To carry out this plan, it would be necessary for the teachers to have practical control of the beds to be used in bedside teaching; and the staff should be solely from the Medical Faculty. But the clinical faculty of the School was not yet on a salaried basis, and the University did not control its time or services; even the Dean was a part-time practitioner.

Hence, Dr. Pritchett advised, the transformation must be gradual between a Hospital, little used to teaching and unaccustomed to the university concept, and a Faculty itself in a transitional stage. The transition must be gradual, but it could come to pass if both would begin to co-operate sympathetically as co-ordinate institutions. The Hospital should acknowledge that it was not meeting its obligations, and the University should admit that the ideal relationship could not be arranged immediately. In view of all these considerations, Dr. Pritchett set up a *modus vivendi* that conceded somewhat to the Hospital's insistence to retain on its staff some men, not acceptable to the Medical Faculty, who would bring in many pay patients. Yet the program should aim toward a gradual

evolution into a teaching hospital of the true university type, with its staff drawn solely from the active Faculty and with the clinical heads of departments becoming corresponding chiefs of the Hospital staff. All should agree that this type of hospital serves best the interest of the School and of the patient, rich or poor.

But Dr. Pritchett emphasized that the whole situation had become so complicated with personal feelings and bitterness that a calm and fair consideration of common problems was difficult for both parties. Unless this intensity of feeling could be lessened, no technical advice would be of benefit. If the executive officers of the Hospital and the School were so embittered that they could not do business together, then each board of trustees should try a new set of men.

The University accepted the recommended *modus vivendi* as the basis of negotiations, and invited the Hospital to do the same. The Hospital proved to be obdurate and ill-mannered. Mr. Deering requested that a full-time person be appointed who should serve both as Dean of the School and Superintendent of the Hospital. The University replied that it would comply; the only response of the Hospital was to re-elect its then Superintendent for a fresh term of five years.

Mr. Deering, greatly disappointed at the failure of the Hospital to carry out the conditions of his gift, was prepared to ask for its return. James Patten, a recent generous benefactor of the Medical School, joined in the opposition to Wesley. The University filed a bill (and Mr. Deering, a cross bill) at law to compel Wesley Hospital to comply with the conditions of the Deering deed. The Supreme Court of Illinois finally reversed unanimously the decision of a lower court that the equity was without jurisdiction. It held that there was no serious controversy over the meaning of the Northwestern deed: "staff" and "adequate staff" clearly meant the entire staff; there was a plain violation of the condition that Wesley would furnish facilities for bedside and clinical teaching; acceptance of the gift created a continuing obligation. Deering had created a charitable trust under which each institution was a beneficiary; either party might maintain a bill to enforce performance by the other.

Since the highest court of the State had construed the meaning of the deeds, it remained only to maintain by evidence the allegations. Wesley, having failed with its demurrer, next entered what pur-

ported to be a plea, but the Superior Court held it for naught. Having thus been unsuccessful in both attempts, the Hospital now had to answer and go to trial, or have a mandatory injunction entered against it. Nearly five years had elapsed since the case started, and three years since the Supreme Court held that the bill showed good cause for action. But still Wesley continued "to file frivolous pleas and dilatory motions," and in late 1922 the Northwestern attorneys could venture no prediction of an early trial.

Facing almost certain ultimate defeat, the continuation of delaying tactics worked first to the advantage of the Hospital. In the early Twenties the movement toward a Greater Northwestern gathered momentum. Land had been obtained for a Chicago Campus, north of the river. Gifts were coming in for buildings. Already in 1920 a group of influential alumni of the Medical School had asked for an early settlement of the dispute, since the campaigns for the School and Hospital must seek out friends to both institutions. Their letter emphasized, as Dr. Pritchett had done years before, that givers would not be anxious to donate to quarreling participants in a law suit. It also called to attention that Mercy Hospital was about to be lost to the School, and that Wesley had already showed progress toward better co-operative relations. Impressed by these pragmatic considerations, the University tried to effect an amicable adjustment of the pending litigation that would also be satisfactory to Mr. Deering. The attempt failed, whereupon President Scott advised that if Wesley did not trust Northwestern, the University should sever relations. He revealed that in recent months three hospitals had made overtures to the University, all of which would doubtless permit the University to nominate a staff, and one of which seemed likely to develop into a high-grade teaching hospital (and did; it was Passavant).

Again several years elapsed, during which time first a building on the new Campus and then a large endowment became assured to the Medical School. This reversed somewhat the previous bargaining advantage of Wesley, which now faced isolation in a deteriorated neighborhood. In 1924 a settlement seemed to have been reached, protecting the chief interests of all three parties. It was agreed in principle that the best hospital is a teaching hospital, and that a more efficient and harmonious relation between the Hospital and University was desirable. Hence it was resolved to enter into a con-

tract which would provide: (1) erection by Wesley of at least a 400-bed hospital on the new campus; (2) not less than one-third of the total beds to be allocated to patients available for progressive clinical instruction (bedside-teaching or otherwise); (3) selection of the Wesley staff to be exclusively from the Medical Faculty (although certain current appointees could continue until retirement); (4) severance from the Medical Faculty not necessarily to mean severance from the Hospital Staff; (5) on the execution of control, the University to convey to Wesley all interests in its present property and release Wesley from all claims arising out of gifts made to it; (6) the bill and cross bill to be dismissed; (7) until such time as Wesley erected a modern hospital, it was to allot at least fifty beds for clinical instruction; (8) both parties to agree henceforth to observe all conditions of the Deering gift; (9) if Wesley wished to build on the new campus, the University was to set aside, until January 1, 1929, a site adjoining the Medical School and to execute a lease at a nominal rental; and (10) both parties to agree that this contract was not only to settle and terminate all controversies but also to establish a basis for future efficient and harmonious co-operation. (Later, in 1929, the guarantee of teaching beds was reduced from 133 to 15, at all times, plus such others as might be supported by specific endowments.)

Following this solemn pact, attempts by the University to negotiate satisfactory working arrangements, or even to discuss matters through conciliatory committees drawn from the two groups of Trustees, failed until 1929, when Passavant Hospital was opening on the new campus. Soon loss of prominent clinicians from the Wesley staff, and the resulting decline in its use for teaching, reopened old wounds. Quite irrationally, open offers from the Medical School to help reconstruct the depleted and weakened staff remained unaccepted even to 1941, when the Hospital moved to the Chicago Campus. Wesley Memorial Hospital, when left behind at the old college site, naturally felt increasingly abandoned as its usefulness to the Medical School declined, its prestige waned through staff desertions and floors lay idle. It was destined to experience years of frustrated hopes before an escape from its unpromising environment was accomplished. Then came a new task, which was to learn, step by step, what the full meaning of a teaching hospital entailed. Deaths and retirements gradually removed

irreconcilables from the scene, and finally others participated in the merger that became Northwestern Memorial Hospital in 1972.

Amazingly the period of contention, since 1914, engaged the attention and taxed the endurance of four Presidents of the University and four Deans of the Medical School. But, significantly, a single Superintendent of the Hospital remained throughout the entire period. Inaction for the first fifteen years (1914-29) delayed clinical developments to such an extent that the all-round standing of the School suffered badly. In a period of rapid development of clinical facilities elsewhere, the teaching of these branches progressed but little at Northwestern in the first three decades of the twentieth century. Dean Edwards had warned in 1914 that "the life of the School, and its present and future rating depend on its having its own hospital." And he was sufficiently sanguine to predict that such "would give Northwestern a unique prestige, and the Medical School the command of medical education in Chicago and the West." But his term of office ended in disappointment and the beginnings of the "drastic publicity" that he feared. Dean Kendall completed his eight-year term with only the false gleam of a real settlement in sight. The stalemate wore on through Dean Cutter's long period of service and past that of Dean Miller. For its part, Wesley lost a golden opportunity to establish early a reputation among hospitals for progressive action, and this was for want of imagination, of determination to become a modern teaching hospital, and of effective utilization of means provided for this specific purpose. It was sixty years after the Deering gift when full co-operation first came, and this was through the union with Passavant that produced a merged Memorial Hospital.

WORLD WAR I

In the early spring of 1917, even before war was declared by this country, military drill and training in the tactics of the Hospital and Ambulance Corps were established in the Medical School under the charge of a Sergeant detailed by the Government. Actuated by the spirit of the times, the Dean and preclinical Faculty participated in these drills which took place, in good weather, in a public play-

ground not far distant. Even earlier, special courses in Military Medicine and Hygiene, designed to meet the needs of an Army or Navy surgeon, had been given by a Major of the regular Army detailed to the School for that purpose. As a result, ten of the Senior class passed the requisite examinations and entered the national service before the close of the academic year. It was, however, clearly recognized that ordinary medical training was so directly related to prospective war needs that it was more in the national interest for students to remain in class and complete their studies.

American Army Hospital Unit No. 12 was organized by Dr. Frederick A. Besley largely from the Faculty, nurses and students related to Northwestern University. In May, 1917, this organization, better known as Base Hospital No. 12, left for active service. After a short time in England, the Unit crossed over to France and was placed in charge of a British Base Hospital of some 2,000 beds, where it continued for many months. In all, it served with distinction in Etaples, France, for nearly two years, treating some 60,000 at its field station.

In the summer of 1918 the idea took root of using colleges as training camps, and so the Student Army Training Corps was established without delay. Through the initiative and drive of Dean Kendall, the Northwestern unit was the first to be organized in any medical school in the Nation. Students were inducted into the Army, but remained in college while living as soldiers and receiving training as such. The University contracted to provide housing, food and academic instruction at a fixed price, while the Army gave military instruction and maintained discipline. At the Medical School four fraternity houses were turned into barracks, and the pathological laboratory was converted into a mess hall where food was dispensed by a chain-restaurant organization. Students were marched from barracks to School for the day and, after a supervised study period in the evening, they were countermarched to the barracks.

The Medical Department of the Army assumed virtual control of the Medical School on October 1, 1918. It cannot be said that the experiment was a success from the standpoint of either University or Army. The students were handled in a manner that contributed neither to their contentment nor to their efficiency. Only 45 hours a

week were allotted to instruction and study, so that former scholastic standards could not be maintained. With the signing of the Armistice the purpose for which the Corps was created had passed, and six weeks later control reverted to the University. Normal conditions were resumed rapidly, even though the adopted scheduling by trimesters ran its course. When World War II developed, a quarter of a century later, the Government and Armed Forces had profited sufficiently by earlier errors so as to interfere less with the professional training of prospective medical personnel.

Of 289 students regularly enrolled in the Medical School, 223 were inducted into the S.A.T.C. and 24 into the Naval Reserve Force. As already implied, the results of the experiment were disappointing. War is ever a disrupting influence, and in this instance the students attained neither efficiency in medicine nor familiarity with military procedure. Matters were not helped by the absence of three-fifths of the Faculty (80 out of 132) as commissioned officers in the Medical Corps of the Army or Navy. Among other scholastic losses, the elective system and clerkships of the Senior medical program were forced into discontinuance. At the time of the War there were 2,889 living alumni of the Medical School, distributed through a wide range of ages. Of this number 949, or one-third of the total, were commissioned in either the Army or Navy Corps.

WORLD WAR II

The Second World War engaged the co-operation of the Medical School more intensely than did the First, but there was far less disturbance of routine and efficiency. Physically qualified students, enrolled as Privates in the Army or as Apprenticed Seamen in the Navy, represented nearly ninety per cent of each war-time class. They were placed in uniform, given pay and were otherwise supported by the Government throughout their medical training. Students holding Reserve Corps commissions were permitted to retain them, if desired, but were not then entitled to any financial benefits. The University had to enter into contracts to supply medical training, housing, feeding and medical care. The length of college preparation before entrance to the Medical School was reduced to

two years for the duration of the War, and the medical curriculum added a minor amount of instruction in military medicine and surgery. From 1943 through 1945 the total medical program was accelerated by scheduling continuous classes, so that the regular medical course would be completed in three calendar years. Since military pay was related to family size, many students found it profitable to marry and produce babies.

Beyond providing an accelerated teaching program, the Faculty participated directly in numerous research projects essential to the War effort. Still more intimate participation came to many through service in military hospitals. Northwestern's General Hospital No. 12 of the First World War, already restaffed, was reactivated at the outset, and served notably in Africa and Italy. Station Hospital No. 48, split off from No. 12, saw intense service in New Guinea and elsewhere in the Pacific area. Specialty Naval Unit No. 29 was stationed at the Navy Pier, with hospitalization facilities at Wesley Memorial Hospital for the purpose of caring for enlisted personnel in the Chicago area. Still another Station Hospital was drawn from alumni and younger faculty members, but was not considered an affiliated unit of the University. By the autumn of 1942 the Faculty had supplied 170 of its members to the War effort, and this number later grew to 225. No other medical school equaled this record of military service. The depletion from the Faculty of many of the better teachers presented practical difficulties that were accentuated because of the accelerated program.

STUDENT UNREST

Undergraduate unrest of the later Sixties and early Seventies sometimes culminated in the seizure of college buildings and other acts of violence. One might have thought that busy medical students would not indulge in such distractions. But here at Northwestern a small group of activists did emerge, even occupying the office of an associate dean symbolically for 24 hours and submitting idealistic demands. Interestingly enough, one important and unsuccessful 'cause' was to try to coerce the School into setting up a round-the-clock, free clinic in an area of the city where minorities were badly



Walled and moated barracks at Rome, serving unit No. 12 as a 2,000 bed hospital.



Mined beach, fronting a former Youth Center, utilized by Unit No. 12 at Leghorn, Italy.

serviced medically. More practical and successful were pressures applied toward protecting the dignity and rights of clinic patients, and toward introducing studies on health care in the urban setting.

There were tangible fruits of this localized student concern for community health-care, a concern fomented nationally by the aggressive Students' American Medical Association. Out of it came the organization of two new extramural health centers (p. 256), while the climactic demonstration helped to trigger the establishment of the Department of Community Health and Preventive Medicine. Byproducts of the local unrest were the organization of a Student Senate and a Faculty Senate, whose representatives share in various decisions and responsibilities affecting the operation and policies of the Medical School.

Some years later the student body naturally became disturbed by an announcement from the University Administration that medical tuition would be increased by one-third in the next (1977-78) academic year. Junior students organized a protest on the basis that the rate stated in the School's catalog constituted an implied contract, subject only to reasonable increase. Class subscription raised about \$10,000 which financed a lawsuit that, predictably, failed to gain the support of the Court.

INDISPENSABLE SUBJECTS

For centuries an impediment to proper medical instruction was the difficulty in obtaining material for human dissection. Strangely enough, the public, although coming to approve the legalization of postmortem examinations, was long unreconciled to the dissection of human bodies in medical schools. In conflict was the age-old dilemma of demanding proficiency from physicians and, at the same time, obstinately withholding the very means of getting it. Beginning with 1825 and extending to midcentury, Illinois had enacted, and even revised, statutes to prevent unauthorized disinterment of the dead. The bodies of criminals were made available as early as 1649 in Massachusetts; in 1827 Illinois followed, and the first legal dissection was done on a cadaver obtained from an execution in 1840. As a sole source, executions obviously could not suf-

fice, and amateur (that is, student or instructor) and professional body-snatchers became an irregular facet, first of the training under preceptors and then of the operation of medical colleges. Nor did the passage of acts legalizing the procural of bodies for dissection, beginning with Massachusetts in 1831, solve the problem immediately. It has been calculated, for example, that several thousand grave-robbings must have occurred in Massachusetts in the nineteenth century.

The illegal procural of bodies was usually the result of grave robbing, also characterized as resurrecting, raising the dead and body snatching, but theft of bodies before burial occurred on occasion and even murder for profit was not unknown. The participants in exhumation were variously designated as grave robbers, body snatchers, resurrectionists and sack-'em-up men. During the Colonial period students, studying under preceptors, had to supply their own anatomical material if they wished to learn by dissection. With the rise of medical colleges after the War for Independence, cadavers began to be furnished by the schools. This was accomplished either by the direct action of the professor's assistant or by purchase from professionals, so that student involvement lessened correspondingly and finally ceased.

The outraging of public sentiment had led to riots from time to time. The earliest took place in 1765 against Dr. Shippen's private school of anatomy in Philadelphia, followed by demonstrations in New York, Baltimore, New Haven and elsewhere. The last large-scale "Doctors' Mob" occurred in St. Louis in 1844. Illinois was not free from such episodes. In 1849 an armed posse of 200 or more incensed citizens stormed the home of Professor Richards, of the Franklin Medical College at St. Charles, who had given sanctuary to a former student who had stolen a female corpse from the graveyard of a neighboring town. During the assault the young man was killed by a bullet fired through the front door of the Richards house, and the Professor was permanently crippled by another gunshot. Assurance that the body could be recovered at a designated place the next day served to disperse the assemblage. Another incident, which was undoubtedly a factor in the discontinuance of the medical department of Illinois College, at Jacksonville, was largely brought about by the zealous activities of its Professor Prince. On one occasion the medical building was surrounded by an angry mob

who believed that the exhumed body of ex-Governor Duncan was in the process of dissection there. Only assurances and promises to the family and public prevented serious violence.

Rush Medical College on several occasions was the object of public indignation. In 1857 it gained much undesirable publicity when a student and a public sexton were jointly charged with 'resurrecting' bodies from a cemetery for the purpose of dissection. The press attacked viciously, with epithets such as "barbarians" and "hyenas." With characteristic courage Dr. N. S. Davis replied in his *Chicago Medical Examiner*, arguing that such procural was not inherently criminal because the remains would be used to gain knowledge to benefit the living; the motive could not be impeached, and it was absurd to argue that unclaimed human remains in Potter's Field belonged to anyone. To be sure, he continued, legislators had made laws that had declared such an act criminal; but they also had enacted legislation that rendered every physician subject to suits for malpractice if he failed to use the very knowledge that can be gained in no other way than by dissection of the human body. The escape from this dilemma, Davis maintained, was not to advocate the robbing of graveyards as the sensible solution, but rather to change the laws so as to award the unclaimed bodies to the medical schools for properly supervised studies, followed by decent interment or cremation.

Again, in 1867, two Negroes were arrested, in proximity to Rush Medical College, with possession of several cadavers evidently procured for medical dissection. The newspapers "ascended to heights of vituperative invective." The President of the College, in his *Chicago Medical Journal*, denied that the school or its faculty members were involved, and argued: "The poor resurrectionists, in their unpleasant and hazardous work, at least sought the cover of night and secrecy, and did everything in their power to prevent the feelings of any person from being lacerated. Theirs was a necessary work — it must be done by somebody, all admit so much; the offense, if any, was a Spartan one — *being caught*."

Dr. John H. Hollister was a Demonstrator of Anatomy at Rush Medical College from 1857 to '59, when he left to become a founder of our School. As Demonstrator, a major responsibility was the procural of subjects for dissection. This was a serious obligation because at that time not even the failure to provide lectures would

so soon bring discredit to a medical college as shortages in this material. In his *Memories of Eighty Years*, Dr. Hollister wrote:

The exposures and real dangers I underwent in the fulfillment of duties connected with the position seem almost incredible. The procuring of subjects for anatomical teaching was sometimes at the peril of life. At that period nothing in a community would so incite a mob as the invasion of a graveyard. It is needless to speak of the decoy letters, of shadowings by police, of the mutilation of subjects in the darkness of night to prevent their recognition when the authorities were about to pounce down upon our college on a voyage of discovery. I might speak of visits to other cities and the sending home of barrels marked "Chemical Erasive Soap" so that the contents might not be betrayed by their odor.

Only once was my life, I think, really in danger, and that was when I approached a half-opened grave and one of my helpers, deaf as an adder, grasped his hatchet to brain me, mistaking me for a policeman. I threw my hat in his face; he recognized it and sank down in complete collapse. We got our quota of subjects all right. To prove that I could do it, I went one dark night and procured a subject all alone. I did it then, but I don't think I would do it again.

In *The Marching Years* Dr. Norman Bridge (class of 1868) has related his experiences as an Assistant Demonstrator at the Chicago Medical College in procuring anatomical material for class teaching in the years 1868-70. At this period all human subjects (except the few legalized criminals) were still obtained illicitly from three sources of supply: first, Potter's Field; second, other cemeteries (necessitating daring recklessness); and third, by bribery, directly or indirectly, from almshouses and prisons before burial. Dr. Charles T. Parkes, later Professor of Surgery at Rush Medical College, was at that time Demonstrator of Anatomy there. It was agreed that Parkes should procure all the material for both schools and assign it equitably according to the respective enrollments; total expenses incurred by an arrangement made with the county undertaker would be shared proportionately. After a time the bodies allotted to the Chicago Medical College became scanty and of poor quality, whereas the Rush students were known to enjoy an abundance of good material. Complaints resulted in even worse treatment, and independent action had to be taken to

satisfy the students and maintain a reputation for affording reasonable facilities. Accordingly, Bridge was assigned by his superior to the disagreeable task. The Demonstrator told him of the secret agreement Parkes had made with the county undertaker and gave him a free hand but, for his own protection, offered no instructions as to a plan of action.

The existing arrangement was simple, commercial and, it is hoped, venial. The unclaimed, boxed dead were stored temporarily in a large vault in a mostly vacated cemetery at the south end of Lincoln Park. When a wagon-load of boxes had accumulated, the county inspector would examine them at night and give the undertaker a permit to transfer them at daybreak to the Potter's Field. Such precautions were aimed to protect the reputation of the County Board by preventing possible irregularities on the part of the undertaker. But between the nocturnal inspection and daylight there was still time for the substitution of a bag of sand for each body, and these, if anything, found burial. Bridge obtained the undertaker's key for a night by bribing his helper, raided the vault and secured one good body. This theft placed Parkes in a bad position since he and the undertaker had the only two keys to the vault. In spite of his protests as to innocence, Parkes had to make good by sending men to Potter's Field, who dug up a body through four feet of frozen earth and placed it in the empty box before the imminent inspection. Parkes raged at the Demonstrator of the Chicago Medical College, who truthfully disclaimed knowledge of the affair, and then charged Bridge with perpetrating a "despicable trick." The latter refused to discuss the episode or previous grievances, but only intimated that if the College got a square deal in the future, there would probably be no further trouble. And from that time on, the College did receive fair treatment as to both quantity and quality.

A meeting of the Faculty of the Chicago Medical College in December, 1866, instructed representatives to confer with a similar committee from Rush Medical College for the purpose of taking measures to have an anatomical law passed at the next meeting of the Legislature. Immediate action, however, was not forthcoming. Eight years previously Professor Hosmer A. Johnson, then President of the Illinois State Medical Society, had appointed a committee "to mature a plan for memorializing the legislature in favor

of legalizing dissection," and the next year he delivered his valedictory address before that Society on the subject of human dissection. It is said that this speech was the most impassioned and masterly of any presidential address given in the forty-year span between the founding and 1890. To quote O. F. Kampmeier in the *History of Medical Practice in Illinois*:

Rarely had an audience listened with such rapt attention as to this speech . . . With a broad grasp of medical history, a profound insight into the psychology of peoples, an incisive and impelling logic and an unsurpassed clarity of language, he portrayed the search after truth and perfection of skill, and the conditions that hamper such aims, in a manner which utterly annihilated any prejudice against human dissection . . . No one deserves more credit in finally securing passage of an 'Anatomy Act' in Illinois than does Dr. Hosmer Johnson, not only because of this address but because of his succeeding, persistent efforts toward such legislation.

Finally, after a quarter of a century of agitation and pressure, a compromise Anatomy Act was passed in 1874, but this was inadequate and ineffective because it was permissive and hence not mandatory on officials to deliver to the colleges the bodies that legally might be used for medical purposes. In Cook County some graft was involved in procuring deliveries and, following dissatisfaction between the County Board and the undertaker over splitting the bribes, all deliveries ceased. This default forced the colleges to buy at extortionate prices from daring individuals who engaged in some scandalous practices of robbery, both before and after burial. Medical students were included among the grave robbers, and former members of the Rush faculty have recorded the involvement of two students of that college. One of the pair was sent to the Joliet penitentiary, whereas the greater offender escaped to Texas; both received diplomas *in absentia* about two years later!

Ten years after the first legislation there was renewed effort to strengthen the law by making it mandatory, and also to include preceptors as well as colleges among the proper recipients. During the debate on this proposal Dr. Johnson made an extemporaneous, dramatic appeal that again displayed his persuasive rhetorical skill. With such aid, an improved measure was enacted June 26, 1885. This definitive law remains in force to the present day, and has

proved to be a wise and effective aid to medical education. Only minor revision would be necessary in adapting it ideally to present-day conditions. Nevertheless, because of ignorance of the existence of lawful procedures, or of unwillingness to comply with the necessary routine, it is known that isolated incidents of exhumation continued until the end of the century.

In the early twentieth century a mutual Demonstrators' Association, appropriately named for the original protagonists in this field, arose to simplify the procural and equable distribution of subjects to all schools and hospitals using them. Yet the embalming and storing of cadavers continued to be a necessary chore imposed on the anatomical department of each medical school. This sometimes became burdensome through an inability to obtain and retain help for such an unpleasant task. A shortage in the labor-force during World War I led the several medical schools in Chicago to relegate all embalming to an individual assigned to the central quarters of the Demonstrators' Association. This move proved to be a satisfactory solution to a formerly unwanted direct responsibility, and the arrangement became permanent by general acclaim. Such an arrangement is unique in the Nation.

The College came to dispose of its dissected remains by burial in a public cemetery. The first recorded purchase of a lot coincides with the passage of the initial Anatomy Act in 1874, which specified such disposal. That this had been done previously is doubtful because of the irregularities attending the procural of material. In 1916 the Northwestern Trustees were astonished to learn that the University owned three lots in Oakwood Cemetery, purchased in 1874, 1881 and 1883, which had accumulated a fair-sized bill for care. The cemetery association suggested that the forfeiture of title, through failure to pay, would be wholly acceptable. This was done.

The Act of 1885 permitted users, as an alternative to burial, "to cremate the [bodies] in a furnace properly constructed for the purpose." In 1892 the cautious President of the cemetery association wrote the Northwestern Trustees: "Let me suggest . . . that there is no necessity for sending this 'dissected remains' to a cemetery . . . I think you are allowed to *burn* it . . . The Cemetery prefers not to bury this kind of material." Presumably his advice was followed straightway; certainly cremation was done routinely during many years of occupancy at the Dearborn Street site.

But since there was no special provision in those days for the cremation of *spolia anatomica*, it was done in the coal-burning heating facility in the basement of the Laboratory Building. The time designated for this disposal was during the summer vacation-period, and the orders were that it should be carried out gradually by night. About the time of World War I there was a drive toward smoke abatement in the city, and to this end roving details of inspectors reported infractions. These led to photographic publicity in the newspapers and ended by stiff fines in the courts. On one hot day-time such a detail spotted a column of inky smoke leaving the stack of the Laboratory Building. Seeking out the boiler room, they found the fire-compartment stuffed with anatomical remains. Publicity of this infraction of the ordinance would have been serious through the ensuing public resentment against a breach in good citizenship and common decency. Fortunately, fast talking by an administrative official convinced the detail that the offense occurred solely through the disregard of strict orders and that there would be no repetition; the incident was not reported to civic headquarters.

A better method of handling cremation became standard practice when a special incinerator was installed in the Ward Building on the new campus. Final disposal is by returning individual ashes, on request, to relatives and by burial of other ashes in a cemetery plot owned by the University. An annual committal service, as done in some medical colleges in this country, has not been a custom at Northwestern.

AN ALLEGED IRREGULARITY

A strange bit of pseudohistory involves an illegally sold cadaver and Northwestern. Adherents of the "Great American Myth" maintain that John Wilkes Booth, the assassin of President Lincoln, was never captured. Instead, as the story goes, a farmhand also hiding in the Virginia barn-refuge was shot as he escaped the burning building and was buried as a counterfeit Booth. The myth further credits the footloose Booth with making his way to the Midsouth where he lived under an assumed name until death occurred in 1903. Years later a mummified corpse was sold as Booth to a sideshow

entrepreneur. It reached Chicago in 1931, whereupon the show broke up and the exhibited mummy was said to have been taken to our Medical School. My first knowledge of this allegation was somewhat later when a nationally known author came to my office, asserting that there was good testimony that the body had been brought to the School. He expected confirmation of this and hoped to see the specimen. Finally he left, unconvinced by my denials that such an exhibit was ever in our responsible possession.

In 1976 the *Rolling Stone* magazine revived the myth in an article describing the preparation of a book by a newly converted supporter of the legend. His crowning bit of evidence was said to be an affidavit by six "physicians from Northwestern University" who examined the cadaver in 1931 and stated that the body had all of the known Booth earmarks: the fencing scar above the right eyebrow; the deformed right thumb; the broken leg; and, wonderful to tell, a signet ring bearing the initial 'B' found in the stomach. A tiny reproduction of this unnotarized document was published in the magazine. Actually there were six Chicago physicians whose names correspond with those on the document. Each prefixed "Dr." to his name, but only one appended "M.D." Where such an alleged autopsy may have been performed and the manner of disposal of the remains are not known. Strict archival search proves that no one of the signers was ever a member of the Medical School Faculty. The unquenchable legend will presumably live on, but it is certain that the Medical School was neither a legitimate recipient of any such mummy nor the sponsor of an autopsy on it.

XII

The Library and Publications

A library, and the local publications that depend on its growth and evolution, are closely woven into the historical record of any worthwhile medical college. Their transcendent importance to the life and development of teachers and students alike requires no extended comment. But the distinctive quality of libraries was defined by Dean Cutter, at the dedication of the Archibald Church Library, in an arresting metaphor:

Libraries are the storehouses of thought; the granaries, as it were, of the mind; the quiet places where, instinctively, all else is extra-territorial save the method and manner of study.

CIVIC LIBRARIES

Teachers and alumni of the Chicago Medical College played prominent roles in the early history of medical libraries in Chicago. The first attempt to assemble a library for the use of the medical profession was made by the Chicago Medical Society. The Great Fire of 1871 destroyed this collection, including hundreds of volumes deposited there by the Chicago Medical College. Impressed with the inadequacies of library resources in Chicago, Dr. J. M. Toner offered his personal library of 27,000 volumes to the Chicago profession, if a fireproof building were provided to house it. This philanthropically-minded practitioner of Washington, D.C., was a national figure in the medical world. The offer was made in 1878 through N. S. Davis, who canvassed the possibilities of arranging an acceptance but was unable to meet the conditions.

Two private ventures then attempted to satisfy the local need. The Chicago Medical Press Association, which arose to handle the merged *Journal and Examiner* of the two rival medical colleges, started a medical library in 1876 for the use of the profession. Within its life of eight years, under the leadership of Norman Bridge (class of 1868), the collection grew to 16,000 bound volumes. At this juncture it was added to the new medical department of the Chicago Public Library. Later, in 1889, the Chicago Medical Society sponsored the Medical Library Association of Chicago, of which N. S. Davis was President and Bayard Holmes (class of 1888) was Secretary. It planned to erect a \$30,000 building through contributions. Not much money was raised for a building, yet about 16,000 books were collected. Also a private library of about 4,000 volumes had been bought from the estate of Dr. J. S. Jewell, an illustrious graduate of the first class of the Medical Department of Lind University.

The first public medical collection was begun by the Chicago Public Library in 1883. Within seven years nearly 4,000 books and many journals and pamphlets had been assembled, in addition to the 16,000 volumes received from the Medical Press Association in 1884. Both N. S. Davis and Bayard Holmes, as the chief officers of the Medical Library Association of Chicago, appealed to the newly-founded Newberry Library to establish a medical department. This was accomplished in 1889, when a start was made by taking over the collections of the Medical Library Association and of the Chicago Public Library. Through this consolidation the medical profession obtained the use of improved resources, which also included, by gift, the large library (11,000 volumes and 14,500 pamphlets) of Dr. Nicholas Senn (class of 1868).

Meanwhile, John Crerar willed the City of Chicago \$2,000,000, which the trustees of the estate decided to devote to the establishment of a library (1897) whose field would be the physical, natural and social sciences. In 1906 the Crerar and Newberry libraries, both endowed and dedicated to the service of the people, wisely agreed to specialize rather than to compete. The John Crerar Library retained science, including medicine, as its province. The Crerar Trustees authorized the purchase of the Newberry collection on science; it contained over 65,000 volumes and pamphlets, and files of 400 periodicals. With this addition, the John Crerar Library became

one of the great medical repositories of the nation, a position which it has never relinquished.

THE COLLEGE LIBRARY

Over the years, in the previous century, the annual announcements of many medical colleges remained silent on the subject of a library. After 75 years of existence the College of Physicians and Surgeons of New York reported having only 1,200 volumes. In the West an exception was the pioneering Transylvania University, which claimed 8,000 volumes when it still fostered the earliest medical college (founded in 1817) west of the Appalachians. At the other extreme, Rush Medical College did not start to organize a students' library until after it affiliated with the University of Chicago in 1898, and found that President Harper favored such a move. In general, a trend toward significant libraries did not begin until near the end of the nineteenth century.

Provision for a library was in the minds of the Founders of the Medical Department of Lind University during their period of planning for a new medical college. Four months before the opening of the first term, a committee was appointed "to report upon a suitable place for the foundation of a college library, and the regulations thereof." It was decided that the Faculty Room should also house the library. During the first year of the college the library contained between 400 and 500 volumes, and a committee was designated to appoint a librarian and enforce the rules as adopted. By the next year the number of volumes reached 700, and four years later it became 1,000. The third Annual Announcement recorded what had been accomplished up to that time:

During the past year, a Medical Library has been provided, containing about 700 volumes, embracing many very valuable works. Such regulations have been adopted as to render all books in the Library accessible to matriculated students of the College.

In 1863 the College occupied the first building of its own. Here the library shared space with the free dispensary on the ground

floor. At the end of the 1863-64 academic session, Dr. Davis assumed the residual debt on the building, on the condition that \$2,500 from the annual earnings be earmarked for the chemistry laboratory, library and museum, before a dividend could be de-



The Alumni Library (1883-1907), located in Davis Hall, and its librarian, about 1901.

clared to the teachers. The 1864-65 Announcement referred proudly to the collection of 1,000 volumes and promised:

The Library soon will also have constantly on the table all the principal Medical Periodicals of this country, together with some from Europe, which the students can consult at their pleasure. It is expected, in this way, the student will acquire that taste for professional reading which will ensure his steady progress to eminence and usefulness.

The move toward support of the library by college funds was short-lived at best, because the library was dissolved in 1871. No further financial responsibility would be assumed by either the Medical School or Northwestern University for 36 years.

When the larger, second College building was erected, on Prairie Avenue, there were listed among its facilities a library and reading room. After a year, nevertheless, ardor for a library cooled. In September, 1871, the Faculty voted that those members who had loaned or donated books would be given two weeks to reclaim any that were wanted, after which the remainder would go to the library of the Chicago Medical Society. As already stated, this collection burned in the Great Fire of 1871; hence the lot from the Chicago Medical College could have been in its new depository for only a week or so.

THE ALUMNI LIBRARY

Strangely enough, the College was without library facilities for more than a decade, and the Annual Announcements remained silent on the subject. But, in the 1883-84 issue, a statement made clear that there was a reading-room, supplied with files of the leading medical journals and containing the nucleus of a library. This bare announcement was an official acknowledgement of the fact that in 1883 the Alumni Association decided to take on the re-establishment of a library as a project. The Association was destined to continue its efforts to this end for 24 years. A first move in this direction was to divert \$200, which had been collected shortly before for the establishment of a physiological laboratory, toward a library. During the following year \$118.50 was spent, including the cost of binding, shelving and other necessities; 145 bound volumes and 75 periodicals were then on hand.

The Proceedings of the Alumni Association reported little activity for several years, but in 1889 they record that the "library [is] increasing, and eleven dollars in the treasury." In the 1889-90 session the library was moved from its original location on the ground floor "to basement, from basement to attic and at last . . . domiciled in a former prosector's room adjoining the upper lecture room." At this time the collection consisted of 223 bound volumes and 21 files of medical periodicals. In addition, 501 graduation theses were on hand, out of the thousand-odd that had been submitted since the founding of the School. The thesis requirement was abandoned in 1891, and the accumulated collection was apparently discarded in one of the periodic thinning of library resources. This is a matter of

regret, since such student efforts constitute items of considerable historical interest. With a better appreciation of potential, long-term values there might have been preserved a collection comparable to the unique library of medical theses saved from the early college at Transylvania University.

Much later (1901), the Annual Announcement described the library of this period condescendingly:

The older alumni . . . remember the College library as a small ill-lighted room in the basement of the Chicago Medical College building on Prairie Avenue; a room in which the several antique volumes of work on practice, a few hundred unclassified pamphlets of problematical value and a few current college journals gathered the dust of months and years, and groups of students met from time to time to gossip an hour away.

When the two new College buildings were erected on Dearborn Street, no provision for a library seems to have been included in the plans. At least, its home for two years was in what was intended as a bacteriological store-room in the basement of Davis Hall. The modest collection was badly in need of organization and cataloging. Rising to the need, the recently-installed student Y.M.C.A. volunteered to do this, and also to take over the care of the collection, provided suitable quarters would be made available for a joint medical, dental and pharmacy library. This offer was approved by the alumni, but came to naught.

It was a donation of 600 volumes from an alumnus that served as the chief factor in instigating improved conditions for the library. The Annual Announcement for 1896-97 broke a long silence on library matters by proclaiming these developments:

ALUMNI LIBRARY

The Alumni Library of about 1,000 volumes . . . is conveniently located on the lower floor of Davis Hall. The library is open from 12 to 2 daily, and is under the immediate care of Miss May T. Hillen, Librarian. The gross profits on the sale of college books made at the clerk's office are donated to the increase and care of this library.

It had taken twelve years for the library, building anew, to regain its size of thirty-odd years earlier, before the dismemberment took



Leaded glass transom, at original entrance to the Archibald Church Library.

place. And this renaissance had been due wholly to alumni initiative and management. Beginning with 1896, efforts were intensified to accumulate an adequate reference library. To this end, control was vested by the Alumni Association in three trustees who sponsored a retail textbook and stationery enterprise at the College. The business profits were used to buy new books for the library. Another decade would pass before the Medical School assumed any responsibility other than paying first all, and then part, of the librarian's modest wage.

When the Dental School moved out of Davis Hall in 1896, the Medical School purchased the two upper floors from the University and occupied them. This enabled the Alumni Library, now boasting more than 2,000 cataloged volumes, to take over "commodious and well-lighted rooms" on the third floor. At this period the profits from the sale of books were amounting to about \$250 annually, and were soon to double. In 1901 the Library moved again, this time to occupy a lengthwise half of the fourth floor, and to extend its usefulness by remaining open eight hours each day. The alumni trustees increased their number to four, adding one member annually from the most recent graduates. They also created an advisory council, composed of one student from each class, which assisted in the administration of the Library. In this way the Library became a co-operative institution, controlled by the alumni and students.

In the early years of the new century, the Alumni Library continued to grow. In 1903 there were 4,396 bound volumes (including

departmental collections), and many thousands of unbound items. Profits from the sale of textbooks to students were modest for a while, but in the ninth year (1905), the total gain amounted to \$1,500, and 565 books were added to the collection. Two years later the Alumni Association voted to tender a summary of its management through the past eleven years to the Trustees of the Uni-



Original main reading room of the Archibald Church Library.

versity, and to “present to the Trustees its library, they to support and maintain it in a creditable way.” The gift and the attendant responsibility were accepted, but the Medical School decided not to continue longer the sale of books to students. In this manner the Alumni Library, as such, came to an end in 1907, after operating under alumni stewardship for more than two decades. As a practical service, this accomplishment comprises a bright chapter in the long history of the Alumni Association.

Several years before the transfer of ownership took place, there had been criticisms of the increasingly overcrowded library quarters, and warnings that “steps must soon be taken to provide rooms in better keeping with the importance of the department.” Shortly after the transfer, it was voted to spread the library across the hall-

way into the other half of the fourth floor of Davis Hall. Space previously allotted there to the Y.M.C.A. was converted into a reading room. At the end of the 1913-14 academic year it was decided that the library should yield to the needs of the expanding clinics and move into a large room on the ground floor of the Laboratory Building, previously used solely as a physiological laboratory. Here it remained as long as the Medical School retained the Dearborn Street site. Even before the library abandoned Davis Hall, a committee had thinned down the collection by discarding "old and useless text books, taking up valuable room that could be used to better advantage for current periodicals." It is likely that works of historical value may have been lost in this purge. Later, as the year for moving to the northside campus neared, valuable works, including some medical classics, were placed on tables in the main entrance hall, with an invitation to passers-by to select whatever pleased and carry the volumes away.

During the two decades (1907-26), under University management at the Dearborn Street site, the library grew slowly and not at all spectacularly. At the time of transfer from alumni control, the number of bound volumes was said to be 6,000; in 1916 it was 10,000. By 1925 the volumes had reached either 11,000 or 13,000 (the records are contradictory), while journals received by subscription and gift numbered 75. At this time the annual expenditure for books and periodicals was only \$1,760, and the sole librarian also worked for the registrar. For a pretentious School the inadequacy was truly embarrassing.

THE ARCHIBALD CHURCH LIBRARY

In the summer of 1925, Dr. Irving S. Cutter became Dean of the Medical School. His mind already contained a clear picture of the kind of library that should occupy specially designed quarters, and serve a School whose ambitions and opportunities were entering upon a new phase. Also, the vision of the Faculty had been sharpened, in the previous year, by the announcement that Dr. Archibald Church, Professor of Nervous and Mental Diseases, and Mrs. Church wished to subsidize the medical library on a scale that, at the time, seemed to give promise of solving its problems.



The bronze Library clock, now not in use.

The Announcement of this gift by President Scott read as follows:

Dr. and Mrs. Church desire to supply the faculty members and students with a most comprehensive and up-to-date medical library. They desire this library to be a day-to-day library for students and instructors, as Dr. Church has informed the Trustees that his plan is not to build up with this fund a great, permanent medical library, but one that will adequately and correctly reflect the opinions of the best medical authorities of the day upon all medical questions.

This is a most confusing statement, and it would seem that something must have fallen out between the original declaration by Dr. Church and its paraphrase by the President. How day-to-day authoritative information upon all medical questions could be accumulated without automatically building a great, permanent medical library, is scarcely understandable.

The actual contract between the donors and the University provided that the net principle at the expiration of designated annuity payments would become the Archibald Church Fund, and the

library would be named the Archibald Church Library. It was further stipulated that:

The income be used for the maintenance and upkeep of the library of the Medical School of the University . . . and that the University shall make suitable provision for the housing, upkeep and care of said library in its Medical School building, to the end that said library shall at all times be available for the use, for reference and study, of medical students and practitioners in the City of Chicago.

Four years later (1928), Dr. Church, now retired, announced that Mrs. Church was so pleased with the development of the library that she insisted on doubling the original gift of \$100,000 to it. The advancement of the library was in keeping with their desire to see the School so well housed, completely equipped and adequately endowed that it would attract outstanding men to its Faculty. Both gifts were received by the University on an agreement that benefited the donors on a life-time annuity basis. Both lived into advanced old age. So it was 34 years after the agreement before the residue of the greatly depleted principal, and a far greater amount bequeathed from the estate, became available (\$133,000) to the library. During the fund-raising connected with the observance of the University Centennial, the Medical School designated the Church Library as its special beneficiary. The response totaled \$389,000.

The new library originally occupied the east wing of the Ward Building. As agreed, it was named the Archibald Church Library in recognition of the prospective endowment and the donor's outstanding attainments and long period of devoted service to the Medical School. The dedication of the Library came in June, 1927, at the end of the first year of use, as a part of the general dedicatory ceremonies for the new campus and all of its buildings. The principal address was delivered by the Dean, who envisioned the Library as becoming "so complete, so broad in scope, so accessible that it will satisfy the most eager student-mind and the needs of the most exacting scientific research." The keynote was expressed as an aphorism: "The heart of this, as of any institution of higher learning, is its library." Consciously or not, the Dean was paraphrasing a similar sentiment that had been expressed by Thomas Carlyle many years before: "The true University of these days is a Collection of Books."

Under the ambitious leadership of Dean Cutter the Library grew with amazing speed. By 1941, when he retired, there were 91,870 bound volumes, while subscriptions to periodicals numbered 592. Of the greatest importance had been the obtaining (or filling-in) of



Bookplate of the Library.

complete files of all important journals in the basic and clinical fields. Equally ambitious was the accumulation of extensive special collections, such as rare books embracing the great medical classics, an extraordinary portrait collection of some 5,000 items and valuable manuscripts of various kinds. In the years since 1941 there has been no slackening in the steady growth. At present the bound volumes number 190,000; by 1971 journal subscriptions peaked at more than 2,000.

In a national survey of medical libraries, in 1951, the Archibald Church Library stood sixth in the number of bound volumes, seventh in paid journal subscriptions and seventh in total expenditures. Although the great state universities rated high in budget (including the first and second positions among all schools), their high-

est standing in bound volumes was just behind Northwestern. These statistics substantiate the justice of the claim that within just one-quarter of a century the library of the Medical School rose from mediocrity to a position of eminence in the country. Twenty years later the standing in bound volumes slipped to ninth, in journals-received to 14th, while space and staff were, respectively, in the 38th and 41st positions.

Necessary expansion was provided in 1965 by annexing the ground floor of the contiguous Searle Building and appropriating the space between the Ward, Searle and Morton buildings for a two-story stack room and basement. Yet progress exacts its toll. Gone from the original main room is the high and beautifully decorated ceiling — a casualty to overhead air conditioning; dispersed are the portraits of Northwestern 'Greats' that had crowded its walls. A neighboring loss to practicality, but this owing to the cost of restoration, was the stunning ceiling of the main foyer of Ward, done in gold and parti-coloring after a famous ceiling in an Italian palace. Even now the Library could use additional space to advantage, and future demands will become imperative. A solution is not distant, because the transfer of the Outpatient Clinics from the Ward Building is liberating three floors, some of which contiguous space is earmarked for Library expansion.

THE RALPH A. REIS LIBRARY

In addition to collections of medical books in various affiliated hospitals, special mention should be made of the collection assembled by Dr. Ralph A. Reis, Emeritus Professor of Obstetrics and Gynecology. It is located in the Prentice Woman's Hospital and consists of rare and classic books on permanent loan from the John Crerar Library. This valuable collection represents the acquisitions of an alumnus ('20) who had been a bibliophile since student days.

PUBLICATIONS

The earliest publication of the new medical college was, naturally enough, the Annual Announcement, which is mentioned here

chiefly because, from 1902 to 1910, it became combined with the Spring issue of *The Quarterly Bulletin* to comprise a publication specifically designed to interest and enlighten prospective students. It also served periodically to enclose, as a supplement, a complete directory of graduates.

In theory *The Chicago Medical Examiner*, founded by N. S. Davis in 1860, was an independent medical journal, as its founder and editor asserted with warmth on more than one occasion. In practice, it followed the custom of the times and served chiefly as an outlet for the writings of the Faculty of the new school, and of its graduates and friends. It was the semiofficial mouthpiece of the new school and its educational philosophies, just as *The Chicago Medical Journal* served as the house organ of Rush Medical College. Anyone will be repaid by browsing through *The Examiner* to admire its ambitious scope and general excellence as a monthly periodical (p. 122). All will be entertained by following the running skirmish conducted by N. S. Davis, through editorials and news notes, in opposition to similar material published in *The Journal* by its then editor, the President of Rush Medical College.

With the merger of the *Examiner* and *Journal* in 1875, and the elevation of the joint enterprise to a nonpartisan basis, the Chicago Medical College was left without a publication of its own. No move to remedy this lack was made until 1899, when it was decided to publish a monthly journal called *The Bulletin of the Northwestern University Medical School*. A letter from the business representative, soliciting a page-advertisement from the University Trustees, included some basic information concerning the venture:

At a meeting of the Medical Faculty it was decided to publish a high-grade medical bulletin, modeled after that of Johns Hopkins University, to be published monthly by the Faculty. At present the editorial management is under the supervision of Drs. Church, Edwards and Van Hook. That this publication will be of great practical advantage to not only the Medical School, but to the University proper is apparent, for it will show what is only partially appreciated — the very high grade of work done by us.

We are the only medical school in the country of any importance without a medical journal, and we want — now that we are to have one — to make it the peer of anything in the medical college line. The journal will be a 40-page monthly of high scientific order and will be creditable in every way.

THE BULLETIN

OF THE

Northwestern University Medical School

(CHICAGO MEDICAL COLLEGE.)

VOL. 1.
No. 1.

CHICAGO, JUNE, 1899.

Per Annum, \$2.00
Per Copy, 20 Cents

ARTHUR R. EDWARDS, M. D.—EDITOR FOR COMMITTEE.

COMMITTEE FROM FACULTY.

WELLER VAN HOOK, M. D. ARCHIBALD CHURCH, M. D., ARTHUR R. EDWARDS, M. D.

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**DR. GEO. THOS. PALMER, BUSINESS REPRESENTATIVE, 2604 INDIANA AVENUE.
CHICAGO.**

Cover of The Bulletin, forerunner of the Quarterly Bulletin.

It was presumed that the cost each month for 1,000 copies would be about \$50; the management was given the power to incur expenses not to exceed \$200. The first issue was dated June, 1899. After two volumes had been completed, publication slowed from a monthly to a quarterly basis, the number of pages in each issue was increased and the name changed to the *Quarterly Bulletin of the Northwestern University Medical School*. As a new feature, each June issue, called the Student's Number, took the place of the Annual Announcement of former times. It also contained pictures and informative articles of promotional value and, from time to time, included a directory of the alumni. This method of handling the Annual Announcement continued for eight years. From the beginning the declared purpose of the journal was to devote its energies "to the interests of the School and the publication of scientific productions of the faculty, students and alumni." The phrase "interests of the School" connoted college and faculty news, abstracts of faculty publications, reunion reports and alumni items. The first volume had a subscription price of two dollars, whereas the charge for the second volume dropped to one dollar. A change of policy, beginning with the third volume, sent the publication to all graduates free of charge.

The *Quarterly Bulletin* started off bravely, with articles of fair quality; then several changes of editors occurred. The Faculty Minutes of December, 1907, contain a plea for a better type of publication, under new editorial guidance. Pursuant to this end, Drs. Charles A. Elliott and Allen B. Kanavel took over the task. After five years. Dr. Kanavel reported that the quality of articles then being submitted was not of a standard that would redound to the credit of the institution. In his opinion the money spent upon the journal could be used to greater advantage elsewhere. A committee reviewed the situation and recommended that publication be discontinued; and so, in December, 1912, in its thirteenth year, the *Quarterly Bulletin* was laid to rest, at the moment unmourned.

After an entombment of 27 years the *Quarterly Bulletin* was resurrected successfully, in the spring of 1940, at the instigation of Dean Cutter. Its professed objectives were essentially as before; additional new features were to be editorials and articles "devoted to medical history, for which the source of material will be the valuable collection of the Archibald Church Library." Upon resum-

A TREATISE
ON
THE CHRONIC
INFLAMMATION AND DISPLACEMENTS
OF THE
UNIMPREGNATED UTERUS.

BY
WM. H. BYFORD, A.M., M.D.,
PROFESSOR OF OBSTETRICS, ETC., CHICAGO MEDICAL COLLEGE, MEDICAL DEPARTMENT
LIND UNIVERSITY.

PHILADELPHIA.
LINDSAY & BLAKISTON.
1864.

Title page of the first medical book written in Chicago; 1864.

ing publication, the *Bulletin* completed 33 more annual volumes, first under the editorial direction of Dr. Michael L. Mason, and then of Dr. Barry J. Anson. Unable to compete successfully with purely scientific journals of the first quality, it, nevertheless, attained high standing in its own class. This was attested in 1960 when it received the "Honor Award for Distinguished Service in Medical Journalism" from the American Medical Writers' Association.

In 1963 it was decided administratively to cease publishing the largely scientific *Bulletin* and replace it with a non-technical magazine to be distributed without charge to alumni, faculty and students, and to the deans of other medical schools. The result was the *Northwestern University Medical School Magazine* which contained articles of a general nature and material of particular concern to all interested in the Medical School. This publication continued for eleven years under the editorship of Dr. Leslie B. Arey. Then again came a shift in administrative policy, to the effect that the interests of the total medical-dental-hospital center would be better served by another type of publication that emphasized material aimed toward promoting public relations. Accordingly, in 1975 there appeared a new product bearing the title, *Northwestern University Medical Center Magazine*, and initially edited by Dr. David E. Shoch.

A comprehensive consideration of other, extensive publications, for which the Medical School deserves credit either directly or indirectly, must be omitted. Books alone make a formidable list, whose entries became increasingly frequent with the years. The start was the pioneer work, *A Treatise on the Uterus*, published by Professor Byford in 1864. This book represents the first medical work to emanate from a Chicago author. As stated previously, editorships among the Faculty began with N. S. Davis and his *Chicago Medical Examiner* in 1860. Later, James S. Jewell founded the prestigious *Journal of Mental and Nervous Disease* in 1874. The indefatigable Dr. Davis initiated the *Journal of the American Medical Association* and became its first editor in 1883. Much later (1905) Franklin H. Martin founded *Surgery, Gynecology and Obstetrics*, the guiding management of which has since remained in the Northwestern faculty. In 1952 Ralph A. Reis founded *Obstetrics and Gynecology*, and in 1959 William F. Windle founded *Experimental Neurology*.

The supreme importance of research publications cannot be over-emphasized and needs no supporting comment, so alert is everyone to their potential worth. Less appreciation exists for the invaluable service performed by successful books that evaluate and synthesize rapidly advancing knowledge. They instruct not only students throughout the country, and sometimes other countries, but also their teachers as well. President Harper, of the University of Chicago, once said that he was unwilling to assign a greater value to the contribution of the research worker than to the competent teacher or writer of a first-class textbook, who made available and interpreted what was already known. During the eleven years of the *N.U.M.S. Magazine* 246 written and edited books by faculty and alumni of the Medical School were noted or reviewed. The leading publisher of medical books in the United States maintains that Northwestern authors have led through the years in the writing of successful medical volumes.

A compilation of the publications and other activities of the Medical Faculty down to 1925 was the work of a committee, led by Dr. S. W. Ranson, whose extensive report is accessioned in the Church Library. Far more impressive in number and variety would be a similar report, embodying the creative efforts of the succeeding fifty years, and even to the present time. The University can well be proud of the record of its Medical Faculty in scholarly production.

XIII

Medical Students and Alumni

Medical students are the grain, and alumni the grist, of a medical college. In previous chapters the students have received only such attention as was related to the main story of progress and accomplishment; alumni, as such, have been ignored wholly. Now it is appropriate to devote some attention to these human elements without which medical schools and enlightened medical practice cannot exist.

STUDENTS AND THEIR ACTIVITIES

Scholarly horizons

The premedical student pursues the studies prerequisite to medical admission, but in many instances only as credits to be inscribed in the record books. Too often he disdains to follow the advice of advisors or medical educators in broadening his education. Especially if his grades have been unimpressive, is he inclined to heap up science courses for two reasons. One is in the hope that later grades in elective courses will show improvement over mediocre grades in required courses. Secondly, there is a belief that by taking work that in some way duplicates the medical courses in basic science, not only will the latter be easier to manage as a medical student but also failure may even be averted among the stouter competition to be encountered there. This action limits the acquisition of a broad cultural background, so desirable in an exponent of a learned profession but so out-of-reach while still a medical student in course.

The medical student, having about the same qualifications, gradewise and degreewise, as a student entering a graduate school, has a quite different outlook. He is not nearly so curious or interested in learning for its own sake. Rather, his intellectual motivation centers about information and concepts that seem to hold promise of eventual practical application to the sick. On the contrary, a typical graduate student on a Ph.D. program finds the several courses in basic science presenting a coveted opportunity to acquire an introduction to the elementary concepts of a number of different disciplines, and the time allotted to each all too short. By contrast, the average medical student is inclined to view the basic sciences as necessary prerequisites to the Elysian clinical fields, with some practical information forthcoming, but much irrelevant or solely "for the birds."

But when the preclinical student pontificates on what should be omitted for lack of 'relevance,' it is then that his unfamiliarity with clinical needs becomes all too clear. Also, pleas for relevance are too often bids to escape the rigors of hard study and the tedium of the laboratory. Yet one can sympathize somewhat with the medical student who, lacking overall perspective, feels that there is so much that he has to know that he must hew to the line and avoid cumbering his mind with seemingly curious trivia.

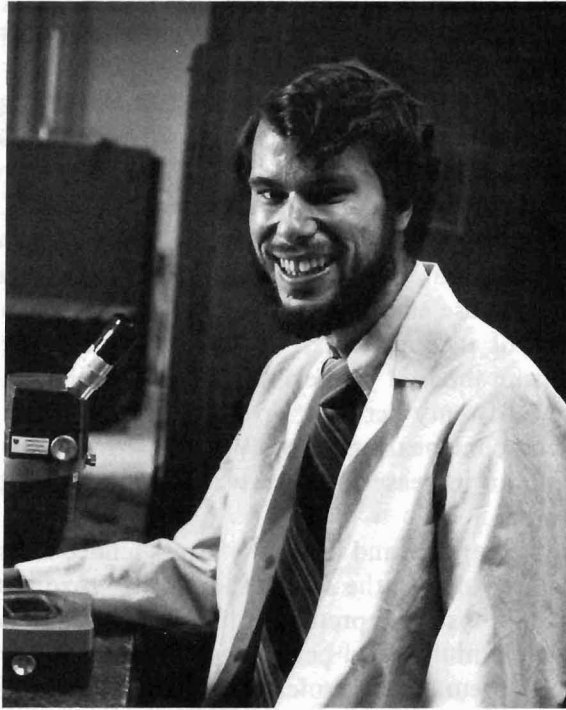
At some time following the Sophomore year the average student has to learn that good medicine is applied science, with its roots very deep in the subjects previously viewed almost patronizingly. He will also learn by observation that the clinicians he admires most, dip unreservedly into the reservoirs of basic science. Happily, this awakening does reach the vast majority of tyros sooner or later. Such come to realize that the real difference between their formerly conceived "practical doctor" and the "scientific doctor" is that many more of the latter's patients get remarkably astute diagnoses and treatment, return to health more frequently and live longer. And so it is that somewhere between clerkships and residencies most of the students begin to assume a scholarly attitude toward the practice of medicine. Also comes the realization that a profession carries with it a backlog of information not at the moment marked with the dollar sign.

The changing years

In the lifetime of Northwestern University Medical School, thirty years passed before a high-school education was required for admission; forty years elapsed before one year of college was required; and it was seventy years before three years of college preparation became necessary. Beyond question, the educational and cultural background of medical students has improved markedly with the years, and especially so in the twentieth century. Present-day students are much better informed and more sophisticated than those of a half century ago, just as these, in turn, surpassed earlier ones who came directly off frontier farms and mines, and out of semi-urbanized towns and cities. In recent decades students have become more concerned with national and international affairs. They also seek a voice in policy shaping, curriculum planning and in various operational details of the school. They question authority, are unawed by age or prestige and are individually far less docile



Class of 1881, about the entrance of Mercy Hospital; Dr. N. S. Davis (with top hat) stands centrally above the steps.



Student's hirsute style; 1973.

and submissive than were their predecessors.

In contrast to this pleasant picture, it was disturbing to find that in the fifth decade of the present century the premedical grades of enrolled medical students declined alarmingly throughout the country. Various explanations attempted to account for this decline, among which were the widespread subsidies offered graduate students in the physical, biological and behavioral sciences, the steady demand for engineers whose training is usually finished before a premedical student of equal age begins his long grind toward a medical education, and the competitive solicitation of college graduates by big business. Other deterrents to medical aspirants included the high cost of a medical education, the many years spent in attaining an adequate training, and the concomitant postponement of earning independently an income until their early thirties. In the next decade a reverse toward better preparatory scholarship may have occurred. At least, scores in the premedical

aptitude tests showed an upward trend that is interpreted as a slight increase in intellectual caliber of the more rigorously selected matriculants.

In the years since World War I the number of applicants increased so greatly that the selection of promising students became a safer, if not easier, task. Aptitude testing furnished a type of information not formerly available in judging candidates. Guidance of prospective students by advisors and through membership in premedical clubs has been indirectly helpful. As a result, gross misfits among those entering the Medical School are now a rarity. The number of incompetents, who drop out voluntarily or are eliminated from the first year class by faculty action, has decreased from a high of twenty per cent, or more, in early years of the century to an amount nearing zero. With a general improvement in quality came an increase in those who achieve more than a bare passing average.

Personal appearance and tidiness of dress tended to improve over the years. Partly due to the safety and electric razor, stubbles disappeared from those who pretended to shave, but did so only intermittently, while multistyled beards were abandoned by those who hoped to look prematurely professional. No longer did Senior class pictures resemble an assembly of middle-aged men. The abandonment of rough-house and even pitched battles in and about the School encouraged better dress, but stricter public standards probably accounted for most of the improvement. Yet in the late Sixties and early Seventies came a complete reversal in cosmetic and sartorial standards. Grotesque facial adornments and uncouth clothing became the vogue, but happily this was only a temporary one since already there are clear signs of betterment.

Department is certainly better than formerly. The old time tradition that medical students were "tough," and that this reputation should be preserved (including such gaucheries as chewing tobacco while dissecting) lasted more than half of Northwestern's first century, as did the correlated Saturday-night saturnalia. Nowadays students are more careful of individual behavior, because their longer preparation puts more at stake; also the knowledge that ouster for any cause precludes re-entry elsewhere is a relatively modern deterrent. The interclass riots, the rough-housing in the amphitheaters, the battles with anatomical fragments in the dissec-

tion room, the wanton destruction of school property in class fights, or even in protest when professors were late to class—these incidents of the first half century of the School faded rapidly in the second half. For one thing, they disappeared as the students began to do things in the laboratories and clinics, and were no longer driven into a periodic release of energy by inaction and boredom, as one didactic lecture followed another. Also they disappeared as the introduction and lengthening of undergraduate college life provided an early and ample outlet for horseplay. Hence the later medical student started his professional training fully tamed, and no more was it necessary to threaten calling in the police because behavior got out of hand. And no longer did students offend by perpetrating such gross irregularities as diverting dispensary patients for private treatment in lodgings or eloping with another man's wife. (In these specific instances from other years the first malefactor was disciplined and the latter was denied a diploma.)

An early instance of successful insubordination came at the graduating exercises in 1878 when the Seniors, though searched, were found guiltless of bringing forbidden contraband into the church. Their seeming innocence rested on the connivance of girlfriends who smuggled fake programs under their shawls. While the minister prayed at length the scurrilous pseudoprograms were distributed. The front page bore the headline: "Another Bunch of Sawbones to Swell the already Hyperemic Ranks of Disease Accelerators". The alleged order of events came under the heading, "Bill of Fare," while under another heading, "Chancres", classmates were characterized and vilified.

Professor Younger, of the class of 1902, wrote in reminiscence that the student of his time was a rough customer—raw, rollicking, roistering and rambunctious. He tells of an invasion by Juniors into the small lecture room of Davis Hall, already occupied by Sophomores, and the resulting battle that led to many personal injuries and the reduction of half of the seats to kindling wood. The rowdy practice of 'passing up' students was developed to a fine art (p. 349). A favorite among the missiles used in amphitheater throwing-battles were pithed frogs salvaged from the physiological laboratory. Teachers who unwisely attempted to still those storms found themselves subjected to indignities: one was showered with frogs; some were placed on the revolving table in the pit of the

amphitheater and spun around; others were hooted at and otherwise mistreated. Whether a professor were world-renowned or not, he had no place at one of these wild parties and was wise if he remained outside the lecture hall until the hurricane blew over.

The Chicago newspapers delighted to give front-page treatment to hair-raising episodes at any medical school in the city. About 1890 the editor of the *Chicago Tribune* wondered how it was possible to make gentlemanly, refined physicians out of such hilarious, restless material. Robert Louis Stephenson once shared similar curiosity as to where the horrible, dirty, drunken medical students of Scotland went, and where the dear, old, respectable family practitioners came from! The students of today, though relatively sedate and conformable, have not wholly lost the potentiality of revolt and unconventionality. This is amply attested by the seizure of an administrative office, with accompanying demands (p. 304), and by the transit of naked 'streakers' through classes in session.

The type of studying changed, with the decline of the formal lecture as the sole source of information. A new approach was introduced by the greater use of recommended textbooks, the extension of laboratory work and the increased utilization of the clinics and hospitals. No longer was it held that the chief objective had been gained when students took notes, improved them by joint efforts, and then memorized them and conducted drill classes to ensure letter-perfect recitals. Incidentally, it can be hoped that the extensive series of mnemonic systems, oftentimes bawdy and used solely as crutches to pure memorizing, have been replaced by more rational methods of learning and retention.

A recent change, particularly since the last World War introduced governmentally subsidized wives and babies, has been the increase in the number of married students. Once this was a rare phenomenon, and later an occasional occurrence. Now, by graduation time, one-third of the Senior class has married, and half of these have produced children.

Self-help

Working one's way through medical college was not too difficult

when the annual term was only sixteen weeks or, in the early years of the Chicago Medical College, even when the terms had been advanced to the then high standards of five and six months. But the progressive lengthening of the annual term and the corresponding increase in tuition rates introduced problems for the poor boy. Yet even by the turn of the century it was said that any student who had a consuming desire to study medicine could earn his way fully by work during vacations and during the school year. The economical student, who lived frugally, was able to make out with an expenditure of \$400 each year.

One way of cutting costs is by reducing expenses. Traditionally this was done by such methods as keeping a physician's office in order, tending his telephone evenings or even handling night emergencies in exchange for the privilege of sleeping on the premises. This service grew into industrial or municipal night-jobs where pay became at least a part of the compensation. In later years hospitals came to offer room, board, laundry, and even cash besides, for a few hours' work at evening extern service. Self-boarding dwindled with the years, except for the increasing number of married students, and for those jointly renting an apartment, but earning one's board as a waiter lasted long as a perennial method of saving money.

The second way of meeting expenses is by earning money as a side endeavor. Around the turn of the century a popular method was delivering newspapers. Many Northwestern students owned paper routes, with subscribers numbering from 300 to 500. An established route was bought and sold for about as many dollars as there were subscribers. A good route earned at least \$30 a month, and this was at a time when two to three dollars was a laborer's wage for a long day's work. Similarly, the lighting of street lamps was considered lucrative. A good lamp route earned about a dollar a day and required not more than two hours' work. Another favorite job was the reading of gas meters which, however, had the disadvantage of demanding several days' absence in a stretch. Still other jobs of the Victorian age were serving as janitors in neighboring flat buildings, and similar work in the mansions nearby the School's locations on the South Side. In subsequent years the number of students engaged in outside work for pay diminished, although probably one-third of the present-day student body does

something of this sort during the four years of its enrollment. But especially since World War II a most important factor in income-production has come to be the young wife who continues as a wage earner.

Although the costs of a medical education are much higher than years ago, so are the earnings of students. For many years part-time work during the school year and full-time vacation work would go about as far toward meeting expenses as was the case at earlier periods when both tuition and living costs were very low. But this is no longer true. An additional complication in the planning of college and professional education for children has been experienced by parents who find that the debased value of earmarked savings falls short of the anticipated aid. Nevertheless, along with the steadily rising fee for tuition has gone increasing financial aid through the School (p. 261). This reaches sixty percent of our student-body, and exceptionally may cover the full cost of tuition and living expenses. Unhappily, the Federal assistance through 'capitation grants' is on the basis of intervention in the internal programs and decisions of complying schools.

Intellectual life

The full schedule of the medical student precludes indulgence in many extracurricular activities. Periodically there have been attempts to form clubs for the study of special topics, for the review of current journal articles, and for the familiarizing of students and Faculty with research carried out in the various departments of the School. None has maintained a long or continuous life. Special lectures sponsored by the School and by several of the medical fraternities have been important events that enabled students to see in the flesh persons of national and international reputation. Sponsored awards for students are made annually for excellence in research or for academic achievement.

The honor societies act more as media for the recognition of superior attainment and promise, than as stimulating agents for the promotion of scholarly pursuits. Alpha Omega Alpha came into existence in 1902, on the inspiration of a student at the University of

Illinois, but a faculty representative of Northwestern University and another from the University of Chicago also took part in the details of organization. This fraternity, as the primary honor society of North American medicine, has a chapter in every school (currently 103) that has been deemed worthy. Not more than one-sixth of a graduating class is eligible for election. Selection is made on the basis of high scholarship, morality and clinical promise in the broadest sense of these terms. But the primary consideration, as is even more true of Phi Beta Kappa, is high scholarship. Locally, Pi Kappa Epsilon was founded at Northwestern in 1921 with the aim of creating a society in which, by general student vote, members would be chosen on the basis of scholarship, good citizenship, social qualities and progressive mindedness. Originally it was designed to embrace medicine, law and dentistry, but quickly limited itself to the medical field. The fraternity placed chapters in several other schools. It enjoyed an active life during the school year and emphasized service features — of use to the administration and with annual projects for the benefit of the student body. It became inactive in 1970, at a time when student interest in fraternities in general reached a low ebb.

The first graduate degree (A.M.) received by a medical student was awarded on graduation, in 1881, to F. S. Johnson, subsequently Dean of the Medical School. Yet this recognition was not 'earned' in the modern manner (p. 167). By 1978, 826 candidates, both undergraduates and graduates had earned the Master's degree; between 1922 and 1958 the Ph. D. degree was awarded to 401 individuals. For many years medical students, qualified for registration in the Graduate School of the University, have been permitted to use eighteen quarter-hours of credit obtained in the preclinical sciences toward the fulfillment of graduate requirements. This credit can reduce the work for the Master's degree to the research project and thesis.

Extracurricular literary pursuits have found relatively little place in student life at this Medical School. Many years ago, one or two persons were on the staff of the College newspaper and for a long period several representatives of each class collected material for the University year book, the *Syllabus*. In 1895, Howard J. Ricketts (later, of *Rickettsia* fame) and another student approached the Faculty concerning the establishment of a "college paper." This

attempt apparently was the basis of what was later designated as "so dismal a failure that it might be called an abortion."

Nonetheless, a distinctive Medical-School publication did make its appearance early in the new century. This was a type of 'year book,' edited and sponsored by the Junior Class. It was quite a different thing than *The Corpuscle*, which was a student-run journal at Rush Medical College, or *The Plexus*, which was a joint student-faculty journal at the College of Physicians and Surgeons (later the University of Illinois). In 1902 there appeared the first of these pretentious year books, under the name of *The Neoplasm*. It contained 150 pages, and was richly illustrated. There were contributions from the Faculty, alumni and others (including stories by George Ade and Richard Henry Little). A revival of *The Neoplasm* in 1905 was larger (246 pages) and more elaborately illustrated (600 figures) than the first issue. Among other features, it contained cartoons by John T. McCutcheon, already well along the road to fame. At the time it was adjudged to be probably "the most elaborate annual ever published by any professional school." With this final recurrence of *The Neoplasm*, literary fervor subsided for more than a half century. An ephemeral literary magazine, *Rootabaga Country*, appeared in 1968 and another, *Honey and Salt* in 1969.

Social life

The oldest social organization among the students was the Young Men's Christian Association. Its precursor was started by two students who set out to form a band of workers who would "promote Christian life among medical students." A permanent organization, affiliated with the Y.M.C.A., was achieved in March, 1890. This local society was the first branch of the Association to enter any professional school west of the Allegheny Mountains and was the second of the sort in America. It was also the beginning of the Intercollegiate Department of the Association in Chicago which, within fifteen years, was represented in nearly twenty collegiate institutions of the area.

The religious and recreative features of the Y.M.C.A. organiza-

tion at Northwestern followed the usual pattern. Yet President James, lamenting the absence of religious influence among students of professional schools the country over, thought that Northwestern should no longer lack this essential. "There is no reason," he said, "why a student of Medicine should be any less a Christian than a student in Liberal Arts." The President might have had intimate knowledge of undergraduate paragons within his immediate purview but, since he resigned after an incumbency of only two years and before fairly settling into his duties, one wonders how he had come by an equally intensive evaluation of medical students isolated, sixteen miles away, on the South Side of the city!

In 1900 half of the space on the fourth floor of Davis Hall was set apart for the use of the Association. Part of the long, continuous room was equipped as a gymnasium (p. 351). An information bureau served entering students and assisted them in finding lodgings that had been inspected and approved. An employment bureau canvassed employers and found part-time jobs for all who needed to work. After a while, the need of more adequate quarters and the desire for a student dormitory led to a more ambitious proposal. Plans were drawn for a building to cost \$35,000, toward which the students, Faculty and alumni pledged \$15,000. The University, when asked to help, declined to appropriate money but appointed a committee to help raise funds; nothing further came of the movement. Later the gymnasium gave way to library space, and the Association was assigned a room in the basement of the Laboratory Building; still later it had an office in the Ward Building. For a considerable number of years a full-time, trained Secretary was in attendance, both at the Dearborn Street site and on the new Campus. After some years of operation on the Chicago Campus, prior to World War II, the service-features were met by other agencies and the organization became inactive.

Medical fraternities arose and spread throughout the country as a successful means of providing companionship and agreeable living conditions in contrast to the bleak and lonely life of independent lodgers. A contributory factor was the usual location of medical schools in regions of cities where clinical material was abundant, but satisfactory housing failed. In fact, one important national medical fraternity (Phi Rho Sigma) that originated at Northwestern sprang into existence, according to its chief founder, as a

device aimed specifically at combatting loneliness.

For much of 200 years the medical colleges and universities throughout the land displayed little social conscience or sense of responsibility concerning the living conditions to which their medical



Rooming-house tableau by students of the Nineties.

students are subjected. Only in recent years have a few institutions, by the fortunate acquisition of earmarked gifts or as a businesslike hedge against the inflationary menace toward endowment funds, begun to build medical dormitories. Thus it is that throughout many decades the medical fraternities have performed a meritorious service in providing companionship and tolerable living conditions for tens of thousands of students. By the same token, the medical colleges and universities owe a vast and unacknowledged debt to these fraternal organizations for assuming a responsibility and burden that they themselves, as a calculated policy, long chose to ignore.

For many years national medical fraternities were well entrenched at Northwestern. Chapters that have shown strength and persistence, with the years of local establishment indicated, are as

follows: Phi Rho Sigma (1890); Nu Sigma Nu (1891); Alpha Kappa Kappa (1901); Phi Beta Pi (1902); Phi Delta Epsilon (1907); Phi Chi (1920). Chapter houses were maintained when the Medical School was located on the South Side. In the later years of that period the abandonment of former mansions on Michigan Avenue, and especially on Prairie Avenue, offered an unusual opportunity for elegant quarters, and commonly at rentals less than the taxes assessed against the properties.

When the Medical School moved to the Chicago Campus, a new set of conditions was encountered by the fraternities. The rapid expansion of business into the Near North Side, following the completion of the Michigan Avenue Bridge in 1920, produced a rapid transformation of what had once been a fashionable, residential neighborhood. It flanked the previously named Pine Street, since 1920 rechristened as North Michigan Avenue. Through advancing commercialization, suitable housing became available only at progressively increasing distances from the Medical School. Rocketing land values and increasing building costs turned any previously nourished building-plans into impractical dreams. As the crisis sharpened, the University went into action by erecting Abbott Hall (1940) as a business venture, the necessary money coming originally from a specific endowment fund.

The medical fraternities at first viewed this dormitory with apprehension as a rival in the bed-and-board appeal. Although their own future in this field was insecure, they feared that life under University supervision would restrict their accustomed freedom. Actually there was some confusion in the student-mind between reasonable privilege and unbridled license. In the end, and for various reasons, previous coolness toward Abbott Hall as a long-term solution to housing problems melted. One by one the several fraternities sought asylum under University auspices, and contracted for living and sleeping space according to individual needs. In practice the experiment was highly successful and most of the burdensome problems involved in running a rooming and boarding house disappeared. The major defect was the lack of private dining rooms, which could not be solved satisfactorily since legal, dental and commerce fraternities were also occupants of the building. One outcome was contrary to what had been feared. It was thought that with the facilities of Abbott Hall open to all, fewer students would

wish to join fraternities, and some of the chapters might consequently become inactive. On the contrary, the interest in fraternities, as such, and their patronage did not suffer for more than two decades.

Several things combined to threaten the continued existence of medical fraternities. One was the rapid increase in student marriage. Another was the downward spread of clerkships into the Junior year and the resulting withdrawal of these students from fraternal participation, as had happened to senior students earlier. Still another was the growing popularity of apartment leasing and home cooking by small groups of students. These several factors depleted the upper classmen from the fraternity floors of Abbott Hall. Finally came a national wave of declining interest in fraternities of all kinds, and in the life-style offered by them — a wave concurrent with student unrest and political activism. The result was the reduction of six active organizations in the Fifties to two still surviving in the middle Seventies. The older of the two is Phi Rho Sigma — the first medical fraternity at Northwestern, and the mother chapter of the national organization of that name.

Deep religious conviction motivated a sophomore and a freshman medical student, in 1931, to start a group at the Medical School dedicated to Bible reading and prayer. This nucleus soon developed into the Christian Medical Society which spread and flourished until now it numbers more than 3,500 clinicians, medical students and dental students. There are 185 chapters located, for the most part, near medical complexes in the United States and Canada. Out of the original Society, through the social concern of its members, grew the Medical Assistance Program that has supplied more than 85 million dollars worth of medicines and equipment to 1,000 medical missions in 80 developing nations of the world. Another outgrowth is the Medical Group Missions. This spin-off operates through medical caravans, each with 20 to 60 physicians and supporting medical personnel, that spend one to two weeks in some undeveloped country.

Organized entertainment

One feature of life in fraternity houses came to be the Saturday-

night floor parties, at first sporadic but later more frequent when six fraternities in Abbott Hall could entertain sequentially on an open-to-all basis. An appreciated boon was the relative cheapness of such modest bacchanalia. A characteristic component of the party was a skit, sometimes remarkably clever and often bawdy, done by members.

A more ambitious production was started in 1952, utilizing talent in the total student body — both medical and nursing. It continued each year, presenting two performances in the Spring to students and faculty, and again to the alumni at their annual reunion. The general name of the production was *Quo Vadis Medicus?*, a retention of the name of the initial performance. Each presentation was a musical play, built about a central theme, in which the music, lyrics, book, choreography and stage sets were all original efforts on the part of the cast.

The cleverness and technical excellence of these productions entertained and amazed all who witnessed them. The continuous supply of talent in the student body became an annual revelation and the proving ground was commonly the fraternity skits, already mentioned. It seems unlikely that any similarly ambitious series of entertainments has been staged elsewhere by medical undergraduates. Each year brought a new theme, new features and new music. A song hit, *Alma Mater Medica*, from the 1958 production was adopted as a traditional final number and also, by administrative sanction, as the official song of the Medical School. The support of the financially sound enterprise was withdrawn by the sponsoring Alumni Association in 1960 on the grounds that it distracted participants from their studies and that it tended to overshadow the annual Alumni Reunion Dinner.

Athletics and health

Among the earliest forms of exercise practiced by Northwestern medical students was the type of hazing known as 'passing up.' Steeply pitched amphitheaters were suitable for this pastime, which seemed to flourish in some schools and not in others. It was aggravated into action when the class was kept waiting long for a lec-

turer to appear or an autopsy to be held, and the student-mood did not favor group singing as a way of killing time and working off surplus energy. It was a milder reaction than when the displeasure was vented by assaults on the wooden seats and rails that might lead to riotous proportions. 'Passing up' was started by two husky students, just back of the first or second row, who would reach down and hoist up a student. Hands in higher rows would then successively reach forward and swing him onward and upward so that he was transported more or less in midair to the top of the amphitheater. Four huskies always had charge of him — two at his shoulders and two at his feet. The self-propelled, down-stair return was accompanied by a thunderous thumping with both feet by all. In the pit of the main amphitheater at the Dearborn Street site was a revolving table that served to top off a round trip by giving the victim a whirlwind, merry-go-round ride to complete his hazardous journey. A vigorous squirmer or belligerent scrapper presented a mass challenge, but even milder victims might leave buttons and shreds of clothing along the way.

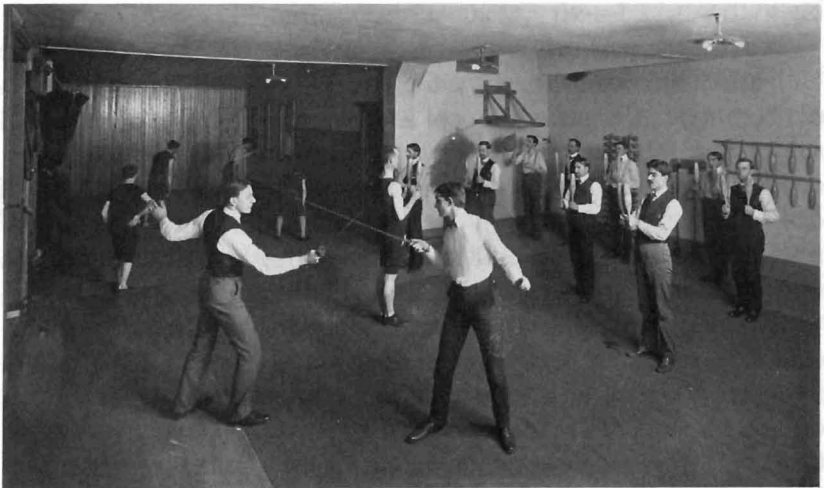


Final scene of a Quo Vadis Medicus? student production; 1953.

Dr. Charles H. Mayo (class of 1888) used to tell how his small size and preference for a front-center seat, where he could see clearly, made him a favorite victim of his fellow students. Arthur R. Edwards (1891), later Dean of the School, was so full of animal

spirits that he would goad his mates into trying to pass him up from a front row seat and then resist with all his strength. His mother, the wife of a clergyman, never ceased to wonder why a medical education should cause suits to be torn so frequently and entail so many buttons to be pulled out by their roots. The last performance of this form of student amusement seems to have been at about the time of World War I. A milder form of hazing was to get the morgue attendant to invite a freshman to view the cadavers hanging in rows in the refrigerated morgue and then lock him in for a while. Each victim was ashamed to publicize his experience, and the game continued.

The Medical School created a modest gymnasium in Davis Hall in 1900, and placed it under the charge of the Y.M.C.A. organization. It was equipped with dumbbells, Indian clubs, punching bag, fencing foils and a hand-ball court. A dressing room, with lockers, lavatory and a shower bath was provided. Organized exercise classes, including fencing, were conducted for a period. Then the space was given over, first to the library and then to the clinics, and no other facilities for exercise were available until Abbott Hall opened in 1940 with opportunities for bowling, hand ball and squash. The purchase, in 1977, of the building long used by the Lake Shore Club provided enhanced facilities for living and exercise (p. 232).



Gymnasium, opened in 1900, on the top floor of Davis Hall.

Also around the turn of the century, interclass contests in baseball and football were held. A highlight occurred in 1906 when the Senior-class team won in baseball from the University of Chicago varsity. At about the same time football contests with the Chicago Dental College and others are recorded, including practice games with the Universities of Chicago, Michigan and Minnesota. Earlier, in 1901, a Junior-class team played the strong Northwestern second team to a scoreless tie. Much later (1923), Dean Kendall arranged a Thanksgiving-Day game in which a Medical-School team played the Northwestern varsity reserves to a 6-6 tie.

Intramural athletics, organized around fraternity groups and independents, expanded to full proportions when the professional schools came to occupy a common campus. Over the years, contests have included hard and soft baseball, touch football, basketball, track, golf, tennis, swimming, squash, hand ball, volleyball and bowling. Most of these became perennial sports that were organized in leagues in the Schools of Medicine, Law, Dentistry and Commerce. The winners in the several Schools played off to decide the Campus champion in each sport. The grand championship was determined by the greatest number of weighted points collected by a competing group during the school year. In the earlier years on the Chicago Campus, the champion in a sport might compete with the corresponding intramural champion in the College of Liberal Arts. With the recent decline of fraternities such highly organized activities have disappeared.

Early in the new century, medical students were asking why the University did not provide for the hospital care of sick students as did commercial organizations of any magnitude. When ill, medical students kept to their rooms, and recovered or died there. The student publication, *The Neoplasm*, advocated that a hospital fee of one dollar be collected from each student and a uniform charge of five dollars a week be made for hospitalization. The latter sum represented the ordinary cost of living that the student would spend when well. Actually the University had provided a resident physician for women on the Evanston Campus as early as 1883, and in 1912 the presence of a resident nurse marked the beginning of an organized Student-Health Service. Evanston men, however, waited three more years before a four-dollar fee insured them against neglect. On the Chicago Campus, in 1927, Dr. George C. Turnbull

became the first officer in charge of student health. Four years later Dr. Howard L. Alt organized a Student Health Service, which extended later to other Schools on the Campus. In 1945 the Chicago and Evanston units combined under the full-time direction of Dr. Richard H. Young, who soon would become Dean of the Medical School. Besides sick-care, the Service has rendered valuable aid in the prevention and early detection of maladies. Especially notable is the record in tuberculosis, which had formerly occurred in intensity and in focal groups, before detection, to a degree that was scandalous for a medical community.

Student-faculty relations

In the final decades of the previous century, "University Day" was celebrated each autumn on the Evanston Campus. It was an occasion participated in by the urbanized schools of medicine, law, dentistry and pharmacy, and was designed to give the students of the various branches within the University the opportunity of mingling, and also to see, if not meet, members of the several faculties. The Evanston students greeted the Chicago contingent at the railroad station, and a procession marched back to the campus for the festivities. It was on one of these occasions that the medical students got blamed unjustly for hiring an Italian organ grinder (and his monkey) to lead the procession, just ahead of the President. Apparently the President could not imagine that there might be a more suspect group, and he made a trip to Chicago to reprimand them. Medical-student reception of a return "slumming" visit by Garrett theological students was marked by no better manners in the dissecting laboratory than were accorded curious policemen (p. 147).

Founders' Day, instituted by Dean Kendall in 1922 to open the academic year, has served to instruct students, and especially Freshmen, in some of the lore of medicine, and to acquaint them with the history and personalities that have made the School what it is. Also in the period before classes began, conducted tours through the Medical School oriented the new students with respect to their immediate environment and afforded them an opportunity for meeting the administrative officers. Of late, this procedure has evolved into

a more highly organized and protracted period of indoctrination, including opportunities to confer about prospective careers and to meet the Faculty.

Dean Kendall also organized a Student-Faculty Council in 1916, comprised of representatives of both groups, who met in conferences on matters of mutual interest and importance. It provided a convenient means of transmission of many details of reciprocal relations, not suitable for more formal presentations to either body. After Dr. Cutter assumed the deanship, he sought a different way of making available an agency of prompt communication, advice and action. This was accomplished by selecting younger members of the Faculty as Assistant Deans, one for the Freshman-Sophomore group and another for the Junior-Senior classes. This arrangement, begun in 1931, proved to be valuable and has persisted, although the title of each Assistant Dean elevated to that of Associate Dean. Student activism was largely responsible for the relatively recent creation of a Student Senate (p. 256), reviving a direct mechanism of communication, inoperative for sixty years.

In another direction, student initiative, under faculty supervision, created a voluntary, clinical participation at the neighborhood Erie Clinic (p. 256).

Women students

The first experience of the Medical School with female medical students came in 1869, when four young women were accepted for matriculation, and three of them attended classes during the ensuing session. One, already a graduate physician, received the *ad eundum* degree at the end of the term. She was the only woman ever to receive a diploma from the Chicago Medical College. The other two were unchivalrously denied further registration (p. 117). As early as 1877, seven years after the first affiliation of the Chicago Medical College with Northwestern University, the latter raised the question, but to no avail, as to whether its contract obligated the Medical College to accept as medical students eligible women from the College of Liberal Arts. Also, several years before Northwestern University closed its Woman's Medical College for lack of sufficient patronage, the Medical School declined to furnish these

students preclinical instruction on a contract basis or by union. At the terminal crisis in the life of that College (1902), the School again decided not to absorb them or admit other women. Since the Medical School at that period had only a contractual affiliation with the University, and still enjoyed autonomy on matters of policy, the University was powerless to enforce its suggestions.



Dr. Mary H. Thompson; the sole alumna, 1870-1930.

Later, on its own initiative in 1913, the Medical School toyed with the idea of opening its doors to women, but could not arrive at a clear-cut opinion. Finally, in 1924, when pressure from the President of the University made it necessary for the Medical Council to take a stand, the decision was made to admit women in token numbers. This action was guided by expediency rather than a general conviction that such a course would be desirable (p. 303). Since then, the experience of the School with young women as students has dispelled early doubts as to the advisability of the step. Also the results disagree with the gloomy predictions obtained from the administrative officers of some other co-educational medical colleges consulted at the time. Winning approbation on merit, these women students became a respected and valued facet of medical

school life at Northwestern (p. 215). They currently comprise one-third of each class.

For some years the early, small group of female students supported a chapter of a national medical sorority (Nu Sigma Phi), but they finally decided to transfer their patronage to the Woman's Auxiliary of the American Medical Association. Only laggardly did the University show any sympathy toward the problem of these young women in having decent living conditions. Yet the stubborn opposition against women students sharing in the use of Abbott Hall was finally overcome, and the official retreat ended an episode that brought no credit to a Victorian administration.

More information pertaining to students can be found on pp. 251, 268, 304, 334.

ALUMNI AND ALUMNI AFFAIRS

The new college that became Northwestern University Medical School did not, for a time, attract large classes. Its longer term, extra year to qualify for a degree, novel curriculum, promotional examinations and greater expense did not appeal to the herd who preferred the traditional, shorter route into medicine. After 25 years of operation there were only 904 alumni; but at fifty years, 2,712 had been graduated. At one hundred years the number was 9,060, which corresponded to a long-term average of 91 annually. The current number of living alumni is 7,200. From time to time alumni directories, both alphabetical and by classes, were included as supplements to the Annual Announcement. This practice ceased with the 1909-1910 issue, and no directory has been published since that time.

The Medical Alumni Office at the Medical School does maintain a register of names and addresses that catalogs graduates alphabetically, by classes, and by states and cities. A further card file records deceased alumni, with accumulated data. Our alumni practice in every State; the most (25 per cent) are in Illinois, while next follows California with 16 per cent. Metropolitan counties, with a population over 10,000, account for 82 per cent of the total.

Alumni Association

Now in its 112th year, the Alumni Association of the Medical School is older than that of the University or any of its other component Schools. The alumni of the College of Liberal Arts did not organize formally until 1877, and nine more years elapsed before the first banquet-meeting of those in the Chicago area was held. A general Alumni Association, embracing all Schools, is relatively recent; it came into existence as late as 1921.

After a preliminary meeting, the Alumni Association of the Chicago Medical College was organized in definitive form on March 5, 1867. At that time there were only 172 graduates of the College. The Constitution, then adopted, stated that the objects of the Association were:

... to keep alive and perpetuate that kindly and cordial feeling which binds us together by reason of our common Alma Mater; to encourage the interchange of professional experience and keep alive that ardor among those who are identified with their Alma Mater in attempting to elevate the standard of medical education; and likewise to secure to the institution a record of the professional history of its Alumni.

This statement of purpose never suffered alteration in later revisions of the Constitution.

The first general meeting in the long annual series of the Association was held in the lecture hall of the College on the afternoon of March 3, 1868. The original President was Dr. J. S. Jewell, Professor of Descriptive Anatomy and a member of the first class to be graduated. Later Dr. Jewell became eminent as a founder and first President of the American Neurological Association, and the founder and first editor of the *Journal of Nervous and Mental Disease*. Interestingly enough, the date of this initial reunion was almost 100 years to a day from the establishment of the first medical college in the United States. For many years the annual meeting was held apart from the banquet that was given by the Faculty to the graduating class, alumni and friends. In that period the presidential address was the chief feature of the formal meeting of the alumni.

Programme.

Toastmaster, Dr. GEORGE W. WEBSTER.

DIVINE BLESSING, Rev. — —

THE FACULTY, - - - - - PROF. EDMUND ANDREWS.

“Since brevity is the soul of wit, and tediousness the limbs
and outward flourishes—I will be brief.”—Shakspeare.

THE ALUMNI, - - - - - DR. E. C. COOK.

“Building nests in fame's great temple,
As in spouts the swallows build.”—Longfellow.

CLASS HISTORY, - - - - - DR. C. W. WOOD.

“Lest men suspect your tale untrue,
Keep probability in view.”—Gage, Fable 18.

THE CLASS OF '95, - - - - - DR. R. A. LETORNEAU.

“Night after night he sat and bleared his eyes with books.”
—Longfellow.

THE COLLEGE OF LIBERAL ARTS, - - MR. GEO. P. MERRICK.

“How empty learning, and how vain is art,
But as it mends the life and guides the heart.”—Young.

THE COLLEGE OF LAW, - - PROF. EDWIN BURRETT SMITH.

“The end of the law is peace; the means to that end is war.”
—Von Ehring.

THE COLLEGE OF PHARMACY, - - - MR. W. A. DYCHE.

“For human ills he makes the pills,
Powders and lotions too;
And all those things the doctor brings
When he makes his calls on you.”—Avondale.

THE COLLEGE OF DENTISTRY, - - - DR. E. D. SWAIN.

“Uneasy his the head that wears a crown.”

THE WOMAN'S MEDICAL SCHOOL, - PROF. HENRY T. BYFORD.

“Men must be taught as though you taught them not,
And things unknown proposed as things forgot.”—Pope.

Program of the first annual banquet of the Alumni Association, then 27 years old; 1895.

After a time interest in such independent meetings waned, and it was decided that it was better to merge the alumni meeting into the College banquet. The guest list of the Faculty-sponsored banquet had previously included all alumni who wished to attend. Now that the occasion was to be a function of both organizations, the Alumni Association decided that its members should pay for their dinners,

so that the money saved to the College could be spent for laboratory equipment. But the policy seems to have wavered with the years, as the Faculty Minutes record. Even as late as 1914 the validity of the School still assuming the total cost (up to \$1500) was both attacked and defended. The sentiment finally turned toward paying for the Seniors only and, after a time, for Seniors and their guests and for the fifty-year class as well. This expense is borne by the Alumni Association.

When a general Alumni Association of Northwestern University was formed in 1921, the Alumni Association of the Medical School voted, at its next meeting, to become an affiliated branch of it. By 1929 the Medical Alumni Association numbered 1101 members paying annual dues, and 29 life members. In 1936, 27 per cent of all medical alumni belonged to the Association as paying members. In actual numbers this total almost equalled the representation from the College of Liberal Arts, whose membership percentage-wise was only half as great. In numbers, the paying medical alumni were three times as many as the next nearest professional school.

Dean Cutter suggested that the interests of the medical alumni would be better served if an executive body were in control between annual meetings. Hence, in 1931, a board of counselors was elected, which also had individual members charged with oversight of the following activities: publicity; Northwestern Foundation; personnel; records; and placements. In 1936, this Alumni Council authorized the establishment of an office in the Montgomery Ward Building and the employment of an executive secretary to handle records, reunions, public relations and other interests. An Alumni Center was completed in 1977 by reconstructing the west ground wing of the Ward Building that was formerly occupied by the Medical Clinics. Among other facilities, there is an auditorium, the gift of Dr. George C. Turnbull ('23) and his wife.

The Northwestern University Foundation was organized in 1925. Its declared purpose was to stimulate every graduate of Northwestern University to remember his Alma Mater with a gift each year. After a time, a plan developed whereby the alumni relations of medical graduates to the University were consolidated and simplified. In 1937 the Alumni Council of the Medical School presented a program by which only a single solicitation for a contribution, and that one in behalf of the Medical School, would go

from the University to each medical alumnus. Out of the individual donation would be taken annual dues to the general Alumni Association, whereas the remainder would be credited to the Medical School in the Fund for the Foundation. Also the medical alumni organization would continue in the activities of the general Alumni Association, be represented among its Directors and be entitled to submit names for honorary degrees and merit awards. This proposal was accepted by the general Association. Still later, as contributions to the Alumni Fund increased, dues to the Association were abolished.

As the Centennial of the University approached, the Northwestern University Foundation changed its name to the Century Fund. Afterward, the present name of Alumni Fund was adopted.

The annual gifts from medical alumni have increased with the years, until they now total some \$325,000. It would require an endowment of \$5,000,000 to produce an equal sum for the budget of the Medical School. Rarely there are some extraordinary benefactions, as in 1974 when the total swelled to \$665,000. In 1953 the Senior Class announced, at the annual meeting of the Alumni Association, that 106 of its 129 members had pledged \$1000 each as a class gift. This was done under a sense of obligation to the Medical School because of the knowledge that tuition fees had paid but one-third of the cost of their medical education. No time limits were set for payments, each promising to pay in amounts and at times convenient to his financial program. For several years each Senior Class made a similar pledge, but soon it was discontinued. Actually it was not a good plan, since some students pledged under a feeling of duress, many did not redeem their pledges, and others felt that such a contribution, once made, ended all future obligations.

Association activities

At the time of its founding, 1921, the Alumni Association of Northwestern University began a publication, *Northwestern University Alumni News*; previously the College of Liberal Arts had issued its own *News Letter* (1903), and *Journal* (1914). In the early years of the Medical School the *Chicago Medical Examiner*, as a

quasi-organ of that institution, published news items concerning alumni, college events and the progress of educational reform. Its contributed articles drew largely from Faculty and alumni. Much later (1899-1912) the *Bulletin* (soon renamed the *Quarterly Bulletin*) was established to publish the scientific writings of teachers and students and such general college news as might interest the alumni and others associated with the School. On the revival of the *Quarterly Bulletin* in 1940, essentially the same policy was followed until its demise, in 1962, in order to permit the publication of a more general alumni journal. This was named the *Northwestern University Medical School Magazine*, and its articles, news, class and faculty items were designed to appeal to alumni interests. After eleven years this journal gave way to the *Northwestern University Medical Center Magazine*, featuring newsworthy publicity from the total Center, but also containing alumni class news.

Among the activities of the Alumni Association of the Medical School was an "Alumni Week" which started in 1902, and is still observed in an abbreviated form. Originally this annual period featured clinics, given by members of the Faculty, and ended with the annual meeting and dinner. The enthusiasm at the first of these popular reunions is a matter of record. Greetings, backslappings and songs raised the tempo of excitement at the social hour until the courses of the banquet itself were interspersed repeatedly and deafeningly with the School yell of that era:

Rix! Rax! Rox!
N. U. Medics
Will be Docs!

Other activities of the earlier Association included the offering of prizes to undergraduates for scholarship or other superior performance, aiding in endowment-procural, and erecting memorials to former teachers. Most ambitious and valuable was the sponsoring of the School library between 1883 and 1907 (p. 319 *ff.*) while, still later, some donations were made to its support. Subsequent to World War II a War Memorial Door to the Archibald Church Library was installed in honor of students, Faculty and alumni who have served in the Nation's wars.

As the years wore on, there arose perennial criticisms that the annual meetings of the medical alumni were dull because of long and

uninteresting reports. More important still, attendance waned and was not considered to be within reasonable expectations. The situation repeated a much earlier crisis when the formal presidential address and the absence of a dinner-meeting failed to attract sufficiently. In the terminal year of disappointment it was decided to enliven the next (1938) occasion with an entertainment which featured a "gridiron" takeoff of members of the Faculty and University situations by the Senior Class. Reported as the most successful and entertaining session within memory, the plan was repeated drawing on individual student talent, appropriating successful fraternity-party skits, and even expanding into a minstrel show.

Semiprofessional and professional performers were also tried, with uneven satisfaction. Eventually the entertainment took the form of the *Quo Vadis Medicus?* musical play produced by medical students and student nurses. After its inception, in 1952, attendance at the reunion and enthusiasm for these occasions reached a new high. Nevertheless, the Association shortly (1960) decided to end its sponsorship of the production, partly on the grounds that it had become a Frankenstein by diverting too much attention from the main purpose of the Reunion Dinner.

In 1871 the Medical School, for some undisclosed reason, dissolved its medical library of more than 1000 books. Twelve years later the Alumni Association volunteered to assume the task of re-establishing this necessary adjunct to the intellectual life of any college (p. 319). They succeeded in assembling a collection containing more than quadruple the number of volumes in the former library. After 24 years ownership and the responsibility for maintenance were transferred to the Medical School. This philanthropic achievement stands high among the activities of the Alumni Association through its 112 years of existence.

Notable among later innovations by the Alumni Association was the founding of the Nathan Smith Davis Club in 1966, with 102 charter members. Currently it consists of 335 loyal and generous alumni, and others, who contribute \$250 or more annually to the Alumni Fund. It was especially appropriate to name this club in remembrance of the founder who gave of his time, services and purse so unstintingly to the welfare of the struggling, tradition-breaking institution. A complimentary dinner with a distinguished

speaker is a semi-annual event. Recently the Association instituted a Distinguished Alumnus Visiting Professorship that aims to bring back an eminent alumnus each school-quarter for a two-day visit that includes a lecture and a clinical conference or other feature. It also selects an Alumni Board of Counselors from thirteen geographical regions of the country. This group visits the Medical School at least annually to appraise and advise (p. 242).

Some friendly gestures are extended to the medical students annually. Each Senior, with a companion of his choice, attends the Reunion Dinner as a guest, and is presented with the ceramic drinking cup of the Association. A greeting to the incoming Freshmen takes the form of a copy of the official history of the Medical School, and a social party during his orientation period.

Attention is given to Alumni throughout the year by triquarterly mailings of the *Magazine*. At the Annual Reunion special recognition is tendered to the fifty-year and twenty-five year classes. Members of the half-century class are honored guests at a luncheon and at the Reunion Dinner where each receives a unique Medical School paperweight and a copy of the History of the Medical School. The quarter-century class attends a complimentary luncheon and each member also receives a paperweight. All efforts to cultivate the alumni attempt to fulfill the promise made by Dr. N. S. Davis at the foundation of the Medical Alumni Association 107 years ago: "And we can assure the alumni . . . that their Alma Mater will open wide its doors to welcome them at each returning anniversary meeting."

Distinguished alumni

Many alumni achieved fame and have brought honor to the Medical School. From those of the previous century one can select a single representative from each clinical field, but such choices clearly are subject to alternative opinions:

Gynecology, F. H. Martin ('80); *Medicine*, F. Billings ('81);
Neurology, J. A. Jewell ('60); *Obstetrics*, J. B. DeLee ('91);
Ophthalmology, H. Gradle ('74); *Orthopedic Surgery*, D. A. K. Steele ('73);
Otolaryngology, F. Menge ('92); *Pediatrics*, I. A. Abt ('91);

Psychiatry, E. Wing ('82); *Public Health*, F. W. Reilly ('61);
Surgery, C. H. Mayo ('88); *Urology*, L. E. Schmidt ('95).

To these categories might be added a few other activities:

Founding hospitals, D. H. Williams ('83)

Founding national medical societies, J. A. Jewell ('60)

Organizing medical colleges, C. W. Earle ('70)

There have also been pioneers in science, such as H. J. Ricketts ('97) who discovered a new type of pathogenic micro-organism, authors such as J. B. DeLee ('91) whose textbook taught the world how to conduct confinements properly, and editors such as I. A. Abt ('91) whose multivolume system of pediatrics set a new standard as a reference work.

Moreover, there is still another facet to the meritorious record of alumni beyond deserved fame as clinicians, investigators and writers. Professor E. C. Dudley once emphasized this when addressing a reunion of the alumni: "Our history is something more than a Medical School. It has been a nursery of medical teachers — a medical normal school." Even at that time there were, indeed, hundreds of these part-time pedagogues scattered widely over the country. Chicago itself had many representatives and, for a time, the deans of all three major schools in that city were Northwestern graduates. Again, the importance of the teacher was expressed forcefully by President Hadley, of Yale University, sixty years ago in an address at the dedication of the Northwestern University Building for professional schools, in Chicago's Loop:

We make a mistake if we fix our eyes too exclusively on research at the expense of teaching, and estimate the value of a university solely on the former basis. It may be true that one real jurist is worth a hundred ordinary lawyers; that one medical discoverer does more good than a thousand physicians; that one prophet is worth ten thousand preachers of the conventional type. Nevertheless, the institution which tries only to make jurists or discoverers or prophets will fail of giving the country the lawyers and doctors and ministers which it wants. It is in the power of the professional school to be something more than a mere professional school; but not by neglecting its plain duty of technical training.

Alumnae

The graduation of one woman in 1870 (p. 354) was followed by a sixty-year fallow period before medical co-education at Northwestern began to yield a few graduates annually. Since only 150 more were added in the succeeding three decades, the accretion of alumnae to the Association roster has been slow. Only in the past few years, with admissions reaching sixty women annually, is there promise of a still better balance between the sexes in the future.

The full absorption of the Woman's Medical College into Northwestern University in 1892, its waning patronage as co-educational opportunities in the study of medicine increased throughout the nation, and the final closure of the School in 1902 have been described in a previous chapter (p. 119 *ff.*). For a decade Northwestern University sponsored a man's medical college, which was still autonomous, and at the same time owned and controlled a college limited to women. The two medical colleges were always wholly separate institutions. Upon the liquidation of the Woman's Medical School, the alumnae were naturally disappointed over the unanticipated demise of a presumptively permanent sanctuary under the protection of Northwestern University. They also felt outraged because of a lack of candor on the part of the University in explaining its terminal action (p. 121). Only slight solace came from the knowledge that they were indubitably alumnae of Northwestern University. But some delayed healing of open wounds did occur when they were laggardly admitted to membership in the Alumni Association of the Medical School.

Other mention of women, since their general admission as students in 1926, has been made on pp. 253, 290, 354.

XIV

Allied Institutions

The hospital and dispensary were, from the beginning of the Medical School, important features of its organization. In fact, required and co-ordinated clinical instruction was one of the chief principles of reform that the School advocated, introduced and followed.

A teaching hospital has three basic aims: first, to provide medical care for the sick and injured; second, to provide a training ground for students at all levels; and third, to conduct medical research on the cause and cure of disease. Since this Medical School or University has never maintained a general hospital of its own, clinical instruction throughout twelve decades of operation has depended either upon friendly agreements with separate institutions or upon more binding contracts of affiliation. In either arrangement a certain element of calculated risk remains since, in the final analysis, good faith and conscientious performance substitute for absolute control.

Nevertheless, since the foundation of our School loyal faculty members have co-operated by utilizing private patients for teaching purposes. Actually at present practically all beds, free and private, are teaching beds. Yet each hospital has its own trustees and semi-independence, so that the situation from the standpoint of the University is, at best, only one of partial control. This is true even when benefiting from the integration of four hospitals into a single unit to form Northwestern Memorial Hospital, or when improving co-operative services through the consolidation of other affiliated hospitals into a common Medical Center (p. 244 *ff.*)

For the purposes of this book it is necessary merely to present the historical background of each institution in the several categories and to indicate its relation to the Medical School.

MEDICAL CENTER HOSPITALS

In the history of this School, eight hospitals, now components of a Medical Center, have been brought into intimate participation with the teaching program of the School through contracts of true affiliation. In time-order sequence these are: Wesley; Passavant; Evanston; Children's; Veterans; Rehabilitation; Prentice; and Psychiatric. An important feature of such affiliation is that members of the attending staff are named by the University, subject to approval by the hospital and, if not already members of the Medical Faculty, they automatically become so. Another is that the Hospital guarantees the School exclusive access to its instructional facilities and promises to provide an adequate number of teaching beds.

Northwestern Memorial Hospital

This entity was initiated on September 1, 1972 by the merger of two Medical Center affiliates. These (Wesley; Passavant) then became designated as Pavilions of the Northwestern Memorial Hospital. The two Pavilions do not duplicate in their offered services, and neither staffs Departments of Obstetrics, Gynecology or Psychiatry. In 1975 the just completed Prentice Women's Hospital and the Institute of Psychiatry also became integral parts of this joint complex. The merged units total 1299 beds — more than that of any other private hospital in Chicago and the sixth largest in the Nation.

Wesley Memorial Pavilion

Influential members of the Methodist denomination, led by Dr. Isaac N. Danforth, reached the conviction that a hospital should be maintained for the double purpose of caring for the sick poor of the Church and giving experience to pupils in its Training School for Missions and its Deaconess Home. They filed a petition for the formation of a hospital "for the gratuitous treatment of the medicinal and surgical diseases of the sick poor." On October 26, 1888, the charter was granted, making this the first Methodist Hospital in the



Wesley Memorial Pavilion; erected 1941.

West, and the second on the continent. With this motivation and authorization the then named Wesley Hospital got a start on December 25, 1888, when two to four rooms in the Training School for Missions were set aside for the purpose and the first patient appeared. The Training School was located in the five-story Deaconess Home at Ohio and Dearborn Streets. In the same year the Deaconess established the Chicago Training School for Nurses.

As was predictable, the quarters in the Training School proved to be wholly inadequate, and after two months a rapidly increasing patronage led to the renting of a two-story house on Ohio Street, near Pine (now Michigan Avenue). This move provided fourteen beds and brought some improvement. Later in the same year (1889) renting of the house next door increased the bed capacity to 25, but all these were makeshift accommodations that were a poor substitute for a hospital built for the purpose.

When, in 1890, ground was offered by Northwestern University at its newly purchased college site, the Hospital obtained, at an eventual cost of one dollar, lots at the northeast corner of Twenty-Fifth and Dearborn Streets (p. 142). The stipulations of the gift, and the obligations thereby assumed by the Hospital to furnish clinical instruction under a staff appointed by the University, placed the institution on an affiliated basis. Details of the troubled history of this contract, extending through several later decades, are recounted in Chapter XI.

On this plot of land, representing eight city lots, a small, two story red-brick building, costing \$8,000, was erected in 1891, and this served as a temporary hospital of 35 beds. This building was, of course, entirely inadequate almost from the start. A Wesley Hospital Training School for Nurses was organized by the Deaconess Sisterhood in 1892 (but not incorporated until February 5, 1901). Thereafter, the pupils of the Home no longer acted as the nursing staff. For two years (1899-1901), in a period of financial difficulties, the School took over the Hospital and operated it. Affiliation of the Training School with the University, and granting of diplomas to graduating nurses by the University, began in 1906.

Although a definitive hospital was envisioned from the start, a long delay intervened before construction on it began. Donations, large and small, including a crucial gift of \$30,000 by the Medical School, enabled the Hospital to erect a permanent edifice with 171 beds. The southern part of this winged building partially enclosed the temporary hospital on the corner lot. The new building cost \$237,000 and was opened in June, 1901. It consisted of a main section, a wing on the north side and an incomplete, larger wing on the south side.

Seven more years passed before the temporary hospital building was razed to make way for the remainder of the south wing, which

completed the plan in 1910. This final addition cost \$137,000 and provided 54 more beds, making a total of 225. In 1906 the Harris Home for student nurses was built nearby at a cost of \$30,000, and the Charity Hospital, located just north of the Medical School, was purchased in 1910 for \$7,000 and adapted to lodge first-year student nurses. In the early years of the new century, James Deering donated a tract of land across the alley from the Hospital and fronting on State Street. This property had a value of \$160,000 and included a three-story brick building that was remodeled to house the interns and provide space for the laundry.

Increasingly in this period the accumulated endowment of \$223,000 failed to stretch sufficiently to meet the expanding needs for charity hospitalization. Mr. James Deering, alive to the benefits to be derived from an endowed, teaching hospital, gave \$1,000,000 to be used to support free beds for medical teaching. This gift, established in 1914 as a memorial to his father and sister, caused the name to be changed to Wesley Memorial Hospital. The failure of this benefaction to be utilized either to the satisfaction of the donor or the University constituted the crux of a perennial contention between the Hospital and University (p. 293 *ff.*).

The removal of the Medical School to its new Campus in 1926 intensified a challenge to the Hospital which could not be long ignored with safety. Some encouragement had come in 1924, when a site at Chicago Avenue and Fairbanks Court was offered by the University. This was to be set aside on the condition that a hospital of at least 400 beds (one-third available for teaching) be erected by January, 1929. Independently the Hospital secured title to an equal amount of land, thereby rounding out a total plot bounded by Chicago Avenue, Fairbanks Court, Superior Street and an existing alley. Amassing of a building fund, however, made slow progress, and then was brought to a halt by the panic of 1929. Years dragged by and prospects of escape from an unfavorable, deteriorated neighborhood failed to improve. Worse still, the staff suffered severe losses by the resignation of some of its strongest members, the patient volume was halved and some floors were closed. The result was that the Hospital could no longer be used effectively for much medical instruction. As a protection against the possible need for local expansion (as well as against invading undesirables), the Hospital purchased from the University all of the Medical School

property that extended even to Twenty-Fourth Street, and its additional land across Dearborn Street.

Finally help came suddenly and dramatically. George H. Jones, a Trustee, made a gift of \$1,200,000 in October, 1936, to insure a start at the new site. Plans were drawn for an imposing building, facing on Superior Street, and the next year ground was broken and a start made. The ensuing business recession caused another delay. But, in 1940, Mr. Jones gave \$1,800,000 more, and work was resumed on the massive X-shaped structure. It was to be the first time in centuries that a hospital would take the form of a cross. At the end of 1941 the Hospital finally opened to receive patients. It was seventeen stories high, topped with a four-story tower; built at a total cost of \$3,500,000 it made available 575 beds (later, 615). In view of the donor's predominant role in the hospital project, it was voted that a proposed group of buildings, of which the Hospital represented the first unit, should be called the George Herbert Jones Hospital Center. This plan did not materialize.

The Training School for Nurses had suspended operation in 1935 because of an oversupply of graduate nurses throughout the country, but by 1942 the economic conditions had reversed and training was re-established under the name "School of Nursing." A consolidation, in 1972, produced the "Wesley-Passavant School of Nursing." In November, 1943, a seventeen-story apartment hotel in the near vicinity was purchased as a nurses' home, and its name, "Hampshire House," was retained. Later, in 1963, the 26-story Carriage House, a next-door apartment hotel and 225 car garage, was obtained as a better facility to house not only nurses but also interns, residents and their families.

A massive addition to the Hospital, which extends to the Chicago Avenue frontage, was completed in 1959 at a final cost of \$6,000,000. This extension consists of a five-story U-shaped building, and a sixteen-story tower annexed to the original north-west wing. It provided for expanded hospital services and physicians' offices, and added 86 beds. Of the total number of 615 beds, an equivalent of about 70 (in patient-days) are free to charity patients. Essential to the effective operation of both Wesley and Passavant is the adjunct in the Health Sciences Building named the Olson Pavilion (p. 232).

The old Wesley building on the south side was first rented to the

City Board of Health for a venereal-disease unit, and then sold to the City of Chicago in 1952. Subsequently it was razed to make way for a housing project. A boast in modernity in 1908, it had become thoroughly out-dated and old-fashioned when it was replaced by the so-christened "Cathedral of Healing."

The assets of the Washington Boulevard Hospital (1913) were absorbed in 1942. A merger occurred, in 1954, with the closed Chicago Memorial Hospital (originally the Hahnemann Hospital, 1853). Through it the endowments were consolidated, some of the former attending staff joined the Wesley staff, the directorate was enlarged, and a new name was acquired — Chicago Wesley Memorial Hospital. In 1972 it became the Wesley Pavilion of the Northwestern Memorial Hospital.

Passavant Memorial Pavilion

The Institution of Protestant Deaconesses was transplanted from Germany to the United States as a Lutheran order at the invitation of the Reverend William A. Passavant, and a Motherhouse and Hospital were established in Pittsburgh in 1850. Thirteen years later, after discouraging interruptions, a second hospital was opened in Milwaukee, which continued into what today is known as the Milwaukee General Hospital. The need of a similar institution in Chicago, under the management of the Deaconesses, was recognized by the Reverend Mr. Passavant and urged by Mayor Ogden. The Parent Deaconesses Institution, at its annual meeting in 1865, approved such a venture and on July 28 of that year a hospital was opened in a frame building, formerly a private dwelling, purchased for that purpose by Passavant. It was located on Dearborn Street, near Ontario, and was called The Deaconess Hospital of Chicago. Two Deaconess nurses came to open the new mission hospital. Its equipment was very primitive, and the capacity was limited to fifteen beds. Only Mercy and Saint Luke's Hospitals are older institutions.

As with Passavant's earlier projects, opposition was encountered from citizens who looked upon any hospital as a dreaded center of contagion. Those in the neighborhood of the Chicago unit petitioned the city authorities to close it, but to no avail. The Hospital



Passavant Memorial Pavilion; erected 1929.

acquired a charter from the State Legislature in 1867, and a corporate organization thus came into existence. The purpose of the institution, as stated in its petition for incorporation, was “that the suffering and sick may be cared for and relieved in a becoming and Christian manner, without distinction of creed, country or color.”

There followed a series of trials and reverses. A better lot was offered as a gift, and a large frame building was purchased for removal to the new site. While the house stood on rollers in the middle of the street, it was discovered that the title to the proffered land was defective, and so the building had to be shifted onto a vacant lot adjoining the original hospital. Efforts to expand the number of beds, by using this building as an annex, had to be abandoned because of public protests.

Prospects seemed to improve when a friend made a provisional gift of a desirable plot of ground near the southern end of Lincoln Park. A subscription of \$30,000 from Mayor Ogden and a legacy of

\$5,000 from another member of the Board of Visitors served to press the plan toward realization. But at that point, after six years of labor in attracting support and good will, came the Great Fire of 1871. When the destruction had ended, William Passavant inspected the ruins of his hospital and sold all that remained for \$1.50. Yet this was not the worst. Mr. Ogden died and his pledge became tied up by his estate. Also, the donor of the Lincoln Park site had become impoverished by the holocaust and the land was generously returned to him.

For a long period, subsequent attempts to rebuild were unsuccessful; but substantial aid finally came when \$25,000 was received from the settled Ogden estate, and other donations were made. After 14 years of unremitting effort a new building was erected at Superior and Dearborn Streets. This building, with a capacity of 65 beds, was occupied in December, 1885, and bore the name of Emergency Hospital; through subsequent years much of its work did deal with accident cases. Proximity to the central business section and to the Chicago Avenue Police Station favored this type of patronage. The Rev. Mr. Passavant had planned to erect a larger, general hospital (a second Deaconess Hospital) on land purchased near Graceland Cemetery, utilizing the Superior Street building for emergency purposes. His death, in 1894, put an end to this ambitious plan, whereupon in his memory the existing institution received the name of Passavant Memorial Hospital.

The founder's son, Rev. William A. Passavant, Jr., assumed the direction of the Hospital until his death, seven years later. He was able to accomplish two objectives. For one thing, a Training School for Nurses was established in 1898, and regular students and graduate nurses replaced the deaconesses who had served previously. In 1905 the School became affiliated with the Illinois Training School for Nurses. As late as 1921 property was purchased nearby, on West Erie Street, for a Nurses' Home. A second objective realized was the departmentalization of the medical staff, and a laboratory of bacteriology and pathology was added. By virtue of these advances the Hospital obtained a first-class rating.

An important arm of the Institution of Protestant Deaconesses was the Board of Visitors, originally given authority to examine and report on the condition and management of the Hospital. In 1897 this lay organization was strengthened by the formation of the

Woman's Aid Society, which rendered invaluable help in raising money to meet annual deficits, and in obtaining supplies and equipment. It was the forerunner of the Woman's Board, which assumed this name in 1940. A drive for funds in 1906 culminated in a fabulous bazaar, promoted by the Woman's Aid Society at the Coliseum; called "Streets of Paris," it netted \$50,000. A second step in consolidating a strong lay organization came through the formation of the Passavant Memorial Hospital Auxiliary, in 1904, as an instrument for receiving gifts and bequests for the Hospital. The Board of Visitors became increasingly responsible for the management of the Hospital until, in 1931, it took over the properties in trust. In this manner, control passed from the Protestant Deaconesses to a wholly nonsectarian group, which became the Board of Directors in 1939.

The Hospital tried to adjust to changing conditions. Since it was dedicated to the needy sick, and the accommodations were insufficient to care for those who could pay, it became necessary to expand. In 1901 it was enlarged and completely renovated. In 1915 property adjoining the Hospital was purchased, and in 1923 other adjoining property was acquired by gift.

To be sure, this expanded plant had increased its bed capacity to eighty, and had an annual turnover of 2,700 patients in 1922. It had served the community for forty years, having on its staff such eminent physicians as Ralph N. Isham, one of the Founders of the Medical School, and Christian Fenger, the distinguished pathologist and surgeon who lent great prestige to its Faculty. But after World War I it became plain that the aging hospital plant was inadequate to meet the demands made imperative by the rapid acceleration of medical progress. The outlook for the Hospital was not at all good unless a drastic move were to be made; so, at last, plans for the rejuvenation of the existing plant were laid aside.

In the early Twenties, Northwestern University was acquiring its new campus site, only a short distance away, and this invited a possible solution. Negotiations were begun, and when ground was broken for the Chicago Campus, in the spring of 1925, an agreement was formulated that called for a hospital of not less than 200 beds. Of these at least one-third would be allocated to patients suitable for progressive clinical instruction through the means of bedside teaching or otherwise. The attending staff would be drawn

from the Medical Faculty. A site at Superior Street and Fairbanks Court would be provided. Articles of agreement were executed in September, 1925, whereby Passavant became an affiliated hospital.

This prospect of University sponsorship led to decisive action. The old plant was closed promptly, and was eventually sold. A campaign was organized, under strong leadership, in order to secure funds for the erection of a suitable building, and \$825,000 was raised. In May, 1927, a 99-year lease was secured from the University on land at the southeast corner of Superior Street and Fairbanks Court. Even though less than half of the required funds was at hand at this time, it was decided to go ahead with construction. Sixteen months after groundbreaking, the eleven-story Hospital opened its doors to patients on June 10, 1929. It contained 200 beds, of which 63 had to be assigned to nurses at that time. The building received the Gold Medal Award of the Illinois Society of Architects. It had cost more than \$2,000,000, and at the moment the early liquidation of the existing indebtedness seemed assured. But the almost simultaneous financial panic throughout the Nation and the ensuing depression took its toll; not until the end of 1937 was the heavy indebtedness (\$573,000) removed. Two years later \$100,000 of endowment was added. These things were accomplished through the generosity of Miss Edith Patterson, and in accordance with her wish, the hospital building was named the Floyd Elroy Patterson Memorial in honor of her brother.

The training of nurses was suspended in 1935 because of the oversupply in depression times, but the School of Nursing was re-established in 1949 through the generosity of Mrs. James Ward Thorne. As a memorial to her husband, it bore his name. Nurses' quarters were provided in the neighborhood by Mr. and Mrs. Charles Worcester in 1946, and the number of available hospital beds thereby increased to 265. In 1956 the Hospital replaced the nurses' residences by acquiring the ample DeWitt Hotel, which was renamed "Worcester House." In 1972 a consolidation produced the "Wesley-Passavant School of Nursing."

The postwar years found Passavant, moving forward in all areas of service, hampered by lack of space. A \$5,000,000 building and renovation program was completed in 1959. It provided an addition on the east and south sides that raised the number of beds to 378 and gave more working space. The Jennings Pavilion was added on

the west side in 1966 at a cost of \$3,500,000. The equivalent number of beds (in patient-days) maintained on a free basis for teaching purposes is about 37. In 1972 it became the Passavant Memorial Pavilion of the Northwestern Memorial Hospital.

Prentice Women's Hospital

In 1901 Dr. Joseph B. De Lee, the long-time head of obstetrics at our Medical School, conceived the idea of establishing three mater-



The jointly occupied building of the Prentice Women's Hospital and the Institute of Psychiatry; erected 1975.

nity hospitals, one on each side of the City. These would care for all poor women in Chicago needing maternity attention, and would be directed by the Professors of Obstetrics at Northwestern, the University of Illinois and the University of Chicago. A start was made on this ambitious program by erecting a Lying-in Hospital on the South Side, which eventually came under the control of the University of Chicago. Dr. De Lee had earlier urged Northwestern to build a similar hospital on its new Chicago Campus, but the great depression, beginning in the late Twenties, made any response impractical at that time. Forty years elapsed before Northwestern began its own obstetrical advance by largely absorbing the Chicago Maternity Center, an institution that evolved from Dr. De Lee's original Lying-in Dispensary which dealt solely with home deliveries (p. 393 *ff.*). And it would be several more years before Northwestern added a special hospital for women to its expanding Medical Center.

Aided by a gift of \$1,000,000 from Mrs. Rockefeller Prentice, the Prentice Women's Hospital was erected directly east of the Passavant Pavilion, and extending from Superior Street to Huron Street. This site and the eleven-story building are shared mostly on a physically separate basis by the Hospital and the new Institute of Psychiatry. In this division of space the Hospital uses seven of the eleven floors, and its entrance faces on Superior Street. The new quarters combine the research and other activities of the Department of Obstetrics and Gynecology with related clinical services previously supplied by the Passavant and Wesley Pavilions.

Through an agreement, consummated in March, 1968, with the Chicago Maternity Center, the prospective hospital became responsible for the obstetrical care of patients formerly served at the Maxwell Street site on a home-delivery basis. Accordingly the official, chartered name of the new institution became the Women's Hospital and Maternity Center of Chicago in August, 1968; subsequently (April 11, 1973) the Prentice name was prefixed. On February 28, 1975 it became an integral part of the Northwestern Memorial Hospital. An historical account of the Maternity Center, long associated with our Medical School, is given on p. 393 *ff.*

This 163-bed service can care annually for 3,000 births, 3,000 gynecological operations and 15,000 ambulatory visits. It supplants the Passavant and Wesley Pavilions in the performance of these

specialties and absorbs the similar outpatient services previously provided by the Medical School Clinics. The Hospital, which cost \$18,000,000 as its share of the jointly occupied building, opened on November 15, 1975, and was dedicated on January 22, 1976.

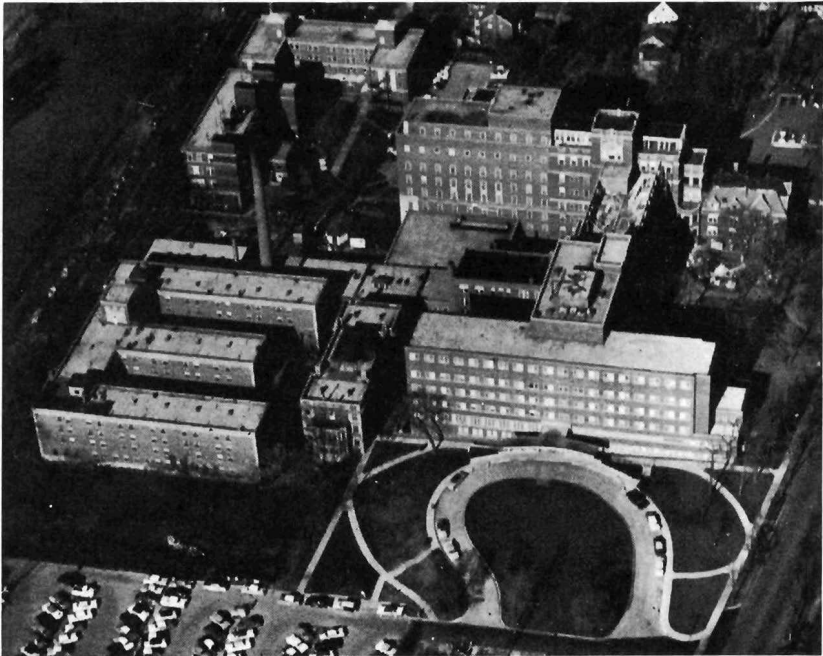
Institute of Psychiatry

This hospital shares its site and building with the Prentice Women's Hospital, previously described. It opens on Huron Street and occupies four separate floors in the common structure. It is the first hospital to be owned and operated by Northwestern University. The Institute combines the psychiatric services previously offered by the Passavant and Wesley Pavilions and by the Outpatient Clinics of the Medical School. It does this through providing consultation and by expanding teaching and research programs.

Primarily this hospital is a mental health-center for adjacent Chicago areas, acting in co-ordination with the Citizens' Health Organization to bring services to those of the community in need. The program aims to care for 1,500 inpatients and 90,000 outpatients annually. The 120-bed Institute provided \$8,500,000 as its share of the common building cost. It became a component of the Northwestern Memorial Hospital on July 8, 1975, and opened fully on October 15 of that year. The formal dedication occurred on May 27, 1976.

Evanston Hospital

For many years the poor and needy of the town were looked after by the Evanston Benevolent Society. The weakness of this arrangement was that during illnesses there was no place where these people could receive proper care. Realizing the inadequacy of the existing organization, and acting upon a suggestion from a busy family physician, Mrs. Rebecca N. Butler took the initiative in a movement to provide some form of hospital care. In this she was aided by Mrs. Maria H. Wilder. Forty citizens became interested, and pledges amounting to \$1,000 were obtained. The Benevolent Society assigned \$300 of the \$367 then in its treasury to the cause. On December 4, 1891, the Evanston Emergency Hospital Association was incorporated: "The object . . . is the erection or acquirement



Evanston Hospital; 1964 grouping.

and maintenance . . . of an emergency hospital — not for pecuniary profit.” The next year an eight-room, frame cottage at 806 Emerson Street was purchased for \$2,800 and remodeled. Equipped with six beds and simple accessories, it received the first patient on April 15, 1893. This woman, ill with typhoid fever, paid eight dollars a week for her care. The local paper described the facilities of the new hospital with enthusiasm bordering on eloquence. In the following year 36 patients were treated.

Evanston citizens soon recognized that more space was needed for a larger hospital, and funds were subscribed to purchase four acres of land on Ridge Avenue. This was the nucleus of the present site of thirteen acres. In the same year, 1895, the name of the hospital corporation was shortened to the Evanston Hospital Association. Three years later, the first building (the subsequently demolished Administration Building) was completed; it opened to patients in February, 1898. The land had cost \$12,000, and the cost of the building and walks was \$17,250. Proudly the *Evanston News Index* announced: “This is a first class hospital, equipped with all

the means and appliances that science and money can provide, a refuge and a safeguard to individuals and communities in times of sickness and distress.”

Within fifteen years five more buildings were erected. These were: Cable Memorial (1901); Williams (1907); Patten Hall (1910); West (1913); and Service (1913). The next five decades brought extensive additions: General (1921); Hendry House (1926); Patten Memorial (1930); Abbott Memorial (1941); Unit One (1950); Emergency Building (1957); South Wing (1958); and Louis Building (1965). Opening in 1976 was a Diagnostic and Treatment Center that provides for 144 acute-care patients. In construction was a 144-bed hospital in neighboring Glenview, aimed toward helping to meet the health needs of that section of the Evanston Hospital service-area. The two projects cost \$40,000,000.

Important changes have accompanied the passage of time. Not until 1897, despite its original name, was the Hospital used for the emergent treatment of accidents; a horse-drawn ambulance was then provided, but the police or fire department had to furnish the horses. In the early days only Evanston residents were eligible for hospital care. The original by-laws limited the attending staff to twelve, six regular physicians and six homeopaths. The service alternated between the two groups, in the order of patient arrival. In 1915 Outpatient Clinics were established for ambulatory patients who could not afford the services of private physicians.

A School of Nursing was founded in 1899. Eleven years later it affiliated with the College of Liberal Arts of the University, and in 1919 a five-year course was organized, leading to the degree of Bachelor of Science. More recently (1950), a similar arrangement became arranged with the Medical School. In 1913 the Evanston Hospital was first approved for the training of interns. In 1930 the medical staff was dissolved and rebuilt, whereupon full affiliation was completed with Northwestern University Medical School; this made it a teaching hospital.

In 1973, 18,400 patients were hospitalized in 510 beds and 45 bassinets; outpatients numbered 17,000. Annual operating expenses were \$25,000,000 and endowment was \$19,000,000; ten per cent of the equivalent patient-days are free. In the late Nineties the churches of the North Shore began participating each year in “Hospital Sunday.” On that day the collections are given to help



Children's Memorial Hospital; research- and main buildings; 1963.

support the care of the needy in the Hospital Clinics. This aid amounts annually to some \$70,000.

Children's Memorial Hospital

In May, 1882, Mrs. Julia F. Porter bought a three-story house on Belden Avenue, at Halsted Street, equipped it as an eight-bed hospital and began a program of caring for sick children on a free basis. At that time it was called the Maurice Porter Memorial Hospital for Children in commemoration of her son, who died in late childhood. Insistent demands for larger accommodations led Mrs. Porter to purchase land at Fullerton Avenue and Orchard Street, this tract representing the nucleus of the present site occupied by the Children's Memorial Hospital. By 1884 a twenty-bed hospital had been erected and opened on land where the Nellie A. Black Building now stands. Mrs. Porter directed the affairs of the Hospital until 1893, when a Board of Lady Managers was formed. In the following year a Men's Board was created and the institution was incorporated, it being declared that "The object of the Cor-

poration shall be the care, treatment, and cure of diseased and injured children.”

In the first nine years of operation the annual admissions reached a high of 68. Persistent demands for a larger-scale operation resulted, in 1889, in increasing the bed capacity to fifty and lowering the admission age from three years to two. At the same time a kindergarten was begun, and in the next year an Outpatient Department made a start. Later the admission age was lowered to early infancy, and by 1910 about one-third of the patients were less than one year old.

A complete reorganization took place in 1903. The name was changed to The Children's Memorial Hospital, additional land was purchased and a plan for a pavilion type of hospital was adopted. Later constructions comprised the following units: Maurice Porter Pavilion and Cribside (1908); Agnes Wilson Memorial Pavilion (1912); Martha Wilson Pavilion (1926); Nellie A. Black Memorial Residence for Nurses (1932); James Deering Memorial (1932); Thomas D. Jones Memorial Clinic Building (1940).

The decade of 1948-58 was a period of expansion, additions and modernization of the hospital complex of eleven buildings. In 1963, a new hospital facility and research building was completed on the sites of the old Maurice Porter Memorial and Agnes Wilson Memorial Buildings, thereby bringing bed capacity to 231. Deciding against an offer by Northwestern University of a site on the Chicago Campus, the Hospital approved (1974) a long-planned expansion and renovation program. Among the prime priorities of this \$40,000,000 project are a multistory pediatric center and additional floors to the present research building.

A reorganization in 1907 accompanied an affiliation with Rush Medical College. This alliance was replaced in 1917 by an affiliation with the University of Chicago for the purpose of making the Hospital a center for postgraduate study. For various reasons, however, such a program never developed fully, and the relation between the two institutions was dissolved in 1946. There followed an immediate affiliation with Northwestern University, whose medical students had for years obtained pediatric instruction at the Hospital. At present, student instruction is given through clerkships in the Junior year. In addition, interns from Wesley, Passavant and Evanston Hospitals obtain a month of pediatric training, as do the nurses of these Hospitals.

A Nurses' Training School, launched in 1894, was discontinued in 1900 for the lack of facilities to provide the students with experience with sick adults. A later alliance with Rush Medical College afforded the opportunity of conducting a year of adult work at Presbyterian Hospital, and so the School reopened in 1908. Fifteen years later it ceased to operate. At present the nursing department offers pediatric training through affiliations with four baccalaureate schools, and three hospital-based diploma-granting schools. The hospital also provides practical-nurse programs through affiliations with the Chicago Junior Colleges, the Chicago Board of Education and Triton College.

The hospital has grown through the years from a converted dwelling to a modern pediatric health-care complex with 259 beds and 31 specialty outpatient clinics. The annual cost of operation over the same period increased from \$2,000 to \$21,000,000 in 1973, and the endowment reached \$8,600,000. The growth of service and efficiency make prideful reading; the latter has been accomplished partly in spite of advancing costs and partly as a direct result of more extensive and costlier procedures. In 1907 there were 333 admissions for an average stay of 24 days, at a cost of \$0.99 per patient-day, and with a mortality of 24 per cent. In 1973 corresponding figures became 9,700 admissions, 7 days' stay, \$195 costs, and 2.0 per cent mortality. The Outpatient Department in 1908 offered care to more than 2,000 persons annually; in 1973 there were 73,000 visits to the clinics. Fifty-one per cent of patient days in the Hospital are supplied free or on a part-pay basis.

Veterans Administration Lakeside Hospital

After World War II the Veterans Administration adopted the policy of affiliating with medical schools, for the purpose of improving the quality of medical care. Even earlier, Dean Miller was alive to the opportunity for having a new unit near the Chicago Campus, and worked successfully to that end. The University already owned half of the block located between Huron and Erie Streets, and just west of the Furniture Mart. It purchased the remainder of the block for \$675,000 and sold the whole to the Government for the cost price. Construction started in 1950, and on



Veterans Administration Lakeside Hospital; erected 1954.

December 7, 1954, the institution was activated as the Veterans Administration Research Hospital. During excavation at the site the hull of a 60-foot sailing vessel was uncovered 25 feet below the surface of the reclaimed land. It was believed to have sunk before 1850.

The cross-shaped Hospital cost \$16,000,000. It has nineteen stories, with a basement and two sub-basements. The specific aim of the 533-bed hospital is general medical and surgical research, but included in its scope is provision for 57 neurological and psychiatric

patients. Annual admissions in 1973 totaled 7,600 and there were 87,000 clinic visits. In that year the expense of operation was \$14,000,000. Research facilities are extensive, including a one-million volt X-ray machine and a supervoltage cobalt 'bomb.' Important is the provision that the selection of patients and their length of stay are under the control of the clinical staff.

Affiliation with the University in 1955 provided that a Dean's Committee shall control the medical policy, training programs, professional standards and medical appointments. Consultants and attending physicians are drawn from the Faculty of the Medical School. Consultants are the appropriate departmental chairmen, whereas subordinate members of departments are chosen as attending physicians. The Hospital is utilized by the Medical School for the teaching of clinical clerks. Seven residency training programs are incorporated into the larger plan operating under the Graduate Division of the Medical School. On August 14, 1975, this institution changed its name to the Veterans Administration Lakeside Hospital

Rehabilitation Institute

This hospital owes its origin chiefly to the imagination and dedication of Dr. Paul B. Magnuson, former Chairman of the Department of Orthopedic Surgery. While reorganizing the Medical Department of the Veterans Administration and serving as its Director, he became committed to the concept of total rehabilitation. This fostered the determination to establish a hospital for civilians who had become disabled through illness or injury, and to this purpose he enlisted the aid of a few others. They recruited a staff, prevailed upon other physicians to refer patients to the new venture, and enticed trained professionals into what was then a little known field. The same core-group attracted board members and financial contributors to the cause. A charter was obtained from the State on September 5, 1951.

A hospital was organized in 1954 by purchasing a former printing plant located at 401 E. Ohio Street; this was financed through a loan of \$25,000. After four years of treating outpatients, two nursing floors were added and inpatients began to be admitted as well.

Subsequently, adjoining buildings were annexed and new programs were initiated, so that the hospital came to have 70 inpatients, 30 daily outpatients and a long list of those desiring treatment. Affil-



Rehabilitation Institute; erected 1974.

iation with the Medical School came on January 1, 1960. In 1966 the Institute became a member of the McGaw Medical Center, and two years later it was designated by HEW as the Rehabilitation Research and Training Center for the Midwest. During twenty years at its original site this hospital treated more than 10,000 inpatients. Its annual operating revenue rose to \$6,000,000.

Northwestern University offered a site for a new building to be erected on its Chicago Campus, east of Passavant Memorial Pavilion and extending between Superior and Huron Streets. A successful campaign for funds raised \$26,000,000 and in April, 1974, the new eighteen-story Institute opened as one of the largest buildings in the world solely devoted to comprehensive rehabilitation medicine. It cares for 170 inpatients and 125 daily outpatients. Floors in the building also house the Physical Therapy School, the Prosthetic-Orthotic School, the Searle Rehabilitation Research Center, a Bio-engineering Center and a Center for Education and Training in Rehabilitation Medicine. An equivalent of 2,000 patient days is on a free or part-pay basis.

OTHER AFFILIATED HOSPITALS

There are several other affiliated hospitals that differ by not belonging to the Medical Center. They also provide clerkship- and residency services and participate in the teaching programs, but only those clinicians engaged in such programs are members of the Medical Faculty. Hospitals in this category are presently the following: Columbus; Lake Forest; and Saint Joseph.

Columbus Hospital

This hospital was founded and developed by the Missionary Sisters of the Sacred Heart. It opened on August 3, 1905, with 100 available beds. In 1919 a new wing was added supplying fifty more beds, lecture halls and operating rooms. In 1974 a North Pavilion was annexed, costing \$22,100,000. The hospital now has 577 beds

and 49 bassinets. Outpatient visits total 50,000 annually. An affiliation with Northwestern University Medical School was consummated in December, 1972. An extension facility, now known as the St. Frances X. Cabrini Hospital, opened on the West Side of Chicago in 1911. It has 232 beds and 22 bassinets. A third member of the complex is the Frank Cuneo Memorial Hospital which serves the Uptown region of Chicago. It was founded in 1942 and has 171 beds.

Lake Forest Hospital

The predecessor of the Hospital was "Alice Home", built in 1899 as a memorial on the campus of Lake Forest College. It was designed to serve principally as a health facility for students, but secondarily cared for the citizenry of Lake Forest and neighboring communities. It originally contained a ward, three private rooms and an operating room. Eventually it was transformed into a college dormitory.

The Alice Home hospital became legally independent of the College in 1917 by incorporating as the Lake Forest Hospital Association. Later, the Association built a separate Contagious Hospital alongside; yet, with the years, it increasingly outgrew the available quarters. Help came when the present 25-acre hospital site was donated by the A. B. Dick family, and on it an \$800,000 hospital was opened on November 2, 1942; the original number of beds was 41. Since then there have been twelve separate building programs, making the total cost of construction \$15,900,000. Today the beds total 243, the annual number of inpatients is 8,000 and the number of outpatients 60,000. Adjacent to the Hospital is "Westmoreland", a long-term care residency with 82 beds. Affiliation with Northwestern University Medical School was on September 1, 1976.

Saint Joseph Hospital

Sister Walburga Gehring, of the Daughters of Charity, established the first Catholic hospital on Chicago's North Side in June, 1868. This primitive "Providence Hospital" was replaced by a new institution, built at Burling and Dickens Streets, that was occupied

and renamed in 1872 as Saint Joseph Hospital. The fifty-bed facility added wings in 1890 and 1914, thereby accommodating 200 patients. When much of the Hospital had become more than eighty years old and increasingly obsolete, it was decided to move to a new site purchased in 1952 on Lake Shore Drive at Surf Street. The Manor-Educational Building and the Hospital proper opened for service in April 1964. The combined cost of construction was \$12,600,000. The present number of beds is 450; the annual number of inpatients is 16,000 and the number of outpatients is 53,500. Affiliation with Northwestern University Medical School came on October 19, 1976.



Northwestern University Medical Associates; building purchased 1974.

ASSOCIATED FACILITIES

Northwestern University Medical Associates

This assemblage of more than one hundred salaried Faculty physicians and dentists conducts a full-spectrum group practice under one roof that provides primary, referral and consultative care in

all medical and dental specialties. It came into existence in 1974 and occupies the University-owned and equipped building, adjacent to the Wesley Pavilion of Northwestern Memorial Hospital, that was originally the headquarters of the American Dental Association. The group provides sophisticated health services to ambulatory patients in a dignified, modern setting. It cares both for those traditionally considered to be 'private patients' and for those formerly considered to be 'clinic patients'. The complete health services of the Medical Centers are thereby made available to the community through a single portal of entry; this is done on a fee-basis, but with regard to the ability to pay.

The Medical School Clinics, served largely by voluntary physicians from the very beginning of the Medical School, have by this means been largely incorporated into a single, high quality system of practice. Yet this absorption is not total, since psychiatric and obstetrical-gynecological patients are cared for in the Institute of Psychiatry and the Prentice Women's Hospital and Maternity Center.

This integrated group is not a legal entity, but is considered as a new division of the Medical School. It does not assume the burden of the former medical clinics in training medical students, yet it does participate in the teaching of residents rotating through the hospitals.

Portes Cancer Prevention Center

The Portes Center, organized in 1943, is located in the neighborhood of the Northwestern Medical Center. It is a multiphasic screening service that has a major concern in cancer detection, but through its comprehensive testing procedures also discloses numerous other pathological states. An average of 21,000 adults are tested annually, from which upwards of one hundred malignancies are disclosed. This nonprofit institution, the second largest of its kind in the United States, affiliated with Northwestern University on February 21, 1978.

Cook County Hospital

The sick poor of Cook County were cared for, beginning in 1851, at Mercy Hospital on a free basis. Soon (1856), however, the City of

Chicago built a 130-bed brick structure at Eighteenth and LaSalle Streets and leased it to a group of physicians under contract to care for County patients, and again on a fee basis. At the end of the Civil War the County purchased the hospital, expanded it, but later abandoned it for better quarters erected on a West-side complete city block. Patients were transferred to two central pavilions in 1876, but it was more than thirty years before all adequate accommodations had been constructed. At this time (1909) the bed capacity was 2000. The Illinois Training School for Nurses was founded in 1881.

From the beginning of management by Cook County (1866), the medical staff was drawn equally from Northwestern and Rush, in addition to a balancing noncollegiate group chosen by the County Commissioners. Discord followed that ended with the dismissal of the entire medical staff. A new Board created unrest that led to the attending staff resigning in a body. For the next 23 years the medical colleges had no official representation on the staff. This period was marked by shameful practices that ended in the total degradation of a potentially noble institution.

The climax of mismanagement of the professional staff had passed by 1905. Conscientious members of the Board of Commissioners, aided by civic-minded physicians, succeeded in getting appointments and tenure placed on a civil-service basis. Internships and positions on the medical staff were then acquired for specified periods, and only through competitive examinations. In this way medical schools again secured representation on the staff through their faculty members taking examinations and obtaining appointments on the basis of merit. As a result the quality of medical care improved greatly, and the full potentialities of the hospital as a teaching medium began to be realized.

The physical history of the County Hospital has been one of repeated outgrowing of current quarters and rebuilding, of the rehabilitation or transformation of outmoded quarters, of the annexing of neighboring buildings, and of spreading into new activities needing new, specialized constructions. By 1912 it was necessary to replace some of the oldest buildings, then become inefficient and outmoded. Four years later the sum of \$3,176,000 had been spent on new construction, and the number of beds was thereby increased to 2,700. Cook County Hospital is the largest general hospital for

acute diseases in the United States. Among its laurels is the honor of having established the first blood bank in the country. An organizational side-product that serves thousands of physicians each year through short, clinical courses is the Cook County Graduate School of Medicine, housed in its own building.

Among all other local institutions, the County Hospital is unique in its offerings and potentialities. It has been used by this Medical School to variable degrees from the time of its first operation by Cook County, and at some periods so heavily as to furnish the bulk of clinical teaching. Yet, for many years, medical students did not have admittance to the wards of the Hospital because of public pressure exerted on the Commissioners through the claim that patient-care would worsen. Utilization has depended upon the correct attitude of the Medical Faculty, the interest of faculty members in obtaining staff appointments, and their subsequent loyalty to the School. Since the reformation of the administrative control of the Hospital, representation on its staff and use of its clinical resources have depended solely upon initiative and competence on the part of the teachers, and policy on the part of the School. Currently it serves only to a minor degree through use in two postgraduate residency programs.

Chicago Maternity Center

A Chicago Lying-in Dispensary was founded by Dr. Joseph B. DeLee four years after his graduation from our Medical School. This was only one year after joining our obstetrical faculty, and following an unsuccessful attempt to provide a home-delivery service through the College Dispensary (p. 214). Its purposes were to deliver poor women in their homes and to instruct students in the art of midwifery. The reasons for its founding lay in the shocking conditions of obstetrical teaching and practice at a time when the best physicians refused to accept confinement cases, and those that did accept were both ignorant and careless. Medical graduates were without practical training, and many had never seen a delivery until called to attend one.

As a start, four rooms were rented in a tenement at the northeast corner of Maxwell Street and Newberry Avenue, and the Dispensary opened on St. Valentine's Day, 1895. Even at the first delivery



Chicago Maternity Center; erected 1904.

a Northwestern student assisted, and subsequently others were summoned on each occasion. In 1897 the Annual Announcement of the Medical School listed the availability of services of two to four weeks at the Dispensary. Even in the first year 204 women were confined and 52 students and twelve physicians were instructed in practical, sanitary obstetrics. Early in the second year larger quarters were obtained directly across the street in a new religious and social center, and a first intern came to the Dispensary both to learn and to help.

In 1904 the Dispensary acquired better quarters. Land was purchased diagonally across from the original site and a three-story building was erected on it. After a few years it again could not cope with the increasing patronage and an addition was built. This completed a facility that continued, essentially unchanged, up to the present time. In the late Thirties the Center was delivering 3,600 patients in their own homes and teaching some 250 students from Northwestern and from other medical schools that had come to gain similar privileges. In the final year of the home-delivery

program Northwestern students, as also at the beginning, were the only ones in official attendance. Also toward the end this participation by them changed from a requirement to an elective basis.

Subsequent to the move of the Medical School to the Chicago Campus, Dr. DeLee tried to get the University to take over the Lying-in Dispensary. Failing in this, partly because a financial depression was raging nationally, the name of the institution became changed in 1932 to the Chicago Maternity Center. With the years, sources of public aid to the poor progressively reduced the need for home delivery until the number became about one each day. Student attendance diminished and staffing costs became onerous. Accordingly, in 1973, home deliveries ceased and any patients needing this service were referred to the Northwestern Medical Center for free care; a similar arrangement had already been made in 1948 with Wesley Memorial Hospital for patients requiring hospitalization. During its lifetime the Maternity Center trained 13,000 physicians, 14,600 medical students and thousands of student nurses; it had delivered 145,000 babies.

On March 12, 1968, agreements were reached by the Boards of the two institutions through which the official title of the Maternity Center was to be shared with the prospective Women's Hospital of the Northwestern Medical Center. At this time the Hospital agreed to handle the obstetrical care previously supplied by the Maternity Center, but without home deliveries. For its part, the Maternity Center also continues to retain its name and corporate organization, but now restricts its activities (within the Prentice Memorial Hospital) to pre- and postnatal care, gynecological assistance and family counseling. The Chairman of the Department of Obstetrics and Gynecology of the Medical School acts as the Vice President for Medical Affairs of the Chicago Maternity Center.

FORMER FACILITIES

Outpatient Clinics

A charitable outpatient service, called the *Chicago City Dispensary*, opened in 1857 on West Randolph Street under the management of

Drs. Wardner, Andrews and Hollister. These individuals later became members of the original Faculty of the Medical Department of Lind University. The Founders ordered in August, 1859, that "a public dispensary be established in the college rooms." So it was that a month before the opening session of the new college, in 1859, the Dispensary moved into the Lind Block, at 22 Market Street (now Wacker Drive) and was placed under the immediate charge of Drs. Andrews and Davis. Its physical relation to the group of rooms assigned as college quarters on the third and fourth floors is described as "a room in immediate connection with the College." In the first year of association with the medical college, over 3,000 poor patients received care and medicine gratuitously, including several women who were furnished delivery in their homes. In 1863, when the College occupied its new building on State Street, a room on the ground floor was set aside for the use of the free dispensary.

When the College moved again, this time in 1870 to the Mercy Hospital site, the Dispensary was for five years located in very small quarters in the half-basement of Mercy Hospital on Calumet Avenue, near Twenty-Sixth Street. A year after its opening, on the occasion of the Great Fire, it provided valuable care for thousands of sick and homeless victims. In May, 1873, the outpatient service became an independent body by incorporating as the *Davis Free Dispensary*, with a board of three Trustees. The primary purpose was to afford relief and aid to the sick poor, and in 1874 it treated "7,637 patients" (probably patient visits). For some years the Dispensary was not used for teaching purposes, possibly because the new proximity to the Hospital made available all of the teaching material then deemed necessary. In September, 1875, it moved into larger rooms in the basement of the College Building, and the name was then changed to the *South Side Dispensary*. The new name was given because a system of charity service came into being that referred the ambulatory sick of the South Side of Chicago to this institution. The Trustees were aware of some abuse of the offerings by undeserving patients and, in 1880, hired a competent clerk to supervise admissions.

During the early years of the Dispensary the expenses were relatively large, and the Trustees were concerned over the problem of sound financing. A partial solution was supplied when N. S. Davis, W. T. Byford and the Chicago Relief and Aid Society donated

\$3,000 each toward an endowment fund. The Cook County Commissioners, after much supplication, contributed \$600. In addition to the interest from this fund, the Medical Faculty of the College agreed, in 1875, to appropriate an annual sum for maintenance not to exceed \$500. This subsidy and interest on the principal comprised the total income (about \$1,100) for many years. Even so, in 1878 a deficit of \$650 acquired over a two-year period was "remitted by the College." Beginning with 1894 a small charge was made for each prescription filled; in the first year this revenue far exceeded all other income.

In somewhat more than the first two decades in the life of the Medical College, the Dispensary was not an important factor in the education of students. During these early years they were encouraged to visit the different departments of the Dispensary, but such attendance was not required. Students who elected to visit faithfully were given a certificate by the Trustees of the Dispensary, specifying the length of attendance. The wedge by which the Dispensary entered into the educational program of the Medical School came in 1882, when each department of the Dispensary was placed under the charge of a member of the Faculty, who then became responsible to the Dispensary Trustees for the conduct of his department. In this way the College obtained medical control, and utilization for teaching increased.

Ten years later, in 1892, the Trustees of the South Side Dispensary resolved to entrust its reorganization and future management to the Executive Committee of the Medical Faculty. It was stipulated that the work should be so conducted as to afford the maximum medical and surgical aid to the deserving sick, while providing the most efficient clinical instruction to the student. The Trustees maintained their financial control for another year. But in May, 1893, they agreed to contribute the invested funds, amounting to \$10,000, toward the construction of Davis Hall. This donation was conditional on the Dispensary's being housed adequately in the new building, and on the Medical School's agreeing to appropriate \$500 annually for supplies necessary to the work of the Dispensary. By these steps the Dispensary retained its distinctive

name, but surrendered its autonomy, thereby becoming an integral and essential part of Northwestern University.

In early 1894 the Dispensary moved into the recently completed Davis Hall, but soon found its quarters overcrowded, despite expansions beyond the space originally allotted. This condition, for which a remedy by drastic rebuilding was urged as early as 1903, persisted until the Ward Building was occupied. An intimation of the casual treatment accorded patients previous to the Nineties, has been given through quotations from Drs. Abt and Holmes (pp. 125, 126). In another revealing paragraph Dr. Abt remarks on: the ignorance of those who treated babies; the prevalence of attributing most infant illnesses to teething, worms or biliousness; the nauseating medicines prescribed; and the crowded dispensary as a distributing point for infectious disease.

The expansion of dispensary personnel began in 1875, when the Faculty recommended that an apothecary be appointed. Students had previously served as drug clerks, and did so even at later periods. Dr. Abt described his duties, which consisted of putting up half-gallon quantities of "stock mixtures" (tonics, and medicines for coughs, dyspepsia, rheumatism, etc.), and then dispensing small bottles from them as the patients were sent in to ask for these by a code number. Few individual prescriptions were filled; every baby received calomel, castor oil or other purgative, although usually not needing it. Further help was supplied by student nurses from Wesley Hospital; these obtained a rotational experience in the several departments of the Dispensary. This program probably started at about the beginning of the twentieth century, when the Hospital expanded into a permanent building.

In 1903 a diet kitchen was installed, in which students learned the practical dietetics of infant feeding. This was the first instruction of the kind to be given by a medical school in Chicago. X-ray service was made available in 1917. The beginning of a Social Service, delayed by the stringencies of the First World War, was instituted in 1920. Two years later a prenatal clinic was authorized. Until about the time of moving to the new Campus, the machinery of the Dispensary was as simple as its records. The apothecary and head nurse, later aided by a social worker, supervised the admission and flow of patients. Dr. Loyal Davis, of the class of 1918, in his *From One Surgeon's Notebook* cites the casual handling in his student days of admissions by the apothecary:

He, alone was the admitting and examining officer, never inquiring as to the patients' financial status, the size of their families, or whether or not they were employed. He asked only the question "Where do you feel bad?" and then assigned them to a specific dispensary.

In 1894 it was decided that a charge of ten cents should be made, to all who could afford to pay, for each prescription filled. The second year under this plan yielded \$1,957.10 from 20,149 visits of patients who received medicines. The growth of the outpatient service through the years is shown in the following sample data:

1860 (first year of the College)	3,000 visits
1874 (fourth year at Prairie Ave. site)	7,637 "
1896 (third year at Dearborn St. site)	21,719 "
1925 (last year at Dearborn St. site)	37,000 "
1927 (first full year at Chicago Campus)	68,669 "
1934 (height of depression period)	160,000 "
1958 (a typical year in a prosperous period)	79,538 "

The number of different patients treated in 1958 was 10,300, so the average number of visits by each patient was eight.

The mounting expense in maintaining an outpatient service during the twentieth century is shown in the following table:

<i>Year</i>	<i>Patient Visits</i>	<i>Income (including grants)</i>	<i>Expenditures</i>	<i>Deficit</i>
1900-01	23,000	\$ 4,001	\$ 4,158	\$ 157
1925-26	37,040	22,723	31,650	8,827
1937-38	109,168	64,650	169,210	104,650
1957-58	79,538	252,443	446,031	193,588
1972-73	60,000	1,455,357	2,105,812	650,455

When the Medical School moved to its present site, the name of the South Side Dispensary was replaced by that of the *Montgomery Ward Clinic*. Among the special clinics, which grew in the Thirties to 27 but then reduced to eighteen, was the Florsheim Circulation Clinic. Another important addition, in 1943, was the Louis E. Schmidt Clinic, which represented a fusion and absorption of the previously independent clinics of the Illinois Social Hygiene League and the Public Health Institute. It operated until 1955 as a separate



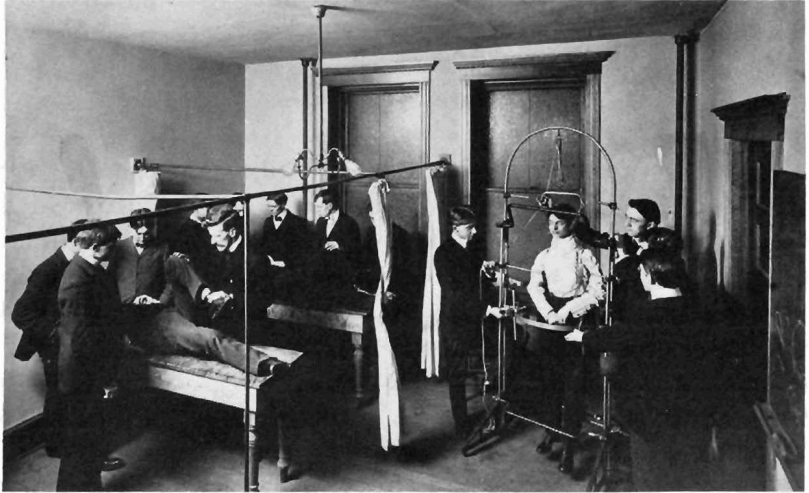
Diet Kitchen of the South Side Dispensary, the first in any medical school in Chicago; established 1903.

low-pay clinic for the treatment of venereal diseases, but was then integrated into the Montgomery Ward Clinic. The combined organization was then renamed the *Northwestern University Medical Clinics*. Not until 1957 did Social Service, as such, become a separate entity, independent of the Clinics.

The expansion in personnel and services during a century of operation would astound the three physicians who, unassisted, founded and conducted the prototype of the definitive system of clinics. Even fifty years after the start, the organization had only a few persons, apart from student nurses, to help the attending physicians. But, by the end of its century of operation, 1959, the Medical Clinics and Social Service Department were employing 85 persons, while 250 physicians and 20 voluntary helpers contributed to the outpatient work. The humanitarian service rendered to the needy sick would have delighted Mrs. Ward, who made this one of her three philanthropic objectives.

In 1975 the long history of a 'dispensary service' approached an end as other units in the Medical Center provided aid on a private-patient basis. In this way the Clinics closed as a discrete, traditional entity, and so did the distinctive type of student instruction offered there. Both endings entailed a loss since the Clinics had provided the nearest approach to an experience in private practice. One substitute now available to our students is voluntary participation evenings at the nearby Erie Clinic (p. 278), operating under the supervision of the Department of Community Health and Preven-

tive Medicine. Another opportunity, available to Seniors as an elective, is the observing of ambulatory private patients at the Northwestern University Medical Associates.



Orthopedic clinic, South Side Dispensary, at the Dearborn-Street site of the Medical School.

The former clientele of the Medical Clinics, mostly on governmental assistance, can henceforth better their state by becoming private patients at the Medical Associates, or at the Prentice Women's Hospital and the Institute of Psychiatry.

An outpatient department, run by a medical school has two functions: one is to serve the community by furnishing medical care to the needy; the other is to provide teaching material for medical students. The latter objective does not always follow from the former, because many patients handled are not useful for teaching purposes. Also, overpopularity of the service among the needy can make it difficult either to care for patients with the highest efficiency or to teach students optimally. Yet, in spite of any shortcomings, ambulatory dispensary patients are of great importance in the teaching of medical students because they represent the type of patient that constitutes up to three-quarters of a general office-practice. The revived attention paid to chronic disease served to

refocus emphasis on the importance of the long-term, ambulatory patient. In conformity with this pedagogical shift each student became assigned to patients whom he followed for several months, conducting their management as would a personal physician, including consultations and hospitalization. A last stage in making the outpatient service available was to offer it as an elective to Seniors.

Mercy Hospital

After his first year of teaching at Rush Medical College, Dr. N. S. Davis was offered the chair of the Principles and Practice of Medicine for the 1850-51 session. But there were no hospital facilities for clinical instruction, and he did not wish to accept this post unless such could be provided. At this time Chicago was a city of 30,000, but it still lacked a sewage system, a general water supply and a hospital, although a charter had been secured for an "Illinois General Hospital of the Lakes." To get things started, Davis volunteered to give a course of six lectures on "The Sanitary Condition of the City," the proceeds to be applied toward opening the Hospital. The dates selected for the course conflicted with those of a traveling minstrel show, and when Davis postponed his lectures, the grateful troop donated one performance as a benefit to the project. This produced \$100 and the lecture course added the same amount. Rooms were rented in the "Lake House," a poorly patronized hotel just north of the River, and twelve beds were purchased and put in them.

At first, the woman who ran the establishment was hired to cook and care for the general wants of the patients, whereas medical students did the nursing. After a year the Sisters of Mercy took over the management of the precarious enterprise and, obtaining a new charter in 1852, they changed the name to Mercy Hospital. In 1853 the Hospital was transferred to two double brick houses on Wabash Avenue, near Van Buren Street. The available beds then totaled sixty.

Six years later, when the Medical Department of Lind University was established, control of the attending staff went to that school. It was accomplished by Drs. Davis, Andrews and Byford, who offered free medical services in exchange for the privilege of giving clinical

instruction to their students. This move left Rush Medical College without a hospital and intensified the enmity of its President, who denounced the transfer as a "steal." On the other hand, Davis considered the hospital to have arisen through his endeavors, and the Sisters preferred to continue their relationship with him and his companions.

In the summer of 1863, both Hospital and Medical College moved to the South Side of the city. The Hospital took over a building located at Calumet Avenue and Rio Grande (now Twenty-Sixth) Street, which had been vacated by a girls' boarding school and novitiate. It permitted the Hospital to expand its facilities to 100 beds. The College was at first one-half mile away, but after a few years it built alongside. Additions raised the capacity of the Hospital to over 300 beds by the time the College moved away in 1893.

After transferring to the Dearborn Street site, the College still used the Hospital as a main source of clinical instruction for many years. The Hospital continued to expand and reconstruct until the main building faced upon Prairie Avenue and the number of patient beds reached 400. The former College Building, vacated in 1893, was used for a time during rebuilding operations and then was razed when it was decided not to be worth renovating into a dormitory for nurses. A valuable addition to the Hospital's facilities was the gift by the Medical School of a surgical pavilion with a huge amphitheater (p. 151).

From the first the Sisters of Mercy had carried out the nursing duties in an earnest and sympathetic way, but their care of patients was not scientific because of lack of formal training. So a School for Nurses was organized, and incorporated in December, 1892. This was the first one in the city; affiliation of the School with the University, which granted diplomas thereafter, began in 1906. Also a clinical and bacteriological laboratory was installed. It required persistent effort, however, to convince the Sisters that autopsies were a necessary feature; after a time, Dr. Fenger was successful in accomplishing this. Sister Raphael, the Sister Superior, when once convinced on these matters, was a powerful ally. Her long-time admiration for N. S. Davis and others of the staff kept relations on an efficient basis over many years of School-Hospital relationship.

In 1920 the long association of the two institutions was brought

to a sudden end, even before the expiration of a contractual agreement. This was by the command of the Church hierarchy (p. 151), since the Hospital was deemed useful to the recently reconstituted medical school of Loyola University. However, the inconvenient distance between that School and the Hospital limited severely any use of its clinical material for teaching purposes. Hence this oldest hospital of Chicago still looks back on its Golden Age as the period when Northwestern luminaries like Murphy, Andrews, Mix and Edwards filled its great amphitheater with students and practitioners, and with visitors from all corners of the world.

Mercy hospital holds a special position in the history of the teaching hospitals associated with this Medical School. It was the original source of practical clinical instruction, and written contractual agreements date from the opening of the Medical Department of Lind University. Although it was the main site of clinical teaching for six decades, and restricted its facilities to the use of our School, it never yielded the semicontrol that would have qualified it as an affiliated hospital in the modern sense of that term.

St. Luke's Hospital

The Reverend Clinton Locke of Grace Episcopal Church, on Wabash Avenue, became conscious of the need of hospitals in the rapidly growing city of the early Sixties. Camp Douglas, at Thirty-Second Street and Cottage Grove Avenue, contained thousands of Confederate prisoners, but had few physicians and nurses to care for the ill and injured. This caused the women of Grace Church to form the Camp Douglas Aid Society for the purpose of ministering to the soldiers. Yet the insistent need for civilian hospital service in a city of 150,000 remained unattended, and this included the immediate neighbor of Grace Church.

Mainly through the efforts of the Reverend Mr. Locke a small, but pleasant, frame house on South State Street, near Eldridge Court (now Ninth Street), was rented and furnished. It had seven beds, and a matron was put in charge of the enterprise. And so, in February, 1864, the first St. Luke's Hospital made a start. Only Mercy Hospital is older. It was intended as "a clean, free Christian place, where the sick poor can be cared for." Within the year the modest quarters were outgrown and a larger building on State

Street was obtained. It had accommodations for fifteen patients, and here also was established one of the first public clinics in the midwest for disorders of the eye and ear.

By 1871 expansion again became a critical problem. Through donations and funds raised from a Calico Ball and benefit concert, it was possible to transfer the Hospital to a large, wooden building on Indiana Avenue, near Sixteenth Street. This had been a workman's boarding house; it afforded accommodations for 28 patients. A new building was erected and occupied in 1885. At that time it seemed more than ample, yet within a few years extensions had to be added and the new Century brought increased demands. In 1909 the Smith Memorial Building opened on Michigan Avenue, opposite the previous Indiana Avenue site; and sixteen years later the main building arose, facing Indiana Avenue. Its 21 stories dwarfed the six-story Smith memorial; together they furnished nearly 600 beds.

An important activity of St. Luke's was its emergency service consequent on proximity to the central business district of the city. Here, through decades, were brought the injured of the Great Fire, the Iroquois Theater fire, the Eastland disaster, the La Salle Hotel Fire, and a daily stream of accident cases. Best known of money-raising projects is the annual Fashion Show, which has become a prominent civic event. The first mention of the availability of St. Luke's for medical teaching is in the Annual Announcement of the Medical School for 1871-72, when the Hospital moved to Indiana Avenue. Through the years it contributed steadily to the clinical teaching of the Medical School. A new epoch in the history of the venerable St. Luke's Hospital began in 1956 when it effected a merger with Presbyterian Hospital and united in a long-term, ambitious development on the West Side site of the latter Hospital. The combined endowments, after the union, equaled \$15,000,000.

Michael Reese Hospital

The parent institution of the present Hospital was erected by the United Hebrew Relief Association at LaSalle and Schiller Streets in 1886, but this original building was swept away in the Great Fire of 1871. Funds for the construction of a new hospital were provided from the estate of Michael Reese, and in 1882 the new building

at Twenty-Ninth Street and Groveland (now Ellis) Avenue was opened for the reception of patients. It contained seventy beds. After twenty years the Trustees decided to tear down this hospital building and erect a much larger one. The new, six-story hospital, with 240 beds, was completed in 1907. This main building is still in existence, but around it has grown a 66-acre campus containing twenty major buildings and 987 patient beds.

Michael Reese has become more than a hospital in the ordinary sense, it is an independent medical center devoted to the three fundamentals of modern medicine: patient care, medical research, and medical education. In addition to Main Michael Reese, patient care is provided in seven general and specialized pavilions. Community health care, a tradition at Michael Reese originating in the old West Side Dispensary, is provided through its successor, the Mandel Clinic and a number of supportive clinics. Research is conducted under the auspices of the Medical Research Institute. Once located in a single building, the Research Institute today is comprised of 23 departments and divisions, located in three specialized, laboratory facilities. The annual budget of Michael Reese is in excess of \$80,000,000.

Michael Reese Hospital first became available to Northwestern students when it opened at its present site. The Annual Announcement of the Medical School for 1882-83 included the following:

SPECIAL NOTICE

We would call the attention of our friends and the friends of medical advancement to . . . increased facilities for clinical instruction afforded by the development of St. Luke's and Michael Reese Hospitals in the vicinity of the College, which enables the Faculty to still further perfect the system of personal, bedside instruction in divided classes — a distinguishing feature of this College, and an advantage which the student does not usually get in other Colleges without extra fees.

Yet the utilization of Michael Reese for regular class work apparently did not begin on a large scale until Dr. Isaac A. Abt assumed the chairmanship of the Department of Pediatrics at the Medical School and began to employ the resources of the Sarah Morris Hospital for Children, built in 1910. Then other types of instruction were scheduled as well. Its utilization declined in the years following World War II, but clerks in pediatrics still were sent there as late as 1960.

Provident Hospital

In 1891 there were 15,000 Negroes in Chicago, whereas Cook County Hospital was about the only institution that would accept them as patients. Negro physicians had no hospital facilities for their patients, and there were no opportunities for the training of negro nurses. The incident that set off the movement to found Provident Hospital was the refusal of Cook County Hospital to accept for nurse training a negro woman who was the sister of a local pastor. The interest of Dr. Daniel Williams was enlisted by this condition, and it was he who aroused the founders to the need of a hospital and a training school for nurses, both open to negro applicants.

Dr. Williams was a graduate of Northwestern University Medical School in the class of 1883. He had served in the South Side Dispensary and at one time, was a Demonstrator of Anatomy. He became the first Negro to be appointed to the Illinois State Board of Health, was appointed by President Cleveland as Surgeon-in-Chief of Freedman's Hospital, at Washington, and there organized the second training school for negro nurses in the country. Later Williams was on the surgical staffs of Cook County and St. Luke's Hospitals. He became a charter member of the American College of Surgeons and hence the first of his race to belong to that organization. Williams is the first graduate of the Medical School who can be identified today as a Negro.

The initial Board of Trustees of Provident Hospital was biracial. It contained Professors Fenger, Byford, Jaggard, and Billings from the Northwestern Faculty. Four men of greater eminence could not have been secured. The announced purposes of the Hospital were: "The proper care of sick and injured without regard to race, creed or color; and to open a new field for useful and noble employment for colored women who are otherwise barred from lucrative and respectable occupations." A two-story, frame flatbuilding at Twenty-Ninth and Dearborn Streets was rented. In it fourteen beds and some meager equipment were installed, and the Hospital got under way in January, 1891. The early history was precarious, and on several occasions the institution seemed about to close, but each time the Trustees managed to avert this calamity. By dogged persistence the confidence of prominent citizens, such as Philip D.

Armour and George M. Pullman, was won, and through their generosity the Hospital was able to continue and improve.

The staff was composed of both white and negro physicians, and included some prominent members of the Northwestern Faculty. In this primitive hospital, and in the same year as its founding, started the first Training School in the country for negro nurses. In the first year of operation, 189 patients were admitted for hospital care, of whom 34 were white; twelve years later the white patients would predominate three to one. The year 1893 brought fame to Dr. Daniel Williams, and to the Hospital as well. A man was rushed to Provident with a stab wound in his chest. The chest was opened and the pericardial sac emptied of blood and sutured. This emergency operation, still often mentioned as "the first instance of surgical repair of the human heart (*sic*) on record," was actually the second of its kind. Precedence by another in making a similar repair was unknown to Dr. Williams, and he courageously ignored the teaching of his day and invaded the chest.

As the negro population increased, the demands on the facilities of the Hospital could not be met. Again Mr. Armour and other prominent Chicagoans came to the rescue, and erected a building at Thirty-Sixth and Dearborn Streets. This new hospital plant, for the times modern and well equipped to care for 75 patients, opened in 1898. Two interns were accepted each year. For more than twenty years after the founding most of the interns were white, and over a long period these appointments were assigned to graduates of Northwestern. A teaching association with the Medical School existed from 1899 until 1912. Students had the opportunity of attending clinics at the Hospital, and were assigned in small groups to ward visits in medicine, surgery and gynecology.

During the decade 1910-20, the negro population of Chicago increased by 65,000 to a total of 110,000. This growth put a heavy strain on a hospital which was too small and burdened with obsolescent equipment. By 1915 the white patients had decreased to seven per cent. Yet not for many years did a solution to the dilemma appear. Then, in 1933, Provident Hospital took over the buildings on East Fifty-First Street vacated by the Chicago Lying-in Hospital. Besides the seven-story main building, with 205 beds, there are homes for nurses and interns, and the four-story Max Epstein Clinic that handles more than 50,000 outpatient visits each

year. Affiliation with the University of Chicago in 1930 again made Provident a teaching hospital.

People's Hospital

This hospital was organized in 1897 by Dr. I. C. Gary, of the class of 1889, and it continued as a project of his idealism. Work among the poor, both before graduation and afterward, convinced him of the need for a hospital especially fitted to meet the wants of people in moderate circumstances. Such an "Ideal Wage-Earners' Hospital" would provide adequate medical and surgical care, without forcing them to seek a strictly charitable institution. The original hospital building, at Archer Avenue and Twenty-Second Street (now Cermak Road), was replaced in 1911 and then accommodated fifty patients; in addition, outpatients were treated. There was also a Training School for Nurses. The site of the Hospital was in the center of a densely populated section of foreign-born inhabitants. A large number of accident cases were handled, and much of the work was surgical.

The Hospital was made available to the Medical School for clinical teaching in 1905, when surgical clinics were given there to groups of Senior students. Some leading members of the Northwestern Medical Faculty served on the attending staff. For years two interns were appointed annually from the graduating class, and two Senior students lived at the Hospital and acted as assistants. Like Provident, its usefulness to the Medical School ceased even before the School moved to its new Campus in 1926.

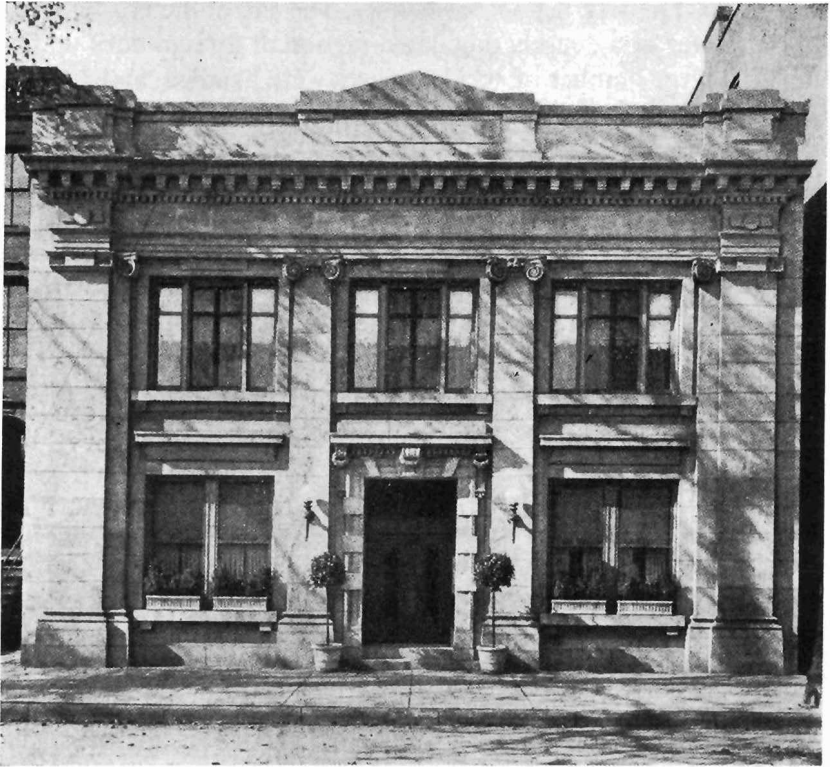
Grant Hospital

Citizens of German birth or extraction organized and maintained this facility which for many years bore the name, German Hospital. The first patients were received on August 5, 1884 in a private dwelling with 13 beds. The present site was purchased and a new building erected on it in 1887. Additional purchases of land permitted expansion through the erection of new wings in 1897 and 1913. During World War I all things German became unpopular and this circumstance led to a renaming to the present title, Grant Hospital. In 1928 and 1963 there was further construction and

modernization, and in 1974 a ten-story core-building replaced two of the former units. The present Hospital has 555 beds and cares annually for 180,000 inpatients and 75,000 outpatients. Affiliation began in July, 1973 and ended in June, 1978.

Calumet Dispensary

This service on Calumet Avenue, organized and operated by the University adjacent to Mercy Hospital, had a brief existence. The lot was purchased for \$7,602 and a two-story, limestone-front building, costing about \$20,000, was erected upon it in 1908. In addition to sixteen clinic rooms, there were a drug room, X-ray laboratory, photographic room and a director's office. The second floor contained a large assembly room, which was intended to accommodate



Calumet Dispensary; erected 1908.

meetings of medical societies. Two pathological laboratories provided for routine work and investigation. The clinical staff was drawn from the personnel of Mercy Hospital.

In 1914 the plant was sold to Dr. John B. Murphy for \$20,000. He adapted it into a professional building for himself and associates. The reconstructed building and new accommodations were described and lavishly illustrated in an issue of the *Surgical Clinics of John B. Murphy*. One photograph showed him posed, pen in hand, at the desk of his impressive office. This publication led to charges being preferred against Murphy for unethical advertising, and he was forced to defend himself before a tribunal of the American Medical Association.

Miscellaneous

At various times other institutions had working relations with the Medical School. Such included the Chicago Lying-in Dispensary, Municipal Contagious Disease Hospital, Municipal Tuberculosis Sanitarium, La Rabida Sanitarium, and Veterans Administration Hospital at Downey. At present, working relations for special purposes are maintained with the Chicago Maternity Center and Cook County Hospital.

XV

The Founders

The distinguishing character of a school is a quality reflected from the persons who administer it, conduct its classes and produce its discoveries. The institution is notable, ordinary or inferior in quite direct proportion to the competence, vision and zeal of these human agencies. Long ago, President Edmund James offered a cogent comment on these matters as they apply to the Northwestern University Medical School:

No one can study the history of this School without an increasing admiration for the men who founded and developed it, and for the men who are now carrying it on with such self-devotion and untiring industry. It is certainly only their interest in the profession and in humanity which leads them, year after year, to give their services so lavishly to this cause without any other return than the feeling of a good cause advanced.

Partly for the purpose of completing the record, but more importantly to put on display samples of the top cream of personalities in the life of Northwestern University Medical School, and to indicate the kind of men who made it more than just another medical college, the next three chapters will be devoted to biographical sketches of Founders, Deans and distinguished members of the Faculty.

The chief Founders, who also remained active in the new college for many years, were six in number: Davis; Johnson; Andrews; Byford; Hollister; and Isham. David Rutter was active only during the planning and the first term; he never served as a teacher. The six constituted an eminent galaxy. They had strength of purpose, faithfulness to the self-imposed trust, and confidence in their cause. They were long-continuing forces, contributing to the life and progress of the new-style medical college. With respect to these

Founders, Franklin H. Martin (class of 1880) made this observation:

The six young men, full of youthful courage and enthusiasm and fired with the glory of a new ideal, determined to embark upon a great adventure—an adventure which meant the founding of a new medical school and the revolutionizing of the methods of medical teaching the country over. It was no mean decision which these young men were called upon to make, for failure spelled for them disaster—financial, social and professional. But they did not fail.

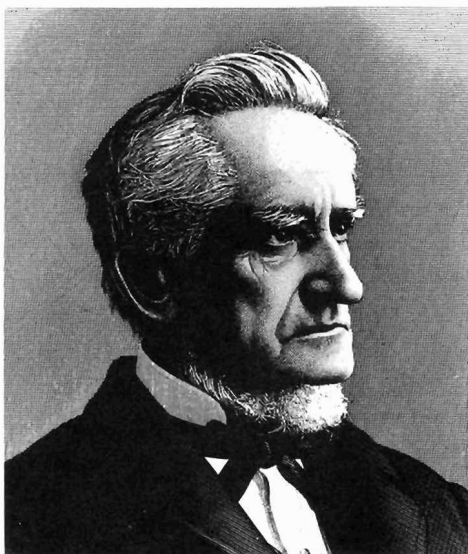
NATHAN SMITH DAVIS, A.M., M.D., LL.D.
1817-1904

The parents of N. S. Davis emigrated from Massachusetts to the town of Green in south central New York. They were pioneer settlers who cleared the virgin forest and farmed the reclaimed land. Nathan, the youngest of seven children, was born on January 9, 1817, in a primitive log house. His mother died when he was seven years old. Winters, until he reached the age of sixteen, were spent in attending the district school; work on the farm absorbed the remaining months. Nathan's father, perceiving the boy's studious bent, then sent him for a term to Cazenovia Seminary, forty miles away. This experience confirmed the youth's desire to pursue higher studies, and at the age of seventeen he began an apprenticeship in medicine under a physician in his home county.

In the autumn of the same year, Nathan enrolled in the four-month course in medicine at the College of Physicians and Surgeons of Western New York, located in rural Fairfield. After this first term he entered the office of Dr. Thomas Jackson, of Binghamton, continuing his pupilage there until two more sessions of the same lectures had been taken at Fairfield. This experience caused him, even as an adolescent, to question the rationality of such a repetitious system of instruction. Shortly after his twentieth birthday, Nathan graduated with honors. His thesis showed both originality and boldness by offering experimental evidence to contest the prevalent teaching that the lungs were the seat of heat formation.

A few months of practice in the small town of Vienna were not to

the liking of the young physician, except that there he met the young lady whom he would marry within a year. Hence in July, 1837, he opened an office in Binghamton. The next ten years of professional life were interlarded with systematic studies, wide in scope. In this manner Davis became competent in Latin and an expert botanist. Familiarity was also gained with chemistry, geology, political economy and English literature. With this broadened horizon he acted frequently as a lecturer on science at the Binghamton Academy, which he had helped to found.



Nathan S. Davis

When only three years out of medical college, Davis was awarded the prize offered by the State Medical Society for the best essay on the diseases of the spinal column, and the next year he won again on an analysis of discoveries concerning the functions of the nervous system. While still in his pupilage Davis had helped organize the Lyceum Debating Society of Binghamton. On returning to that town he entered into debating activities and overcame a natural diffidence, so that he became an easy, fluent speaker. Time would prove that no one in medical circles, locally or nationally, was superior; no one was equally feared as an opponent in debate.

Entering into the activities of the county medical society, first as Secretary and then as Librarian, Davis represented it at the annual meetings of the New York State Medical Society in 1844-47. There he was pleased to find that he was already favorably known by his writings and, although under thirty years of age, his opinions were respected. This introduction to organizational work in medicine initiated a remarkable public career in medical politics and education. Even in his first term Davis introduced resolutions that paved the way to productive campaigns, which led soon to the establishment of the American Medical Association and later to the reformation of the system of medical education.

In 1847 Davis moved to New York City and entered upon general practice. Here he gained baptism in the arts of teaching and editing. The College of Physicians and Surgeons placed him in charge of its dissecting room, and also had him lecture on Medical Jurisprudence. Journalistic experience began when he became editor of *The Annalist*, a semimonthly medical periodical. Any intention of permanent residence, however, was disrupted after two years by an invitation to come to Chicago and occupy the chair of Physiology and General Pathology in the recently opened Rush Medical College. The lure and opportunity of a raw, young city, whose destiny seemed plain, and of the sole medical college within a radius of hundreds of miles, offset the more stable enticements of well-established New York and its chief medical college. And so the autumn of 1849 found Davis, 32 years old and with wife and two children, completing a weary journey by railway, stage, canal boat and steam packet, and casting his lot in a bustling city of some 23,000 inhabitants. From that time onward he was to be actively identified with almost every important educational, scientific and sanitary interest of Chicago. Henceforth he would attain every honor that he might reasonably covet. Yet he would also sustain devastating loss in the Great Fire, and face tragedy within his family circle.

After a first year at Rush Medical College Davis was transferred to the chair of Medicine, which he accepted only after activating the formation of Chicago's first hospital, without which he felt didactic instruction would be sterile (p. 417). Although holding this clinical professorship for ten years, he became increasingly unhappy over his failure to convert the reactionary President and Trustees to the

views of a higher standard of medical education that he had advocated, and his brain-child, the American Medical Association, had been created to foster. Accordingly, in 1859, he welcomed the opportunity to join forces with others in founding a new medical college that would give his educational theories a fair trial. It was the opportunity of a lifetime, and he knew it.

The long history of the Davis efforts locally in the Chicago Medical College, and of his influence nationally in promoting the acceptance of higher standards of medical education, has been set forth in previous chapters of this book. Here it need be said only that Davis soon became the dominant personality of the Chicago Medical College, as he was also the militant exponent of the new educational order nationally. From 1866 to 1898 he was the official head of the College, as well. Had he been less consecrated to his ideal or had his iron determination weakened or faltered, it is possible that the College might have succumbed. But besides his indomitable spirit, seemingly limitless industry and endurance, he was fortunate in having the constant support of able and loyal colleagues, who also had the will to endure hard work and discouragements. Rarely does a reformer live to see his ambitious unorthodoxy approved and adopted as the correct procedure. Yet such was the case in this instance, and it became the greatest source of gratification to the venerable apostle of educational reform in his declining years.

From the founding of the College until 1892, Dr. Davis held the chair of the Principles and Practice of Medicine and of Clinical Medicine. From 1866 to 1870 he was President of the Faculty and, after the affiliation with Northwestern University in the latter year, he served as Dean of the School until 1898. The titles of an emeritus professorship and deanship were held for twelve and six years, respectively, until his death in 1904.

As a teacher in the lecture hall and ward, Dr. Davis was diligent and effective. Rarely missing an assignment of his own, he would often substitute for another and took pride in being able to lecture from any chair. During some college sessions he gave as many as ten didactic and clinical lectures weekly. His lectures, delivered with enthusiasm but with austere gravity, were marvels of compactness and vivid portrayal that none could excel. His command of English was remarkable in its simplicity and flexibility. His language took

the form of short, incisive sentences; although not elegantly oratorical, it was forceful, logical and effective. He was a natural teacher who gained and held the interest of his listeners, instructing them in a way to be remembered. It was said by leaders of the profession that no man could so clearly describe a disease and demonstrate the condition in a patient before him. His pedagogical efforts transcended the bounds of medicine alone. Believing that a physician should represent the highest type of manhood, he sought to instill students with a lofty appreciation of life, duty and the potentialities of latent powers. Dr. Henry T. Byford once said: "Our knowledge came from all professors, but our inspiration came from him."

As a general practitioner Dr. Davis had no patience with specialism, early abandoning surgery because of the pyramiding demands of a rapidly widening family-clientele. In Chicago he quickly developed an enormous general practice — larger, probably, than any in the West — yet he never refused the call of the sick poor, regardless of time or weather. Daily his office was filled with patients from six in the morning until noon. He then made house calls, went to the Hospital or lectured at the College, commonly not returning home until nearly midnight. Routine cases were disposed of in a few minutes and with scant ceremony; the uniform fee was one dollar. In obscure or complicated cases, and in his consultative practice which was the largest in Chicago, his technical skills, systematic thoroughness, and analytic and diagnostic powers were a revelation to all. If he erred in treatment, it was in placing too implicit faith in the power of then available medicines for any and all ailments. An outstanding limitation of Dr. Davis was his conservatism, bordering on bigotry. He tended to oppose anything new in science or politics. He scoffed at the introduction of the clinical thermometer and hypodermic syringe, and did not accept the 'germ theory' of disease because some bacteria inhabit the healthy body (p. 185). This attitude exerted an unfortunate influence on the plastic minds of his idolatrous students.

Dr. Davis was a constant contributor to medical and cognate literature, the more important articles, by his own selection, during sixty years numbering 138. These were written with care and accuracy; the language is clear and concise, done in the author's precise but facile style. Striking features are the factual basis, where

possible, and the large amount of original experimentalism at a time when facilities for this were meager. At the early age of 31, Davis became the editor of *The Annalist*, the first of eight periodicals to come under his care. On leaving Rush Medical College and the editorship of its *Chicago Medical Journal*, he founded *The Chicago Medical Examiner*, which was a pretentious monthly publication. It also served as the unofficial mouthpiece of the new, rival College. At the age of 66 he became the first editor of *The Journal of the American Medical Association*. In a sense he was also its founder, since his resolution in Convention authorized its establishment. All must admire the temerity that induced him to undertake this gigantic task and continue it through twelve annual volumes, until the *Journal* attained a sound financial basis and a peerless reputation. As a famous personage, and a speaker whose command of English was widely known and enjoyed, Davis also made many public addresses.

Of published books, four will be mentioned. *History of Medical Education and Institutions in the United States* (1851) is a unique source of information from the earliest times to 1850. It was re-worked and supplemented in a government report, issued by the Bureau of Education in conjunction with the Centennial Celebration of 1876. *A History of the American Medical Association* (1855) is a basic account in which Davis himself played a stellar, but modestly reported, role. *Lectures on the Principles and Practice of Medicine* (1884) embodies stenographic records of 92 extemporaneous lectures to his class. They faithfully display the clear, terse Davis style; they also reveal both weakness and strength, since "... he quotes from nobody, except King Solomon, defers to nobody, borrows from nobody." Presenting personal opinions only, it falls short of being a conventional textbook. *History of Medicine* (1903) is based on the annual course of lectures on this subject, delivered in his later years to the Senior class. It is, perhaps, the most remarkable work of the author, though published at the age of 86. How he found time to unearth a comprehensive history of medicine from the earliest periods onward, and how he was able to arrange the material so cleverly and to condense it so successfully, must excite the admiration of all. Throughout life his voluminous writings and, at times, immense correspondence were conducted without assistance, either human or mechanical.

The catalyzing role of Dr. Davis in organized medicine was so important that he is recognized with propriety and with general consent as the "Father of the American Medical Association." An initial proposal of his was adopted by the New York State Medical Society; it recommended that a national convention of delegates be held to adopt some concerted action by which the standard of medical education could be elevated. Davis, at that time 28 years of age, was appointed chairman of a committee to carry his resolution into effect. Empowered with this directive, he entered into correspondence with all the colleges and medical societies of the country. At a preliminary national meeting in New York (1846) Davis was an energetic delegate; he became chairman of a committee that recommended, among other things, the institution of a national medical association and a mechanism for executing a plan of permanent organization. Again Davis was made a member of a committee to accomplish this end. One year later, in Philadelphia, the American Medical Association came into being.

In 1864 Davis was elected President of the Association; a subsequent term made him the only person to have held that office twice. In 1883 he became the original Editor of *The Journal of the A.M.A.* Throughout life his active participation in the labors of the Association continued, and at the annual meetings he was ever a power, respected for his wisdom, feared in debate and distrusted by some who did not approve of his skill in medical politics. First appointed Secretary-General of the Ninth International Medical Congress, held in Washington in 1887, Davis became President following the death of the original nominee. He served with conspicuous ability, dignity and grace.

Nathan S. Davis participated in the promotion of many "good works." His active roles in the founding of the Chicago Medical College, Mercy Hospital and the American Medical Association have been mentioned. He was elected a Trustee of Northwestern University shortly after its incorporation and, except for a few years, remained on the Board for the rest of his life. It was he who took the part of chief intermediary in the affiliation of the Chicago Medical College with the University. Davis was among the founders of the following organizations: Chicago Medical Society (1850); Illinois State Medical Society (1850); Chicago Historical Society (1856); Chicago Relief and Aid Society (1857); Chicago

Academy of Sciences (1857); Union College of Law (1859); State Microscopical Society of Illinois (1869); Davis Free Dispensary (1873). The Union College of Law was, for a period, jointly the legal department of Northwestern University and of the old University of Chicago, but on the demise of the latter it became the Northwestern University School of Law. For twenty years Dr. Davis was Professor of Medical Jurisprudence in that School, lecturing learnedly and interestingly in the evening, after a long day at the office, hospital and Medical School. The Davis Free Dispensary was renamed successively as the South Side Dispensary, the Montgomery Ward Clinic and the Northwestern University Medical Clinics.

It was not in the Davis nature to lend his name to an enterprise merely as an ornament. He was an active participant in the affairs of a society or institution, or his name did not grace its roster. It is unnecessary to itemize his titles as president, secretary or trustee of the several organizations just listed. Among his many honors were an honorary A.M. from Northwestern University (1871), and LL.D. degrees from Illinois Wesleyan University (1878) and Northwestern University (1897).

A colleague, Dr. Hollister, said that Davis once told him that on entering a medical career he had three great ambitions, all of which had been fulfilled. One was to unify the medical profession by the creation of a national medical association. The second was to establish a medical college with extended courses of study and a more rational curriculum. The third was to publish a textbook that would embody his views of the theory and practice of medicine. For more than a half century Dr. Davis attended to his exacting professional duties, met his obligations to the College and Hospital, and still, without aid of typewriter, stenographer or secretary, found time to write, edit, lecture and enter into the affairs of management and policies of all of the organizations that enlisted his aid. Where would one find, in the long annals of medicine, another who engaged in so many activities and did them all so well?

Throughout life Dr. Davis was a total abstainer from alcoholic beverages. He spent so much of his energy in writing, lecturing and organizing against the use of alcohol, either as a beverage or as a therapeutic agent, that he was often called a "temperance crank." But unlike most temperance advocates, his arguments were backed by original experiments concerning the effects of alcohol on bodily

functions. So it was natural that he enlisted in the work of the Good Templars and became a director of its reclamatory Washingtonian Home in Chicago (1864). Later he energized a movement that resulted in the organization of the American Medical Temperance Association (1890). The decrease in the use of alcohol in medical practice was to a considerable degree the result of “. . . the ceaseless hammering of Dr. Davis on his temperance anvil, for a full half-century.”

In his eighty-fifth year a testimonial banquet was given to Dr. Davis, at the Auditorium Hotel, under the auspices of the Chicago Medical Society. Some 350 physicians from Chicago and various parts of the country attended. The guest of honor sat between two former colleagues of world renown, Dr. Fenger, the President of the Society, and Dr. Billings, the toastmaster. Among the graduates of the Chicago Medical College, present to do him honor, were the Deans of the three important medical colleges of the city. Speeches were made by eminent visitors, reminiscences were told by colleagues, a loving cup was presented to the “Nestor of the medical profession” and Dr. Davis made a characteristic response. At the end the audience was asked to rise “. . . and, in that beverage which Dr. Davis loves and has continued to pledge his life, drink to his health.” This was done on the sentiment proposed by the guest of honor, himself:

Pure water, Nature's universal antiseptic; it disorders no man's brain; it fills no asylums or prisons; it begets no anarchy; but it sparkles in the dew drop, it glows in the peaceful rainbow, and flows in the river of life close by the throne of God.

In less than three years his long life was to end. The city of Evanston would then honor his memory by attaching his name to a street, a city square and a school.

Physically Dr. Davis was wiry, lithe and vigorous. There was individuality and dignity in his look and carriage. His long, strong face was of the Andrew Jackson type. A narrow rim of beard, beneath his jutting jaw, reached from ear to ear. A full forehead, somewhat bushy hair, shaggy overhanging brows, keen deep-set eyes, prominent nose, wide firm mouth, thin lips and strong chin completed his arresting features. He was of grave, earnest

demeanor and rarely smiled. Even in repose his face wore an expression of alertness and determination. His resonant voice was rather low in pitch and his speech seemed to well from wisdom and knowledge. His habitual dress was black: a broadcloth dress suit, supplemented with a tall silk hat, gleaming expanse of shirt front, standing collar and black bow tie. In later years his trim, quaint figure, erect carriage and brisk, firm step attracted notice; he became a familiar character in the Chicago scene. Dr. William A. Pusey concluded that Davis was one of the few great men whom he had ever met who looked the part.

Much has been written concerning his personal qualities, such as kindness, charity, idealism and absence of pretension. A superficial sternness of manner masked an essentially gentle and kindly spirit. Dr. Frank Billings listed among his chief characteristics those of industry, tenacity of purpose, integrity, progressiveness and liberality. His biographer and colleague, Dr. Isaac N. Danforth, thought that the leading elements of the Davis rugged character were honesty, fearlessness, breadth of view, altruism, public spiritedness and Christianity. A prominent Chicago clinician characterized him as "untiring, irrepressible, uncompromising, and incorruptible." Yet no one is a paragon. Good testimony shows that at times he was imperious, impatient and intolerant; at other times, given to violent outbursts of temper and torrents of sarcasm or invective.

A first, brief experience as a practitioner in Vienna, New York, was not rewarding to Dr. Davis except in one regard. It served to introduce him to Anna Maria Parker, whom he married on March 5, 1838. He was then barely 21 years of age, and she not yet eighteen. There were born to them three children. Both boys became physicians, and the younger succeeded his father as Professor of Medicine and Dean of the Medical School. The public life of Dr. Davis practically closed with attendance, as an honored guest, at the Golden Jubilee of the American Medical Association in 1897. Yet he continued an office practice until ten days before his death. In 1886 he was stricken with a cerebral hemorrhage that resulted in complete right paralysis, but he rallied amazingly and in a few weeks was about again, although a slightly dragging leg followed him to the grave. Nearly twenty years later it was his heart that failed, and he died on June 16, 1904, already in his eighty-eighth year.

The funeral service, at the Davis home, was brief, simple and private. Later, the Chicago Medical Society held a memorial service in Power's Theater, at which addresses were given by Bishops of Methodist Episcopal and Roman Catholic Churches. Still later, addresses accompanied the presentation of a bronze commemorative tablet (p. 193) erected by the Senior class, 1905. Eulogies, from many sources, sought to encompass the manifold interests and activities of the departed leader and all, of necessity, ran to length. Most appropriate to cite is, perhaps, a fragment from the address of Professor Webster at the tablet ceremony:

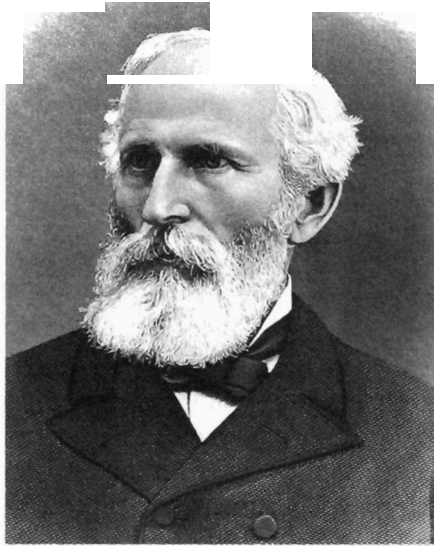
Let us then not merely recite his precepts, and catalogue his attainments and virtues, but let us rather emulate his example. Monuments, tablets and eulogy are for the dead; but no words of ours, no human speech can add anything to his fame or augment the gratitude, the grateful homage, which we here offer as a loving tribute to his memory.

HOSMER ALLEN JOHNSON, A.M., M.D.,
LL.D., F.R.M.S.: 1822-1891

Hosmer A. Johnson was born of colonial stock in the town of Wales, near Buffalo, New York, on October 6, 1822. When he was twelve years of age, his family moved to Lapeer County, Michigan. This region was primitive, sparsely settled and without schools. The rudiments of learning had been acquired by the youngster in ten months of school while in New York. In the new home Hosmer, the oldest child, continued studies under the guidance of his mother, while he shared in the labor of clearing the forest and cultivating the land. At eighteen years of age he obtained a teacher's certificate, and the following winter began teaching a district school. This employment continued for four years, whereas summers found him attending a nearby academy. Eighteen months of such preparation not only completed the entrance requirements to college, but also encompassed the studies of the freshman year.

In the autumn of 1846 Hosmer, now approaching 24 years, gained admission to the Sophomore class at the University of Michigan. Here he was handicapped by the residual effects of a severe cold, contracted in his seventeenth year, and this bronchial disabil-

ity was never to be outlived. Such serious impairment of health ensued that he was advised by the Faculty to withdraw at the end of his Junior year, lest he not live to finish the course. Failing to secure employment as a teacher at Chicago and St. Louis, Johnson found refuge with an uncle at Vandalia, Illinois, and taught school there. He also read medicine with a local physician and, in addition, continued independently to study college subjects. His health having improved greatly by April, 1849, he returned to Ann Arbor and graduated with his class.



Hosmer A. Johnson

Now possessing a college degree, Johnson taught for a year in the high school at Flint, Michigan, and at the same time continued medical studies under the tutelage of Dr. DeLaskie Miller, later a well-known professor at Rush Medical College. In the autumn of 1850 he entered the regular medical course at Rush, still making an income through teaching. In the following spring he became a “resident physician” (that is, intern) at Mercy Hospital, which had just opened. He was the first person to become an intern in Chicago. Graduation from Rush, where he was the acknowledged leader of his class, came in 1852.

In conformity with the times, practice was entered upon at once and, in 1853, Dr. Johnson was invited to become Lecturer in Physiology at Rush Medical College. Two years later he became Professor of Materia Medica and Therapy, and of Medical Jurisprudence. After two more years he was transferred to the chair of Physiology and General Pathology. Following the 1858-59 session, he resigned. His rapid rise, after graduation, to professorial rank and the ready shifting about among four different subjects, emphasize the limited knowledge available in these fields. It also illustrates the ease with which an inexperienced, but intelligent, man could adapt to whatever teaching services were wanted in those days.

Dr. Johnson, free from a system of pedagogy at Rush that he did not approve, immediately became one of the four persons who negotiated with the Trustees of Lind University, and then took the initial steps in founding its Medical Department. He served as President of the Faculty for seven years and of the Board of Trustees until his death, 32 years after the founding. As a teacher, Johnson filled the chairs of Materia Medica and Therapeutics (1859), Physiology and Histology (1860), Pathology and Public Hygiene (1865), Diseases of the Chest (1867), Diseases of the Respiratory and Circulatory Organs (1869), Clinical Medicine (1875), and the Principles and Practice of Clinical Medicine (1877). In 1881 he retired from active teaching to an emeritus status.

In the autumn of the same year that the medical degree was gained (1852), the recent graduate also received the degree of Master of Arts from the University of Michigan, the thesis being presented in Latin, as was then required. Amazingly, the very year of his graduation found him active in the formation of the Chicago Medical Society, and serving as its first Secretary. For several years Johnson was Secretary of the Illinois State Medical Society and became its President in 1858. It was in this period that he began his influential role in advocating a law to legalize human dissection. For five years (1853-58) he was associated in the editorial conduct of *The North-western Medical and Surgical Journal*. At two different times he served as Secretary of the American Medical Association.

At the outbreak of the Civil War, Governor Yates appointed Dr. Johnson to the board that examined all candidates for appoint-

ments as surgeon or assistant surgeon to the Illinois troops. He at once was elected to be the chief officer of this board and acted in that capacity for the duration of the War. About 1,200 candidates were examined, from which number hundreds were rejected as unqualified. Such was the efficiency of this weeding that the medical officers from Illinois were conspicuous in the entire Army for their thorough knowledge and their conduct on the field of battle. In an official capacity he repeatedly visited the troops in the field, inspecting and improving the medical and surgical regime of hospitals and camps, and examining Assistant Surgeons for promotion. In recognition of all these services he was made a member of the military order of the Loyal Legion. In 1890 he was chosen as the first President of the Army and Navy Medical Society, composed of medical officers who had served in the Civil War.

Following the War, Dr. Johnson sat for six years on the Chicago Board of Health, which supervised the important sanitary measures necessary to the health of a phenomenally growing city. In 1879, after the outbreak of yellow fever in the South, he was appointed to membership on the National Board of Health. Johnson had been active in the American Public Health Association from its inception, and sixteen years later (1888) became its President. He was a founder of the Association of American Physicians. For many years he was a director and frequently President of the Chicago Relief and Aid Society. His was the task of supervising the distribution of the more than \$5,000,000 that poured in from all parts of the country and from abroad after the Great Fire of 1871. In this important and critical humanitarian service, tens of thousands of homeless and impoverished citizens were cared for. Here his war experiences were invaluable in organizing sanitary relief. The accomplishment of this gigantic task was justly regarded by Johnson as a major achievement of his career.

During the first decades of his professional life, Dr. Johnson devoted much attention to surgery and attained a high degree of skill in this field. Afterwards he limited this specialty to surgery of the nose and throat, carried on in addition to the maintenance of a general practice. Still later, office work and consultations occupied his time. In these later years he continued as a consulting physician to Mercy, Michael Reese and Woman's Hospital. As a consultant on diseases of the throat and lungs he was regarded not only as the

pioneer in this field, but also as the highest authority in the Northwest. He was possessed of a scientific type of mind, and was a pioneer in using the microscope, thermometer and other instruments of precision and diagnosis. His writings over a 35-year period on medical and other subjects were voluminous. He was one of the leaders of the medical profession, not only in Chicago but also in the country.

In fields other than medicine there was a variety of activities. Dr. Johnson was a trustee of the old University of Chicago and then of Northwestern University; from the latter he received the honorary degree of Doctor of Laws in 1883. He enjoyed membership in many societies and received numerous honors — medical, scientific and literary. He was a charter member of the Chicago Academy of Sciences, in which organization he was at different times Secretary, President and Trustee; and also a charter member of the Illinois State Microscopical Society, in which he was repeatedly chosen President. His membership in the Chicago Astronomical Society dated almost from its origin, and he served several terms as its President. He was active in the founding of the Chicago Literary Club and was its third President. Made a corresponding member of several scientific societies, he was also honored with election to the Royal Microscopical Society of London. In Freemasonry he was both active and honored, organizing the Grand Commandery of Knights Templar of Illinois in the York Rite, and receiving the thirty-third degree and becoming a national officer in the Scottish Rite.

Among Dr. Johnson's astonishing capabilities was a talent for the acquisition of languages, both ancient and modern. At different times he studied Latin, Greek, Hebrew, French, German, Italian, and to some extent, Spanish. In his boyhood he had picked up a considerable practical familiarity with the Ojibway tongue. His command of English was extraordinary, and he had the ability to hold an audience in spell through faultless oratory (p. 311).

Dr. Johnson was a lover of the outdoors and an extensive traveler, finding relief in southern climates, at home and abroad, from the severe chest troubles that troubled him constantly. In 1855 he married Margaret Ann Seward. There were two children; the boy, Frank Seward Johnson, entered medicine and became Dean of Northwestern University Medical School. Death overtook Dr.

Johnson on February 26, 1891. Despite his long-standing ailment, which had led to repeated attacks of pneumonia, and to a final, fatal episode, he just missed reaching the allotted three score years and ten. In early manhood he had anticipated nothing more than a short life.

A study of his portrait conveys the impression of a handsome and distinguished personality, who was both an intellectual and a patriot. A former student said: "He was tall, handsome and gifted with elegant manners." A contemporary summarized the Johnsonian characteristics tersely: ". . . domestic qualities of sociability, companionship and hospitality; a keen student; a trenchant lecturer; a distinguished humanitarian; an accomplished physician; a staunch friend; a magnanimous opponent." Another said: "Dr. Johnson was much more than simply an eminent physician. He was a magnificent man, possessing a clear, trenchant intellect, and a great, noble heart. His reputation is without spot, and his honor without stain." No organizing medical college could have chosen a better young president to lend dignity to the infant enterprise and to secure confidence in its basic soundness and worth.

Hosmer A. Johnson was indeed a remarkable person when measured by any scale of standards. It was said that it was difficult to comprehend how so much diversified labor and so weighty responsibilities could be borne by one man. Only mental endowments of the highest order, a broad culture, rigorous training, persistent effort and efficient organization of time and energies could cope with the varied, insistent demands. This active and brilliant career was phenomenal because it entailed great courage and persistence, in which an indomitable spirit, gentle yet forceful, rose superior to the physical infirmities that dogged his life. Part of a eulogy by N. S. Davis reads as follows:

As an orator, lecturer and teacher, he was clear and direct in expression; chaste, elegant and often eloquent in style; and always commanded the earnest attention of his hearers. As a physician, he was clear-headed, kind-hearted, faithful to every duty and skillful — enjoying the implicit confidence of his patrons. As a citizen he was patriotic, benevolent, honorable and ever ready to lend efficient aid in promoting the varied interests of civilized society.

To those who have been intimately associated with him, he presents a

remarkable example of industry, varied acquirements, usefulness, unswerving integrity and the nobler qualities of a Christian gentleman.

The Faculty of the Chicago Medical College adopted resolutions which recorded that:

The College has lost the services of one of its founders and most active, able and eloquent teachers; the Northwestern University, one of its wisest trustees and councilors; the medical profession, one of its most learned, honorable and influential members; and the community, one who, for nearly forty years, has been an active, skillful and untiring benefactor to the suffering, alike in peace and war, and in the midst of the most dire conflagration.

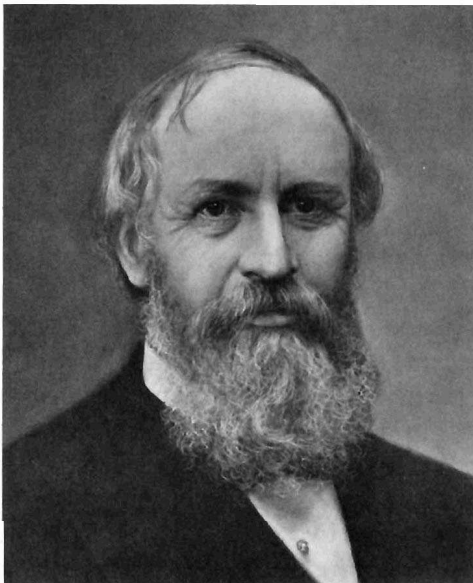
EDMUND ANDREWS, A.M., M.D., LL.D.
1824-1904

Edmund Andrews was born at Putney, Vermont, on April 22, 1824, the oldest child of a Congregational minister. When he was five years of age his parents moved to Pittsford, New York. Here he lived until he became seventeen, attending school in Rochester, nearby. At this time his father developed a voice inadequacy and decided to become a farmer. Accordingly the family moved to Michigan, where the father purchased a large tract of land north of Detroit, with the thought of dividing it ultimately into individual farms for his children. For two years a log cabin housed the family. This country was then quite wild, and Edmund worked hard in a pioneer style of life. Studies at an academy in Romeo, not far distant, were turned toward the sciences as he prepared for college.

Edmund entered the University of Michigan when he was 22 years of age and became a classmate of Hosmer Johnson. He had previously been devoted to the enticements of botany and geology, and now his progress in mathematics and natural sciences continued to be notable. Expenses were helped by teaching vocal music and leading a church choir. On graduating, in 1849, he was retained by the University as Superintendent of Grounds and Buildings. This enabled him, at the same time, to pursue the study of medicine. And so it was that he entered the office of the foremost Detroit practi-

tioner, and also began medical studies at the University when its Medical Department opened in 1850.

At the end of his first year Andrews was made Demonstrator of Anatomy, continuing his classes the while. Besides assuming charge of dissections, it was the further responsibility of this post to procure the necessary human subjects. These were obtained within a geographical range bounded by Buffalo and Chicago. The young Demonstrator gave satisfaction by securing an adequate supply and, in doing this, acquired simultaneously a reputation for energy and tact. It is said that by his honesty, care and system while occu-



Edmund Andrews

pying this delicate position, he dispelled all apprehensions concerning unfavorable publicity or direct counteraction.

Andrews received the degrees of Master of Arts and Doctor of Medicine in 1852, whereupon he was appointed Lecturer on Comparative Anatomy; two years later this title was elevated to Professor. Before leaving Ann Arbor he helped found two institutions, both of which outlived him. One was the *Peninsular Journal of Medicine and Collateral Sciences*; the other was the Michigan State Medical Society.

In 1855 Rush Medical College induced Dr. Andrews to become its Lecturer on Comparative Anatomy and its Demonstrator of Anatomy. He discharged these duties with fidelity, and an energetic campaign for anatomical material again produced a satisfactory supply. Yet his sturdy independence of thought and action did not find favor with autocratic President Brainard. Hence, after three years, he resigned and immediately devoted himself to practice, which increased rapidly and was from the start mostly surgical. In collaboration with Dr. Horace Wardner a charity dispensary was established, soon to be taken over by the Medical Department of Lind University. In conjunction with the Dispensary there was a dissecting room where Dr. Andrews taught private classes of anatomy. This institution was the forerunner of what came to be, after several changes of title, the Medical Clinics of Northwestern University Medical School.

Dr. Andrews was one of the four physicians who negotiated with the Trustees of Lind University and launched its Medical Department. While still at the University of Michigan he had published several essays advocating a graded system of teaching, and the requirement of a reasonable preliminary education for admission to a medical college. Hence he required no conversion to the novel program. From the initial organization of the new school until the office became unnecessary, more than thirty years later, he acted as Treasurer of the Faculty. For over twenty years, preceding his retirement, he was Secretary of the Corporation.

From the start of the new school, Dr. Andrews held an academic appointment to the chair of the Principles and Practice of Surgery and of Clinical Surgery, which after a few years added Military Surgery to the other specifying names. In 1881 he turned over all didactic lecturing to Dr. Isham and thereafter bore the abbreviated title of Professor of Clinical Surgery, even to his retirement as Professor Emeritus in 1901. At the outset he also was appointed Surgeon-in-Chief at Mercy Hospital. For 23 years the College Building adjoined the Hospital, and during this time the only hospital surgical clinics that the students saw were his. During 46 years he occupied the professorial chair and maintained the top position on the surgical staff of the Hospital.

At the outbreak of the Civil War, Dr. Andrews enlisted as surgeon of an Illinois regiment. He was first put in charge of Camp

Douglas, at Chicago, a large camp of instruction and a prison for 15,000 Confederate soldiers. Then he was appointed Surgeon of the First Illinois Light Artillery. At the front he served on the staffs of Generals Grant and Sherman, participating in the campaigns against Shiloh, Corinth, and Vicksburg. Refusing several chances for promotion that would have removed him from the battle zone, he obtained an extensive experience in military surgery. In 1864 he left the Army, broken in health by malaria and dysentery; recovery was slow, but was largely attained after two years. Andrews was the first to make and keep complete medical records of the sick and wounded in war. These were accepted by the Surgeon General and formed the basis on which the records of that office have since been kept. He also published an extensive essay on military statistics that was regarded as authoritative for many years.

Dr. Andrews was a sound surgical teacher, respected and loved by his students. He was not a fluent speaker, and made no attempt at elegance of expression. But his speech was earnest and full of power, and often was supplemented by deft drawings. Without descending to levity, he was such a skilled entertainer that one admirer dubbed him "the Rabelais of the Faculty." His clinics were often attended by many practitioners and visitors, in addition to the usual undergraduates. His appeal and drawing power are illustrated by the fact that, deciding to hold his scheduled clinic while the Chicago Fire raged at its height, most of the students ignored the unparalleled counter-attraction and attended. The Andrews method of clinical teaching was practical, and he covered broadly the principles to be emphasized. Years afterward many alumni could recall his maxims and pithy or humorous remarks. Military surgery was a topic that he liked to discuss, and he introduced lectures on the care of wounded, ambulance transportation, hospital management and similar topics. He captured the interest of the class by shooting cadavers with an army musket and then demonstrating the results by simulated operations.

For many years Dr. Andrews was the only surgeon in Chicago to limit his work exclusively to this field. He became one of America's great surgeons, not only by reason of his skill but also because of his prompt adoption of improved methods. He was a pioneer in practical antisepsis, and the first in the West to employ Lister's method after its early exploitation. He was also a pioneer in neuro-

surgery, and the first to perfect the operation of Gasserian ganglionectomy and perform it. Gradually Andrews found himself devoting an increasing amount of time to genito-urinary and orthopedic surgery, both of which challenged his mechanical skill and ingenuity. Later he deliberately turned away from orthopedics, considering it too narrow a field.

Naturally of a mechanical bent, Andrews was ingenious in inventing or adapting surgical instruments. Among his best known devices were braces for the correction of spinal curvature, an appliance for trephining and an endoscope. New methods of operation also originated with him. He was one of the first to use the freezing microtome for getting reports on tissues. The effects of modern small-bore projectiles became a matter of deep interest, and he experimented extensively with them before the Spanish-American War brought any wide experience in this field.

Dr. Andrews contributed largely and soundly to the medical literature; his total publications in science number 140. His treatise, *Rectal and Anal Surgery* (1888), passed through several editions. An important report on anesthesia, by evaluating the results in over 200,000 trials, showed the relative risk on using chloroform to be ten times that with ether. He was the first to test gas-oxygen anesthesia and to report on the results. Voluminous reports and monographs were written on injuries incurred in war.

In nonmedical spheres of activity Dr. Andrews was a geologist of repute, and also maintained an interest in archeology. While recuperating from War maladies, he spent some time in Europe and made scientific observations in Switzerland pertinent to his personal theories of glacial erosion. These publications were well received by professional geologists and brought him membership in several learned societies. Also, his published work on the early glacial history of North America gained world-wide recognition. Especially notable was a study of the terraces that made the shores of the Great Lakes, and his explanation, perhaps before Agassiz', of the origin from land glaciers of the striae on outcrops. Dr. Andrews was an artist of talent, illustrating his publications and lectures. A series of bird studies was painted. When with General Sherman, he depicted many scenes. He designed and made the block for his book plate, and once designed and constructed a church organ. An early schooling in ancient languages was maintained by making trans-

lations, and in his later years he composed poems in Latin and Greek.

In 1857 Andrews joined with others, including Davis and Johnson, in founding the Chicago Academy of Sciences, which is the oldest organization of natural science in the state. He was its first President, and other members of the Chicago Medical College also became prominent in its affairs. Although a lover of nature and outdoor life, the insistent demands on his time permitted little leisure (beyond vacations in the Georgian Bay region) in which to indulge enthusiasms for geology and other phases of natural history. In his maturity (1880) the University of Michigan honored him with the degree of Doctor of Laws.

Dr. Andrews was a member and staunch supporter of the Presbyterian Church, and a regular contributor to religious periodicals, a favorite topic being the harmony of science and religion. He married Sarah Eliza Taylor in 1853; of his five children, two sons (E. Wyllys and Frank T.) became graduates of the Medical School and prominent members of its Faculty. Later, (1877) he married Frances Barrett, the sister of his first wife. Nearing the age of eighty, Dr. Andrews was operated upon by his sons for a stone of the bladder. He bore the operation well and had practically recovered when, on January 22, 1904, a cardiac paralysis developed that was withstood for only an hour. Symptoms of valvular trouble had been discovered five years previously.

A former student, the famed Franklin H. Martin, characterized the personal attributes of Dr. Andrews as: big and hustling; a large head; bewhiskered face; generous mouth; large, kindly blue eyes; an intellectual giant, reminding one of the portraits of Charles Darwin. Another former pupil of renown, Norman Bridge, wrote: "Andrews was a great philosopher and world student." His former colleague, Professor William E. Quine, spoke of his deep laughter that shook his heavy body and compelled one to laugh with him; of his complete freedom from unfriendly or caustic words; of his modest demeanor; of his general reputation as the most learned member of his profession. Excerpts from obituaries shed more light on his greatness:

In the variety of the themes touched in his lifetime by his versatile pen, Dr. Andrews had scarcely an equal. His mind was essentially original in its reach and attainments. One of the really fine qualities of

the man was his keen discernment of the best gifts in others. He sought with the avidity of a prospector for the one little fact that he wanted and cultivated those who could aid him.

Dr. Andrews filled the chair of Surgery with a steadiness of purpose, a tireless industry, and a fidelity and skill rarely equalled. He was a clear, logical thinker, a terse, vigorous writer and lecturer, always commanding the attention of his audience, yet of a genial and kindly disposition. He was an excellent example of good citizenship and of steadfast friendship, unmixed with guile.

Edmund Andrews possessed a learning so broad and a sense of humanity so deep, that any man would have found him sympathetic, responsive and helpful. To the soldier in the Civil War he had been a brave and faithful comrade in arms. To the enthusiast in geology he appeared as a man who might have occupied with credit the chair in Geology in a great university. He was a true lover of letters and of the humanities, and might well have filled the chair of English Literature. Andrew's life was a lesson to us in reach and breadth.

WILLIAM HEATH BYFORD, A.M., M.D., LL.D.
1817-1890

William H. Byford was born at Eaton, Ohio, on March 20, 1817. His father, a mechanic, died when William was nine. This compelled him, the oldest of three children, to leave school and go to work. When the youth was fourteen years of age and living in Vincennes, Indiana, it was determined that he should learn a trade, as had his father before him. His first choice was to become a blacksmith, but he could find no master of that craft who was willing to apprentice him. With tailors William was more fortunate and, after an indenture of six years, he was pronounced competent in this handicraft at the age of twenty. But the tailoring trade was never followed, because during these years of toil he had become fired with desire to better his rudimentary education. Whenever he could, and even at work, he studied books, both bought and borrowed. In this way the youth grounded himself in English, made excursions into the fields of natural history, physiology and chemistry, and acquired a smattering of Latin, Greek and French.

Even before the expiration of his apprenticeship, William had determined to abandon his trade and become a physician. Accord-

ingly, once free of his master, young Byford began to pursue medical studies with a local practitioner. By assiduous application his progress was so rapid that in a little more than a year, in 1838, he was examined by officials of the State of Indiana and authorized to practice medicine. For nineteen years, until 1857, he engaged in medical practice in that State. But also during this period he attended lectures at the Ohio Medical College, in Cincinnati, and received a regular diploma from that institution in 1845.



William H. Byford

The young physician began a teaching career at the Evansville Medical College, in Indiana, and continued there from 1850 until 1854. At first he held the chair of Anatomy, transferring in two years to the professorship of the Theory and Practice of Medicine. In 1857 he came to Chicago to fill the chair of Obstetrics and the Diseases of Women and Children at Rush Medical College, but in 1859 he resigned to accept an invitation to a similar post in the organizing Medical Department of Lind University and at Mercy Hospital. Dr. Byford remained on the Faculty for twenty years, amassing a record of distinguished service. During this period he also served as Treasurer of the Corporation of the Chicago Medical

College. In 1879 Rush recalled him by creating a special chair limited to gynecology. The reason for his taking this step was that appointments at Rush and the Woman's Medical College, close together on the West Side, could be managed conveniently, whereas posts at the Chicago Medical College and Woman's entailed too much time lost in travel. A small benefit to the Chicago Medical College from the transfer was that its department soon underwent a three-way split into obstetrics, gynecology and pediatrics.

By many in Chicago and the West, Dr. Byford was best known for his effective leadership in the founding of the Woman's Medical College in 1870 (p. 117). Besides serving as a clinical teacher in his specialty at that College, he held the twin offices of President of the Faculty and of the Trustees until his death. The founding of the Mary H. Thompson Hospital was also owing largely to his efforts and assistance. It must be emphasized that such championing of the cause of medical education for women required courage. At this period the movement was so unpopular that a proponent risked coldness, if not hostility from his colleagues.

At the annual convention of the American Medical Association, in 1857, Dr. Byford was elected Vice-President. He was conspicuous in the organization of the American Gynecological Society, was one of its first Vice-Presidents and, in 1881, was elected President. In 1878 he presided over the Chicago Gynecological Society. His first editorial experience was at Evansville with a medical journal of more than local significance. Next, Byford joined with N. S. Davis for a time in the management of *The Chicago Medical Journal* and, after the merger of this publication with *The Chicago Medical Examiner*, he became the chief editor of the combined periodicals.

Dr. Byford was a prolific writer; his pioneering textbooks demanded revisions into supplementary editions. He published, in 1864, the first medical work to come from the pen of a Chicago author. This book was entitled *Chronic Inflammation and Displacements of the Unimpregnated Uterus*. The *Practice of Medicine and Surgery, Applied to the Diseases of Women*, first appearing in 1866, was used extensively as a textbook. In 1869 came *Philosophy of Domestic Life* and, in 1872, his widely used textbook, *The Theory and Practice of Obstetrics*. Both texts were standard in their time.

Early recognition was gained by contributions to medical journals, and first by describing the operation of Caesarian section, which he performed twice in 1847. For 25 years his practice was general. Then he made a specialty of the diseases of women. His profound knowledge, broad experience and operative skill brought both fame and fortune. An immense practice during the last twenty years of his life yielded an income between \$25,000 and \$30,000 annually. A large clientele at home was augmented by constant calls for consultation and surgery throughout the northwestern states.

Endowed with an inventive faculty, Dr. Byford devised a variety of instruments used in surgery, and modified and improved others. He also introduced new methods of manipulation and treatment. Many measures in practice became associated with the Byford name. For example, his investigations on the use of ergot for the expulsion of fibroid tumors of the uterus excited marked attention at the time, and made him an authority on this method; he proposed abdominal section for ruptured extra-uterine pregnancies long before Tait captured the credit; he advocated the rectal drainage of pelvic abscesses already opened into the bowel. Some credits rightfully belonging to him have been assigned to others because he would not engage in controversies over priority. Among other exploits he performed the first operation on the stomach (1871) and the first ovariectomy (1872) ever done in Chicago.

This versatile physician was an avid reader of current medical literature, and he subscribed liberally to French and German journals. Acquaintance with the French language had been made in his youth; a reading command of German was acquired in his maturity. Among the losses incurred when home and office burned in the Chicago Fire were valuable files of many of these periodicals.

Dr. Byford married twice. By his first wife, Mary Anne Holland (1840), there were four children, one of whom (Henry T. Byford) became a prominent Chicago practitioner. A second marriage, to Lina W. Flershem (1873), resulted in one child. For several years, in late life, Byford had been conscious of the presence of a cardiac lesion, and in the early morning of May 21, 1890, he suffered the fatal attack of angina that had long been anticipated. He was then in his seventy-fourth year. Seldom have such eloquent tributes been paid by associates in the medical profession, and rarely has the Press assigned more space to the recital of the life and achievements of a physician.

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The magnificence of Dr. Byford's successes must be set against the conditions under which they were achieved. His only patrimony was physical vigor and a dogged tenacity. His education was self-conducted; he became great because he conscientiously developed the latent talents with which Nature had endowed him. "He ranked not only among the most distinguished members of his profession, but also among the most cultured and beneficent characters of his time." Some of his medical publications were unique and invaded new territory; the material had to be drawn from his own experience and study.

Standing at the top of his profession, Byford must be recognized, along with Sims, Emmett, Kimball, Peasley and Thomas, as a father of the American system of gynecology; all of these pioneers blazed their path through an untrodden wilderness. He was a ripe scholar and an intellectual giant. A commentator said: "I have found in him that education which all colleges aim to give, but which they so frequently fail to confer, namely, mental and moral power which he could use in the every-day work of life." Another wrote: "Nature did not endow him with brilliant qualities, but he had a strong mind and was capable of forming correct judgments; [he had] a patient industry and an adhesiveness of purpose which kept him during his entire life in the earnest pursuit of the worthy purposes which he had in view."

It was as a medical teacher and lecturer that Dr. Byford acquired the most conspicuous acclaim. In every teaching assignment he made a lasting impression on all who heard his instruction or saw his clinical demonstrations. Unusually popular as a lecturer, his profound knowledge did not impair his ability to make instruction plain, interesting and thorough. A contemporary wrote,

As a teacher in the lecture room, or in debate, Dr. Byford's utterances were always characterized by simplicity, clearness and pertinency. No wonder that his clinics were always overcrowded with students and practitioners, and that his slightest word invariably received a degree of attention all the more flattering because involuntary.

The encomiums to Dr. Byford's personal qualities are imposing, extolling his modest, gentle, yet impressive manner; his freedom from cynicism or pessimism; his generous spirit of helpfulness and

freedom from jealousy; his sympathy for suffering; his embodiment of the quintessence of human kindness; his strength of character and dependability. One associate held that he "had the truest heart that ever beat in sympathy with the sorrows of our life; he will live in his mercy, his righteousness, his truth and his love." Another recorded that "his nobility of character and large heart caused him to be loved over a wider section of the country and in a larger number of homes than perhaps any other member of the medical profession in this country." Still another offered the following judgment:

Thus, at 73, passed one of the noblest men of our day — an almost ideal physician and medical counselor; the pioneer of medical education for women of the West; one who could be depended upon in any emergency; a modest and strong gentleman, charitable to all and loved and admired by thousands.

What greater glory can there be than to merit such tributes?

JOHN HAMILCAR HOLLISTER, A.M., M.D.
1824-1911

John H. Hollister, descended from early colonial stock, was born in Riga, near Rochester, New York, on August 5, 1824. Within a few years the family moved to Romeo, Michigan, which was a town north of Detroit. In 1831 his father, a civil engineer, died; John, the oldest child, was then only seven years of age. Ordinary education was obtained in the local school and academy, while higher studies were pursued at the Rochester Collegiate Institute in New York. In addition to continuing classical studies, full attention was given to the normal course. So, after graduating with honors, he returned another year and secured a teacher's certificate.

Back in Michigan, in 1842, and not yet eighteen years old, John obtained a teaching appointment in a district school eight miles from home. Here he "boarded around" among the different families as a part of his compensation. The next year he decided to study medicine, and for three more years taught school winters and studied summers with a local physician. In 1846 John entered the Berkshire Medical College at Pittsfield, Massachusetts, choosing

this school partly because the term (August to November) permitted him to continue teaching during the winter. No clinical facilities were available at this country college. On his twenty-second birthday he heard his first medical lecture, and some fifteen months later, in November, 1847, he received his medical degree. At the graduation exercises he was one of three selected to read their theses in public.

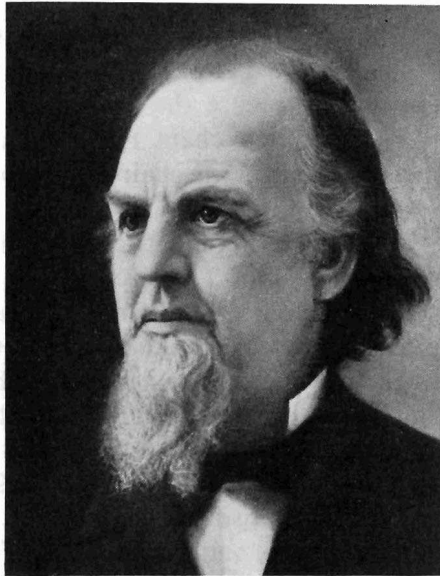
Seven years of practice, mostly in Grand Rapids, Michigan, yielded an extensive clientele and an excellent reputation. Then, through the urging of his friend Edmund Andrews, he moved to Chicago. After applying for the post of Demonstrator of Anatomy at Rush Medical College, he filled this office from 1857 to 1859, and then resigned — to cast his lot with the organizing Medical Department of Lind University. Some comments on experiences incurred by him as a Demonstrator have already been recounted (p. 308).

Originally offered the chair of Anatomy in the organizing medical college, Dr. Hollister shifted to Physiology and Histology when it seemed advantageous to secure the services of the ephemeral Titus DeVillie for the anatomical chair. Following a tenure of only one year at this post, he regained the chair of Anatomy, but this appointment merely prefaced a series of changes that extended through the next 23 years. During this time he held seven different titles, taught all of the preclinical subjects except chemistry and made a start on teaching Clinical Medicine. This record illustrates well how a competent practitioner might serve in those days as a utility teacher, assigned to any post that needed filling. Perhaps he spread himself too thin, since one writer thought him to be incoherent. The Professorship of Clinical Medicine, once acquired, was retained from 1882 until his retirement in 1895.

For many years Dr. Hollister was at Cook County Hospital, acting as chairman of the medical and surgical staff; from 1866-96 he held an appointment as physician to Mercy Hospital. He was Treasurer of the Illinois State Medical Society for 22 years, became its President in 1875 and also was elected President of the Chicago Medical Society. For eight years Dr. Hollister was a Trustee of the American Medical Association, for two years edited its *Journal*, and in 1883 presided over the Medical Section of the Association. In 1893 he became the editor of *The North American Practitioner*.

A degree of Master of Arts was awarded him by Beloit College. He was the only one of the Founders to write a biography, *Memories of Eighty Years*.

During the Civil War Dr. Hollister took charge of the medical and surgical department of the Soldiers' Home, which cared for wounded and invalid soldiers, and served as surgeon at Camp Douglas. This incurred four years of hard, unremunerated work. During the interval when Dr. Andrews was away at the front he filled-in by doing surgery at Mercy Hospital, but at the cessation of the War he resumed practice in medical fields. Nearly fifty years old at the time of the Chicago Fire, Hollister lost a valuable library of about 1,200 volumes, and all of his medical records, instruments and equipment. Unlike Byford and Isham, however, he did not lose both office and home.



John H. Hollister

In the period of Hollister's long life-span, medicine changed greatly. He was a student when ether was first used as an anesthetic, and was far along in his teaching experience before microbes were accepted as causative agents of disease. First antisepsis and then asepsis had entered into use as novelties and established them-

selves, the latter permanently. Avocationally, much time was given to religious work in the Congregational Church, both organizational and as a teacher of Bible classes. From the mission schools that he either founded or superintended, there developed three churches and the Plymouth Mission. The latter formed the nucleus of the great Armour Mission and its sponsored engineering school (now the Illinois Institute of Technology).

Dr. Hollister married Jennette Windiate, early on entering general practice in Michigan (1849). A daughter of this union became the wife of the eminent Dr. Franklin H. Martin. The latter has recorded his first meeting with Hollister when matriculating at the Chicago Medical College in 1877. Martin was awed by the large head, long hair, impressive face (of the Henry Ward Beecher type), ample figure, strong voice and decisive speech. All these measured up to a country youth's notion of a real professor.

Dr. Hollister retired in 1900, after 53 years in practice, and died in California on December 13, 1911, at the ripe age of 87 years. He outlived all of his associates on the Rush faculty, and all of the Founders of the forerunner of Northwestern University Medical School. Dr. Norman Bridge, recalling his own student days, wrote: "Hollister was a fine teacher and man, and was a friend of us all." On the news of his death, it was said of him: "As a practitioner, as a professor and as a man Dr. Hollister was beloved. He was always ready to give advice and help those in need, and in his death Chicago loses one of the old school, now so rare." *The Illinois Medical Journal* re-emphasized the quality that seems to epitomize the man: "No more loved character was ever connected with the Illinois profession." Professor John H. Long, who had been a colleague for twenty years, wrote,

The old family physician, the faithful friend and counselor, is a well-defined type in our American Literature, and no one of my acquaintance ever exemplified that type more clearly than did Dr. Hollister. He had the wisdom which comes from long years in healing the sick; he had the kindness of heart which every man should have who strives for the greatest success in the practice of medicine; and more than all else, he possessed that high ethical standard which made him a real Christian worker, in the best sense of that term.

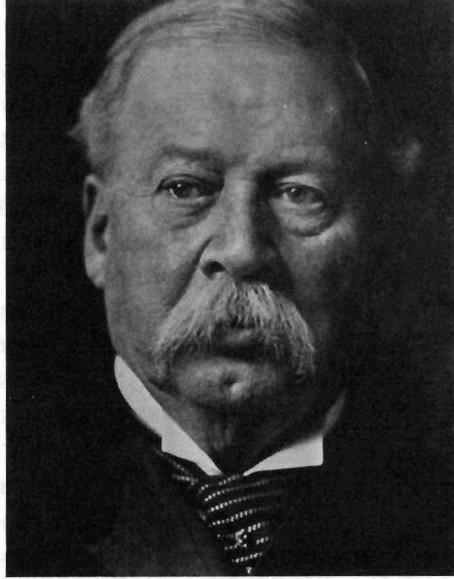
RALPH NELSON ISHAM, M.D., LL.D.
1831-1904

Ralph Isham was born at Mannheim, near Utica, New York, on March 16, 1831, the oldest of three children of a physician. The initial "N" in his name was assumed at some time in early manhood. It has been asserted that it did not stand for Nelson, which was his father's given name. After a time the family moved to Little Falls, and each day Ralph walked eight miles to and from Herkimer Academy in another town. From boyhood he had been marked for a medical career. He first studied medicine under the famous surgeon, Dr. Valentine Mott of New York City, and then with Dr. Mott's son-in-law in Hartford, Connecticut. He next entered the University of the City of New York, otherwise known as Bellevue Hospital Medical College, and gained the medical degree in 1854.

While serving a full term as intern at Bellevue Hospital, young Isham developed tuberculosis and was advised to take a sea voyage because of poor health. Without funds for passage, he shipped as surgeon on a sailing vessel, and the voyage consumed several months. On returning to this country, the disease seemed at least to be arrested and, in fact, it never recurred in a long lifetime. Nevertheless, he was again advised to seek a cure for his pulmonary ailment by going to the great country opening up in the Northwest. Accordingly, in the autumn of 1855, he came to Chicago and started practice. The new physician gained immediate prestige by performing successfully a tracheotomy on a son of the leading Presbyterian minister. This locally unheard-of procedure had been vehemently opposed by the minister and many pious parishoners, who viewed it as a direct interference with the ways of Providence. A year after his arrival in Chicago he married Katherine Ellen Snow and, of the five children of this union, two sons and two daughters survived him. Descendants continue this physician's association with the welfare of Passavant Memorial Hospital.

It was in the office which Dr. Isham shared with Dr. Rutter, 31 years his senior, that the organizational meetings of the Medical Department of Lind University took place. In the staffing of the new school, Isham, the youngest of the group, was assigned to the chair of Surgical Anatomy and the Operations of Surgery, and was

elected as the first Recording Secretary of the Faculty. After nineteen years he was elevated to a joint occupancy of the chair dealing with the Principles and Practice of Surgery, a post formerly held by Edmund Andrews alone. This arrangement did not work out to Isham's satisfaction, so he tendered his resignation in 1881. A letter from N. S. Davis communicated the desire of the Faculty to make an arrangement by which Isham would assume a more prominent and independent role in the field of surgical teaching. Dr. Andrews



Ralph N. Isham

had agreed to limit his professorship to clinical surgery, and this made it possible to offer Isham a separate chair dealing with the Principles and Practice of Surgery, whereby he would handle all didactic teaching. Davis wrote: "Your manner of didactic teaching is more popular among our students than that of almost any other member of the Faculty." This evaluation was confirmed by the eminent Dr. Norman Bridge (class of 1868), who stated that Isham was one of the most satisfactory lecturers on surgery that he had ever heard.

At the outbreak of the Civil War Dr. Isham became a contract

surgeon, helped originate and organize the United States Sanitary Commission and proved to be one of its most energetic members. President Lincoln appointed him, in 1862, Surgeon in charge of the United States Marine Hospital at Chicago, temporarily used as a military hospital; he continued this responsibility until the late Seventies. On two occasions Dr. Isham went south with supplies, and in charge of enlisted physicians; one of these trips placed him on the field of battle at Shiloh. Later he became Surgeon, with the rank of Major, of the First Regiment, Illinois National Guard.

In civil life Dr. Isham held the post of Chief Surgeon of the Marine, Jewish, Passavant and County Hospitals, and Consultant at the Presbyterian, Passavant and Cook County Hospitals. He was also the Chief Surgeon of the Chicago and Northwestern Railway. This appointment required many out-of-town journeys; sometimes he had to be rushed to the scene of an accident on a special locomotive. On one occasion he saved the life of a train conductor who had been scalped by Indians. During his career Isham acquired a high reputation as a successful surgical operator. In 1881 he was sent as a delegate from the American Medical Association to the First International Medical Congress in London. Here Lister demonstrated his epochal discovery of the principle of antiseptic operation. On his return, Isham was the first in Chicago to perform such an operation.

Throughout his life Dr. Isham gave of his time and strength in free hospital work, in attending dispensaries and in teaching medical students at the College. In addition to his excellence as a teacher and surgeon, he was noted for erudition in other fields than medicine. His library, accumulated over many years, was said to be one of the largest and best selected in Chicago, and part of it came eventually to the Medical School. It specialized in complete biographical and historical collections. He held honorary membership in the New York Medical Society and was the recipient of the honorary degree of Doctor of Laws from the University of the City of New York, as well as from Northwestern University.

The Ishams found time for society, and were active in the affairs of the Chicago Orchestra, the Chicago Historical Society and Central Church. Like Byford, Isham was doubly victimized by the Great Fire, losing both residence and office, as well as all belongings. But in a short time he was re-established solidly in his

highly remunerative practice. Isham remained in active practice until 1898, when he retired after 45 years spent in surgery and 39 years as a member of the Faculty. He was a wide traveler in America, Europe and the Orient. He was a devotee of golf, and had a private course at Lake Geneva, Wisconsin, where his summer estate was located.

As was true of the other chief Founders of the College, Dr. Isham was a commanding figure in several walks of life. All of the Founders were exceptional men who were also favored with unusual opportunities in a rapidly growing city. Public opinion then demanded that leading physicians be men of broad interests and dignified bearing. The day of the intense specialist who might be mistaken for a business executive was yet to come. In the early years of the School all professors throughout the country wore Prince Albert coats, high "sideboard" collars and tall silk hats. When Dr. E. C. Dudley, whom the oldest alumni will remember fondly, came to Chicago to start practice in the middle Seventies, he felt obliged to conform to the custom. The Northwestern Faculty favored frock coats that buttoned to the chin, with standing collars, military fashion. The Rush professors differed by having turned-down collars. Drs. Davis and Jewell were distinctive by wearing full evening dress at all times.

On May 28, 1904, after an illness of three months, Dr. Isham died from carcinoma of the stomach. Despite his temporary poor health as a young man, he had lived to pass the seventy-third year. The greatest source of satisfaction in his declining years was the continued success of the College he had helped to organize and develop. With early dreams of accomplishment already far surpassed, came the realization that he and his colleagues had, in truth, succeeded in building better than they knew.

Near the time of his seventieth birthday, the *Chicago Tribune* printed a career-story on him, which included the following sidelight:

Dr. Isham is of portly build. He looks at one with a laughing, half quizzical eye that is scarcely an index of his genuine conservatism. He never posed as a leader, but neither has he lagged. He found time for both society and travel, and has legions of friends and myriads of acquaintances. He has had much to do with making Chicago a center of

medical learning, has had an individual place in the making of church history, and in the acquirement of a fortune has been successful.

DAVID RUTTER, M.D.: 1800-1865

David Rutter was born at Pine Forge, Pennsylvania, December 28, 1800, on land obtained by an original patent from William Penn. The so-called Mansion House was occupied, and the forge-works operated, by seven successive generations of the family.

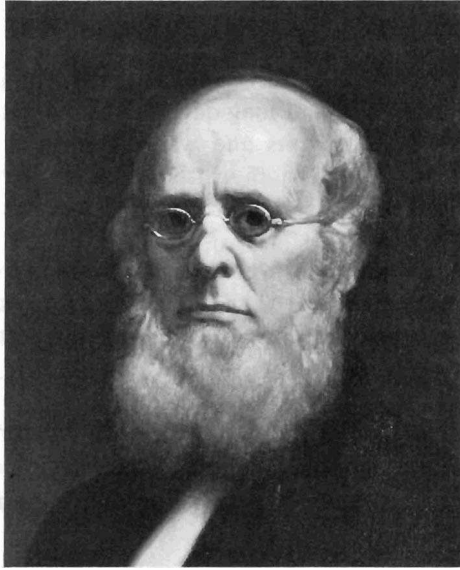
David received the M.D. degree from the University of Pennsylvania in 1823. He practiced in Montgomery County, Pennsylvania, for nine years and then moved to Philadelphia. Here he established a large general practice, but paid special attention to obstetrics. In 1849, finding his health impaired by the intensity of his labors, he moved to Chicago. Practice was resumed there, but in a more limited way. Nonetheless, he was engaged in constant consultations by associates who valued his diagnostic judgment. A well-earned reputation in the East followed him to Chicago, and his kindness, skill and ability quickly won for him hosts of devoted friends.

The limitation that Dr. Rutter set on his activities apparently explains why he did not figure more prominently in the affairs of the Medical Department of Lind University. Outside of acting as a participant in the initial discussions, being one of the four signers of the agreement with the Trustees of Lind University and helping with the primary organization, Dr. Rutter became inactive as soon as the first session got well under way. At the first meeting, when chairs were being assigned among the four primary organizers, he was content with the honorary title of Emeritus Professor of Obstetrics and the Diseases of Women. Possibly this acquisition of emeritus rank is unique, since as yet neither the University nor its Medical Department existed in tangible form.

Dr. Rutter married Isabella Crawford in the year following his graduation from medical school; there was one son of this union, but the mother lived only a few years. In 1837 he married Esther Turner Ryerson and had six children by this second marriage. On April 16, 1865, in his sixty-sixth year, Dr. Rutter died of apoplexy resulting from excitement and mental distress occasioned by the

assassination of President Lincoln. He had always felt strongly on public and personal affairs, and became deeply agitated over the consequences to the Nation that he feared would follow on Lincoln's death.

The demise of Dr. Rutter brought forth eulogies from the press and from his associates. A daily paper said: "In the death of this



David Rutter

venerable and much respected gentleman Chicago has lost one of its most worthy citizens, and the medical profession one of its leading ornaments . . . He was probably the oldest medical practitioner in the city and no one stood more deservedly high in the estimation of the members of his profession." There seems to have been something about Dr. Rutter (perhaps his balding head and snowy beard) that gave an impression of hoary venerability, because he was considered patriarchal even at 58 years, when the Medical College was organizing. It is arresting that a terminal age of 65 years seemed to qualify him as the oldest practitioner in a booming city. By contrast, the other six chief Founders exceeded his life span by eight to 22 years.

At a meeting of the members of the medical profession, assembled in City Hall to take action on Dr. Rutter's memory, N. S. Davis was chosen as chairman, and paid tribute to his worth and talents. He praised: his mind — acute, active and enlarged by liberal study; his heart — kind and sympathetic; his disposition — gentle and forgiving; and his manners — observant of professional etiquette and with courtesy to all. Formal resolutions were then drawn, in part, as follows:

“Resolved, that in his death we mourn the loss of a counsellor, wise from his ripe experience and long devotion to the duties of his profession; a friend whose precepts and whose principles we have always revered and admired, and whom we shall always cherish deeply in our memories as the wise physician, the true and steadfast friend and noble Christian gentleman.

“Resolved, that the shock which he received, and which caused his sudden death when he learned the fate of our lamented President, is a testimony to his loyalty and love of country which words are powerless to express.”

The *Chicago Medical Journal*, edited by the unforgiving President Brainard of the rival school, recognized the passing of this Founder and notable by allotting only a two-line death notice.

These were the seven chief founders, and a sturdy and capable lot they were: the fiery iconoclast, Davis; the eloquent patrician, Johnson; the erudite scientist, Andrews; the pioneering humanitarian, Byford; the old-school physician, Hollister; the pragmatic embracer of life, Isham; the respected elder statesman, Rutter. Most of them had become physicians against odds, and only by determined, unaided efforts; they had attained a recognized standing in their profession through capability and persevering toil; they all had vision, ideals, faith, persistence, and patience; all were staking their reputations on a venture, when failure meant loss of prestige, and ridicule. Victorious knights of educational reform, the medical profession salutes you!

XVI

The Deans

At the organization of the Medical Department of Lind University the chief executive officer was designated as President, and the propriety of this title was not questioned by the Trustees of the University. When, in a few years, the Faculty dissolved, reorganized as the Chicago Medical College and became incorporated as such, there was still a President of the Faculty as well as a newly-created President of the Board of Trustees of the College Corporation. The title of Dean did not appear until the first affiliation of the College with Northwestern University in 1870. The new title then replaced that of President of the Faculty, but the kind of leadership did not change.

HOSMER ALLEN JOHNSON, A.M.,
M.D., LL.D., F.R.M.S.
President, 1859-66

It has been shown in an earlier chapter (p. 59) that, although the Medical Department of Lind University reorganized as a separate corporate body, the Chicago Medical College, it did not cease to have its diplomas granted by the University and in its name (or in that of its successor, Lake Forest University) until 1868. After seven years as President of the Faculty, Dr. Johnson resigned in 1866 because of ill health, which caused him to be replaced in that office and to be absent from the Faculty for a year. Throughout the formative years under Lind and Lake Forest Universities, and in the semi-independence of a corporate College, he had proved to be an articulate leader of exceptional wisdom, dignity and ability. Although the title of his office in the College was "President," for practical purposes he must be considered the first in the succession

of chief executives, which have been designated as Deans since 1870. An account of the life of Hosmer A. Johnson has been included among the Founders in the previous chapter (p. 423 *ff.*).

NATHAN SMITH DAVIS, A.M., M.D., LL.D.

President, 1866-70; Dean, 1870-98

Some accounts of the life of N. S. Davis speak of him as coming to the newly organized Medical Department as its Dean, and refer to him by that title. There is no historical basis for this premature dignification in the records and publications of the early school, either when a Department of Lind University or an incorporated College. Nor was there need of a Dean in an eleven-man Faculty, headed by a President. As in the case of Dr. Johnson, Davis can be considered the equivalent of a dean when he became President of the Faculty in 1866. From 1870, when affiliation was made with Northwestern University, until his resignation in 1898, he was the first officially to bear the title of Dean; no one since has equaled the length of his term of service even under that title alone. His biography belongs primarily with the Founders, and is included in the previous chapter (p. 413 *ff.*).

Dr. Davis was, of course, an extraordinary leader who gave unsparingly of his time, energy, talents and purse to the project that absorbed his closest attention and whose success was his prime satisfaction. Possibly it would have been advantageous to the School had he resigned the deanship in 1892 when he tendered his resignation as Professor. Concepts of medical education were undergoing rapid revision in the Nineties, and Davis was then 76 years of age. Probably the Faculty and Trustees would have been wise had they accepted his attempted resignation as Dean in 1896. By that time the infirmities of advancing age had caused him to lose the intimate "feel" of his School. But the absence of an obvious candidate as a strong successor, and the growing division of opinion within the Faculty as to what the future aims of the School should be — all of these factors, and a genuine feeling of veneration toward the long-time leader, defeated any immediate action.

The final insistence by Dr. Davis on resignation, and its acceptance in 1898, constitute a touching episode in a remarkable record

of dedicated service (p. 174). The Davis achievements in medical education highlight a success-story of the first rank. He started on a program of educational reform with certain well-defined objectives in mind, and lived to see them carried out and then adopted throughout the land as fundamental principles of medical education. Never again, not excepting the introduction of innovations later at the Johns Hopkins University, would so great an opportunity be offered for basal reform in medical education, and the challenge be accepted and put into execution.

FRANKLIN SEWARD JOHNSON, A.M., M.D.
Dean, 1898-1901

Franklin S. Johnson, the only son of Dr. Hosmer A. Johnson, was born in Chicago on April 18, 1856. When twelve years old, he studied for a year in Switzerland and Germany. His collegiate education was obtained at Northwestern University, where he received the degrees of A.B. in 1878 and A.M. in 1881. He was the first, readily identifiable, who received the master's degree on graduation, as a bonus (p. 167). Medical studies were pursued at Northwestern University Medical School. After acquiring the medical degree in 1881, he engaged in postgraduate study at the University of Vienna for a year. With his formal training ended, Franklin entered practice in association with his father and maintained this relationship until the death of the latter in 1891.

Membership in the Faculty of the Medical School comprised appointments as Demonstrator of Histology (1883), Professor of General Pathology and Pathological Anatomy (1886), and Professor of Medicine and Clinical Medicine (1899). In 1898 Franklin S. Johnson was recommended by the Faculty and selected by the Trustees to succeed N. S. Davis as Dean of the Medical School. And so it was that the leadership reverted temporarily to the Johnson line, where it began. The term of office, however, extended only three years, when he was compelled to resign because of ill health and accept an emeritus status. Clearly his brief tenure did not permit of any marked imprint on the conduct or policies of the School, although a start was made toward a program that would place full-

time specialists in charge of all of the departments in the basic medical sciences. After five years of residence in California, Dr. Johnson died in Pasadena on April 23, 1922, aged 66 years. He had married Elizabeth B. Ayer in 1890, and there were two sons of this union.

From boyhood, Johnson had been trained by his eminent father in precise work, both microscopical and chemical. In Europe he learned bacteriologic techniques, then unpracticed in this country. Later use of these skills in diagnosis brought him rapidly into prominence. He is said to have inherited many of the sterling qualities of mind and heart of his father, whom he resembled physically. A contemporary summarized as follows:



Franklin S. Johnson

Dr. Johnson was a man of good judgment, with the ability to marshal his facts and express his ideas and opinions in perfect order and with telling effect. His mind was of the judicial type. He was alert to detect deceit and quick to resent and not compromise with evil and error. He was a profound student — precise, painstaking and accurate.

Looking back on his own intern-days, Dr. Isaac A. Abt said:

He served the hospital well, not only as a careful and painstaking clinician, but also by virtue of rare dignity and kindness in his relations with the staff and patients alike. He was a courtly gentleman, whose presence exerted an excellent influence in the hospital.

NATHAN SMITH DAVIS, JR., A.M., M.D.

Dean, 1901-07

This third child of the Founder, with the same name, was born in Chicago on September 5, 1858. Collegiate education was obtained at Northwestern University (A.B., 1880; A.M., 1883). Upon graduation from the College of Arts, he entered the Medical School of the University and was granted the M.D. degree in 1883, with the highest honors. Medical studies were rounded out by a post-graduate year at Vienna and Heidelberg in 1885. Membership in the Medical Faculty at Northwestern took the following course: Lecturer in Pathology (1884); Adjunct Professor of the Principles and Practice of Medicine (1886); Professor of the Principles and Practice of Medicine (1887); Professor of the Principles and Practice of Medicine and of Clinical Medicine (1892-1920).

When F. S. Johnson resigned from the deanship of the Medical School in 1901, the younger Davis was chosen as his successor. Curiously, the leadership alternated in the Johnson and Davis lines the full cycle of fathers and sons, and extended through 48 years of time. The circumstances of the sudden replacement of Davis by Dr. Arthur B. Edwards in 1907 have been detailed in an earlier chapter (p. 191-2). Whatever the motives behind the move may have been the proposed "promotion" was not acceptable to Davis, and he at once dropped out of the active life of the School. Yet his name was carried on the regular faculty list throughout the remaining thirteen years of his life, so he technically never reached emeritus status.

During his administration Davis advised repeatedly that to maintain a proper standing the School must advance its entrance requirements past the high-school level, obtain generous endowments, and provide improved housing for the overcrowded dispensary —

preferably by acquiring more land and erecting a modern clinical-building on it. Under his leadership the Medical School became organized into Departments, and the titles and ranks of teachers were regularized on a logical basis. Also, and presumably at his instigation, arrangements were made for the nursing schools of hospitals to become affiliated on a university basis.

Dr. Davis joined numerous national and international scientific bodies, and traveled widely to participate in the work of these



Nathan S. Davis, Jr.

organizations. In this way his acquaintance among scientists, and literary men besides, was extensive. He took great interest in the improving of the *Pharmacopeia*, acting as Vice-President of the United States Pharmacopeial Convention (1910-20) and contributing many articles to the literature in this field. Among his offices in the American Medical Association may be mentioned the chairmanship of the Section on Pharmacology and Therapeutics in 1920. His writings include the following books: *A Treatise of General Practice; Consumption — How to Live with It; Diseases of the Lungs, Heart and Kidneys; Diet in Health and Disease.*

Dr. Davis gave considerable time and energy to institutions other than medical, or even scientific, and was a trustee of many of these. Among his broad interests were those of an amateur naturalist. He spent much time on botanical and geological field work, and was active in the Chicago Academy of Sciences and the Illinois Microscopical Society. Interesting was his reputed flair as a linguist, perfecting an American-taught French and German so rapidly during his year of foreign study that he was accepted as an assistant by Professor Arnold of Heidelberg. This was an accomplishment because the Professor was disinclined to take those without a speaking facility in German into his laboratory of pathology.

Failing health compelled retirement from practice and ultimately led to his removal to California in an attempt to recover physically. Yet even in his declining years, Dr. Davis retained an active interest in medical progress and had publications appear within months of his death. His illness was identified as lymphosarcoma; although relieved by radiotherapy, recurrence finally became general, and he died at Los Angeles on December 21, 1920, at the age of 62. He married Jessie B. Hopkins in 1884 and they had four children, one of whom continued the distinctive paternal name and became a member of the Medical Faculty.

His friend and colleague, Dr. E. Wyllys Andrews, gave the following pen picture:

He resembled his famous father in features, having the broad, high forehead and deep orbits which made a face full of power and intellect. He was a handsomer man and of larger frame than his father, but less forceful and dynamic. Instead of the fiery eloquence and commanding leadership of the older Davis, he had rather the qualities of the pure scientist, the research man, the nature lover, the poet-naturalist — he was of the type of a Thoreau or a John Burroughs.

He shone in personal work among his colleagues. His fine, tall, handsome presence, his love of humanity and his mastery of the graces of intercourse made him greatly beloved by his students. He was none the less a good organizer and executive in university or public affairs. Although he was of a studious and book-loving temperament, he was a man of wide personal influence.

He was genial and magnetic rather than aggressive in his relations with people, and few who knew him well ever forgot his kindly, polished

manner, his charm in speaking in public or private, or the air of culture and a sort of old-school distinction that shone in his intercourse with others.

ARTHUR ROBIN EDWARDS, A.M., M.D.
Dean, 1907-16

Arthur R. Edwards, the son of a clergyman, religious editor and Trustee of Northwestern University, was born in Chicago on June 26, 1867. He received the baccalaureate degree from Northwestern



Arthur R. Edwards

in 1888 and the degrees of A.M. and M.D. in 1891. His valedictorian supremacy as a medical student was continued into the fierce competitive examination for internship at Cook County Hospital, where his qualifying mark is said not to have been equalled before or since. Study in Europe completed his formal medical training.

In the Medical Faculty, Dr. Edwards held the following appointments: Instructor and Demonstrator in Histology and Embryology

(1892); Demonstrator in Pathology (1894); Instructor in Practical Medicine and Physical Diagnosis (1895); Professor of Therapeutics (1896); Professor of the Principles and Practice of Medicine and of Clinical Medicine (1899-1917). He had served as Secretary of the Faculty for several years before becoming Dean in 1907. As the new chief executive of the School, he was the first to break the succession of Founders and sons of Founders. The circumstances of this appointment are an integral part of the episode that led to the junior Davis separating himself from the activities of the School (p. 191), and one must assume that in this affair the behavior of Edwards was blameless. He resigned as Dean in 1916 when it was made clear that a full-time executive officer was desired. A year later, at fifty years of age, he resigned his professorship against urging to continue, and hence never acquired emeritus status.

As dean, Dr. Edwards strongly advocated the need of expanding research activities, both basic and clinical, to match the performance of the School as a teaching institution. He pleaded for endowments to sustain better faculty salaries and to supply clinical instruction that would enable patients to be utilized according to laboratory principles. When the Deering gift came to Wesley Hospital, he was properly elated by its potentialities for clinical teaching, and the position of supremacy that the School could assume in this regard. But, as the years wore on, he became correspondingly disheartened as these opportunities failed to materialize. During his administration, admission requirements advanced from possession of a high-school diploma to two years of college preparation. Also the internship was made a mandatory part of the medical program. The overstuffed curriculum was pared down to standard proportions. He gave the School a new impetus.

Dr. Isaac Abt, in *Baby Doctor*, says of his classmate:

He was a merry, mischievous, lovable boy, who managed to be at once the leading prankster and the outstanding student in the class . . . Neither his high spirits nor his propensity for practical jokes, however, could conceal his natural gifts or his great capacity for work . . .

When he asked my advice about accepting the deanship of the Medical School, I told him that I felt he was not temperamentally fitted for the job [and that it] would interfere with the important work he was doing. But he accepted the position and gave it many long and often un-

rewarding hours. [Soon] he had begun to realize how difficult it was to be a practitioner and the dean of a medical school at the same time.

To this can be added Dr. James B. Herrick's opinion that Edwards considered too much his own interest and too little that of others and, to gain his end, overstepped propriety. This remark may have referred to his summary dismissal, without University approval, of a full professor who was a leader in an attempt of a group to seize control of the School (p. 293). Dr. Herrick pictures him as becoming solitary, sad and ill, so that he had to retire from practice ". . . a pitiful contrast to the jovial, hearty Rob Edwards of earlier days." His abandonment of practice in 1926 followed a cerebral hemorrhage.

There is no doubt of the unusual capabilities of this Dean in many regards. He was highly intelligent and enthusiastic, and was energetic to the degree of being a prodigious worker. He was an excellent teacher and an outstanding diagnostician. His students admired him and his patients adored him. Edwards came to office at an extremely difficult period in the history of a School that was trying to adapt itself to rapidly changing standards, and a University that was just beginning to realize what it would cost to maintain a medical college which kept pace with the times. Added to these inherent handicaps was a clinical Faculty that contained a loyal core, but which also harbored insurgent factions eager for control and trying to obtain it. This latter circumstance became inextricably entangled with the Wesley controversy. He was forced to make decisions that were unpopular with other members of the Faculty, and thus began to estrange many friends and former admirers. As finally became clear, after the direct threat of insurrection was defeated, only a full-time executive could do justice to the task at hand.

Dr. Edwards wrote a successful textbook: *Principles and Practice of Medicine*. In 1900 he married Susannah T. Harrison; there was one child, a son. On May 17, 1936, Arthur Edwards died in Boston, Massachusetts, where he had lived for ten years. In three weeks he would have attained his sixty-ninth year.

ARTHUR ISAAC KENDALL, PH.D.,
DR. P.H., SC.D.
Dean, 1916-24

Arthur I. Kendall, the sixth Dean of the School, was born in Somerville, Massachusetts, on May, 1877. His father was engaged in the insurance business. Arthur pursued higher education at the Massachusetts Institute of Technology (B.S. in Biology, 1900), the Johns Hopkins University (Ph.D., 1904) and, somewhat later, at Harvard University (Dr. P.H., 1911). These experiences brought him into intimate association, respectively, with Professors Sedgwick, Welch and Theobald Smith — all of great renown. He was the first to receive the doctorate in Bacteriology at the Johns Hopkins and one of the first two who received the new degree of Doctor of Public Health at Harvard. From 1904 to 1906 he was Director of the Hygienic Laboratory of the Panama Canal Commission, and was awarded the Service Medal by that body. Here Kendall worked under the legendary Colonel William C. Gorgas and with the eminent Sir Ronald Ross. Returning to the United States in 1906, he held the positions of Fellow at the Rockefeller Institute and bacteriologist in the Research Laboratory of the New York City Board of Health until 1909.

Academic appointments began with an instructorship in the Department of Preventive Medicine and Hygiene at Harvard Medical School (1909-12). Then came the opportunity to head a new Department of Bacteriology, which was to be split away from its previous union with Pathology at Northwestern. This appointment as Professor of Bacteriology continued from 1912 to 1924, when he resigned to accept a similar position at Washington University. Here he remained for only a few years. Returning to Northwestern he was made Research Professor of Bacteriology in 1927, and continued in this post until his retirement in 1942 as Professor Emeritus.

Deanship of the Medical School came to Dr. Kendall in 1916, when it was at last recognized that the problems of the institution required the attention of a full-time member of the Faculty. The practicality of the Medical School having an administrator free from simultaneous obligations to teaching, research or other

income-producing activities was still a concept for future appraisal by the Trustees. Other new features of the appointment were that he was the first incumbent of the office not to be either a Founder or a graduate of the School, and the only one in its history not to be a clinician.



Arthur I. Kendall

His title for the first year was specified as Acting Dean, which circumstance perhaps reflected a lack of conviction on the part of the University Administration that one without a full medical training could handle the job. When a number of problems had been solved, conditions had been stabilized and improved greatly, and the guarantee of better times on a consolidated campus was in hand, Kendall suddenly resigned in order to accept a straight professorship elsewhere. This unexpected and surprising move stemmed from the knowledge that certain clinicians were plotting to unseat Kendall, on the grounds that the certainty of a new medical building and campus site should be matched with a more flamboyant leader who would excel in public relations.

It is doubtful that any substantial backing for this medico-political bloc could have been obtained among the Trustees because

of the conspicuous record of constructive accomplishments of the Dean during a skillfully handled war-time period, and in the years afterward. There is reason to believe that the President of the University was not in sympathy with this abdication at a critical moment in the life of the Medical School. Yet, characteristically, he did not offer support or suggest a reconsideration. As an outcome, this voluntary and impulsive act brought to an end eight difficult years in an office that Kendall had not coveted and whose continuance he felt might bring discontent in some quarters. It cannot be gainsaid that his departure left the School in an awkward predicament at the moment of Mrs. Ward's astounding gift, when there was much to be done in planning sound programs in immediate housing, in concomitant expansions and in future policies.

The accomplishments of Kendall's term of office were of basic importance. Previously the School had been run at long range, with the Registrar acting as an executive officer (p. 195-6). Now the students and Faculty alike had a visible and accessible Dean, and everywhere morale strengthened rapidly. Performance also improved because of ever-present supervision and leadership, uncomplicated by the previous involvements with factions of the Faculty now becoming impotent. Actually, Kendall's first duty had been to refuse to enter into a coalition with individuals or junta-leaders who approached him one-by-one within a day of his election.

The problems of the World War I were anticipated early, and then managed adroitly with tact and dispatch. These moves included the organization of Base Hospital No. 12 for duty in France and the installation of a unit of the Student Army Training Corps, the first in any medical school. The curriculum was overhauled and improved, despite the inanities of wartime controls, and a start was made on instituting clinical clerkships. Social Service and X-ray facilities were introduced into the Dispensary. A great amount of effort was expended in trying to break the Wesley impasse by good will, common sense and conciliation, but at that time success was beyond human endeavor. A permanent monument to Kendall was the creation of Founders' Day, in 1922 (p. 217). After his departure, it was revived by Dean Cutter and ever since has served both to formalize the start of each academic year and to indoctrinate the students on personalities and triumphs of the past, to indicate

current trends and inadequacies, and to suggest goals and their solutions.

Dr. Kendall was a person of broad culture and diverse interests. Some of his hobbies, such as his authoritative knowledge of the history, manufacture and use of the long rifle, revealed unexpected vistas into a many-faceted mind. His approach to bacteriology had proceeded from a sound basis of biology and chemistry, and his studies soon centered upon bacterial metabolism. In later years he believed to have demonstrated that bacteria could be made filterable by special culturing. The storm that arose from this announcement was such as to try the equanimity of the most stolid, which Kendall was not. An important responsibility was assumed in 1917, when he became Chairman of the Yellow Fever Commission of the International Health Board that spectacularly eradicated that disease from Ecuador. Dr. Kendall published a successful textbook (*Bacteriology — General, Pathological and Intestinal*) and a popular book of great charm (*Civilization and the Microbe*). Among the honors that came to him may be mentioned the presidency of the Chicago Pathological Society in 1916, and the honorary degree of Doctor of Science conferred by the University of Southern California in 1932.

In anticipation of approaching retirement a large hacienda was purchased in Mexico and considerable additional sums were expended on rehabilitation and improvements; but the entire semi-altruistic venture collapsed, without remuneration, through a resurgence of governmental expropriation. On retiring in 1942 Dr. Kendall moved to Oracle, Arizona, and then to La Jolla, California, where he died, June 20, 1959. In 1904 he married Gertrude M. Woods, and there was one child, a daughter.

One of his greatest assets was a justly earned reputation for warm friendliness, which extended disarmingly to all. Yet, on provocation, this soft-spoken and mild-mannered Dean could change dramatically. His kindly gray eyes would then become icy cold and the lines of his pleasant and mobile smile would congeal into a frozen mask. In the best sense of the term, his official demeanor exemplified the iron hand in a silken glove. Dr. Leo W. Doyle, a former student, wrote:

He was a friend of the entire student body. Into his office throughout

the day came students and friends for a chat, usually finding it difficult to leave their gregarious host. This slightly stooped, wiry man will arrest your attention, for he beckons with his eyes to be friendly and say "hello." They are his most impressive facial characteristics, for they are filled with the warmth and penetration of happiness. His face likewise radiates, and the lines are from laughter and smiles. His voice is high-pitched and soft, every bit as individualistic as is his whole personality. When he lectures you see a brilliant mind clarifying a complex subject, and before long one sees the imagination of a scientist at full play.

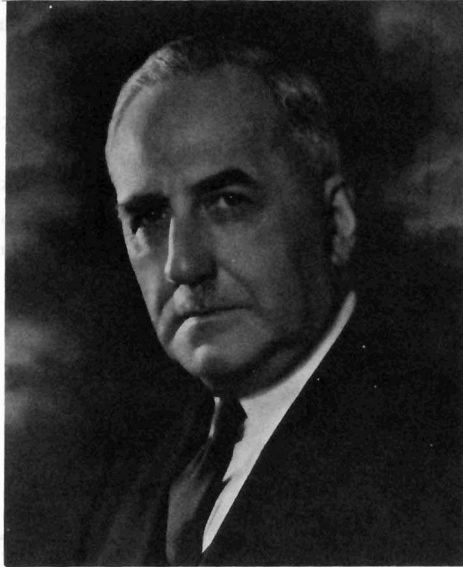
Perhaps there has been a tendency to picture Kendall as always conciliatory, exceedingly democratic, and perhaps a little too perfect as a result. He can be tough, and even stubborn under certain circumstances. It would not be fair to Kendall to paint him as a flawless creature, for he has his faults, and not all who know him are his boosters. He is a magnificent human being who plays his vital role in living, and the applause is not always unanimous. That is of little consequence for the important things in his life do not need applause, or even an audience.

IRVING SAMUEL CUTTER,
M.D. SC.D., LL.D.
Dean, 1925-1941

Irving S. Cutter was born in Keene, New Hampshire, December 5, 1875, but in his boyhood the family moved to the recently admitted state of Nebraska, where the father continued his trade of railroad telegraphy. Irving worked his way through the high school and State University at Lincoln, Nebraska, receiving the B.S. degree in 1898. The six years subsequent to graduation were spent in high-school teaching and in acting as general agent in Nebraska for the Ginn Book Company. He was then enabled to undertake the study of medicine at the University of Nebraska, finishing in 1910 at the age of 35 years. Straightway entering the practice of medicine in Lincoln, the new physician engaged in this profession for three years, at the same time holding an appointment as Instructor of Chemistry in the University.

The year 1913 found Dr. Cutter turning away from practice to become Professor of Biochemistry in the University of Nebraska College of Medicine. In 1915, just five years after receiving the

medical degree, his executive abilities, already recognized, were rewarded by promotion to the deanship of the College of Medicine. For the next ten years he devoted himself to the improvement of that school, gaining acceptance as a medical educator of unquestioned ability and more than local promise. At this juncture (1925) Cutter accepted an invitation to come to Northwestern as Dean (and Associate Professor of Medicine, 1926), and there to lead its



Irving S. Cutter

Medical School in the newly beckoning challenges. Sixteen years went into this effort. Then, on retirement in 1941, he was made Professor of Medicine and Dean, Emeritus.

Diverse activities shared Dr. Cutter's time and abilities. He saw service as Captain in the Medical Corps of the United States Army in 1918-19, and held the rank of Lieutenant Colonel in the Officers' Reserve Corps from 1920 to 1929. He became the first editor of the *Nebraska State Medical Journal* and was a member of the editorial board of the *Annals of Medical History* from its beginning. While at Northwestern, his commitments increased markedly beyond the strict duties of the deanship. From the opening of the new Passavant Hospital on the Chicago Campus until his death, Cutter acted

as its Medical Director, bringing the reorganized and rebuilt institution from an adventure in faith to a sound, financial enterprise and to recognized esteem in the hospital world. From 1934 onward he acted as medical editor of the *Chicago Tribune*, among his duties contributing a daily health column that set a new standard of modernity, reliability and readability that exerted a profound influence throughout the land. He became the Medical Director of the Chicago and Northwestern Railway. Many studies by him on historical and educational subjects appeared as journal articles or as contributions to books. It was in the historical side of medicine that he found his greatest source of relaxation and pleasure.

Sundry honors came to Dr. Cutter. He was President of the Association of American Medical Colleges in 1923, of the Chicago Medical Society in 1934, and of the Society of Medical History of Chicago in 1934. In recognition of his services, in 1940 Robert H. McCormick deeded tracts of land one block north of the Campus, then valued at \$1,000,000. The property established a holding which may be, and currently is, used for income purposes; the annual earnings are designated as the Irving S. Cutter Fund for Medical Research. An endowed professorship of medicine was established in his name by an anonymous donor. The University of Nebraska conferred upon him the honorary degree of Doctor of Science in 1925, and Northwestern did the same on his retirement in 1941. An honorary Doctor of Laws came from Jefferson Medical College in 1931.

At Northwestern Dr. Cutter found an extraordinary opportunity awaiting his vigorous leadership. The Medical School was ready to build and become equipped on a scale that made previous arrangements seem ill-adapted and meager. New endowments and enlarged appropriations from the University provided a budget which dwarfed that available to any predecessor. With these advantages in hand, he started on a bold program of doing what seemed desirable in constructive upbuilding, and leaving to the Trustees the problem of handling awesome budgetary over-runs. This policy was continued until the depression years forced a halt. The newly-acquired prosperity made it possible to enlarge and strengthen the Faculty, and to enter into wholly new fields, some in the luxury category. The imposing housing on a unified professional campus, the improvement in Faculty and facilities, and the countrywide awaken-

ing of youth to the potentialities of renascent medicine as a career — all worked to bring a flood of applications that elevated the level of student quality. These achievements were as magnificent as they were spectacular. But, in sober truth, they depended in part on a most fortunate timing. During the financial hysteria of the later Twenties, it bordered on treason to doubt the obsolescence of former economic laws or to question the manifest destiny of an immediate America unlimited.

Closest to Dr. Cutter's heart was the development of the Archibald Church Library, which became his personally directed project. In his term of office it grew from possibly 13,000 volumes to nearly 92,000; and in breadth and scope it became one of the best in the country. At the dedicatory address in 1927, he said: "The heart of this [School], as of any institution of higher learning, is its Library — so broad in scope, so accessible that it will satisfy the most eager student-mind and the needs of the most exacting research." This was the goal that he set and, at the end of sixteen years of supervision, essentially achieved. Along with ordinary collections came the accumulation of rare books, prints and the portraits of those who founded the School and helped build it through the years. Had successes not been his in other areas of academic custodianship, the Library alone would serve as an adequate monument to exceptional vision and action.

Dr. Cutter was a complex individual, combining outstanding qualities of courageous leadership, broad vision and noble attributes with some narrow prejudices, impulsive irrationalities and harsh treatment of individuals who gained his disfavor. Segments of his Faculty were not always happy over what seemed to be high-handed or discriminatory conduct; and on one occasion, complaints were carried to the University administration. Yet, it is certain that in the mind of Dr. Cutter the constant, guiding thought was the welfare and improvement of the School; whether such objectives could be gained conventionally or not was a tactical matter of less importance.

Dr. J. Roscoe Miller, on succeeding Dr. Cutter as Dean, said in his presence at the ensuing Founders' Day:

Less obvious but as vital [among accomplishments], are his contributions to pedagogical methods, his support of research and, above all, the

cultural and invigorating atmosphere with which he has imbued this School. As we know of his accomplishments, so do we know the man — intelligent, capable, a great organizer and peerless leader. Elbert Hubbard once said: "The man who is anybody and who does anything is surely going to be criticized, vilified and misunderstood. This is a part of the penalty for greatness and every great man understands it." One would expect an individual of such accomplishments as Dr. Cutter to be at times misunderstood and criticized by men of lesser ilk. His mark of greatness is that it deters him not at all, but merely adds to his determination and to the accomplishment of his purpose. If you would avoid criticism and opposition — say nothing, do nothing, court oblivion; but only there does safety lie.

Dr. Cutter married Mary L. Stearns in 1909. They had one son. On February 2, 1945, in his sixty-ninth year, death came from carcinoma of the prostate, the occurrence of which had been concealed even from intimates. On the preceding day he had busied himself, as usual, with routine dictation and business telephoning. At the funeral service, President Franklyn B. Snyder said:

We know him today for those and many other things that he did; we know no one, in the field of contemporary medical education, who ever did more. But those of us whose fortune it was to work with him in newspaper, hospital or University, remember today what he was rather than what he did. We remember his contagious and indefatigable energy; his all-embracing sense of humor; the catholicity of his learning; his love of things beautiful, of books and pictures; his genius for friendship, his loyalty to his friends and his utter disregard of himself.

And we think today, perhaps more than ever before, of his courage; of the fact that for no little time he looked death in the face and was utterly unafraid, but concerned only with keeping the faith and finishing the work that had been given him to do.

JAMES ROSCOE MILLER, M.D., SC.D.,
L.H.D., Litt.D., LL.D.
Dean, 1941-49

J. Roscoe Miller, the son of a merchant, was born in Murray, Utah, on October 26, 1905. He was an undergraduate at the University of

Utah and continued into the College of Medicine of that institution, which then offered but two years of instruction. Transferring to Northwestern, he gained the Bachelor of Medicine degree in 1929 and was awarded the doctorate in medicine the following year, after satisfying the requirement of internship at St. Luke's Hospital.

On completing his prescribed training, the clinical tyro entered practice in association with Dr. William H. Holmes, an astute internist on the Medical Faculty, who died prematurely at the zenith



J. Roscoe Miller

of his career. By this turn of fortune Miller came to inherit, at the bare age of 35, a practice that carried with it considerable prestige. Meanwhile he had joined the Faculty of the Medical School, first as a Ward Fellow (1930), then as Instructor (1934) and next as an Associate (1937). Advancement to the grade of Assistant Professor of Medicine came in 1939. An introduction to the world of administration began in 1933, when Dean Cutter appointed him as Assistant Dean in charge of the clinical years. On the retirement of Dr. Cutter, in 1941, he was selected as the successor, and had to make a hard decision between a clinical career, for which he was unusually well endowed, and the less lucrative, often frustrating but always challenging post of a medical deanship.

The decision once made, Dr. Miller entered the deanship in 1941 and thereby gained a promotion in academic rank to an Associate Professorship. He was not yet 36 when, for the second time in a decade, he made a start on adjusting to a new way of life. Even before getting well settled into the routine of office, the problems of war began insinuating themselves to the detriment of organizational progress. Acceleration of teaching programs, military control of nearly all students, staffing of three overseas hospital-units, loss of 225 members of the Medical Faculty to War Services — all such made for abnormal conditions in which a holding operation, without too much loss of previous effectiveness, became increasingly difficult, yet usurped all attention and energy.

In 1940 Miller became a Lieutenant Colonel in the Medical Reserve Corps. Four years later he succumbed to a personal urge for direct participation in the War effort and joined the United States Navy; on leaving military service, he had attained the rank of Commander. Out of uniform and back in academic harness for the 1945-46 session, the immediate problem confronting the Dean was to restore the Medical School to its normal course, and to plan a program of improvement that would be consonant with postwar times.

One urgent demand, foreseen by him early in the War period, was for postgraduate instruction in the medical specialties. Such instruction was instituted, and has since been maintained successfully as the Graduate Division of the Medical School (p. 269-70). The War upset his plan to build a neuropsychiatric hospital with bequest-money at hand, and it was not until the succeeding administration that the accumulated funds made possible the Morton Research Building. Likewise, the concept of amalgamating the Medical School and its hospitals into a Medical Center was his, but the fruition had to await the coming of a later regime. On the other hand, a firm agreement for a new teaching hospital was made, through which a Veterans' project would soon bring an important affiliate to the Campus. Also consummated was the invaluable affiliation with Children's Memorial Hospital. Important from the standpoint of morale was a restoration of intimacy between the Faculty and its administrative leader, a renewed impetus toward Faculty initiative and a revived sense of common responsibility through collaborative effort.

Only four years after the normal scholastic regimen had replaced the adaptations to wartime demands, Dr. Miller was confronted with another difficult decision. President Snyder was then about to retire from office, and the Trustees offered this highest academic post to their medical Dean. Acceptance would mean that any long-term testing of himself as a medical educator and as a leader in constructive planning in the local medical scene must default. With definite regret on the necessity of leaving a medical environment, the challenge of greater service was accepted. So it was that in 1949, when still less than 44 years of age, Dr. Miller became President of the University and also gained the academic rank of Professor of Medicine.

In announcing the decision of the Trustees to make Dr. Miller the twelfth President of the University, Kenneth F. Burgess, President of the Board, said:

Dean Miller has been selected because his broad experience and brilliant record as an administrator in the Medical School eminently qualify him for the position. Under his able guidance the Medical School has made outstanding progress in teaching and research, has increased its facilities and assets — and so, step by step, is realizing Dr. Miller's plans for a great medical center on Northwestern's Chicago Campus.

Dr. Miller was chosen both as Dean and as President for outstanding promise, based on the possession of executive qualities of the highest order. With a keen and orderly mind, sensible judgments and incisive action went open-mindedness, tolerance and fairness. There was a minimum of interference with subordinates, an unusual eagerness to entertain other opinions and an ability to delegate authority with discernment. Of utmost value was his talent in personal relations, where a warm, winning manner and the ability to adjust to any type of person or situation are indispensable in the art of human intercourse, so important to executive posts in a university.

His accomplishments as a university leader make a fabulous success-story, the material aspect of which includes raising \$284,000,000, multiplying the endowment sixfold, erecting 30 buildings and extending a new, 84-acre campus into Lake Michigan (p. 237). Equally impressive has been the steady rise of the University to a

high position in academic ratings. This was achieved by elevating the quality of the faculty, through significant curriculum changes and greatly enlarged research opportunities that provided an attractive climate for scholars. In 1969 Dr. Miller was elevated to a new title — that of Chancellor. In 1974 he retired with emeritus rank, but continued to aid the University in its promotional programs. In twenty-five years of leadership he exceeded the tenure of any predecessor.

At the start of his Senior year in medicine, 1928, Dr. Miller married Berenice Johannsen. There are two daughters, and one son who is also an alumnus of the Medical School. Many honors and responsibilities came to Dr. Miller in the way of awards, directorships, trusteeships and appointments with relation to civic and Federal affairs. Honorary degrees were granted by eleven colleges and universities. Medical honors include the presidency of the Chicago Medical Society and of the Association of American Medical Colleges.

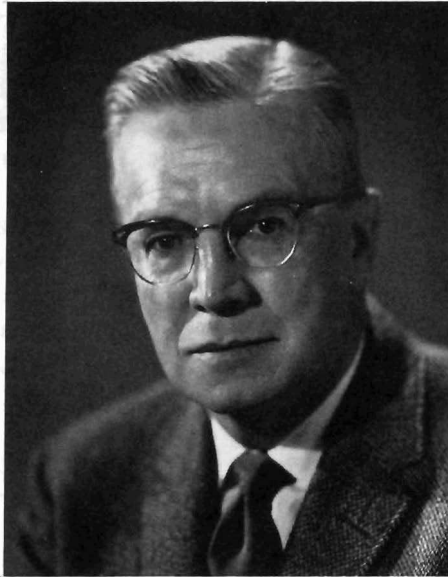
On October 16, 1977, Dr. Miller died of a heart attack, two days after participating in the dedication of an important library building, obtained through his endeavor. He had fulfilled the goal set by Northwestern's founders, which was to produce a "University of the highest quality." At a memorial service his longtime Provost Emeritus, Payson Wild, said:

Human nature being what it is, J. Roscoe Miller may well be remembered in the future primarily for his accomplishments in physical expansion of the campuses during his quarter-century in office. While much credit is due in this area, it should not overshadow his considerable and important contributions in upgrading the quality of the faculty and expanding Northwestern's reputation for academic excellence.

RICHARD HALE YOUNG, M.D.
Dean, 1949-1970

Richard H. Young was born in Chicago on January 26, 1905. His father was a physician and a graduate of the Chicago Medical College in the class of 1889. A year at Dartmouth College (1923-24) and one year at Northwestern gave preparation for the study of

medicine. In 1929 the degree of Bachelor of Science in Medicine and also the degree of Bachelor of Medicine were granted by Northwestern University. The M.D. degree followed the completion of an intern year at St. Luke's Hospital, after which another year was spent there as a resident in medicine. He then entered into an association with Northwestern as a Fellow in Medicine, which included study at the University of Oregon in 1933, and in University College Medical School, London, in 1934. These extramural activities centered about studies and investigation in the field of hematology.



Richard H. Young

With formal medical preparation finished, Dr. Young entered the private practice of medicine at Evanston, Illinois, in 1934 and continued it, except for wartime absence, until 1946. In 1934 he married Ellen Louise Stearns; there are two sons, both graduates of this Medical School. Academic rank in the Medical School started with Instructor (1933), and advanced to Associate (1937) and Assistant Professor (1939). From 1938 to 1942 he acted as Executive Secretary to the Department of Medicine and Experimental Medi-

cine, thereby gaining an initial experience in the administration of medical affairs.

The next three years (1942-45) were spent with the Twelfth General Hospital, where he rose to a colonelcy. At first chief of the section in general medicine, he later became acting chief of the medical service when the Hospital was enlarged to a capacity of 2,000 beds. Here his executive ability became apparent, and a deep interest in administrative work was kindled. On returning to civilian life and the practice of medicine, the post of Director of Student Health at Northwestern University was held for one year, with conspicuous success in reorganizing that department. Next came an opportunity to become Dean of the University of Utah School of Medicine. Able conduct of this office from 1946 to 1949 ended with a recall to Northwestern to become Dean of the Medical School and Professor of Medicine. A combined total span of 24 years in administrative leadership eventually made him the uncontested Senior Dean in the United States, where the average tenure had reduced to a few years. At Northwestern, only Nathan Smith Davis served a longer period as Dean.

In his inaugural address, on Founders' Day, Dr. Young enunciated his philosophy of undergraduate medical education. Pre-clinical teachers were admonished to organize their courses in length and content as befits medical science that is to be of both fundamental and practical value in the training of a physician. Clinical teachers were advised to review not only teaching methods, but also the subject-content and emphasis of courses, so as to strike a new balance consonant with changes in the incidence and importance of disease. His chief criticism of current medical education was that it is faulty in its translation and transmission of scientific medicine to students. With respect to future demands, he said: "Medicine, in the changing order, will present a challenge to our Faculty not only to see that the medical curriculum is correlated, co-ordinated, and integrated to meet the advances in science, but that a social sense of patient responsibility is continually thrust upon the student in his duties in the clinic and hospital."

Major changes during the incumbency of Dean Young were both in physical facilities and in educational procedures. The Veterans Administration Lakeside Hospital was built, and its affiliation worked out on a favorable basis of staffing and patient-selection.

The Morton Building and the Searle Building were erected chiefly to provide space sorely needed for clinical research. The medical curriculum underwent a drastic revision, with the basic sciences abridged and greater emphasis placed on clinical training. The annual budget increased more than sixfold, and the number of salaried clinicians and investigators expanded in almost the same degree. Research received greater emphasis, particularly in clinical fields. The major role in the financing of research, in general, came to be played by grants tendered by outside agencies. Among these was a grant for experimentation in a co-ordinated program with the College of Liberal Arts, for an integration of premedical preparation and medical studies in such a way that permitted superior students to make faster progress (p. 262). Appreciated by all was the open-door policy, which made the Dean easily accessible to Faculty and students alike, on missions great or small.

When the Dean assumed office, a long-time clinical associate wrote:

He is an exceedingly tolerant and kindly person. Modesty becomes him. He wears well. [He] has the unusual capability of quickly analyzing and crystallizing the substance of situations. He is blessed with the faculty of no lost motion. He consummates problems with thoroughness and alacrity. These qualities and other elements of character, when woven into the fabric of his principal interests and ambitions, will demonstrate the wisdom [of his selection].

Dr. Young was the long time Secretary of the Association of American Colleges, and was in charge of its accreditation program. He held the chairmanship of the National Board of Medical Examiners. In 1966 he relinquished some of his administrative duties to others and became the first Director of the Northwestern University Medical Center, a complex initially planned (1946) when Chancellor Miller was Dean.

Because of failing health Dr. Young resigned at the end of the 1969-70 academic year, sorely afflicted with adult diabetes. Four months later he died suddenly at the age of 64. Only two days before, he had received the announcement that the Alumni Medal, the most prestigious recognition of its kind from the University, would be awarded him.

Those who knew Dr. Young well, recognized him:
as a loyal alumnus, ambitious for the advancement of his School;
as a capable and fair administrator, who gained national esteem;
as a respected colleague, with admirable human qualities;
as a brave man, whose impending death was faced with fortitude
and equanimity.

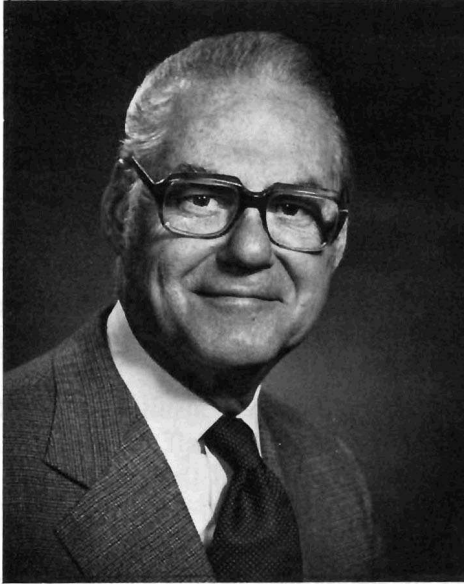
JAMES EDWARD ECKENHOFF, M.D., SC.D.
Dean, 1970-

James Edward Eckenhoff, the son of a small-business man, was born April 2, 1915 in Easton, Maryland. He graduated from the University of Kentucky in 1937, and from the University of Pennsylvania School of Medicine in 1941. Specialization in anesthesiology brought rapid advances to a full professorship in the latter School. Military service, here and in the European Theater, was rewarded by a captaincy. He is a consultant to the Surgeon General, U.S. Navy. In 1938 Dr. Eckenhoff married Bonnie L. Youngerman and there were four sons of this union, one of whom is a graduate of this Medical School. In 1973 he married Jane M. Mackey.

After 21 years at the University of Pennsylvania he came to Northwestern, in 1966, as Professor and Chairman, for the purpose of organizing an autonomous Department of Anesthesia, and here he soon became Director of the second Anesthesia Research Center to be supported by the National Institutes of Health. A primary task at the local scene was to renovate anesthetic practice in the Campus hospitals. On the heels of these reforms came intense activity, through the new Research Center, in training residents in anesthesiology and also in the promotion of research in this specialty. These innovations introduced a modernity in this field hitherto unknown at Northwestern. Concurrently it achieved parity with the better departments throughout the land.

The resignation of Dean Young, owing to progressive illness, necessitated a search for a successor, and the quest ended close at hand. In 1970 Dr. Eckenhoff accepted the offered post and promptly instigated a series of institutional advances whose results gained

rapid recognition and general approval. These changes were in part the grist from broad recommendations of a Reorganization Committee that he had headed prior to becoming Dean. In fact, this report, with ten major categories of reform spelled out, became his inaugural platform.



James E. Eckenhoff

Dr. Eckenhoff has enjoyed Visiting Professorships in Australia, New Zealand and South Africa. Among honors conferred is a Fellowship in the Anesthesia Division of the Royal College of Surgeons, England, and similar recognition by the Royal Society of Medicine. He was the first anesthesiologist ever to give the Hunterian Lecture before the Royal College of Surgeons. In 1970 Transylvania University awarded him the honorary degree of Doctor of Science. Numerous publications include two books: *Anesthesia from Colonial Times*; and *Introduction to Anesthesia*, now in its fourth edition. Edited books are the annual *Year Book of Anesthesia, Science and Practice in Anesthesia*, and *Intensive and Recovery Room Care*. He formerly edited *Anesthesiology*, the journal of his specialty.

Advances occurring within the nine-year span of Dean Eckenhoff's uncompleted incumbancy make an impressive list. Buildings, erected or acquired for medical activities, total eight. Affiliations have been consummated with three additional hospitals, and with a private cancer center. Four campus-located hospitals have been consolidated into a co-ordinated unit, the Northwestern Memorial Hospital. Six specializing Centers have been created, including those for continuing medical education, for cancer research, and for faculty group practice (replacing the phased-out Medical Clinics). Administrative advances include the appointment of a Director of Medical Education, the institution of a Board of Alumni Counselors, the creation of Faculty- and Student Senates, and the installation of an Office of Development for the Medical School. Practically important are the extension of the chairmanships of clinical departments in the Medical School to head corresponding departments in Northwestern Memorial Hospital, and the shift of formerly hospital-managed Postgraduate Medical Educational Programs to come under the direction of the Medical School. Among educational advances are the inauguration of the following: an M.D.-Ph.D. Program in co-operation with the University's Graduate School; a Master of Public Health Program; a Baccalaureate Program in Nursing Education; a section on general medicine in the Department of Medicine; a wholly elective curriculum for the senior year; an emerging Family Practice Program in collaboration with Columbus-Cuneo-Cabrini and St. Joseph hospitals; and annual visiting professorships to honor distinguished alumni. Additionally there has been a marked escalation in research- and sponsored program funding. In 1971-72 such funding was \$9,547,400; in 1977-78, \$18,428,900; and it is expected to be \$21,000,000 in 1978-79.

At the time of the selection of Dr. Eckenhoff as Dean, Dr. Robert H. Lawson, Vice-President for Health Sciences, said:

Dr. Eckenhoff is a man who has applied his background of topnotch research to improve patient care. His deep interest in students and his insight into the complex problems of medical education today auger well for Northwestern's future.

ACTING DEANS

On two occasions it was necessary to appoint an Acting Dean. The first was during an interim of one year following Dean Kendall's resignation and preceding Dr. Cutter's arrival. In this period, Dr. James P. Simonds, Chairman of the Department of Pathology, held office — as he did again during an absence by Dean Cutter owing to illness.

Dean Miller was on leave for sixteen months on military service in World War II. During this period Dr. George N. Gardner, Chairman of the Department of Obstetrics and Gynecology and Assistant Dean in the clinical years, served as Acting Dean.

Both occupancies were during trying times in the life of the Medical School, and much credit is due to these selfless individuals for assuming command in such periods of stress.

XVII

There Were Giants

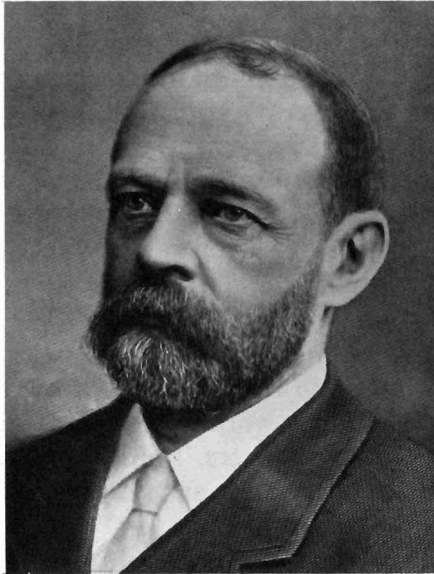
It is axiomatic that an educational institution is only as strong as its faculty. Even those unfriendly to the Chicago Medical College, both before and after University affiliation, were always willing to concede that it did produce good practitioners. And good clinicians on a production basis result only from good teaching. In the present chapter a few members of the Medical Faculty will be presented as a series of "profiles." The Founders, a remarkable group of men by any standard, have already been considered, as has also a strong line of Deans. The ordinary faculty members — those unrelated to administrative activities — also deserve token recognition, and now attention will be directed to them. Through the years the Medical Faculty has contained many worthy individuals who gained local renown as teachers or practitioners. There have been others whose reputations extended nationwide, and some whose stature commanded international recognition.

The selection of proper representatives from the large number of individuals who have served on the Medical Faculty during more than a century of operation presents a problem on which opinions will differ. How many should be chosen, and which ones, is a matter somewhat subject to personal judgments and loyalties. To simplify the problem in many regards, the selection was restricted to former members of the Medical Faculty, no longer living. Only those will be considered whose period of service to the School was of significant length, and whose accomplishments brought them international acclaim and enduring fame. It is certain that all of those chosen qualify as outstanding personalities, worthy of recognition on any list as stars of the first magnitude. That the selections have to be limited to so few, and that more medical categories cannot be represented, is regretted.

CHRISTIAN FENGER, M.D.

Pathologist: 1840-1902

Christian Fenger was born on the west coast of Jutland, Denmark, on November 3, 1840. His father was a prosperous farmer who owned an excellent estate, formerly a monastery. Christian graduated from a boarding school, but without distinction since he was



Christian Fenger

hampered by poor eyesight and a troublesome knee. The years following, spent in the University of Copenhagen, were furthered by teaching in a high school and by tutoring. They were also interrupted by service as an assistant surgeon during the Danish war with Prussia. He received his diploma in 1867, and two years later began an internship at the royal Frederick's Hospital at Copenhagen. Experiments on gunshot wounds, and the invention of instruments for locating and extracting bullets, gained Fenger an appointment in the Red Cross International Ambulance, which extended throughout the Franco-German War. Next a period was spent in Berlin and Vienna, where he became acquainted with Bill-

roth and Rokitansky, and their pioneer work in surgery and pathology.

Back in Denmark in 1871, Fenger was appointed resident pathologist at the Copenhagen City Hospital. Careful studies on morbid anatomy found publication. Among these was his doctoral thesis in 1874, which demonstrated the anatomical basis (by involvement of twigs of the vagus nerve) for the occurrence of pain in carcinoma of the stomach. So it was that the degree of Doctor of Medicine was not obtained until thirteen years after he started as a medical student. Disappointed when the vacant professorship of pathology was straightway filled by appointment rather than by open competition, he took a position with the Egyptian government for a time, but resigned and emigrated to the United States in 1877.

Many months passed in Chicago before Dr. Fenger was able to earn a living by his profession. When at last he was invited to conduct a few autopsies at Cook County Hospital, his scientific demonstrations made a profound impression. Dr. Isaac N. Danforth, who then held the appointment as chief pathologist, resigned in order to open the position to Fenger. So corrupt were the County Commissioners that Fenger had to borrow \$1,000 and buy the appointment. Thereafter, for fifteen years (1878-93), ". . . the autopsy room at the County Hospital was the Mecca of medical students, internes and members of the medical profession of Chicago, who for the first time in the medical history of the Middle West had an opportunity to witness scientifically conducted autopsies and to learn the fundamentals of morbid anatomy and pathology." Even the skillful surgeons of the staff crowded about his autopsy table to learn the meaning of things they had seen (or overlooked), but whose significance they had not known. His great service to Chicago was imparting a new concept of pathology, showing its co-ordination with the clinical picture of disease, and demonstrating the interest and importance of this science.

Dr. Fenger was made curator of the museum at Rush Medical College in 1880, lectured for a year at Rush, and from 1882 to 1885 held the chair of General Pathology and Pathologic Anatomy at Northwestern. Beginning to do surgery at the County Hospital as a replacement for vacationing staff members, he secured a regular surgical appointment in 1880, and served on the staff for twelve years. In 1893 he became Professor of Surgery at Northwestern and

Attending Surgeon at Mercy Hospital. In 1899 he transferred to Rush and Presbyterian Hospital, but died less than three years later. He was chief surgeon at the Passavant, German and Tabitha Hospitals from their beginnings until his death. The majority of his operative work was done at the old Passavant Hospital.

Dr. Fenger was a prolific contributor to the literature of surgery, special pathology and diagnosis, and his writings were translated into many languages. The articles relating directly to pathology number at least ninety, and these range through a wide field of subjects. Two volumes of his collected works were published as a posthumous tribute by the Fenger Memorial Association. Appreciation of the importance of his contributions has increased with the years. He became Vice-President of the American Surgical Association in 1895 and, at the time of his death, was President of both the Chicago Medical Society and the Chicago Surgical Society. Fenger's influence on medicine was recognized by a testimonial banquet tendered by 500 physicians, representing 147 medical organizations. These admirers gathered from all parts of the country on the occasion of his sixtieth birthday. The Fenger Memorial Association was organized to perpetuate his memory through scientific research, supported by an endowment fund. The Chicago Pathological Society established a lectureship bearing his name. The distinction of Knight of the Dannebrog was conferred on him in 1901 by the King of Denmark.

The amazing extent and depth of Dr. Fenger's knowledge of pathology, both gross and microscopic, welled from years of unremitting work. So careful were his observations and so impersonally judicial were his conclusions, that few risked disputing them. It was this unique background that made him one of the great surgeons of his time. Though never matching the operative speed and brilliance of some others and inclined to proceed with caution, studying and interpreting pathology as he advanced, no one equaled him in diagnostic skill or in an understanding of what was uncovered by his knife. Among his credits is the institution of aseptic surgery in Chicago, and the teaching of its technique to others. Fenger introduced methods for the safe and systematic exploration of the brain, and for many abdominal and pelvic conditions. He was one of the first to remove a stone from the common duct, and was the first in Chicago to perform vaginal hysterectomy for uterine

cancer. Operations were developed and perfected for the treatment of tuberculosis of the joints and cancer of the stomach. He was invited to present the results of his investigations on renal surgery before the International Medical Congress, at Paris, in 1900.

Dr. Fenger's prodigious capacity for work did not abate upon the acquisition of success and acclaim; so great was his endurance that he was accustomed to work steadily through the day and even until three in the morning. He spoke many languages (according to an assistant, eleven), but all of them slowly and haltingly. In sharp contrast, his written style was clear, orderly and concise — a surprise to many who had heard him speak or read. Feeling a moral obligation to keep informed on the progress of medicine throughout the world, he subscribed to journals in many tongues, and over a wide range of subjects.

Despite his strong accent and lack of fluent speech, which was difficult for strangers to follow, Dr. Fenger was able to impart information with great clarity. As a matter of fact, he found his greatest pleasure in instructing and working with young men who showed a thirst for knowledge and a penchant for hard work. For years the idolizing interns of County Hospital gathered at his house every Thursday evening, whereupon Fenger played host and teacher until midnight. It was through his influence that many young physicians visited the European clinics in the last decades of the nineteenth century and returned to become leaders in American medicine. His teachings and influence developed leading pathologists such as Hektoen, LeCount and Wells, renowned surgeons such as Senn, Murphy, W. J. Mayo and McArthur, and scientific physicians such as Billings, Herrick and Favill. Fenger was pre-eminently a teacher of teachers and a developer of teachers; also, he laid the foundation for the modern internist as well as surgeon. His influence was unequalled by any other individual of the period in Chicago. Perhaps no one was ever more effective in breaking down antiquated ideas and traditions in medicine, and replacing them with new methods and approaches.

Dr. Fenger was honest intellectually, and not afraid to say that he did not know. Unswerving sincerity and truthfulness were his earmarks. One intimate said that "he was the embodiment of truth and the incarnation of the scientific spirit in medicine." His relations to others in the profession were meticulously correct. Simple by nature

and sincere in manner, he was free of envy, jealousy or cupidity. Although fundamentally kind, his blunt words sometimes created an incorrect impression of unfriendliness. In fact, it is said that he was so brusquely outspoken at times as to chill friendships that could have been important. Actually his brusqueness was that of a busy, preoccupied man. He was genuinely impatient with persons who were frivolous or indolent, but eager to express appreciation and praise of honest and efficient work.

Physically Dr. Fenger was of medium height and stocky build. He was ruddily blond, with a commanding forehead and furrowed face, and azure blue eyes that could show warmth or a chilling frost. A closely cropped mustache and beard could not conceal a kindly face and pleasant smile. Soon after his arrival in Chicago, he met and married, in 1878, Caroline Sophie Abildgaard, who had left Denmark in childhood. By all accounts she was an extraordinarily cultured and gracious lady. They both were devoted to art, music and literature. It has been said that the mutual regard that existed between the two was unparalleled; the home life was ideal, despite the fact that only his evenings until nine o'clock belonged to the family. There were two children, a boy and a girl. Death came in his sixty-second year, on March 7, 1902, when he succumbed to a virulent type of pneumonia after an encounter with a severe storm. During this illness he was attended almost constantly by three distinguished, onetime pupils: Billings, Favill and Herrick. Ironically a memorial tablet to his greatness was erected in Cook County Hospital, where he initially had to buy his entrance.

Dr. Fenger's greatness was based not only on his direct influence on the practice of medicine, but also on the influence and inspiration exerted upon a large group of disciples. He founded a school of thinking and attitudes, and his followers showed a sort of fanatical devotion to their leader. His onetime assistant, Dr. C. G. Buford, wrote:

No man in medicine was more respected while he lived. Few were more widely quoted in the operating room while living; and few more quoted in medical meetings after death. I have sat in a Pullman with a small group of his pupils who are all now great teachers; as they talked of Fenger every eye was moist and every voice quivered.

And Dr. Frank Billings, an internist, said:

Though twenty years have passed, he lives today in the hearts and minds of hundreds of physicians and surgeons who were proud to call him master; and he will continue to live through other generations by the work of his students, and his pupils' students.

ISAAC ARTHUR ABT, M.D., SC.D.
Pediatrician: 1867-1955

Isaac A. Abt was the smaller of a pair of male twins born at Wilmington, Illinois, on December 18, 1867. His parents had emigrated from Germany in the Bismarckian period that sent Carl Schurz, Abraham Jacobi and other freedom-loving people to this land. His father conducted a general store and the village post-office, but moved the family to Chicago when Isaac was eight years old. Before reaching the age of thirteen, the youngster was working for an apothecary. Among his duties were the grinding of herbs and roots, and the making of infusions, tinctures, pills and powders. At nineteen he started classes in the preparatory medical course at Johns Hopkins University, which then was only in its tenth year of operation. Some medical courses were being offered, although a complete medical school was still several years away. Yet, happily, he was able to study under such notables as Brooks in zoology, Remsen in chemistry, Howell in physiology and Welch in pathology. In his third, and final, year at Hopkins, Isaac had the further opportunity and privilege of making rounds with Dr. William Osler in the recently opened Hospital.

During summers the medical aspirant acted as an assistant to Dr. Edmund Andrews at Mercy Hospital. There he helped with operations and did minor surgical dressings in the wards. Also he attended the clinics of Drs. Fenger and Senn, and tried to fit college studies into what he was hearing and seeing. Leaving Johns Hopkins in 1889, without a degree, Isaac sought advice from Dr. Welch and was told that no college of that time was especially good, so it made little difference which one was selected, since everything depended on the individual. He entered Northwestern as a second-year student, and graduated in 1891 along with such later notables

as DeLee, Preble, Edwards, Walls, Eisendrath and Schroeder. His autobiography, *Baby Doctor*, supplies some interesting sidelights on the School and students of his day. Later characteristics of energy and initiative were foretold when he and two others improvised a laboratory, in a closet under the college amphitheater, and learned bacteriological techniques by themselves, since only didactic instruction on this subject was then offered. During the



Isaac A. Abt

academic year he assisted the physicians in the college dispensary, and served as the drug clerk there. Vacations were spent reading medicine in the offices of two physicians.

An internship followed at Michael Reese Hospital, where the young doctor found time to prepare and publish a paper on a series of well-correlated clinical cases. As the year progressed, the ambitious intern found his interest turning toward the diseases of children, which field he recognized as constituting a gap in medical knowledge. Encouragement was not forthcoming from the older physicians, who held that pediatrics belonged to the general practitioner and that there was no future in it as a specialty. Yet there were some competent children's specialists in the United States,

even though the outstanding ones could be counted easily on the fingers of one hand. Hence Abt concluded that there was need and opportunity for more. Europe represented the fountain-head of pediatric thought and instruction; so, in the autumn of 1892, he set out for a period of study under pediatric leaders at Vienna, Berlin and London. After eighteen months of exhilarating experiences, he returned to America in the winter of 1894, full of enthusiasm and new knowledge, and determined to overcome prejudices, dispel ignorance and blaze new paths.

Now 24 years of age, Dr. Abt equipped an office, over a drug-store at Thirty-Fifth Street and Indiana Avenue, and prepared for an uphill struggle. Actually, the office and reception room were part of a five-room flat in which he also lived. Private practice in his specialty made slow progress against the prevailing ignorance of the limitations of the family doctor in this field. But there was much to be done among the dispensaries, and he took on jobs as District County Physician and Health Inspector. In 1895 the young practitioner administered successfully, to a desperately sick baby, the first diphtheria antitoxin to be given in Chicago. Slowly more and more private homes opened to him until, in the early years of the new century, his reputation was such that serious or obscure illnesses were not thought to have received expert opinion or care except from him. Pioneer work in pyuria, demonstrating the presence of colon bacillus, brought additional renown. Consultations became an increasing factor in his practice, and demands came from all parts of the Middle West.

Early in his career Dr. Abt sought to prevent disease by attacking its sources. A crusade for pure milk was instrumental in bringing the dairy industry under legal control, and in establishing the Infant Welfare Society. A key speech in this campaign, delivered against a hostile audience, brought out an important quality. Although gentle and soft-spoken by nature, when aroused on matters of conviction his calm but earnestly forceful delivery exerted great influence on listeners. The effect was heightened by his obvious knowledge of facts, presented in precise and logical sequence, and his convincing sincerity.

Soon after returning from abroad, Dr. Abt was appointed as Assistant in Pediatrics at Northwestern, and also Instructor in Physiology and Histology. In the latter post he was delegated to

create the first physiological laboratory, with required work by students. When he had advanced to Instructor in Pediatrics in 1896, and had then held that post for six years, the professorship became vacant. It was natural for Abt to expect that his special training and conscientious service in the clinics would be rewarded, but the chair was given to a classmate who had been teaching other things and had never concerned himself in this field. The decision was an administrative blunder, incredible in its bias and stupidity, and entailing an incalculable loss to the School which only a fortunate circumstance retrieved.

Naturally crushed in spirit, Dr. Abt resigned and accepted a position at Rush Medical College as Associate Professor, which appointment continued from 1902 to 1908. By this time Dr. Edwards had replaced the younger Davis as Dean, and the next year Abt was invited to return to occupy the professorial chair in Pediatrics. It so happened that a children's hospital in conjunction with Michael Reese was in the planning stage at this time. The two opportunities, plus vindication of the earlier snub, were irresistible. Accepting the offer, Abt continued in the post from 1909 until 1939 when, in his seventy-second year, he assumed emeritus status. At the turn of the century (1897-1901) he was Professor of the Diseases of Children at the Woman's Medical College, resigning just before the school was jettisoned by Northwestern University (p. 120-1).

Although Dr. Abt held various hospital appointments as attending physician, his main work for many years was done at Michael Reese Hospital. In 1910 Mr. Edward Morris consulted him about a children's hospital that the Nelson Morris family wished to build as a memorial to their mother. Dr. Abt advised that it be made a unit of Michael Reese, and he visited Europe to perfect ideas on construction and facilities. When finished, it was the best children's hospital of that time in America. As the head of the Sarah Morris Children's Hospital he gathered an able staff about him, and for the next thirteen years it became an important center for postgraduate instruction. But as a unit of the general hospital, it was subject to policies and administration that he came to feel were not consistent with the welfare of sick babies. Cumulative incidents that outraged his ideals led to a regretful resignation in 1925, and intensified his conviction that a children's hospital should be entirely independent of any general hospital.

Joining St. Luke's Hospital, Dr. Abt remained there until 1932, when he was made attending physician at Passavant Memorial Hospital and consultant at Children's Memorial Hospital. At the latter institution he found a physical plant, a clinical and nursing staff, and an administration that seemed nearly perfect. Here he was able to negotiate a teaching affiliation between the Hospital and the Medical School. A dream of an Isaac Arthur Abt Hospital on the Chicago Campus went as far as the blueprint stage, but these plans blew away in the financial hurricane of 1929. Money given by his uncles as a nucleus for a building fund, together with other gifts from friends on his seventieth birthday, totaled more than \$100,000. It was turned into a fund to be used in pediatric research at the Medical School. Active practice was not abandoned until 1946, when Abt retired from the Passavant staff.

Although by nature a mild, kindly and gracious man, Dr. Abt could be firm and, on matters of principle, courageously insistent. His ability for quiet but forceful leadership brought him many high offices. For sixteen years he was a member of the House of Delegates of the American Medical Association, and chairman of the Section on the Diseases of Children in 1911. He became President of the following organizations: American Pediatric Society (1926); Chicago Medical Society (1927); American Academy of Pediatrics (1930); Institute of Medicine of Chicago (1932); American Association of Teachers of the Diseases of Children; Children's Hospital Society; Chicago Pediatric Society; and Central States Pediatric Society. He was made an honorary member of the German Pediatric Society and of the Minnesota Chapter of Alpha Omega Alpha. He became a Chevalier of the Legion of Honor of France in 1927, and received the Distinguished Service Award of the American Medical Association in 1948. The honorary degree of Doctor of Science was conferred by Northwestern University in 1931.

In 1897 Dr. Abt married Lena Rosenberg, who was then a nurse at Michael Reese Hospital. She became a staunch ally in his campaigns for preventive medicine and organized the Women's Board at the Hospital. Prominent physicians of Europe and this country were often guests in their home, and Chicago physicians would be invited to meet them. For some years a Study Club of representative scientists and clinicians met semimonthly to monthly in the

hospitable Abt home, and those in attendance were charmed with Mrs. Abt's delightful personality and her versatility as a prandial hostess. There were two children, both boys, of this marriage; the elder, Arthur F., became a well-known pediatrician in his own right.

Dr. Abt was a profound student, working with tireless energy in his immense library, which afforded him access to information on a wide range of sources — from current literature to specialized monographs. Among his written contributions were: a translation of Hecker's *Atlas of the Diseases of Children* (1907); *The Baby's Food* (1917); *Yearbook on Pediatrics* (1902-43); *A System of Pediatrics* (1925); *Baby Doctor* (1944). One of his greatest achievements was the eight-volume *Pediatrics* which was started in 1914, changed by the first World War from an international collaboration to one in which 147 American contributors participated, and reached final publication in 1925. Among his devised contrivances were incubators for premature babies, and a motor driven breast pump. Perhaps no other American pediatrician was as well known and highly esteemed throughout the world.

Since he was a student at heart, Dr. Abt took teaching seriously. In his early days at the dispensaries and clinics he gave many students and interns their first concepts of what informed care and treatment of children could accomplish. His stimulating lectures and clinics were well presented and always showed evidence of scholarly preparation. His manner was dignified and somewhat formal, whether before classes or in personal relations with students, interns and nurses. An implied demand of respectful attention followed the pattern of a European professor, but was not an affectation. He trained scores of pediatricians, among whom may be mentioned Joseph Brennerman, Julius Hess, Clifford Grulee, Robert Black and Stanley Gibson.

Physically Dr. Abt was short in stature, with a round, balding head. His twinkling eyes and soft speech betokened friendliness, which effect a cropped mustache over full lips did not lessen. A neat bow tie was so habitual that he could scarcely be envisioned otherwise. He was somewhat shy with strangers and his manner was humble. Yet, with a gentle and restrained deportment went innate dignity.

Dr. Abt's long life-span coincided with the growth of American pediatrics almost from its beginnings. During sixty years of this

period of amazing scientific progress, he had ever been a leader. To many he had come to be a living link with a past whose conditions seemed unreal and scarcely believable. Yet his energy and sense of responsibility were such that fifty years after he took the first examination ever to be given for candidates to the attending staff of County Hospital, he was grading the papers of current aspirants far into the night. Within a month of attaining his eighty-eighth year, Dr. Abt died on November 22, 1955, of a coronary thrombosis, preceded by a malignancy of the tongue. Dr. A. H. Parmelee wrote:

Dr. Abt was a remarkable example of great accomplishment and distinguished leadership in American pediatrics. He was outstanding as a clinician, teacher, scholar and humanitarian . . . The characteristics we remember are his tireless energy, his broad knowledge of pediatrics, his ability as a teacher, his scholarly attainments, his humanitarianism, and, above all, his gentle, modest and lovable personality.

JOSEPH BOLIVAR DELEE, A.M., M.D.
Obstetrician: 1869-1942

Joseph B. DeLee's parents were Polish immigrants, whose original family name is unknown. His father was a dry goods merchant. Joseph, the ninth of ten children, was born in Cold Spring, New York, on October 28, 1869. His father hoped that this son would become a rabbi, and for a time it seemed that he might. The disappointed father was not reconciled to his son's choice of profession until, at the age of 28, he announced that he was about to become a professor. The selection of a medical career was made after finishing high school and spending a summer as an electrician's helper. This trade, though renounced, was a logical sequence to his school-boy, odd-time enterprise of repairing and installing door bells and wiring gas fixtures. The latter avocation was to be continued even into his medical schooling as a necessary means of helping finance an education. Another side-employment of medical-student days, whose full implications he did not then comprehend, was acting as the chief medical attendant at what proved to be an illegal baby farm.

In 1888 Joseph began the study of medicine at Northwestern and

found himself in the company of a group of ambitious young men, such as Isaac Abt, Arthur Edwards, Robert Preble and others, who were also destined to become famous, and who would soon be faculty colleagues. As a student he was serious and dignified, never becoming especially intimate with any classmate. The teacher who exerted a profound and lasting influence on young DeLee was the brilliant Professor Jaggard, one of the first scientific obstetricians of the country, whose disciple he became and whose teaching tech-



Joseph B. DeLee

niques he copied. At graduation DeLee was better prepared for this specialty than most students of his day because he had watched two deliveries, even though he did so though through opera glasses from a high seat in the amphitheater.

The new doctor graduated with honors, having won the Davis Prize for the best thesis in the last year when such a graduation requirement would still be in effect. He also placed second (to future Dean Arthur Edwards' first) in the competitive examination for an internship at Cook County Hospital. Here he had the opportunity to deliver 28 women and attend some twenty others. It was at this time that he determined to combat the indifference of the medical

profession to obstetrics as a worthy specialty, and he soon set as his ideal: "... raising the standards of teaching and practice in obstetrics." After a season of teaching dental anatomy and acting as surgeon in the Michael Reese Dispensary, DeLee spent the year of 1893-94 chiefly in Vienna, with a lesser time in Berlin and Paris. Back in America, and not yet 24 years old, he hung out his shingle at Michigan Avenue and Twenty-Second Street (now Cermak Road).

Dr. DeLee was eager to start a home obstetrical service, but his first attempt at this, in connection with the South Side Dispensary, was a complete failure (p.197). Undaunted, he managed to organize the Chicago Lying-in Dispensary in four rooms in the Ghetto, at Maxwell Street and Newberry Avenue (p. 393 *ff.*). Opening for patronage in February, 1895, it cared for 204 deliveries in the first year; also 52 Northwestern students and twelve physicians had received instruction there in the same period. The next step was to found the Chicago Lying-in Hospital where deliveries other than in the home could be made. This was accomplished in 1899 by converting a large house on Ashland Avenue to the purpose. Yet its capacity was limited to nine mothers, and a more permanent home was sought. In 1906 a site for a new hospital at Fifty-First Street and Vincennes Avenue was bought, but the complete hospital, with more than 100 beds, was not erected until 1917.

Neither the project of the Hospital nor of the Dispensary ended as Dr. DeLee wished. What he thought was to be a simple affiliation with the University of Chicago got out of control and the Hospital became a mere appendage of the University, with little but its name retained. This was the bitterest disappointment of his life. The Directors of the Lying-in Hospital also acted to close the Dispensary and transfer its activities to the newly absorbed Hospital. In a counter-move, DeLee tried to get Northwestern to take it over, but the time was during the depth of the Depression. Finally a new plan evolved through which a complete reorganization created the Chicago Maternity Center, independent of all other institutions except through contractual arrangements to teach students and nurses. Ultimately, however, this Center did become affiliated with Northwestern as a part of its Women's Hospital complex (p. 395). Also DeLee suffered disappointment in the failure of his Great Plan to materialize in his lifetime. This was to extend the work of the

Lying-in Hospital on the South Side by creating similar institutions on the North- and West Sides, in conjunction with Northwestern and Illinois, respectively.

DeLee's academic rise was meteoric. After a year each as Demonstrator and Lecturer in Obstetrics, came the premature and tragic death of his mentor, Professor Jaggard. This resulted in his taking charge of the Department in 1896 and becoming elevated three grades to the full professorship the following year. Thirty-two years later, when his plans for the future of the Lying-in Hospital finally went awry, he regretfully resigned from Northwestern in 1929 and followed the new Hospital to the University of Chicago. There he experienced progressive subordination and unhappiness, and entered into enforced academic retirement at the age of 65 years. Northwestern University conferred the honorary degree of Master of Arts upon him in 1906. He was made an honorary Fellow of the Edinburgh Obstetrical Society. He was President of the Chicago Gynecological Society in 1908, and was elected Vice-President of the American Gynecological Society.

In 1904 DeLee prepared *Notes on Obstetrics* for his classes, and a year later was gratified to learn that the top six contestants in the obstetrical examination at the County Hospital had been users of these instructions. A first book, *Obstetrics for Nurses* (1904), proved immediately popular and passed through twelve editions before his death. The "big book," *Principles and Practice of Obstetrics* (1913), was aimed at the medical student and practitioner. The illustrations had been started in 1900, and the text in 1907. Original in concept and written with meticulous care, it was drawn from the stores of extensive personal experience. This treatise was considered by many in this country and abroad as the final authority on the subject. In the author's lifetime it advanced through seven editions, and still continues as a standard text under other supervision. Among teaching aids, the DeLee series of motion pictures on obstetrical subjects take high rank; they served to spread his teachings throughout the world. By 1928 five films on basic subjects had been finished, and others were in preparation. His four-reel film on low cervical Caesarian delivery was the first obstetrical subject to be done in sound. Written contributions to the medical literature number 75.

How many babies DeLee delivered in his extensive experience is

not known. He stopped counting when the number reached 8,000. At middle age, when fame was established, he charged fees ranging up to \$5,000 for a delivery. His justification was that the remuneration of a top obstetrician should not be less than that of a high-grade surgeon. He was correspondingly generous in the support of favorite projects. To his hospitals alone he gave more than \$200,000. To Northwestern came \$100,000, the income of which would be used in the Clinics for prenatal and postnatal care. A \$10,000 fund was also established, the income to be used for medical education by the Department of Medicine.

In personal appearance Dr. DeLee was arresting. A tall, slender and erect figure was set off by a notable head. A sallow complexion was accented by dark, bright eyes and put into contrast by a full head of whitening hair, a mustache and pointed beard. To these was added his habitual trade-mark, a white pique four-in-hand tie. Here, one would unhesitatingly conclude, is a professional man with old-school dignity. There was a quickness of gesture and an incisive speech that ran company with an alert mind. A British colleague said: "He conveyed an indefinable sense of elation, and there were few who did not come under his spell. He lived for obstetrics, and obstetrics gave him his driving force."

DeLee was a confident man, self-assertive and egocentric, but possibly unaware of these traits. Rabbi Mann saw him as modest, but not self-effacing — a combination of perfectionist, hermit and student — and with amazing faith. He was an individualist who strove to develop to the utmost those skills and abilities that would perfect his professional attainments, and disseminate the teachings that he was convinced were correct. He was by nature hostile to mediocrity, and so set perfection as his goal. His reputation for sound judgment, outstanding craftsmanship and originality of thought and action was well earned. He had high ideals and was intensely true to those set up as personal standards. To realize those ideals, he gave of himself and his purse selflessly and without stint.

Defects that led to unhappiness, and some defeats in DeLee's dealings with individuals, were his limited sense of humor, and both an inability to compromise and a complete impatience with the concept of compromise. Conciliation with those he opposed was foreign to his nature. Stubborn, when he believed himself to be in the right, he could be hard and unkind to those attempting to obstruct his

path. As an obstetrician he was a master craftsman with a vast store of sound clinical experience, rather than a working scientist; a great artist, though temperamental. A visiting European authority said: "To watch him conduct a delivery was an unforgettable experience."

This perfectionist and controversialist, who never smoked, drank or married, died on April 2, 1942, in his seventy-third year. Modern obstetrics, the obstetrics of DeLee built on the basis furnished by Professors Jaggard and Bumm, outdistanced the practices of a previous generation as did Lister's surgery and Pasteur's bacteriology. He was the great humanitarian who set new standards in the teaching and practice of obstetrics, and who fought with consecrated devotion for the safety of mother and child at childbirth. The Chief of Staff, who was placed over him at the new Hospital, wrote:

A feeling of loss pervades his surroundings, but with it there lives a memory of his great service to his profession and mankind. . . . This man dies, but his influence marches on through decades by his personal contacts, writings and visual education. He was a star of the first magnitude in the obstetric heavens and only death has dimmed the brilliancy which will continue to illumine the atmosphere of his profession.

Rabbi Mann, at the funeral service, spoke words with which all the world could agree: "Know ye that a prince and a great man has fallen this day in Israel."

STEPHEN WALTER RANSON, M.S.,

PH.D., M.D.

Anatomist: 1880-1942

S. Walter Ranson was born August 28, 1880, at Dodge Center, Minnesota, the youngest of six children. His father was a physician, and three of the children followed in his steps. Walter entered the State University with the intent of becoming a psychologist, as had an older sister. With characteristic acumen he saw the need of a thorough grounding in the structure of the nervous system, and so came under the inspiring influence of Professor J. B. Johnston. The

young student soon found his enthusiasm shifting to neurology, and a laboratory was improvised in the family barn, where experiments were carried out during summer vacations. This work brought the tyro into contact with Professor H. H. Donaldson's book on the nervous system, and he transferred to the University of Chicago in



S. Walter Ranson

order to study under this authority. A course of neurological training led to the degrees of M.S. in 1903, and Ph.D. in 1905.

At this juncture Ranson decided to continue with the regular medical curriculum, and hence completed the clinical years at Rush Medical College, the affiliated school of the University, in 1907. Following an internship at Cook County Hospital, an office was opened for practice on the South Side of Chicago. At the same time a subsistence arrangement was made by which Ranson became a part-time Associate in Anatomy with Professor Arthur W. Meyer, who had just come to Northwestern as Professor of Anatomy. Any lingering thoughts of a clinical career were abandoned one year later, when Dr. Meyer resigned and recommended his young helper as his eventual successor. The University followed this advice and first advanced Ranson to an assistant professorship in 1909. It was

then decided that, to prepare him further for his duties, a year of foreign study would be beneficial. Accordingly, he was promoted to an associate professorship, and the year 1910-11 was spent in Professor Wiedersheim's laboratory at Freiburg.

Returning from the foreign year, Dr. Ranson became, in 1911, Professor of Anatomy and Chairman of the Department of Anatomy. This was a bold move on the part of the University, since it necessitated promoting a young man over an older and well-qualified teacher in the Department. This post was held for thirteen years until, in 1924, he resigned to accept an offer from Washington University. At the time this new position seemed attractive, despite the fact that the Ward gift for a new building and its endowment had already been made. Less than four years later, at the instigation of the present writer, Northwestern made a proposal which involved the setting up of a research institute according to ideas that had been formulating in Ranson's ever-progressive mind. It was a challenge that he could not resist, and the financial outlay on the Institute of Neurology in the next fourteen years of Ranson's life probably brought greater international renown to the University than any other proportionate expenditure in its history.

The academic labors of Dr. Ranson's lifetime were divided between teaching, administration and research. From 1908 to 1915 he taught gross anatomy solely. Not until 1915 did he begin to instruct in neurology, but thereafter this subject became the principal object of his teaching attention, until his formal pedagogical career came to an end in 1927. As a teacher, Ranson was conscientious, informative and sound. His lectures were carefully prepared, skillfully organized and well chosen as to subject matter. His speaking style was matter-of-fact, and somewhat lacking in spontaneity and ease. Although striving earnestly to improve in this regard, he never attained a dynamic platform delivery. More effective was his individual instruction in the laboratory, where his courteous and sympathetic manner, eagerness to be of help, and eminent fairness made a perfect foil to an insistence on high standards of accurate observation and straight thinking.

Although the force of Dr. Ranson's quiet personality and scientific eminence left an indelible imprint on a generation of medical students who sat under him, far broader in pedagogical influence was his textbook, *The Anatomy of the Nervous System*. Before its

advent there was no suitable student text in this subject, and recourse had to be made to the chapters included in works on gross anatomy. Its preparation was begun in 1917, after only two years of experience in teaching the subject, yet it was outlined and written with sureness and speed. It is a fine tribute to the author's judgment that this pioneer text continued into its tenth edition without fundamental alteration in plan or presentation and still remained a leader in its field.

As an administrator and director of laboratories, Dr. Ranson had gifts of a high order. His natural flair for quiet leadership, deep sense of responsibility, infectious enthusiasm, integrity of character, unswerving reliability, purity of ideals, transparent honesty, innate fairness and sympathetic friendliness inspired a multitude of colleagues, graduate students and subordinates to regard him with loyalty, esteem and devotion. He had the ability to make the utmost of what was available in facilities and funds. It would be difficult to match his effective management on the basis of income and output. One objective was ever foremost, and that was efficient production; he drove himself without stint and demanded the same unsparing application from others. Ranson was a keen judge of human nature, and was unusually successful in selecting the proper person for any post in a closely-knit organization that also required compatibility and team-work. Through his success in these several areas, the reputation of the Institute rapidly gained world-wide recognition and attracted students from many lands. The number of teachers, investigators and clinicians whom Ranson trained during his total career constituted, in itself, an impressive memorial. Of the actual scientific grist of the Institute, the fourteen annual volumes of publications speak most eloquently. High in quality, as in quantity, they represent the yield of what a competent judge has characterized as "one of the most productive schools of neurology that has ever existed."

The dominating interest in Dr. Ranson's intellectual life was research. It began while he was yet an immature college student, and grew in intensity with the years. It was his spoken conviction that research brings the highest degree of intellectual exhilaration and satisfaction that the human mind is capable of achieving. It was, therefore, with unconcealed enthusiasm that he welcomed the opportunity to abandon routine teaching and limit his labors to the

field of neurological investigation. So great was his zeal, that he had hoped to continue actively in research long after official retirement would be forced upon him.

Dr. Ranson's scientific achievements did not follow the curve that is usually correlated with age. Throughout his life he continually increased in scientific stature, and his later years deservedly brought him his greatest fame. He was always eager to make use of new techniques, and equally ready to enlist the co-operation of those who had special qualifications beyond his own. A great part of his later successes was due to this ability of devising a careful program of action and then delegating portions of its execution to trusted lieutenants. Ranson was a passionate searcher for truth, was highly critical in evaluating evidence and extremely cautious in drawing conclusions. In such an atmosphere of thoroughness, freedom in questioning and criticizing was encouraged. But the subordinate who took on his Chief in argument had to be prepared for a battle royal or be doomed to ignominious defeat, for he was a fair but relentless antagonist.

A bibliography of Dr. Ranson's publications contains 214 titles, 150 of which date from 1928 when he organized his Institute at Northwestern. Early morphological interests soon shifted into studies that dealt with functional interpretations of structural backgrounds and had significant clinical implications. Yet even to the end he was ready to engage in long investigations of pure morphology if these were necessary to illuminate dusky functional mechanisms. That he was the outstanding exponent of a definite school of combined neuroanatomy and neurophysiology is scarcely subject to question. This propensity is illustrated in two samples from his many fields of endeavor: one was the original demonstration of unmyelinated nerve fibers in sensory nerves, and their relation to the sensation of pain; the second was a succession of publications on the hypothalamus, and its various relations, activities and clinical implications.

Many honors came to Dr. Ranson. Among the societies of which he was a member, he was President of the American Association of Anatomists in the 1938-40 years, and served on the editorial board of the *Archives of Neurology and Psychiatry*. In 1929 the annual Stephen Walter Ranson Lectureship was established in his honor by the Northwestern chapter of his medical fraternity. Among the

invitational lectures delivered by him before learned bodies were: the Weir Mitchell Oration (1934); the Harvey Lecture (1936); the Dunham Lectures (1940); and the Hughlings Jackson Lecture (1941). To him was dedicated the imposing volume on *The Hypothalamus and Central Levels of Autonomic Function*, assembled from a symposium held at the 1939 meeting of the Association for Research in Nervous and Mental Disease. In 1940 he received the highest scientific accolade in America — membership in the National Academy of Sciences.

Dr. Ranson was by nature dignified, yet unassuming, and of serious demeanor. He was not interested in social activities of a formal nature, and still less so in promoting himself by such means. Although somewhat reserved before strangers, he enjoyed thoroughly the companionship of well-trying friends and fellow workers. None who knew him intimately could doubt the genuineness of his interest in their welfare or the quiet, yet sincere, cordiality of his greeting and intercourse. As a modest man he disliked bombast and sham, and his keen perception was quick to see through those who were pretentious beyond merit. Although his interests ran deep in certain subjects outside his professional field, and especially so in current affairs, they were not notably wide-ranging. Most of his energy was conserved toward the use of the working day, and his evenings were dedicated largely to the quiet enjoyment of his family.

In physical characteristics Dr. Ranson was well proportioned and above average stature. His features were nicely molded to produce a handsome appearance. Dark hair, parted well to one side, a high, broad forehead, brown eyes, a well-shaped nose and a full, sensitive mouth set off a somewhat pentagonal face. In August, 1909, Dr. Ranson married Tessie Grier Rowland; there were three children of this marriage, one a graduate of this Medical School. A gastric ulcer of some twenty years' standing gave much trouble in the last ten years of his life. In September, 1941, Dr. Ranson suffered a coronary attack from which he slowly made a partial recovery, but a recurrence on August 30, 1942, brought a fatal termination almost instantly. He had just passed his sixty-second birthday. The same malady had caused the death of his father and grandfather. At the funeral service Dean J. R. Miller said, in tribute:

. . . And, lastly, I speak for all mankind and for those who are to follow through the ages in expressing our gratefulness for what this Great Man has given us. For Walter Ranson was a great man. Few of us here have had an opportunity to know one of his stature. Few whose name will live a thousand years — aye more; for so long as civilization exists, as long as Man reads the printed word, so long as science continues to light the way to a better world, the works of Ranson shall serve as basal blocks on which to build.

An obituary, prepared for the Anatomical Society of which he had served as President, ended with the simple words: "A great and a good man has passed from among us."

FRANK BILLINGS, M.S., M.D., SC.D.,
LL.D.

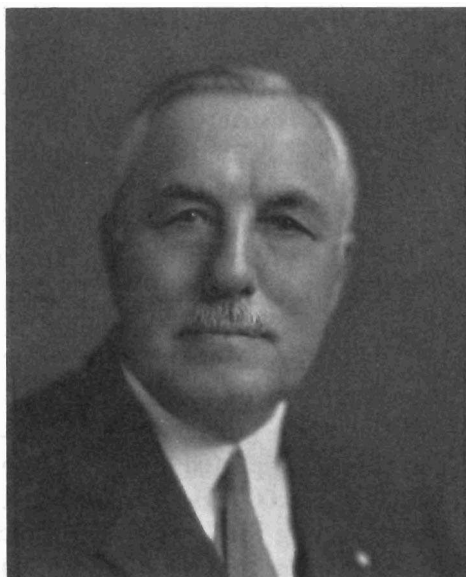
Internist: 1854-1932

Frank Billings was born near Highland, Wisconsin, on April 2, 1854, the fifth of seven children. He was an eighth-generation American. His father, a surveyor and farmer, died when Frank was eight years old. Until reaching manhood, the youth worked on his mother's farm and as a hired hand for neighbors, or hauled lead ore from the mines of the region. Country school was attended during the winters, and for a time classes were pursued at the Platteville Normal School. From 1873 to 1876 he taught, first in a district school and then in a high school. Working in a drug store evenings and vacation time, while teaching, kindled an interest in medicine that was furthered by a physician who acted as preceptor and encouraged his reading of medical books. With enough money at hand to make a start, Frank entered the Chicago Medical College at the age of 24, and later earned his way by tutoring. He graduated in 1881 and easily gained an internship at Cook County Hospital by making first place in the competitive oral examination.

The practice of medicine was then started by Billings in an office over a drug store at Jackson and State Streets, where he also slept and ate. During these early years, 1882-85, he acted as Demonstrator of Anatomy at Northwestern. It seems certain that his driving energy must have provided adequate subjects for dissection;

tales have been told of some of his picturesque exploits. It is also said that he was active in rallying physicians to get the Anatomy Act of 1885 enacted (yet Hosmer Johnson was far more influential in aiding this cause; p. 311).

Dr. Fenger encouraged Billings to tap the greater medical resources of Europe, so he spent some fifteen months of 1885-86 chiefly in the clinics of Vienna; yet Paris and London were also visited. This valuable experience was destined not only to enlighten



Frank Billings

the young physician, but also to influence secondarily the conduct of diagnosis and the practice of clinical medicine throughout Chicago and beyond (p. 126). Having engaged in bacteriological experimentation while abroad, he brought back equipment for this purpose, cultured pathogenic bacteria and demonstrated tubercle bacteria in sputum at society meetings. When the American Medical Association soon met in Chicago in 1887, he was invited to exhibit cultures of all known pathogenic bacteria for the instruction of the members.

On resuming his Chicago practice, Dr. Billings was made Lecturer of Physical Diagnosis at the Medical School in 1886,

Professor of Physical Diagnosis and Clinical Medicine in 1887, and Professor of the Principles and Practice of Medicine and of Clinical Medicine in 1892. From 1886 to 1896 he served as Secretary of the Faculty, which entailed also the duties of Registrar and Admissions Officer; all correspondence was conducted laboriously in longhand.

In 1888 Billings became a member of the attending staff at Mercy Hospital. Practice grew and came to include an amazing clientele among the first families of the city. The physician who ministered to the Armours, Pullmans, Fields and other leading citizens soon had to restrict his practice to office, hospital and consultation work. He rapidly became the leading medical consultant throughout the West. It was the Billings influence on patients that led to the establishment of the McCormick Institute for Infectious Diseases, the Durand Hospital, the Otho S. A. Sprague Institute, and the University of Chicago School of Medicine. Associated with the latter came the Bobs Roberts Memorial Hospital for Children, the Max Epstein Dispensary, the Albert Merritt Billings Hospital, the Frank Billings Clinic, the Billings Library, and the Lasker and Douglas Smith Foundations for Research. And this is not a full list!

Toward the end of the old century, Dr. Billings acted as spokesman for a group of younger men on the Faculty in appealing to the then President of Northwestern University for financial aid to the Medical School. The appeal supported a request from the Medical Faculty that the balance (\$26,000), still owed the University for funds advanced in constructing the Laboratory Building on Dearborn Street, be canceled in order that the Medical School might use its operating profits to improve the basic-science departments in keeping with the modern trend. As previously, the School was continuing to live on tuition fees alone, although the Faculty had been compelled to contribute generously from time to time for building projects. The President and Trustees gave no encouragement to this request, beyond suggesting that payments on the debt could be postponed for the present. In despair at the barren outlook, Billings resigned (1898).

The magnitude of this short-sighted, administrative blunder cannot be overestimated. Soon these policy-makers of the University had to learn that professional schools were not simple ornaments for which they assumed no responsibility, but that they must be subsidized if they were to continue to bring prestige to the Uni-

versity. But, in the meantime, Billings was gone beyond recall. Had he remained, one can only speculate on the different course that the history of the Medical School might have taken. The endowments, the hospitals and the institutes that the Billings influence brought to Rush and to the University of Chicago, and the more than a million dollars that he and the Billings family gave — might these have been directed toward his Alma Mater by a contented son? What might his strong leadership as Dean have accomplished in the young years of the twentieth century, in the light of the wonders that he wrought at another school?

In 1898 Rush Medical College became affiliated with the University of Chicago. Dr. Billings was invited to become Professor of Medicine, and accepted; two years later he was made Dean. For twenty years, until the time of World War I, he labored hard and long for the advancement of teaching and research at Rush and at Presbyterian Hospital. During this period these institutions prospered spectacularly. At the same time Billings held appointments at the University of Chicago, first as Professorial Lecturer (1901) and then as Professor of Medicine (1905). Although at the time of World War I he virtually laid aside for good his duties at the College and Hospital, he had already completed what turned out to be the most significant and productive years of his life. In 1920 he formally gave up work at Presbyterian Hospital and the deanship at Rush Medical College, while in 1924 he became Professor Emeritus at both Rush and the University of Chicago.

Meanwhile a campaign to build a hospital at the University of Chicago, and thereby to extend the preclinical years taken over from Rush in 1898, was spearheaded by Dr. Billings. The sum of \$5,300,000 was raised, including \$1,000,000 given by the Billings family. With the fruition of a full medical program at Chicago, it was advocated by him and others that Rush should transform into a center where graduate physicians would be trained for the specialties. But the Rush Faculty was unwilling to concur with this proposal; after litigation the affiliation was dissolved, and the College ceased to exist as such. This outcome was a matter of deep regret to Billings, and offset to a degree his pride and satisfaction in the success of the University of Chicago venture. It is only natural that he acquired a fabulous reputation as a successful beggar for his favorite enterprises. Rush Medical College, the University of

Chicago, and the Presbyterian, Billings and Provident Hospitals all benefited enormously from his magic ability to entice money from the rich.

During World War I, Dr. Billings was sent to Russia by President Wilson as chairman of a Red Cross Commission to survey needs, and to arrange for sending supplies of medicines and food. Thereafter he rose to the rank of Brigadier General in the Army, and was awarded the Distinguished Service Medal and the Order of Leopold of Belgium; somewhat later he was made an officer in the Legion of Honor of France.

In civic affairs Dr. Billings rendered notable service as chairman of the State Board of Charities from 1906 to 1912. He battled graft in all of the State hospitals and effected sweeping reorganizations, with the institution of a civil service system and the improvement of patient care. He overcame the opposition of entrenched politicians at Cook County Hospital and succeeded in placing appointments to the staff on a civil service basis. His success in providing a new hospital for Negroes and creating better conditions for the education of negro physicians and nurses was outstanding.

Dr. Billings was active in building various medical organizations, and assumed important roles in these and others, both local and national. He was President of the Chicago Medical Society (1890), American Medical Association (1902-04), Association of American Physicians (1906), Institute of Medicine (1922), Congress of Physicians and Surgeons (1924) and others. It has been said, and not challenged, that only one other person did more in developing the American Medical Association to the position it occupies today in medical affairs. His advocacy of higher standards in medical education, and his condemnation of false claims and misleading advertising of drugs and patent medicines were instrumental in fixing the aims of the Association and making it one of the most powerful organizations of its kind in the world. More directly these stands led to the creation of the important Councils on Medical Education and on Pharmacy and Chemistry.

Dr. Billings was an extremely busy practitioner of medicine, and the many other things that he did were, in a sense, secondary to his vocation. The secret of his varied and remarkable achievements was intensive and systematic hard work. Nevertheless, research did not become a part of his life for many years. Yet he consistently en-

couraged young investigators, obtained large funds to support research and, in the end, even created a school whose aim was to produce investigators. Personal, active participation in research began after fifty, when he engaged in a prolonged study of focal infections and established a new point of view concerning the source of obscure ailments. As an author he published the Billings-Forscheimer *System of Therapeutics*. He received an honorary M.S. degree from Northwestern in 1890; an Sc.D. from Harvard (1915), the University of Wisconsin (1924), Northwestern (1926) and Chicago (1927); and an LL.D. from the University of Cincinnati (1924).

Physically Dr. Billings was a large-framed, muscular man. His head was notably large and topped with a heavy thatch of dark hair. A broad forehead surmounted widely spaced eyes and arching, heavy eyebrows. Prominent cheek bones, a broad mouth, mobile lips and a strong chin completed a commanding physiognomy.

Dr. Billings attacked all problems in a big way, cutting past trivialities to reach significant fundamentals. At times his conclusions appeared to be intuitive, but they were reached by a mind that saw things in correct perspective and proportions. He was a very human person, who was also a good companion — simple, genuine, affable, and with an infectious sense of humor. He radiated honesty, and his large body, strong face and self-confident manner invited, and gained, trust. Generous of his time and advice, he attracted and captured people. Yet he exhibited contradictions of character, was subject to strong likes and dislikes, and was at times liable to err; but he was always willing to admit his errors.

In May, 1887, within the year after returning from European study, Dr. Billings married Dane Ford Brawley, who died nine years later from nephritis contracted during pregnancy. This grievous loss was mitigated to a degree by the daughter, who became a source of happy companionship in the years that followed. On September 20, 1932, he died of an acute gastric hemorrhage. He was then past 78 years of age.

A disciple and associate, Dr. James B. Herrick, wrote:

He possessed a rare personality. . . . He was unaffected in dress, manner, and speech; was frank and outspoken. He had confidence in himself and in his cause. He was forceful, often aggressive. . . . He did

not cringe or fawn before wealth, title, or social position, nor did he shrink from poverty or ignorance. All patients were treated as human beings who were ill, and not alone as "cases." He was dynamic and grew. Because of this growth he sometimes, unconsciously, might today take a position opposed to that of a few years ago. He was kindly and sympathetic; helpfully generous of advice and of his means; optimistic; inspiring to all who came in contact with him. Many men owe their success to his example and encouragement. By contact with young men he kept youthful in spirit.

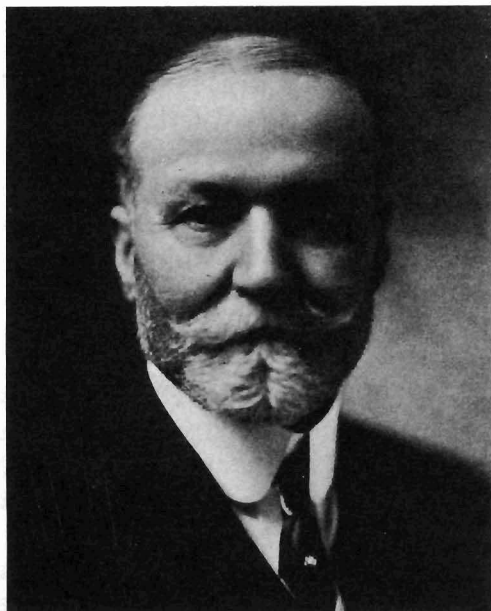
He had a genius for leadership. He was a shrewd reader of character and he knew how to handle men. His ability not alone to plan but to push plans through to materialization made him succeed where others failed. Had he chosen some other vocation than medicine he would have forged ahead, would have been president of a bank, a captain of industry, a leader at the bar, a statesman of national rank. He was always a leader; to follow was not in his make-up.

JOHN BENJAMIN MURPHY, A.M., M.S.,
M.D., LL.D.
Surgeon: 1857-1916

John Murphy, the son of Irish immigrants, was born in a log cabin on the outskirts of Appleton, Wisconsin, on December 21, 1857. He was the fifth in a succession of six children, only three of whom lived beyond their thirties. Elementary studies in the district school were followed by attendance in the high school at Appleton, four miles away, where he boarded during the school week. During the last year or two of schooling, John worked part time in the local drug store. Sometime during the high-school period he adopted the middle name of Benjamin, which seemed to add elegance to the plain "John Murphy" with which he had been christened. Before long, however, the given names were destined to be condensed to the initials "J. B.," and his signature would thereafter retain this abbreviated form.

With the high-school course finished in 1876, the youth took the state examination, qualified as a teacher and was assigned to the district school where he had sat as a pupil only four years previously. Here he taught two terms of the school year, and then decided that medicine was more inviting as a life work. So he began to

study with the doctor, beneath whose office he had worked previously as a druggist's assistant in Appleton. A year later the lanky, carrot-topped aspirant, still only nineteen years old, entered Rush Medical College. There he listened to the single set of medical lectures, heard them repeated the next year, and graduated with the class of 1879. Northwestern, which he had decided against, was requiring three graded years and longer annual sessions; the smaller cost is said to have been the decisive factor that led to the choosing of Rush.



John B. Murphy

The winning of first place in the competitive examination for Cook County Hospital opened the door to a year of clinical experience. Then a start was made in general practice on a partnership basis with Dr. Edward W. Lee who, as attending surgeon at the County Hospital, had sensed the intern's potentialities. Their office was at the corner of Halsted and Harrison Streets. After a year, this medical alliance was interrupted when Murphy, following Dr. Fenger's advice, spent eighteen months at postgraduate study in the

clinics of Vienna, Berlin and Heidelberg. Returning to his partnership in 1884, general practice was resumed, and it was not until the late Eighties that he felt his patronage to be such as to permit the establishing of an office by himself in the Loop, with a limitation of practice to surgery.

Academic rank began as a Lecturer in Surgery at Rush Medical College in 1884. An opportunity for advancement to a clinical professorship came from the College of Physicians and Surgeons in 1892, and was accepted. Christian Fenger resigned from the Northwestern Faculty in 1899 and Edmund Andrews retired in 1901. It has been said that Murphy hoped to become head of surgery at Northwestern when he first came there as Professor of Clinical Surgery in 1900. But the honor went to Weller Van Hook, and after five years Murphy accepted an invitation to return to Rush. His terms included the condition that he would become co-chairman of the department. This tenure, lasting only a few years, proved to be an unhappy experience, since he was not accepted fully by his colleagues, and his every move met with opposition. Soon dignified escape was afforded by the resignation of Dr. Van Hook, who had developed an absorbing interest in Theosophy. So Murphy returned gladly to Northwestern in 1908, this time as Professor of the Principles and Practice of Surgery and of Clinical Surgery, and also as Chairman of the Department of Surgery. In this post he remained until death, gaining his greatest national and international acclaim as a surgeon, as well as acquiring his fabulous reputation as a teacher.

For many years, beginning in 1895, Dr. Murphy was also Professor of Clinical Surgery at the Postgraduate Medical School. His first appointment at a private hospital (St. Joseph) came in 1892. Staff positions at this and other hospitals were abandoned or subordinated increasingly as his work concentrated at Mercy Hospital. Here he was chief of staff from 1895 until his death, and here he made his reputation as a world figure. For many years of his later life the names "Murphy" and "Mercy" were linked in the minds of surgeons.

On Dr. Fenger's advice, Murphy made himself into a general surgeon with the total body as his field. Endowed by nature for the work, he rapidly became a versatile and accomplished operator, combining scientific acumen, sound judgment and humane sanity

with technical skill of the highest order. He attempted new operative techniques on human patients only when they had been tested thoroughly in the laboratory and animal operating room, and had been rehearsed fully in the deadhouse. On occasion he could be daring, as when he successfully removed an embolus from the common iliac artery and restored the circulation.

Along with this practice of his art went experimentation and contributions to the advance of the specialty. Almost from the start of his career there was always a laboratory at hand. The first two were adapted in the barns of his residences on the West and South Sides. The third was in a room adjoining the dissecting laboratory at Northwestern. The fourth and last was essentially an office-suite, completed only two years before his death. It was originally a two-story building that the Medical School had erected adjacent to Mercy Hospital for a dispensary (p. 410). Purchasing this for \$20,000, he converted it into elaborate accommodations for the clinical activities of himself and associates.

Dr. Murphy possessed several qualities essential to a clinical investigator of the first rank: he was fertile in originating or adapting basic ideas, imaginative in their development, and tireless in working out procedures and then perfecting details. His 85 contributions to various fields of surgery were all significant, and several were so outstanding in their boldness, primacy and worth as to be reckoned among the classics of surgery. First of these was his performance of the initial operation in early acute appendicitis, his insistence on this as the proper procedure, and his making both the profession and the public so conscious of the danger in delay that the operation almost became minor surgery. Next was the metallic "Murphy button," devised for anastomosing hollow viscera without sutures, which opened wide the field of intestinal surgery. A method of suturing blood vessels resulted in the first end-to-end union of a severed artery; the method was a brilliant piece of pioneer work. Then he advocated the use of nitrogen to collapse and splint the abscessed tuberculous lung, an epochal presentation far in advance of its tardy adoption by the profession. He introduced the drip method of rectal, saline infusion as a part of his important concept of the treatment of peritonitis; this technique perhaps added the greatest luster to his fame at home and abroad. There followed studies on the surgery of the spinal cord and peripheral nerves that

helped lay the foundations for later neurosurgical practice. His last achievements were in the field of bone, joint and tendon surgery, and these advances were the greatest yet known; spectacular was his success in replacing bone with cartilage grafts and creating new articulations.

Among other notable contributions must be mentioned the thirty bimonthly volumes of the *Surgical Clinics of John B. Murphy*, which were eagerly awaited and read by thousands of physicians throughout the world. For a time he edited the *International Clinics*. Later, his broad vision and active participation were instrumental in founding the American College of Surgeons. Throughout his remaining life he acted as chief of the editorial staff of its journal, *Surgery, Gynecology and Obstetrics*. After death his memory was honored by the College through the erection of a magnificent building, with an auditorium, the John B. Murphy Memorial.

The quality of teaching by Dr. Murphy was so outstanding that the brothers Mayo and others pronounced him the greatest teacher of surgery of his time, and Sir Berkeley Moynihan declared him the best clinical teacher of surgery since Paré. His listeners and readers ranged from nurses to professors of surgery; as Dr. G. W. Crile said: "He taught the world."

The Murphy surgical clinics were staged as dramatic, and often feared, performances; yet the students learned and remembered. His tall, spare, gowned figure was commanding, but his shrill voice was a surprise and disappointment until it became forgotten in the unfolding presentation. A common method was to invite a student at random to come down into the pit and attempt the diagnosis, badgering him the while with questions, argument and a continuous "Why?" Impatient and intolerant of ignorance and stupidity, he would force the reasoning forward, eliminating the nonessentials and narrowing the evidence, until the suspense became very real throughout the amphitheater. At length the final key question would educe the climactic answer from the victim or a classmate, reduce the whole to an orderly story, and then the show was over — except for a quick summary, placing the whole in proper perspective, and the operation itself. The huge amphitheater at Mercy Hospital was a Mecca also for visiting physicians from the several States and from foreign countries. These especially were guests on

the days when students were not present. The daily average attendance numbered 150, and sometimes there was only standing room behind the 511 seats.

Despite his greatness in many particulars, Dr. Murphy had a singular ability to arouse envy, distrust and dislike. He was unpopular as a medical student, his monopolizing of class time by question and argument being interpreted as pure "show-off." Later, even colleagues in the same hospitals were not above spiteful whisperings. His scientific reports were alleged to suppress unfavorable cases. He was charged with being a social climber, a publicity seeker and a sensationalist. Certain it is that he had a talent for creating unfortunate publicity and headlines, and a positive genius for being misunderstood. Typical was his alleged "steal" of the wounded President Theodore Roosevelt presumably headed toward a hospital other than Mercy. On three occasions episodes such as this led to charges of unethical conduct being preferred against him before important medical societies.

To a degree some of the criticisms were valid, but in many instances the stories were distortions or fabrications. In truth, Murphy was a successful go-getter and a superior surgeon, who became the target of many small men and some great ones. That he was not liked by the doctors of his own city was made clear by their pettily denying him membership in the Chicago Medical Society until he was well along in his fifth decade of life and had already gained an international standing. Also, the exclusive American Surgical Association at first refused to elect him to membership after inviting him to come and address them, because some could not believe that his brilliant results, as reported to them, could be true! For his part, it was Murphy's studied policy not to fight back against gossip, denunciation or calumny. It is said that he spoke ill of no man, not even of his enemies. He was content, in terms of his favorite amphitheater phrase, to "let the record show."

Many honors were bestowed on Dr. Murphy. He was President of the Chicago Medical Society (1904), Chicago Surgical Society (1904), American Medical Association (1911) and the Clinical Congress of North America, held in London in 1914. He was made a life member of the Deutsche Gesellschaft für Chirurgie (1894), an honorary foreign member of the Société de Chirurgie de Paris (1894) and an honorary Fellow of the Royal College of Surgeons

(1913). The University of Notre Dame awarded him the Laetare Medal (1902). The honorary degree of Master of Arts was conferred by St. Ignatius College (1901), the degree of Master of Science by the University of Sheffield (1908), the degree of Doctor of Laws by the University of Illinois (1905) and the Catholic University of America (1915). In 1916 he was created a Knight Commander of the Order of St. Gregory the Great. Other distinctions came to him both at home and abroad.

There were wide differences of opinion in evaluating Dr. Murphy in regard to his personal and professional honesty, his motives, and his methods of conducting a practice and exhibiting surgery before the public. But none could assail successfully his skills, attainments and influence. Murphy was the foremost surgeon and teacher of his time. With driving ambition matching ceaseless industry, he went from triumph to triumph, ever the optimist and enthusiast who made his dreams come true. From out his laboratory and clinic came more new ideas and practical methods than from any other, and his total contributions to basic surgical thought and practice are astonishing. It was Murphy, above all others, who placed American surgery on a high plane abroad.

An obvious shortcoming was that he used his surgical assistants as mere technical helpers, bordering on drudges. By this he failed to develop them into great surgeons in their own right, and to create a succession of leaders in schools and hospitals. When he died, no distinctive school of surgery survived him, as was true of Fenger and, to a lesser degree, of Kanavel. In balancing the personal qualities of Murphy, his biographer, Dr. Loyal Davis, wrote:

There was good and bad in this man—and in abundance on both sides — but there were other things, too. There was great brilliance and downright stupidity; there was charm and the power to irritate; ambition, with all of ambition's ugliness as well as its beauty. He was merciless and tender at the same time, strong and weak, blind and all-seeing.

Dr. Murphy was tall and slender, blue-eyed and red-haired. A short, blond-red beard was parted at the chin and brushed to each side. Surmounting this was a sweeping moustache to match. A high, shrill voice was out of keeping with his dignified and compelling

presence. He was a man of unusual charm — a towering personality who had great poise and assurance. He was capable of keen humor, although essentially a sensitive and reserved egoist. As a young, dashing physician he, by good chance as a substitute, attended the typhoid illness of Jeannette C. Plamondon, the daughter of a wealthy and socially prominent family. She was ten years his junior and as popular as she was beautiful, yet in November, 1885, they married. A considerable factor in the Murphy success-story must be attributed to the stimulation, sympathy and capable aid that he received from this ambitious, devoted and charming woman. There were five children; three daughters lived past childhood and survived him.

Because of family history, Dr. Murphy had feared tuberculosis since the time of a suspected, but unproved, right-kidney ailment in his Vienna days; a later pulmonary scare prolonged this specter. Anginal attacks, dating from 1905, and originally interpreted as neuritis in the left shoulder and arm, were followed by long remissions, but in the winter of 1916 they became severe and incapacitating. Suddenly, on August 11, 1916, came a final, fatal attack. On autopsy the right kidney was found to be tiny, necrotic and showing evidence of a chronic, persistent infection. It was concluded that had the infected kidney been removed within a decade or two of his Vienna episode, the arteritis would have been prevented.

In his presidential address to the American Medical Association, Dr. Murphy described the path of the successful man, and it was the road that he, himself, chose: "Competency is attained and maintained only by zeal, indefatigable labor, and continued efforts in self-education. The responsibilities of his profession rest on the individual man . . . If he carries the weight with an erect figure, abiding dignity and a strong heart, it rides like a bubble."

Obituaries and encomiums were written in many medical journals, here and abroad. The editor of the *Annals of Surgery* doubly honored Northwestern by concluding that ". . . his name must be written in the glorious history of American surgery with that of the immortal Nicholas Senn." A famous French clinician wrote: "Well may he be to us the ideal American surgeon, whom we may all emulate, but never hope to equal." Dr. W. J. Mayo said, in part:

Possessing a brilliant surgical imagination, he early deviated from

the beaten paths and invaded new territory, and yet with such acumen that nothing which he originated has failed to live. Like those of the great musicians, his productions are still masterpieces; they mark epochs in surgical progress.

The American surgical profession has lost its leading spirit. In Dr. Murphy's death at the age of fifty-eight, well may we regret the twelve unfilled years which go to make up the allotted span of man. And yet, when we review what he had done, we freely acknowledge that even in the time the light lasted, he accomplished more than any other surgeon of this time.

JAMES STEWART JEWELL, A.M., M.D.
Neurologist, 1837-1884

Two Scotch-Irish families, forebears of James Stewart Jewell, are first identified as living in Northwest Pennsylvania, from which they migrated first to Tennessee and then to Southern Illinois in the region still known as "Little Egypt." Here John Jewell and Margaret Stewart were married, and within a week began a long wagon-journey that ended not far from Galena, Illinois. There a log house and some shelters for animals were built. John was amiable, but somewhat of an alcoholic and not a good manager as the head of a household. Hence the enlarging family was doomed to live in poverty, although not in actual want. Margaret was a strong character — deeply religious, of indomitable spirit and fond of learning. There were a few books among the meager household possessions, including Fox's "Book of Martyrs", a "History of the Jews" and the Bible.

On September 8, 1837, James was born, the first of eight children. He grew into a frail child, who his mother soon came to realize was endowed with an exceptional mind. At two years James knew his letters and at four years he could read. When old enough to help in the field, his mother would read to him during rest periods. Formal schooling was slight and sporadic. At six years an ungraded school was started nearby, and there he found that he could hold his own in reading and spelling among pupils ranging from five to twenty years of age. Unfortunately the school expired after a few months of classes, and there was no further opportunity

for schooling during the next ten years. But prodigious reading was done as the meager home-library became augmented by works on world history, natural history, geology, anthropology and translations of classical poetry.



James S. Jewell

In 1851, increasing difficulty in supporting a family of ten forced the parents to return to southern Illinois and settle about twelve miles from the town of Marion in Williamson County. Two years later a school was established some miles away. Here James, now sixteen years old, attended classes for a while, working at a nearby farm to pay for the keep of himself and a sister who also was a pupil. Nevertheless, after one short session and another lasting five months he had to return home because his help was needed there. His secondary schooling, totaling less than eighteen months, was ended. He later maintained that this contact with formal education had little influence on his mental development and methods of study. Obviously this was true, since he was essentially self-taught.

In 1855, at the age of eighteen, James registered as a medical student under the preceptorship of Dr. S. M. Mitchell of Corinth, also in Williamson County. Three years later he came to Chicago to com-

plete his medical training. He had already gained a smattering of Latin, but still wrote and spelled indifferently. On the other hand, he had an excellent understanding of anthropology, botany, geology and zoology; he was a good biblical scholar and eventually became one of the best of his time. On his arrival at Chicago James straightway took ten dollars from his slender hoard and joined the Chicago Academy of Sciences which was strongly supported by such leading physicians on the Chicago Medical College faculty as Nathan Smith Davis, Edmund Andrews and Hosmer A. Johnson. Promptly, in October of that year, he read a well-remembered paper there on "The Caves of Southern Illinois." One year later Charles Darwin published the epochal "Origin of the Species," and this book led the highly religious young Jewell to become an ardent anti-evolutionist. In fact, he prepared a manuscript for a book to combat the theory; it was never published, but he ever regarded Darwin as an atheist.

Jewell attended Rush Medical College during the session of 1858-59, taking the complete course of ungraded lectures. His ungainly appearance gave no hint of his true worth. Yet quickly both faculty and students came to realize that "his unpromising exterior concealed a mind of rare brilliance and uncommon attainments." At that period he was better informed than any member of the faculty in certain realms of learning. This was also the time when the Medical Department of Lind University was getting organized by current and recent defectors from the Rush faculty. Doubtless admiration for members in the founding group, the appeal of a new type of school and possibly, the 'stealing' of the sole teaching hospital in the city by that school were all factors in causing Jewell to transfer his allegiance to the unique, pioneer undertaking. He entered as a senior student and graduated in the first class (1860) at the age of twenty-three. At that initial Annual Commencement he delivered the valedictory address as the representative of his classmates. Four years later he would become one of the incorporators of the renamed College.

For two years Dr. Jewell practiced his profession back in Williamson County, and in the early period of the Civil War he became a contract surgeon in General Sherman's command. Returning to Chicago, Dr. Jewell filled the Chair of Anatomy from 1863 to 1869 at the now renamed Chicago Medical College. He

taught anatomy from the comparative standpoint, and centered his expositions about the nervous system as an axis of reference. Next followed a protracted period of travel in Italy, Palestine and Egypt, aimed at extending his knowledge of ancient history; this included biblical history since, as an avocation, he had conducted the largest Bible class in Evanston. On his return he wrote three unpublished volumes of travel which, strangely enough, include only one reference to anything medical.

Coming again to Chicago, in the year of the Great Fire (1871), Dr. Jewell re-entered medical practice, restricting his efforts to neurology and psychiatry, and especially to the former. For a year he gave a course of lectures on general pathology, but in 1872 the Chicago Medical College created a new chair for him — that of Nervous and Mental Diseases. This was the first in America to be devoted solely to the study and teaching of these subjects. His appointment continued until 1884 when failing health compelled retirement. For years he had also served as a general utility teacher, filling in for any absence that occurred in any subject. Similar versatility was shared by Dr. N. S. Davis and is a pointed commentary on the simplicity of medical lore at that period. In his varied teaching efforts, Dr. Jewell was admired as one of the most brilliant and fascinating lecturers of his time. Many said he was the best teacher they ever had. Yet one visitor at a summer course found him too fond of detail, and later prolix throughout life.

In January, 1874, Dr. Jewell took the lead in founding and editing *The Journal of Nervous and Mental Disease*, the first of its kind in the New World. This move required courage since the disastrous financial panic of 1873 was still raging. Editorially he proclaimed that “everything of real interest, especially if new, that will throw light on the anatomy, physiology, pathology or therapeutics of the nervous system is to be included within the scope of our Journal.” His editorship entailed an incredible amount of labor, and his editorial skills were both exemplary and successful. *The Journal* at once took rank with the foremost in any language, and Jewell’s name gained world recognition.

Contemporary clinicians did not regard Dr. Jewell highly as a general practitioner, believing that he lacked sound clinical sense; and there are some stories that seem to substantiate this judgment. Nevertheless, his examination of patients was meticulous and the

records of them outdid all others before his time; they were so voluminous that each made a small printed booklet. Many thousands of these were intended to become the basis of a book on nervous and mental diseases, but death came too soon. He once prepared a manuscript for a large volume on the perceptions, but an associate persuaded him not to publish it. Yet when only six years out of medical school, he did publish a book entitled "Cerebrospinal Meningitis."

Dr. Jewell had a breadth of vision, a depth of erudition and a scope of activity that accorded him outstanding national stature. He was involved in the foundation of the American Neurological Association in 1875, and he served four years as its first President. He was a Vice-President of the International Congress in that specialty held in Washington, D.C. Probably Dr. Jewell's knowledge of the literature on the nervous system exceeded that of any other in this country, at least. He was proud of his library, which reached about 4,000 volumes and was the most extensive in the West. It is now lodged in the John Crerar Library at Chicago. In 1869 Northwestern University awarded him the A.M. degree, said to be the first granted by that institution. A colleague wrote: "As a man of vast and varied learning, Dr. Jewell had few equals; his reading was simply prodigious. The best thoughts of the best thinkers were his daily food. He not only had marvelous powers of acquirement, but he was a profound thinker as well."

Dr. Jewell was described as "tall and angular, with a large head adorned with a shock of brindle hair; there were prominent gray eyes, and spindling legs; a man of ungainly appearance but rare brilliance." A kinder contemporary saw him as "tall and stately." His habitual attire included a 'claw-hammer' long coat, patterned after his teacher and later friend, Nathan Smith Davis. His hair was worn long and cut square at the neck. He had strong religious convictions, yet was not austere; although full of fun he rarely laughed, tending rather to chuckle. Opposite in this regard to the stern and sedate Dr. Davis, he liked to tease him without mercy. Apparently Jewell was the only one who dared to do this, and was the only one whom Davis would tolerate doing it. Dr. Jewell was versed in Latin, Greek and Hebrew. Additionally, he acquired a good reading ability in French, Italian and German.

The health of James S. Jewell declined perceptibly in 1880. In

1884 he resigned his professorship at the Medical College and retired to Florida where he studied the cerebral anatomy of birds. Struggling indominantly against ill health he returned to Chicago after two years and there founded the monthly *Neurological Review*, but this terminal attempt at editorship ceased after four issues had appeared. He died in his fiftieth year on April 18, 1887, of fibroid tuberculosis. With his passing went one of the most picturesque figures in the profession — a man who also left his mark on the rise and future history of American neurology. He was “a fascinating and complex personality, compounded of a Puritan hunger for righteousness, a passion for knowledge and a yearning for perfection and achievement.”

Professor John H. Hollister, a founder of the Medical College, a teacher of Jewell as a medical student, and a later colleague and friend wrote:

His loyalty to the Christian faith was intense and outspoken. His views on the harmony of science and religion are the most able that have found expression anywhere. In all his personal relations in life he was the soul of honor — a trusted friend, intensely loyal to all that was good. In that broad sense, in which but few men are included, he was a perfect gentleman. He was clear in his convictions, bold and outspoken in their expression, and yet so noble and so true that we doubt that in his entire lifetime he had a single enemy.

OTHER NOTABLES

There are numerous deceased Faculty members, other than Founders, Deans and 'Giants', who also became notable in their fields of specialization and attained national and even international acclaim. A single representative for each category has been selected, following consultation with current Departmental Chairmen. The years of service, appended to each name, correspond to his span of appointment to professorial rank. Obviously there can be disagreement over the selections made for such a limited list, but amplification into a larger listing would only lead to further differences of opinion:

- Anatomy* (B. J. Anson, 1930-62)
- Bacteriology* (F. R. Zeit, 1901-13)
- Biochemistry* (J. H. Long, 1882-1918)
- Dermatology* (J. Zeisler, 1890-1917)
- Gynecology* (A. H. Curtis, 1917-47)
- Materia Medica and Therapeutics* (W. E. Quine, 1871-83)
- Medical Jurisprudence* (A. Church, 1893-1913)
- Medicine* (N. C. Gilbert, 1925-48)
- Neurology* (L. J. Pollock, 1922-51)
- Nutrition and Metabolism* (T. D. Spies, 1947-60)
- Obstetrics* (W. W. Jaggard, 1884-96)
- Ophthalmology* (H. S. Gradle, 1894-1907)
- Orthopedic Surgery* (E. W. Ryerson, 1927-35)
- Otolaryngology* (J. G. Wilson, 1908-45)
- Pathology* (J. P. Simonds, 1913-46)
- Pediatrics* (J. Brennermann, 1918-21)
- Pharmacology* (H. M. McGuigan, 1910-17)
- Physical Diagnosis* (C. L. Mix, 1904-17)
- Physical Medicine* (J. S. Coulter, 1932-49)
- Physiology* (W. S. Hall, 1895-1919)
- Psychiatry* (H. T. Patrick, 1898-1919)
- Public Hygiene* (W. A. Evans, 1908-28)
- Radiology* (J. T. Case, 1915-47)
- Surgery* (A. B. Kanavel, 1917-38)
- Urology* (V. J. O'Connor, 1942-61)

Lightly lie the turf, ye gods, and void of weight on our grandsires' shades, and round their urn may the fragrant crocus bloom and eternal spring, who maintained that a teacher should have the place and honor of a revered parent.

JUVENAL

Epilogue

Nathan Smith Davis, living only to see the twentieth century begin, could never have envisaged the rapid development of medical education in the next seven decades. This incapability in no way reflects upon his familiarity with the history and progress of medical education in this country and the Old World. In these areas his grounding was both broad and deep. Unquestionably he would have been gratified, had he lived to see the progressive enlightenment of the public on matters of health, and its demand for physicians who could satisfy high standards of sound medical diagnosis and treatment. But these very demands exerted pressures on the Medical School, greater than any he had known. The development of the basic medical sciences, already begun in Davis' later years, was destined to continue far beyond any expectations he might have had; and in so doing, it was to supply fundamental applications important to diagnosis and treatment that would revolutionize the relatively empirical procedures of his generation. The expansion of laboratory techniques, both in medical practice and in research, as well as the pyramiding of clinical knowledge, would vastly increase the information necessary to the work of a competent physician in comparison to the relatively simple requirements that he knew.

From the start Davis had approved the association of the new Medical College with a University, and this early alliance was a forward step beyond the trend of the times. On the other hand, his later reluctance to yield completely to university control was less progressive. Yet it was perhaps natural, in view of the long negative record on the part of Northwestern to support its Medical School other than nominally, and because of his firm conviction that capable past performance by that largely independent School justified the retention of some prerogatives. In any event, the decision of the Trustees of the Chicago Medical College, in 1906, to sur-

render title and residual rights to Northwestern anticipated the important advice in the "Flexner report" that the medical schools of the country should be brought under the management of universities, which should then assume full responsibility for them. Throughout the nation this advance was not accomplished definitively until the period of 1910 to 1920.

Although ownership of a medical school is a source of rightful pride to each sponsoring university, the prestige gained has come to be an expensive luxury. In truth, the expanding costs of maintaining medical schools have frequently led to deep concern, inasmuch as the development of other university programs has been correspondingly restricted. Unfortunately, there is no easy solution to this dilemma if the university wishes to retain its relative position in the medical field. Financial support to the medical school cannot be reduced without lowering the quality of the education offered, and thereby entailing a loss in standing. The future demands for medical subsidy are bound to grow, rather than to remain stationary or decrease. These were matters that Davis did not live to see. At his death, the Trustees of the Chicago Medical College were still wavering over the alternatives of partial independence or complete ownership by the University. But the tide was already turning, and he would surely have soon foreseen the long-term disadvantage, if not hopelessness, of not shifting responsibilities onto the larger organization. The question of mounting costs, presently so vital, was not too worrisome in the Davis lifetime. It had always been solved satisfactorily by tuition adjustments and increasing enrollments. In fact, his School was still turning in good annual profits at the time of his death, and even for some years afterward. The imminent need of University support for mounting expenses and the role of income from endowments and governmental subsidy were matters that he had never experienced.

The functions of a medical school spread into three areas: first, supplying medical *education*; second, extending the boundaries of knowledge through the medium of sponsored *research*; and third, providing *services* by caring for the sick poor, and participating in programs designed to advance general health. Davis was ever an ardent proponent of all of these objectives; it would be chiefly the second one, research, that would now astound him by its immensity and its practical fruits. Admitting freely that these functions

remain at the legitimate aims and ends of all medical schools, Davis would undoubtedly inquire, were he to return today, how well are these functions being carried out in the School that he guided so long.

EDUCATION

The backbone of any education program is, of course, the faculty. Its quality and its genuine interest in medical education are far more important factors than any blueprint of procedure called a curriculum. Clearly the basic objectives in providing a medical education are to offer the student the opportunity to gain an understanding of the principles of the basic medical sciences — and especially to master the art of the experimental method — and to provide him with the further opportunity of extending these principles to the practical study of patients. The school affords certain experiences and stimulates incentives in ways that are not obtainable elsewhere. If a superior school, it also encourages students to develop their latent potentialities and aroused interests as far as possible. Assuming that these desirable ends are accomplished, graduates can be expected to possess the following technological attributes: a good grasp of basic principles; an ability to apply organized knowledge effectively to human ills, through the media of critical observation, analysis and synthesis; a spirit of scientific curiosity; the capability of adding something new to knowledge and understanding, and the sense of responsibility to do this.

Davis was an educator who took pride in being able to substitute at a moment's notice for any defaulting lecturer. Only in gross anatomy could he, returning, make a respectable showing today. Even in his teaching specialties, physiology and internal medicine, he would have to take a seat among the students and learn from the first the elements of modern knowledge in those fields. Yet there is no doubt how a man with his qualities would respond to the challenge of modern medicine, as presented now. In doing this, he would find the facilities for learning at his School adequate, and the opportunities for personal development far more than could be exhausted by anyone. He, who had pioneered in bringing the student

into the wards for required co-ordinate instruction, would revel in the present curriculum, in which didactic instruction goes hand-in-hand with clinical correlation and practical experience. The close relationship between affiliated hospitals and the School would be welcomed, as would the semicontrol. The faculty status of the full clinical staff would surely gain his approval.

How Davis would view the complexities inherent in the present clinical Faculty is problematical. With its number expanded from less than 100 in his final years to about 1,400 today, he would doubtless be temporarily dismayed at the thought of the mechanics involved administratively in utilizing such an unwieldy force, composed largely of unsalaried clinicians not subject to direct control. It seems probable that he would favor a smaller group, centered around representative nuclei of salaried staff members. The idea of pay for part-time and full-time clinical service rendered to the School would not bother him at all. Certainly, in his day Davis was not averse to sharing in operational profits distributed on a basis of lecture hours delivered. Actually, his "dividend" overtopped all others.

RESEARCH

The obligation of advancing present knowledge through investigation is a fundamental concept in university organization, and the medical school naturally shares in this responsibility. The ungraded type of school offered little to no opportunity for research, and the early graded school, with all subjects taught by practicing physicians, provided little more. What was done was essentially on an individual, self-propelled and self-financed basis. As the independent schools found haven in the universities, laboratories were organized in all of the basic medical sciences. This led to the selection of teachers with special training and competence, while their establishment on a full-time basis provided at once the opportunity for engaging in investigation.

In 1910, at the time of the "Flexner report" (p. 286), some of the stronger schools were supporting research and selecting their faculties with this in mind; to a degree, such was also true already of

Northwestern. The policy spread and then became dominant after World War I; especially was it prominent in the plan of organization of several medical colleges then undergoing development. As large supporting funds have become available from outside agencies, both private and Federal, the growth of expensively financed investigation within medical colleges has accelerated in breathtaking speed to the point where it may constitute more than two-thirds of the total budget.

In general, Davis would approve of all this, and take pride in the commendable output at Northwestern. He, himself, had pursued investigation and experimentation under primitively difficult conditions. Yet he might have some misgivings over the possible danger of universities and medical schools becoming too dependent on the liberality of outside grants. Such sponsored research focuses primarily on problems in which the public has currently been led to take interest and, indirectly, to finance. In this way some investigators tend to become regimented into doing things for which support can be found, rather than following the lines of first interest. The compulsion to report results to the grantor at stated intervals, and to defend the results obtained, has introduced an additional hazard to investigative freedom. It is an oversimplification to quote that "endowed cats catch no rats," yet the fact remains that such products as ACTH, cortisone, insulin and penicillin were discovered by curious men, eager and free to follow their inclinations, and not by beneficiaries of great foundations that were pouring large subsidies into investigations in the very fields where these specific products offer spectacular relief.

Nevertheless, certain hard practicalities have to be faced. The costs of maintaining medical education continue to mount steadily. Northwestern University can provide only minor help in underwriting the numerous projects in medical research that presently require nearly \$14,000,000 in outside financing each year. This aid is welcomed by the University even though its apportionment is not subject to University control, and too often reflects the circumscribed goals that individual grantors pursue. Yet the fact should not be disregarded that great corporations have found it has paid in the long run to give top-flight investigators their heads in pursuing fundamental research, without thought of finding a cure or an immediate commercial application. Were it feasible, this also

could be the better way, from a long-term viewpoint, in medical research.

SERVICE

Care of the needy sick and the providing of various services for the benefit of community health comprise the third function of the medical school. This would be familiar ground to Davis, who helped start dispensaries and hospitals, engaged in surmounting the sanitary problems of the city, and contributed large amounts of time and effort to local, state and national medical societies, as well as to journals and health programs. Even the modern idea of the Medical Center would not be wholly strange, since he had planned two different school buildings so situated as to adjoin physically and articulate functionally with a hospital. Moreover, he would feel highly gratified and complimented on learning how thoroughly the hospitals had come to accept his conviction that the introduction of teaching into the hospital was a double benefit, making also for improved care of the sick.

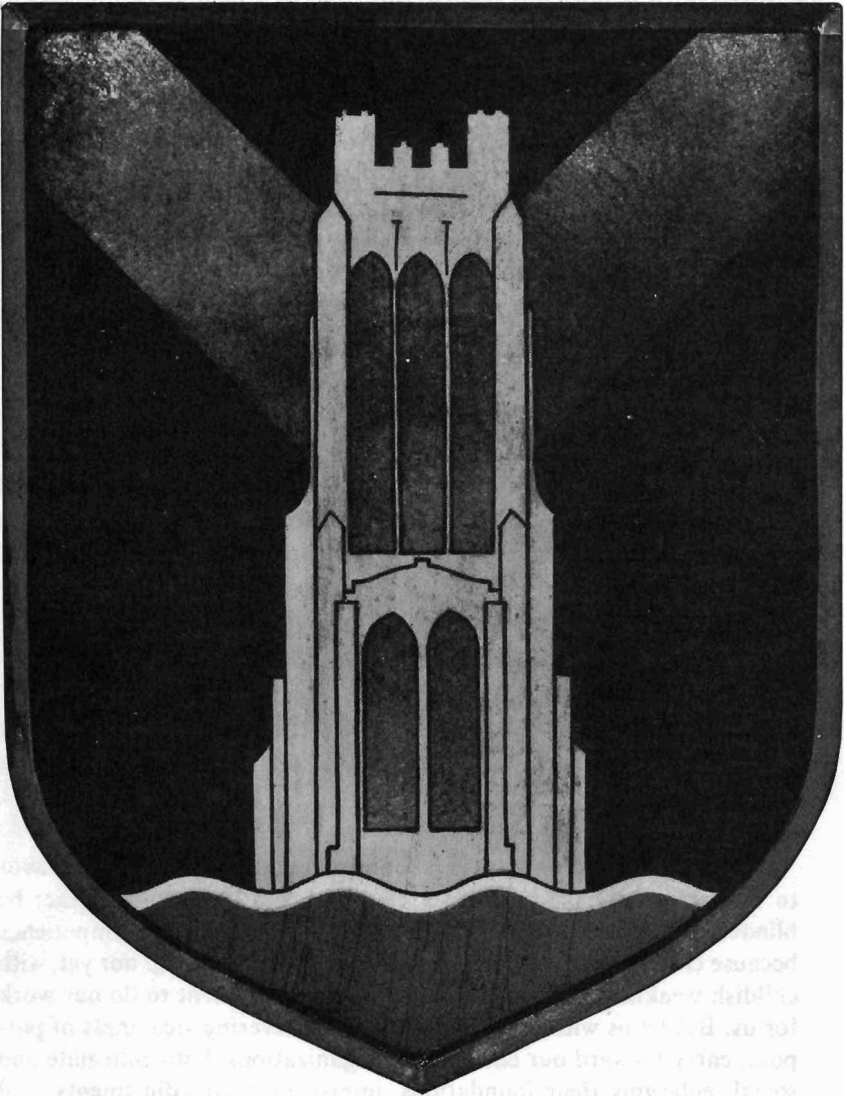
Davis and his fellow Founders were adventurous, courageous and progressive. Otherwise they would not have risked their reputations on an unorthodox and hazardous experiment in medical education. Were they to review the long period since the founding, they would take pride in seeing how thoroughly all their innovations had been accepted as basic educational philosophy. Rightful pride in the leadership of their College in these matters during the first thirty-odd years of its progress would not be lessened by the satisfaction gained from an appraisal of its commendable performance in the succeeding eight decades. As adaptable, progressive-minded men, the Founders would experience little difficulty in adjusting to departures beyond their basic concepts and, in large part at least, in approving them.

As a proud and daring innovator, Davis would continue to insist that his School, of humble beginnings and unpopular doctrines, had

played a key role in bringing medical education from a long-standing impasse to a position well along toward rational organization and sound pedagogical principles. In various fundamental regards it was, as he always rightly maintained, *the* pioneer. For all further improvements in medical education, and in his School in particular, Davis would readily give credit to whom credit is due. But as a critical observer and an uncompromisingly honest man, he would soon see that all facets of Northwestern University Medical School are not equally bright. The need of still larger endowment, of more free beds at command, of additional University-owned hospitals and of even more salaried clinicians would be obvious. These defects, if regarded as temporary, would not cause him to despair. He had always struggled against imperfection and had never been more than momentarily satisfied with any level of attainment.

And so, giving praise for past accomplishments, Nathan Smith Davis would counsel to be of good cheer and patiently to press forward toward higher goals. To be sure, he had once said that "the College has accomplished already more than most institutions and might today die glorious." But, as an ambitious and unremittingly determined man, he never was satisfied to see his institution rest at any particular level of accomplishment. This tradition of ever daring to accept a worthy challenge must continue to motivate those who now are carrying his banner well into the second century. None will voice the rallying call better than did Davis, himself, more than 100 years ago:

Let us then, in the same self-reliant, independent spirit . . . endeavor to manage wisely the high trust they have left us. Let us neither be blinded by reverence for the past, nor be fretful with impatience because clearly perceived evils will not flee at our bidding; nor yet, with childish weakness, call on the Hercules of government to do our work for us. But let us with boldness, yet with persevering steadiness of purpose, carry forward our educational organizations, both collegiate and social, enlarging their foundations, improving their adjustments, and adding to their superstructure.



The shield of Northwestern University Medical School. The windows of the Ward tower form the stem of a golden letter Y, symbolizing the historic Chicago river. This device and the tower are superimposed on a purple field — the University color. Lake Michigan, in blue, appears at the bottom, its waves bordering the campus.

Appendix

For purposes of historical record and ready reference, tabulated information is appended showing the succession of individuals who, through the years, have manned the various categories of administration and instruction in the Medical School. The extent of information, so presented, is of necessity limited in scope. There are listed, in order of seniority and with dates of active service, the names of those persons who have played the more important roles as leaders throughout the life of the School. These data will compensate, to a degree, for the previous omission of detailed accounts of the numerous departments and of their changing personnel.

During the years 1959 to 1979 the Medical Faculty has grown from eleven individuals, all but one professors, to about 1400 teachers designated by a variety of academic titles. Since the total participants in the many decades of annual operation number into the thousands, it seems advisable to limit each departmental list to those who have become professors or associate professors. This abridgement was adopted under the assumption that most of the teachers who remain active on the Faculty for significant periods of time, and gain more than local recognition, do achieve such ranks. Accordingly, such a selective register omits many excellent teachers and loyal workers, others whose stay was too short to attain the highest academic ranks, and still others of promise who have not yet been elevated to these grades.

ADMINISTRATIVE OFFICERS

PRESIDENTS OF THE FACULTY

Hosmer A. Johnson, 1859-66
Nathan S. Davis, 1866-70

DEANS

Nathan S. Davis, 1870-98
Franklin S. Johnson, 1898-1901
Nathan S. Davis, Jr., 1901-07
Arthur R. Edwards, 1907-16
Arthur I. Kendall, 1916-17

(Acting Dean)

Arthur I. Kendall, 1917-24
James P. Simonds, 1924, 33
(Acting Dean)
Irving S. Cutter, 1925-41
J. Roscoe Miller, 1941-49
George H. Gardner, 1944-45
(Acting Dean)
Richard H. Young, 1949-70
James E. Eckenhoff, 1970-

ASSOCIATE DEANS

John A. D. Cooper, 1959-69
Joseph A. Wells, 1964-70
Richard H. Kessler, 1970-77
Edward S. Petersen, 1970-72
Jacob R. Suker, 1970-
Arthur Veis, 1970-76
John W. Ditzler, 1972-76
Edward A. Tyler, 1973-75
Charles A. Berry, 1974-
Thomas Killip III, 1974-
Patricia Laurencelle, 1974-
Sheldon S. Waldstein, 1974-77
John F. Snarr, 1975-
Harry W. Linde, 1976-
Philip T. White, 1977-
Martha Pitel, 1978-
Robin D. Powell, 1978-

ASSISTANT DEANS

J. Roscoe Miller, 1933-41
Harold A. Davenport, 1933-42;
1946-56
George H. Gardner, 1942-49
Alexander A. Day, 1942-46
Theodore R. Van Dellen, 1949-69
John A. D. Cooper, 1956-59
Edward S. Petersen, 1960-70
Merrel D. Flair, 1963-70
Allen Lein, 1964-68
Arthur Veis, 1968-70
Jacob R. Suker, 1969-70
John J. Boehm, 1970-72

SECRETARIES OF THE FACULTY

Ralph N. Isham, 1859-63
Edmund Andrews, 1863-76
Hosmer A. Johnson, 1876-78
Lester Curtis, 1878-80;
1883-84
William E. Quine, 1880-83
Walter Hay, 1884-86
Frank Billings, 1886-96
Nathan S. Davis, Jr., 1896-1901
Arthur R. Edwards, 1901-05
Samuel C. Plummer, 1905-06
Charles L. Mix, 1906-17
Allen B. Kanavel, 1917-18
Luther J. Osgood, 1918-23
James G. Carr, 1923-46
Carl A. Dragstedt, 1946-64
Guy P. Youmans, 1964-71
John J. Boehm, 1971-73
William Bondareff, 1973-

LIBRARIANS

May T. Hillen, 1896-08
Selma Schneider, 1908-26
Kathryn Lanferman, 1926-28
Dorothy T. Watt, 1928-33
Helen Price, 1933-39
Louise Walker, 1939-44
Elizabeth F. Carr, 1944-61
William K. Beatty, 1962-74
Cecile E. Kramer, 1975-

CHAIRMEN OF DEPARTMENTS

For a long time the organization of the Medical College was by "chairs," and commonly but one was assigned to a subject. Not until 1896 did the various disciplines gain listing as "Departments," and it was eleven years later before the Medical School became officially organized on this basis. Between 1916 and 1942 "Divisions" replaced "Departments," yet some of these new categories were large and had to be subdivided into Departments for practical

teaching administration. Alliances and separations occurred among some disciplines, so that their names changed from time to time. For this reason the subjoined lists of Chairmen do not attempt to show all of these variations, yet they are complete in a practical manner and follow the succession in the several familiarly named categories. Also it has seemed best to include the full line of recognized leaders in each discipline, even though in the earlier years after 1896 there is no record of an actual title ever having been conferred on all of these dominant individuals.

ANATOMY

Walter H. Allport, 1896-99
 Albert E. Halstead, 1899-1901
 Elisha H. Gregory, Jr., 1905-07
 Arthur W. Meyer, 1908-10
 S. Walter Ranson, 1911-24
 Leslie B. Arey, 1924-56
 Barry J. Anson, 1956-62
 James C. Hampton, 1962-69
 William Bondareff, 1970-78

ANESTHESIA

James E. Eckenhoff, 1965-1970
 Edward A. Brunner, 1970-

BIOCHEMISTRY*

John W. Long, 1896-1918
 Chester J. Farmer, 1919-51
 Smith Freeman, 1951-65
 W. Albert Zeller, 1965-68
 John W. Corcoran, 1968-78

*Chemistry, before 1942.

BIOLOGICAL MATERIALS

Evan C. Greener, 1965-1974

COMMUNITY HEALTH AND
 PREVENTIVE MEDICINE

Jeremiah Stamler, 1972-

DERMATOLOGY

Joseph Zeisler, 1896-1917
 Frederick G. Harris, 1917-19
 Arthur W. Stillians, 1920-40
 Edward A. Oliver, 1940-58

Herbert Rattner, 1950-62
 Samuel M. Bluefarb, 1963-77
 Henry H. Roenigk, Jr., 1977-

DIVISION OF GROUP PRACTICE

Sheldon S. Waldstein, 1974-77
 James R. Webster, Jr., 1977-

EXPERIMENTAL MEDICINE

Smith Freeman, 1947-51

GYNECOLOGY*

Emilius C. Dudley, 1896-1919
 Thomas J. Watkins, 1919-25
 Arthur H. Curtis, 1925-29

*See also Obstetrics and Gynecology.

INSTITUTE OF NEUROLOGY

S. Walter Ranson, 1927-42
 William F. Windle, 1942-46
 Wendell J. S. Krieg, 1946-48

LARYNGOLOGY AND RHINOLOGY*

William E. Casselberry, 1896-1908
 Frederick Menge, 1908-21

*See also Otolaryngology.

MEDICINE

Frank Billings, 1896-98
 Frank S. Johnson, 1899-1901
 Nathan S. Davis, Jr., 1901-07
 Arthur R. Edwards, 1907-17
 Charles A. Elliott, 1917-39
 Newell C. Gilbert, 1939-48

Arthur R. Colwell, 1950-65
David P. Earle, 1965-73
Roy Patterson, 1973-

MICROBIOLOGY*

John D. Kales, 1896-1900
F. Robert Zeit, 1901-12
Arthur D. Kendall, 1912-24
Alexander A. Day, 1924-49
Guy P. Youmans, 1949-75
Philip Y. Paterson, 1975-

*Bacteriology before 1957;
Microbiology and Metabolism, 1975.

NEUROLOGY*

Benjamin Boshes, 1969-75
Donald H. Harter, 1975-

*See also Neurology and Psychiatry.

NEUROLOGY AND PSYCHIATRY*

Elbert Wing, 1896-1901
Archibald Church, 1901-26
Lewis J. Pollock, 1926-51
Benjamin Boshes, 1951-69

*Separate Departments after 1969.

NUTRITION AND METABOLISM

Tom D. Spies, 1947-60
Robert E. Stone, 1960-65

OBSTETRICS*

William W. Jaggard, 1895-96
Joseph B. De Lee, 1897-1929

*See also Obstetrics and Gynecology.

OBSTETRICS AND GYNECOLOGY*

Arthur H. Curtis, 1929-47
George H. Gardner, 1947-65
David N. Danforth, 1965-72
John I. Brewer, 1972-74
John J. Sciarra, 1974-

*Separate Departments before 1929.

OPHTHALMOLOGY

Henry Gradle, 1896-1907
Casey I. Wood, 1907-08
Brown Pusey, 1908-26
William F. Moncreiff, 1926-28
Sanford R. Gifford, 1929-44
Derrick T. Vail, 1945-66
David E. Shoch, 1966-

ORTHOPEDIC SURGERY

John F. Ridlon, 1896-1917
John L. Porter, 1917-27
Edwin W. Ryerson, 1927-35
Paul B. Magnuson, 1942-50
Philip Lewin, 1950-53
Edward L. Compere, 1953-70
William J. Kane, 1970-76
Clinton L. Compere, 1976-

OTOLARYNGOLOGY*

J. Gordon Wilson, 1921-45
Howard C. Ballenger, 1945-51
George E. Shambaugh, Jr., 1951-64
George W. Allen, 1964-67
George A. Sisson, 1967-

*Separate Departments before 1921.

OTOLOGY*

Henry Gradle, 1896-1907
Frank Allport, 1907-08
J. Gordon Wilson, 1908-21

*See also Otolaryngology.

PATHOLOGY

Frank S. Johnson, 1896-99
Gustav Futterer, 1899-1902
Albert P. Ohlmacher, 1902-03
F. Robert Zeit, 1903-23
James P. Simonds, 1923-46
William B. Wartman, 1946-69
Robert E. Jennings, 1969-75
Dante G. Scarpelli, 1976-

PEDIATRICS

Marcus P. Hatfield, 1896-99
 Francis W. Walls, 1901-09
 Isaac A. Abt, 1909-39
 W. Stanley Gibson, 1939-48
 John A. Bigler, 1949-62
 Robert B. Lawson, 1962-70
 Henry L. Nadler, 1970-

PHARMACOLOGY*

Charles H. Miller, 1900-08
 Alfred N. Richards, 1908-10
 Hugh McGuigan, 1910-17
 Frank C. Becht, 1917-19
 Carl A. Dragstedt, 1925-60
 Joseph A. Wells, 1960-66
 Julius B. Kahn, 1966-68
 Leslie T. Webster, 1970-76
 Toshio Narahashi, 1977-

*See also Physiology and Pharmacology.

PHYSICAL MEDICINE

John S. Coulter, 1943-49
 Stafford L. Osborn, 1950-52
 Ben L. Boynton, 1953-60

PHYSIOLOGY*

Winfield S. Hall, 1896-1917
 Roy G. Hoskins, 1917-19
 Andrew C. Ivy, 1942-46
 John S. Gray, 1947-70
 Oscar Hechter, 1970-
 James C. Houk, 1978-

*See also Physiology and

ANATOMY

Titus DeVile, 1859-60
 John H. Hollister, 1860-62
 James S. Jewell, 1863-69
 Daniel J. Nelson, 1867-1878
 H. W. Boyd, 1870-74
 Thomas S. Bond, 1874-78

Pharmacology.

PHYSIOLOGY AND PHARMACOLOGY*

Frank C. Becht, 1919-22
 Lester R. Dragstedt, 1922-25
 Andrew C. Ivy, 1925-42

*See also separate Departments.

PSYCHIATRY*

Harold M. Visotsky, 1969-

*See also Neurology and Psychiatry.

RADIOLOGY

James T. Case, 1915-47
 Edward L. Jenkinson, 1947-57
 Earl E. Barth, 1957-72
 Harvey White, 1972-74
 Lee F. Rogers, 1974-

REHABILITATION MEDICINE

Henry B. Betts, 1969-

SURGERY

Christian Fenger, 1896-99
 Weller Van Hook, 1899-1908
 John B. Murphy, 1908-16
 E. Wyllys Andrews, 1916-19
 Allen B. Kanavel, 1919-29
 Harry Richter, 1929-32
 Loyal Davis, 1932-63
 John M. Beal, 1963-

UROLOGY

Louis E. Schmidt, 1903-46
 Vincent J. O'Connor, 1947-61
 John T. Grayhack, 1963-

PROFESSORS

Robert L. Rea, 1878-82
 Lester Curtis, 1879-85
 Frederick C. Schaeffer, 1882-92
 Frank T. Andrews, 1888-95
 Samuel C. Plummer, 1893-94
 Thomas B. Swartz, 1893-99
 Walter H. Allport, 1895-99

Albert E. Halstead, 1899-1901
Elisha H. Gregory, Jr., 1905-07
Arthur W. Meyer, 1908-10
S. Walter Ranson, 1911-24
Charles W. Prentiss, 1913-15
Leslie B. Arey, 1919-56
William F. Windle, 1935-42
Barry J. Anson, 1942-62
Horace W. Magoun, 1942-50
Harold A. Davenport, 1946-63
Wendell J. S. Krieg, 1948-74
Ray S. Snider, 1953-63
C. Murphy Combs, 1963-66
Liberato J. A. DiDio, 1963-67
James C. Hampton, 1963-69
William Bondareff, 1970-
Albert I. Farbman, 1972-
Anthony J. Raimondi, 1972-
Nancy S. Rafferty, 1976-
Malcomb H. Hast, 1977-

ANESTHESIA

James E. Eckenhoff, 1965-
John W. Ditzler, 1966-
Vincent J. Collins, 1967-
David Allan, 1971-75
Edward A. Brunner, 1971-
David L. Bruce, 1974-77
Harry W. Linde, 1976-
Michael H. Dykes, 1978-
Herbert M. Epstein, 1978-

BIOCHEMISTRY

Frederick Mahla, 1861-67
G. Gilbert Wheeler, 1868-71
H. P. Merriman, 1871-74
Walter S. Haines, 1873-77
Marcus P. Hatfield, 1875-82
John H. Long, 1882-1918
Chester J. Farmer, 1919-51
Henry B. Bull, 1946-52
Smith Freeman, 1951-65
E. Albert Zeller, 1953-76
John A. D. Cooper, 1957-69
Arthur Veis, 1965-

Chiadao Chen, 1967-
John W. Corcoran, 1968-
Norbert Freinkel, 1969-
James E. Garvin, 1974-
Richard A. Jungermann, 1974-
Paul P. Hung, 1976-
John S. Schweppe, 1978-

BIOLOGICAL MATERIALS

Evan H. Greener, 1969-74

BIOPHYSICS

William T. Bovie, 1927-29

COMMUNITY HEALTH AND
PREVENTIVE MEDICINE

Thomas J. Egan, 1972-74
Jeremiah Stampler, 1972-
Patricia Laurencelle, 1974-
Olga M. Haring, 1975-
Howard A. Lindberg, 1975-78
Edward F. Hughes, 1978-

DERMATOLOGY

James N. Hyde, 1876-78
R. W. Bishop, 1887-88
Joseph Zeisler, 1890-1917
Frederick G. Harris, 1917-19
Arthur W. Stillians, 1920-40
Edward A. Oliver, 1940-50
Herbert Rattner, 1950-62
James R. Webster, 1950-58
Samuel J. Zakon, 1955-67
Samuel M. Bluefarb, 1961-77
Ruth K. Freinkel, 1972-
Junji Hasegawa, 1972-
Nancy B. Esterly, 1977-
Henry H. Roenigk, 1977-

EXPERIMENTAL MEDICINE

Smith Freeman, 1947-51

GENERAL ETIOLOGY AND HYGIENE

Henry Gradle, 1893-97
John D. Kales, 1897-1900
F. Robert Zeit, 1901-02

GYNECOLOGY*

William H. Byford, 1859-79
 Edward O. F. Roler, 1870-78
 Edward W. Jenks, 1879-82
 Emilius C. Dudley, 1882-1919
 Frank T. Andrews, 1894-1917
 Thomas J. Watkins, 1903-25
 Arthur H. Curtis, 1917-29
 Harold O. Jones, 1938-48

*See also Obstetrics and Gynecology.

INSTITUTE OF NEUROLOGY

S. Walter Ranson, 1927-42
 William F. Windle, 1942-46
 Wendell J. S. Krieg, 1946-48

MATERIA MEDICA

Walter Hay, 1882-83
 John Leeming, 1894-98

MATERIA MEDICA AND
THERAPEUTICS

Hosmer A. Johnson, 1859-60
 A. L. McArthur, 1860-62
 John H. Hollister, 1862-65
 Henry Wing, 1865-66
 Mills O. Heydock, 1866-71
 William E. Quine, 1871-82
 Walter Hay, 1883-84
 William E. Casselberry, 1884-92

MEDICAL JURISPRUDENCE

Henry G. Spafford, 1859-64
 M. O. Heydock, 1864-66
 R. J. Patterson, 1866-74
 H. P. Merriman, 1874-81
 Marcus P. Hatfield, 1881-83
 James S. Jewell, 1883-84
 Walter Hay, 1884-90
 Elbert Wing, 1891-92
 Archibald Church, 1893-1913

MEDICINE

Nathan S. Davis, 1859-92
 Hosmer A. Johnson, 1867-81
 Thomas Bevan, 1877-79

Isaac N. Danforth, 1882-97
 John H. Hollister, 1882-95
 Frank Billings, 1887-98
 Nathan S. Davis, Jr., 1887-1920
 Lester Curtis, 1895-97
 Arthur R. Edwards, 1899-1917
 Franklin S. Johnson, 1899-1902
 Robert B. Preble, 1900-47
 George W. Webster, 1902-08
 Charles L. Mix, 1917-20
 Charles A. Elliott, 1919-39
 James G. Carr, 1927-46
 Newell C. Gilbert, 1936-48
 William H. Holmes, 1936-40
 Lawrence E. Hines, 1947-55
 Paul S. Rhoads, 1947-66
 Don C. Sutton, 1947-51
 J. Roscoe Miller, 1949-74
 Richard H. Young, 1949-70
 Arthur R. Colwell, 1950-65
 Samuel M. Feinberg, 1951-63
 Lowell D. Snorf, 1951-56
 George K. Fenn, 1952-56
 David P. Earle, 1954-78
 Howard L. Alt, 1956-68
 Clifford J. Barborka, 1959-62
 Stephen O. Schwartz, 1959-
 Craig W. Borden, 1960-77
 Robert E. Stone, 1960-72
 Walter S. Priest, 1962-64
 Oglesby Paul, 1963-
 Leonard F. Jourdonais, 1964-72
 Daniel S. Kushner, 1965-67
 David W. Cugell, 1966-
 Ralph E. Dolkart, 1966-78
 Norbert Freinkel, 1966-
 Guy F. Hollifield, 1966-75
 Philip Y. Paterson, 1966-75
 Roy Patterson, 1966-
 Sheldon S. Waldstein, 1966-
 Martin Brandfonbrener, 1967-
 Francesco del Greco, 1967-
 Richard H. Kessler, 1968-77
 Frank R. Schmid, 1969-
 Hau C. Kwann, 1972-
 Ennio G. Rossi, 1972-

Jeremiah Stamler, 1972-
Theodore N. Pullman, 1973-
John F. Wilber, 1973-78
Thomas A. Killip III, 1974-79
Walter A. Rambach, 1974-77
Nathaniel I. Berlin, 1975-
David Green, 1975-
Olga M. Haring, 1975-
Howard A. Lindberg, 1975-78
Albert J. Miller, 1975-
Leona B. Yeager, 1975-76
Arthur J. Atkinson, 1976-
Emerson Day, 1976-
Michael Lesch, 1976-
John P. Phair, 1976-
Erl Dordal, 1977-
Boyd E. Metzger, 1977-
Donald H. Singer, 1977-
James R. Webster, 1977-
J. Donald Ostrow, 1978-
Robin D. Powell, 1978-
John S. Schweppe, 1978-

MEDICAL BIBLIOGRAPHY

William K. Beatty, 1962-

MICROBIOLOGY*

John D. Kales, 1894-1900
Frederick R. Zeit, 1901-13
Arthur I. Kendall, 1912-24;
1927-42
Alexander A. Day, 1924-49
Guy P. Youmans, 1949-76
Hutton D. Slade, 1960-78
Richard Ekstedt, 1962-71
Georg F. Springer, 1962-
Anne S. Youmans, 1971-76
Philip Y. Paterson, 1972-
Terry E. Johnson, 1973-77
Jacob Pruzansky, 1974-

*Originally named Bacteriology.

NEUROLOGY*

Benjamin Boshes, 1969-75
Jerome Cohen, 1969-
John R. Hughes, 1969-77

Harold Koenig, 1969-
Jules H. Masserman, 1969-73
J. Gordon Millichap, 1969-
David A. Drachman, 1971-77
Jack Arbit, 1973-
Meyer Brown, 1973-
Rainer F. Spehlmann, 1973-
E. Albert Zeller, 1973-76
Alex J. Arieff, 1974-76
Donald H. Harter, 1975-
Philip T. White, 1927-
Nicholas A. Vick, 1978-

*See also Neurology and Psychiatry.

NEUROLOGY AND PSYCHIATRY*

James S. Jewell, 1872-84
Walter Hay, 1884-90
Elbert Wing, 1891-1901
Archibald Church, 1893-1946
Hugh T. Patrick, 1902-19
Lewis J. Pollock, 1926-51
Clarence A. Neymann, 1948-51
Thaddeus T. Stone, 1948-52
Benjamin Boshes, 1951-69
Jules H. Masserman, 1952-69
George K. Yacorzynski, 1955-69
Helmer R. Myklebust, 1958-69
Roland P. Mackay, 1961-68
Harold Koenig, 1963-69
J. Gordon Millichap, 1963-69
Jerome L. Schulman, 1965-69
Jerome Cohen, 1966-69
John R. Adams, 1967-69
John R. Hughes, 1967-69
Kevin D. Barron, 1968-69
Howard D. Kurland, 1968-69

*See also separate Departments.

NURSING EDUCATION

Martha Pitel, 1978-

NUTRITION AND METABOLISM

Tom D. Spies, 1947-60
Robert E. Stone, 1954-65

OBSTETRICS*

William H. Byford, 1859-79
Edward W. F. Roler, 1868-84
William W. Jaggard, 1885-96
Joseph B. DeLee, 1897-1929
David S. Hillis, 1939-42

*See also Obstetrics and Gynecology.

OBSTETRICS AND GYNECOLOGY

Arthur H. Curtis, 1929-47
William C. Danforth, 1937-46
Mark T. Goldstine, 1943-46
George H. Gardner, 1946-65
John I. Brewer, 1948-72
Ralph A. Reis, 1949-64
James E. Fitzgerald, 1951-62
Ronald R. Greene, 1954-71
David N. Danforth, 1959-
John W. Huffman, 1960-71
Augusta Webster, 1960-71
Edwin J. DeCosta, 1964-74
Abraham F. Lash, 1965-67
Thomas W. McElin, 1967-
Theodore Fainstat, 1968-73
Albert B. Gerbie, 1972-
Stuart Abel, 1973-
Melvyn A. Bayly, 1973-
Leon A. Carrow, 1973-
David Ingall, 1973-
Harry B. W. Benaron, 1974-75
John J. Sciarra, 1974-
Melvin R. Cohen, 1975-
Louis G. Keith, 1975-
Warren H. Pearse, 1975-
Gloria E. Sarto, 1976-
Aquiles J. Sobrero, 1976-
Michael Newton, 1977-

*See also separate Departments.

OPHTHALMOLOGY*

Brown Pusey, 1908-26
Sanford R. Gifford, 1929-44
Harry S. Gradle, 1929-43
Derrick T. Vail, 1945-66
William A. Mann, Jr., 1949-66

David Shoch, 1966-
Joseph E. Alfano, 1976-
Robert W. Sekuler, 1979-

*See also Ophthalmology and Otolaryngology.

OPHTHALMOLOGY AND OTOLARYNGOLOGY*

Samuel J. Jones, 1871-98
Henry Gradle, 1894-1907
Casey I. Wood, 1907-08

*See also separate Departments.

ORTHOPEDIC SURGERY

Julien S. Sherman, 1876-77
James N. Hyde, 1877-78
John F. Ridlon, 1893-1917
John L. Porter, 1917-27
Edwin W. Ryerson, 1927-35
Paul B. Magnuson, 1942-50
Philip Lewin, 1947-53
Harold A. Sofield, 1950-68
Edward L. Compere, 1952-70
Clinton L. Compere, 1965-
Mihran Tachdjian, 1969-
William J. Kane, 1971-
John J. Fahey, 1972-75
James K. Stack, 1972-73
William A. Larmon, 1974-
Dudley S. Childress, 1977-

OTOLARYNGOLOGY*

William S. Casselberry, 1886-1908
Frederick Menge, 1908-21
J. Gordon Wilson, 1908-45
Ellison L. Ross, 1930-38
Howard C. Ballenger, 1947-51
Thomas C. Galloway, 1950-51
George E. Shambaugh, Jr., 1951-71
Raymond T. Carhart, 1952-75
Helmer R. Myklebust, 1953-58
George A. Sisson, 1967-
Eugene I. Derlacki, 1970-
Malcolm H. Hast, 1974-
Gabriel F. Tucker, 1975-
Peter J. Dallos, 1976-
Tom W. Tillman, 1976-

*See also Ophthalmology and Otology.

PATHOLOGY

M. K. Taylor, 1859-63
Henry Wing, 1863-65
Hosmer A. Johnson, 1865-66
John H. Hollister, 1866-82
Christian Fenger, 1882-85
Frank S. Johnson, 1886-99
Gustav Futterer, 1899-1902
F. Robert Zeit, 1901-35
Albert P. Ohlmacher, 1902-03
James P. Simonds, 1922-46
Joseph C. Calandra, 1942-
William B. Wartman, 1946-69
Hans Popper, 1956-68
Maurice Lev, 1957-77
C. Bruce Taylor, 1959-70
Robert B. Jennings, 1963-75
Frank A. Carone, 1967-
Opal E. Helper, 1967-68
Joseph C. Sherrick, 1967-
Hartmann Friederici, 1969-
Geoffrey Kent, 1969-
David W. E. Smith, 1969-
Herbert M. Sommers, 1971-
Harry E. Harding, 1972-76
Robert Schrek, 1972-76
George F. Stevenson, 1972-
Joseph D. Boggs, 1973-
Hector A. Battifora, 1974-
David E. Smith, 1974-
Reuben Eisenstein, 1975-
Agostino L. Molteni, 1976-
Janardan K. Reddy, 1976-
Dante G. Scarpelli, 1976-
George A. Lumb, 1977-
Daniel L. Azarnoff, 1978-
Frank G. Crussi, 1978-
Ryoichi Oyasu, 1978-
Robert J. Stein, 1978-

PEDIATRICS

William H. Byford, 1859-79
Edward O. F. Roler, 1870-83
Marcus P. Hatfield, 1883-99

Francis X. Walls, 1901-34
Isaac A. Abt, 1909-39
W. Stanley Gibson, 1939-48
Charles A. Aldrich, 1941-44
John A. Bigler, 1949-63
Abraham Levinson, 1950-53
Jack Metcoff, 1956-63
David Y. Hsia, 1960-68
Irving Shulman, 1960-65
Robert B. Lawson, 1962-70
J. Gordon Millichap, 1963-
Jerome L. Schulman, 1965-
Mila I. Pierce, 1966-70
Wayne G. Borges, 1967-
Orville G. Green, 1967-
Milton H. Paul, 1967-
Meyer A. Perlstein, 1968-69
Henry L. Nadler, 1970-
Avedis K. Khachadurian, 1971-73
Thomas J. Egan, 1972-74
Thomas Gardner, 1972-
David Ingall, 1972-
Matthew H. Steiner, 1973-77
Howard S. Traisman, 1973-
J. Philip Ambuel, 1974-78
George R. Honig, 1975-
Hans U. Wessel, 1976-
Nancy B. Esterly, 1977-
Alexander J. Muster, 1977-
Lauren M. Pachman, 1978-

PHARMACOLOGY*

Alfred N. Richards, 1908-10
Hugh McGuigan, 1910-17
Frank C. Becht, 1917-19
Ellison L. Ross, 1921-25
Lester R. Dragstedt, 1922-25
Andrew C. Ivy, 1925-42
Carl A. Dragstedt, 1925-60
Joseph A. Wells, 1950-70
Richard K. Richards, 1959-62
Julius B. Kahn, 1963-68
George T. Okita, 1966-
Leslie T. Webster, Jr., 1970-76
Rainer F. Sphelmann, 1974-

Arthur J. Atkinson, 1976-
Toshio Narahashi, 1977-
Donald H. Singer, 1977-

*See also Physiology and
Pharmacology.

PHYSICAL DIAGNOSIS

Frank Billings, 1887-92
George W. Webster, 1894-1904
Charles L. Mix, 1904-17

PHYSICAL MEDICINE

John S. Coulter, 1943-49
Stafford L. Osborn, 1948-50
Ben L. Boynton, 1953-64
Louis B. Newman, 1958-70

PHYSIOLOGY*

John A. Hollister, 1859-60;
1865-66
Hosmer A. Johnson, 1860-65
Daniel J. Nelson, 1867-79
Henry Gradle, 1879-84
R. W. Bishop, 1884-88
George W. Webster, 1889-95
Winfield S. Hall, 1895-1919
Roy G. Hoskins, 1917-19
Andrew C. Ivy, 1942-46
Smith Freeman, 1945-46
John S. Gray, 1946-74
Fred S. Grodins, 1950-67
James E. Randall, 1963-68
Ardelle C. Lane, 1964-
John H. Annegers, 1968-
Oscar Hechter, 1970-
Neena B. Schwartz, 1972-74
Richard A. Jungman, 1974-76
James C. Houk, 1978

*See also Physiology and
Pharmacology.

PHYSIOLOGY AND PHARMACOLOGY*

Frank C. Becht, 1919-22
Lester R. Dragstedt, 1922-25
Andrew C. Ivy, 1925-42

*See also separate Departments.

PSYCHIATRY*

John R. Adams, 1969-
Jerome Cohen, 1969-
Howard D. Kurland, 1969-
Jules H. Masserman, 1969-73
Maurice A. Schiller, 1969-75
Jerome L. Schulman, 1969-
Harold M. Visotsky, 1969-
George K. Yacorzynski, 1969-76
Norris Hansell, 1972-
George H. Pollock, 1972-
Jack Arbit, 1973-
Richard D. Chessick, 1973-
Charles H. Kramer, 1973-
Niles Newton, 1973-
Edward A. Tyler, 1973-75
Donald C. Greaves, 1974-
Derek H. Miller, 1975-
Kenneth I. Howard, 1977-
David L. Gutman, 1978-

*See also Neurology and Psychiatry.

PUBLIC HYGIENE

M. K. Taylor, 1859-63
Henry Wing, 1863-65
Hosmer A. Johnson, 1865-66
John H. Hollister, 1866-68
Thomas Bevan, 1868-75
H. P. Merriman, 1875-81
William E. Quine, 1881-82
Oscar C. DeWolf, 1882-92
Henry Gradle, 1893-97
John D. Kales, 1897-1900
F. Robert Zeit, 1901-03
William A. Evans, 1908-28

RADIOLOGY

James T. Case, 1915-47
Edward L. Jenkinson, 1947-57
Earl E. Barth, 1953-69
William T. Moss, 1963-74
James L. Quinn III, 1968-
Harvey White, 1968-

Lee F. Rogers, 1974-
Gary G. Ghahremani, 1976-
Leonid Calenoff, 1978-

REHABILITATION MEDICINE

Henry B. Betts, 1969-
Harriet Gillete, 1972-75

SURGERY

Edmund Andrews, 1859-1901
Ralph N. Isham, 1878-98
E. Wyllys Andrews, 1888-1927
John E. Owens, 1888-1911
William E. Morgan, 1902-20
Albert E. Halstead, 1907-14
Samuel C. Plummer, 1908-15
Frederick C. Shaeffer, 1892-99
Christian Fenger, 1893-99
Weller Van Hook, 1896-1908
John B. Murphy, 1900-05;
1908-16
William E. Schroeder, 1903-15
Frederick A. Besley, 1915-44
Herbert A. Potts, 1917-38
Allen B. Kanavel, 1919-38
Harry M. Richter, 1920-45
Loyal Davis, 1932-63
Karl A. Meyer, 1945-52
John A. Wolfer, 1945-46
Jacob R. Buchbinder, 1947-48
Sumner L. Koch, 1947-53
Frederick Christopher, 1948-54
Walter G. Maddock, 1948-62
Michael L. Mason, 1952-63
Paul C. Bucy, 1954-73
Willis J. Potts, 1954-63
Harvey S. Allen, 1955-55
John M. Dorsey, 1955-74
F. John Lewis, 1957-76
Frederick W. Preston, 1960-75
Orvar Swenson, 1960-73
Harold Laufman, 1962-65
John M. Beal, 1963-
Walter W. Carroll, 1964-74
T. Howard Clark, 1964-71
Manuel E. Lichtenstein, 1965-68
Peter A. Rosi, 1965-70

Robert J. Freeark, 1967-70
Orion H. Stuteville, 1967-70
Thomas W. Shields, 1968-
C. Rollins Hanlon, 1969-
James R. Hines, 1969-
Anthony J. Raimondi, 1969-
Harold A. Zintel, 1970-
John J. Bergan, 1971-
B. Herold Griffith, 1971-
Edward E. Scanlon, 1971-
Arthur DeBoer, 1972-
Desmond A. Kernahan, 1972-
John L. Bell, 1974-
Harrison W. Mehn, 1974-
Daniel L. Ruge, 1974-78
Otto H. Trippel, 1974-
Farouk Idriss, 1975-
Lowell R. King, 1975-
Harold L. Method, 1975-
Stephen E. Reid, 1975-
Frank D. Stephens, 1975-
Robert T. Fox, 1976-
Robert P. Hohf, 1976-
John G. Raffensperger, 1976-
James S. Wolf, 1976-
Edward J. Del Beccaro, 1977-
Julius Conn, Jr., 1977-
George A. Olander, 1977-
Luis V. Amador, 1978-
Hiram T. Langston, 1978-
Paul F. Nora, 1978-
Nicholas C. Wetzel, Jr., 1978-

SURGICAL ANATOMY AND
OPERATIONS OF SURGERY

Ralph N. Isham, 1859-78
John E. Owens, 1882-92
William E. Morgan, 1892-1902
Samuel C. Plummer, 1902-08

THERAPEUTICS

William E. Quine, 1882-83
William E. Casselberry, 1892-96
Arthur R. Edwards, 1896-99

UROLOGY

Louis E. Schmidt, 1903-46

Vincent J. O'Connor, 1947-61
 Henry Culver, 1948-50
 William J. Baker, 1955-58
 John T. Grayhack, 1963-
 James I. Farrell, 1967-69

Vincent J. O'Connor, Jr., 1970-
 Lowell R. King, 1970-
 George J. Bulkley, 1973-
 Frank D. Stephenson, 1975-
 John B. Graham, 1977-

ASSOCIATE PROFESSORS

ANATOMY

Lester Curtis, 1876-79
 S. Walter Ranson, 1910-11
 Charles W. Prentiss, 1911-13
 Leslie B. Arey, 1917-19
 William F. Windle, 1929-35
 Barry J. Anson, 1930-42
 Harold A. Davenport, 1932-46
 Ray S. Snider, 1946-53
 C. Murphy Combs, 1956-60
 Federico Gonzales, 1963-
 William Bondareff, 1965-70
 Richard M. Cole, 1966-68
 Jona Carl Thaemert, 1966-71
 Charles E. Blevins, 1967-73
 Albert I. Farbman, 1967-72
 Mary Faith Orr, 1967-
 Lawrence E. Wragg, 1967-71
 Joseph J. Pysch, 1972-
 Nancy S. Rafferty, 1972-76
 Gwen V. Childs, 1976-
 Yuri Geinisman, 1977-
 Alvin G. Telser, 1977-
 Robert W. Berry, 1978-
 John F. Disterhoft, 1978-

ANESTHESIA

John S. Lundy, 1966-73
 David Allan, 1968-71
 Richard P. Harbord, 1968-75
 David L. Bruce, 1970-74
 Edward A. Brunner, 1970-71
 Harry W. Linde, 1970-76
 Sze-Chuh Cheng, 1971-77
 Michael H. M. Dykes, 1972-78
 Vincente Pallares, 1972-73
 Herbert M. Epstein, 1973-78
 Berman M. Lawrence, 1973-76
 John M. Cox, 1974-75

Robert J. Fragen, 1974-
 Andranik Ovassapian, 1974-
 Kenneth J. Thompson, 1974-76
 H. Steele Holley, 1975-
 Frank Raymon, 1975-
 Frank L. Seleny, 1975-
 Barry A. Shapiro, 1975-

BIOCHEMISTRY

Chester J. Farmer, 1918-19
 Frank Wright, 1921-36
 Henry B. Bull, 1940-46
 E. Albert Zeller, 1950-53
 Chi Che Wang, 1951-53
 John A. D. Cooper, 1952-57
 Virgil R. Koenig, 1957-60
 Norman S. Radin, 1957-60
 Chiadao Chen, 1958-67
 Arthur Veis, 1960-65
 Lucile R. Hac, 1961-77
 John P. Kaltenbach, 1963-
 Joseph Bernsohn, 1964-73
 James E. Garvin, 1965-74
 Mario A. Marini, 1965-
 Elmon L. Coe, 1966-
 George H. Czerlinski, 1967-
 Floyd C. McIntire, 1967-73
 Tohru Inouye, 1968-
 Richard A. Jungmann, 1969-74
 John S. Schwappe, 1969-78
 Donald I. Forman, 1970-78
 Warren Wells, 1970-
 Alfred D. Goldstone, 1974-
 Byron Anderson, 1977-
 Santibrata Ghosh, 1977-

COMMUNITY HEALTH AND
 PREVENTIVE MEDICINE

Thomas J. Egan, 1970-72
 David M. Berkson, 1972-
 Mary L. Mojonner, 1972-76

Peter M. Wolkonsky, 1973-76
Olga Haring, 1974-75
Robert R. Hilker, 1974-
Howard A. Lindberg, 1974-75
Stephen J. Miller, 1976-
Rose S. Stamler, 1977-
Arnold L. Widen, 1977-

DERMATOLOGY

Frank E. Simpson, 1917-26
Herbert Rattner, 1944-50
Bertha M. Shafer, 1948-55
Samuel J. Zakon, 1950-55
Frederick R. Schmidt, 1951-56
Samuel M. Bluefarb, 1955-61
Julius E. Ginsberg, 1956-74
Matthew J. Brunner, 1958-72
I. Myron Felsher, 1963-65
Zachary Felsher, 1964-
Junji Hasegawa, 1964-72
Franklin R. Fitch, 1965-67
Royal E. Ihrke, 1965-75
Ruth K. Freinkel, 1966-72
Harold R. Rodin, 1967-68
Stanley E. Huff, 1970-
M. Paul Lazar, 1971-
William A. Caro, 1970-
Fred Levitt, 1973-
Charles Zugeran, 1978-

EXPERIMENTAL MEDICINE

Chi Che Wang, 1949-51

GYNECOLOGY*

William C. Danforth, 1919-29
George N. Gardner, 1942-46
John I. Brewer, 1946-48

*See also Obstetrics and Gynecology.

INSTITUTE OF NEUROLOGY

Joseph C. Hinsey, 1929-30
Arthur Weil, 1930-34
Horace W. Magoun, 1940-42
Wendell J. S. Krieg, 1944-46

MEDICINE

Nathan S. Davis, Jr., 1886-87
Charles P. Caldwell, 1917-22
Charles A. Elliott, 1917-19
Luther J. Osgood, 1920-34
James G. Carr, 1921-27
Alexander A. Goldsmith, 1921-46
Solomon S. Strouse, 1921-27
Walter W. Hamburger, 1922-24
Joseph C. Friedman, 1923-25
Newell C. Gilbert, 1925-36
William H. Holmes, 1925-36
Irving S. Cutter, 1926-41
Don C. Sutton, 1927-47
James A. Britton, 1929-44
James M. Washburn, 1929-54
George B. Dyche, 1930-36
Walter H. Nadler, 1931-52
George W. Scupham, 1936-54
Samuel M. Feinberg, 1937-51
George K. Fenn, 1937-52
Lawrence E. Hines, 1938-47
George H. Coleman, 1940-49
Lowell D. Snorf, 1940-51
Arthur F. Byfield, 1941-48
J. Roscoe Miller, 1941-49
Otto Porges, 1941-46
Chauncey C. Maher, 1942-66
Paul E. Rhoads, 1942-47
Malcolm T. MacEachern, 1943-46
Leon Unger, 1945-56
Howard L. Alt, 1946-56
M. Herbert Barker, 1946-47
Arthur R. Colewell, 1947-50
Samuel J. Lang, 1947-64
Clifford J. Barborka, 1948-59
William A. Brams, 1948-54
Henry R. Jacobs, 1948-71
David E. Markson, 1949-56
Walter S. Priest, 1949-62
Eugene S. Talbot, 1949-65
Theodore R. Van Dellen, 1949-
William C. Buchbinder, 1951-56
Leonard Cardon, 1951-74

- Arthur E. Mahle, 1951-62
 Richard B. Capps, 1953-57
 Nathan Smith Davis, III, 1953-54
 Gilbert H. Marquardt, 1953-65
 Earl A. Zaus, 1953-65
 George C. Turnbull, 1954-65
 Craig Borden, 1955-60
 Frederick W. Fitz, 1955-65
 Stephen O. Schwartz, 1955-59
 Howard B. Carroll, 1956-63
 Ralph E. Dolkart, 1956-66
 Leonard F. Jourdonais, 1956-64
 George M. Leiby, 1956-58
 Eugene L. Walsh, 1956-63
 Donald H. Atlas, 1957-72
 H. Ivan Sippy, 1957-69
 Gene H. Stollerman, 1957-64
 Jacob S. Golden, 1958-70
 Franklin A. Kyser, 1959-
 Robert P. Gilbert, 1960-65
 David W. Cugell, 1961-66
 E. Clinton Texter, 1961-68
 Sheldon S. Waldstein, 1961-66
 Edward Bigg, 1962-
 Paul Kezdi, 1962-65
 Howard A. Lindberg, 1962-75
 Leona B. Yeager, 1962-75
 C. Larkin Flanagan, 1963-
 James B. Hammond, 1963-
 David H. Rosenberg, 1963-71
 Frank R. Schmid, 1963-69
 Frederick F. Stenn, 1963-
 Francesco del Greco, 1964-67
 Ernest G. McEwen, 1964-76
 Roy Patterson, 1964-66
 Edward S. Petersen, 1964-72
 Martin S. Seifert, 1964-71
 Stuyvesant Butler, 1965-70
 Jay J. Gold, 1965-72
 William P. McKeever, 1965-
 Philip Y. Paterson, 1965-66
 Walter A. Rambach, 1965-74
 Jeremiah Stamler, 1965-72
 George C. Sutton, 1965-
 Hau C. Kwaan, 1966-72
 Ennio C. Rossi, 1966-72
 Byron S. Berlin, 1967-
 Nathan W. Levin, 1967-72
 Jacob N. Shanberge, 1967-69
 Jacques M. Smith, 1967-
 Burton R. Anderson, 1968-70
 Eliot E. Foltz, 1968-
 Donald H. Singer, 1968-77
 Sheldon Berger, 1969-
 John A. Colwell, 1969-71
 Hunter O. Cutting, 1969-70
 John S. Schweppe, 1969-78
 Jacob R. Suker, 1969-
 William B. Buckingham, 1970-
 Erl Dordal, 1970-77
 Olga M. Haring, 1970-75
 Norman M. Simon, 1970-
 Robert M. Stangler, 1970-71
 James R. Webster, 1970-77
 Arthur R. Colwell, Jr., 1971-
 James B. Hurd, 1971-
 Boyd E. Metzger, 1971-77
 Charles F. Nadler, 1971-
 John F. Wilber, 1971-73
 David Green, 1972-75
 Louis C. Johnston, 1972-78
 Murray L. Levin, 1972-
 Albert J. Miller, 1972-75
 Henry P. Russe, 1972-76
 Marshall S. Sparberg, 1972-
 Bernard H. Adelson, 1973-
 Arthur J. Atkinson, 1973-76
 Maria Bernik, 1973-
 Kenneth M. Campione, 1973-
 Bernard F. Clowdus, 1973-78
 Richard D. DeSwarte, 1973-
 William D. DeWys, 1973-79
 Ivan C. Keever, 1973-
 George Kroll, 1973-77
 Frederic A. Lestina, 1973-
 Elizabeth V. Potter, 1973-
 Sant P. Singh, 1973-
 Joseph H. Skom, 1973-
 Gerry A. Smyth, 1973-
 Peter M. Wolkonsky, 1973-76
 Jessie E. Hano, 1974-75
 Olga Haring, 1974-75

Wilson H. Hartz, 1974-
Robert R. Hilker, 1974-
Benjamin M. Kaplan, 1974-
Marvin Lewis, 1974-
Robert T. Marshall, 1974-
Otto Porges, 1974-76
Antonio P. Quintanilla, 1974-
Jadwiga Roguska, 1974-
George E. Shambaugh III, 1974-
Richard L. Hughes, 1975-
Peter T. Ivanovich, 1975-
Sudarshan Kumar, 1975-
C. Lawrence Etheridge, 1976-
Richard J. Jones, 1976-
E. Stephen Kurtides, 1976-
Harry J. Miller, 1976-
Joseph Askenazi, 1977-
David Berkson, 1977-
Joseph K. Freilich, 1977-
Maurice H. Gore, 1977-
Frank A. Krumlovsky, 1977-
Louis M. Marks, 1977-
Stanley G. Rabinowitz, 1977-
Jakub G. Schlichter, 1977-
James V. Talano, 1977-
Arnold L. Widen, 1977-
Thomas P. Gibson, 1978-
Clement C. Hsu, 1978-

MICROBIOLOGY*

Alexander A. Day, 1921-24
Arthur W. Walker, 1927-44
Guy P. Youmans, 1946-49
Harry B. Harding, 1948-72
Waldemar F. Kirchheimer, 1953-55
Albert Milzer, 1955-74
Hutton D. Slade, 1957-60
Richard Ekstedt, 1962-64
Anne S. Youmans, 1964-71
Eric R. Brown, 1965-71
Jacob J. Pruzansky, 1966-74
Burton R. Anderson, 1967-76
Martin Rachmeler, 1967-
Arthur N. Bahn, 1968-71
Terry E. Johnson, 1969-73
Dennis Perry, 1969-

Howard K. Kuramitsu, 1970-
James E. Duncan, 1974-

*Originally named Bacteriology.

NEUROLOGY*

David A. Drachman, 1969-71
Donald A. Olson, 1969-
Rainer F. Spehlmann, 1969-73
Israel Zivin, 1969-
Jack Arbit, 1971-73
Melvin W. Thorner, 1972-75
Joel Sacks, 1973-77
Alfred D. Goldstone, 1974-
Jan E. Leestma, 1975-
Howard L. Lipton, 1977-
Richard M. Rowner, 1977-
E. Richard Blonsky, 1978-
James C. Daniels, 1978-

*See also Neurology and Psychiatry.

NEUROLOGY AND PSYCHIATRY*

Hugh T. Patrick, 1898-1902
D'Orsay Hecht, 1913-15
Julius Grinker, 1919-26
Clarence A. Neymann, 1921-48
Lewis J. Pollock, 1922-26
Ralph C. Hamill, 1930-35
Sigmund Krumholz, 1930-34
Albert B. Yudelson, 1930-39
Harry A. Paskind, 1938-42
Thaddeus T. Stone, 1938-48
George K. Yacorzynski, 1946-55
Benjamin Boshes, 1948-51
Herman Chor, 1948-60
Isidore Finkelman, 1948-69
Frederick Hiller, 1948-53
Jules H. Masserman, 1948-52
Jerome Cohen, 1957-66
Erika Fromm, 1957-61
Nathaniel J. Raskin, 1957-65
Alex J. Arieff, 1958-74
Kenneth Brown, 1958-62
Meyer Brown, 1958-73
Walter Kirchbaum, 1958-62

Erich Liebert, 1958-62
 Harold Koenig, 1959-63
 John R. Adams, 1960-67
 William S. Battersby, 1960-64
 John R. Hughes, 1963-67
 Jerome L. Schulman, 1963-65
 Rainer F. Spehlmann, 1963-69
 Joseph Bernsohn, 1964-69
 Jewett Goldsmith, 1964-69
 Maurice A. Schiller, 1964-69
 Richard D. Chessick, 1965-69
 Nathaniel J. Raskin, 1965-69
 Misha S. Zaks, 1965-69
 John W. Lauer, 1966-69
 Rodolfo R. Llinas, 1966-69
 Jack Arbit, 1967-69
 Joel Brumlik, 1967-69
 B. Cullen Burris, 1967-69
 David A. Drachman, 1967-69
 David W. Kennard, 1967-69
 William B. Spriegel, 1967-69
 Kevin D. Barron, 1968-69
 Howard D. Kurland, 1968-69
 Niles Newton, 1968-69
 Donald A. Olson, 1968-69
 Virginia S. Tarlow, 1968-69
 Israel Zivin, 1968-69

*See also separate Departments.

NURSING EDUCATION

Elizabeth W. Odell, 1951-51
 Edna S. Newman, 1951-54
 Miriam D. Rand, 1951-61
 Norrine G. Major, 1952-58
 E. Elizabeth Geiger, 1955-63
 H. Louise Stinson, 1958-68
 Dorothy A. Johnson, 1968-72
 Evelyn E. Nicholson, 1969-73
 Vera E. Thompson, 1969-
 Lois E. Ebinger, 1971-77

NUTRITION AND METABOLISM

Theodore E. Friedemann, 1949-51
 Robert E. Stone, 1950-54
 Samuel Dreisen, 1956-66

OBSTETRICS*

Edward O. F. Roler, 1868-70
 William W. Jaggard, 1884-85
 Rudolph W. Holmes, 1929-36
 David S. Hillis, 1929-39
 Charles E. Paddock, 1929-30
 Charles B. Reed, 1929-40

*See also Obstetrics and Gynecology.

OBSTETRICS AND GYNECOLOGY*

William C. Danforth, 1929-37
 Harry O. Jones, 1929-38
 Irving F. Stein, 1929-53
 Mark T. Goldstine, 1938-43
 James E. Fitzgerald, 1947-51
 Eugene A. Edwards, 1948-58
 Ralph A. Reis, 1948-49
 Ronald R. Greene, 1949-54
 John W. Huffmann, 1949-60
 Henry Buxbaum, 1951-62
 David M. Danforth, 1951-59
 Edward M. Dorr, 1951-64
 Augusta Webster, 1953-60
 Harry B. W. Benaron, 1956-74
 Edwin J. DeCosta, 1956-64
 Beatrice E. Tucker, 1956-66
 Stuart Abel, 1960-73
 Thomas W. McElin, 1960-67
 Magnus P. Urnes, 1962-63
 Holden K. Farrar, 1974-
 Leon A. Carrow, 1967-73
 Theodore Fainstat, 1967-68
 Tohru Inouye, 1968-74
 John J. Boehm, 1970-
 Albert B. Gerbie, 1970-72
 Ervin E. Nichols, 1970-
 Melvyn A. Bayly, 1972-73
 Joseph T. Chung, 1973-75
 Allwyn H. Gatlin, 1973-
 William R. Roach, 1973-
 John C. Buckingham, 1974-
 Ernest M. Solomon, 1974-
 O. Richard Depp, 1975-
 Rudy E. Sabbagha, 1975-

Joe L. Simpson, 1975-
David W. Cromer, 1977-
Melvin V. Gerbie, 1977-
Gerald I. Zatuchni, 1977-
Peter D. Barglow, 1978-
Elizabeth B. Connell, 1978-
Ernest G. Nora, Jr., 1978-

*See also separate Departments.

OPHTHALMOLOGY

Alfred M. Hall, 1928-33
William A. Mann, Jr., 1941-49
Beulah Cushman, 1946-56
Bertha A. Klien, 1946-52
James E. Lebensohn, 1946-62
John G. Bellows, 1949-71
Irving Puntteney, 1949-74
Kenneth L. Roper, 1953-66
Joseph E. Alfano, 1967-76
Helen Holt, 1967-68
Earl H. Merz, 1967-77
James G. Dobbie, 1963-
Paul E. Romano, 1973-
Joel G. Sachs, 1973-77
Thomas H. Chalkley, 1977-
Seymore B. Goren, 1978-
Richard B. O'Grady, 1978-
Patrick F. O'Malley, 1978-

ORTHOPEDIC SURGERY

Philip Lewin, 1926-47
Frederick C. Test, 1931-38
Fremont A. Chandler, 1939-43
Edward L. Compere, 1941-52
Beveridge H. Moore, 1942-44
George L. Apfelbach, 1943-51
Harold A. Sofield, 1947-50
Emil D. W. Hauser, 1949-65
James K. Stack, 1949-72
Samuel W. Banks, 1952-73
Sidney Sideman, 1953-69
Hampar Kelikian, 1954-67
Clinton L. Compere, 1955-65
John R. Norcross, 1955-58
Vernon C. Turner, 1955-59
William J. Schnute, 1956-72

John J. Fahey, 1959-72
Mihran Tachdjian, 1964-69
Jerome G. Finder, 1965-74
William A. Larmon, 1967-74
James T. Hartman, 1968-71
Robert G. Thompson, 1968-
Newton C. Mead, 1972-76
Dudley S. Childress, 1973-
Edward A. Millar, 1974-
Paul R. Meyer, Jr., 1975-
Melvin Post, 1975-
Lyman W. Smith, 1975-
William B. Stromberg, Jr., 1975-
Jack L. Lewis, 1976-
James W. Milgram, 1977-

OTOLARYNGOLOGY

Ellison L. Ross, 1927-30
Howard O. Ballenger, 1940-47
Thomas C. Galloway, 1940-50
John T. Delph, 1940-53
Elmer W. Hagens, 1948-65
George E. Shambaugh, Jr., 1948-51
Lawrence J. Lawson, 1952-61
Samuel J. Pearlman, 1952-62
Eugene L. Derlacki, 1957-70
Hans V. von Leden, 1959-61
John J. Ballenger, 1960-
Bernard M. Cohen, 1960-76
George W. Allen, 1965-
Jack D. Kerth, 1967-
Malcolm H. Hast, 1969-74
Jack D. Clemis, 1974-
Wiley H. Harrison, 1975-
Cecil W. J. Hart, 1975-
Richard P. Ariagno, 1976-
Paul D. Noffsinger, 1976-
Edward L. Applebaum, 1977-
Jerilyn A. Logemann, 1978-

PATHOLOGY

James P. Simonds, 1913-22
Hamilton R. Fishback, 1939-47
Francis D. Gunn, 1939-44
Thomas C. Laipply, 1946-56
Opal E. Hepler, 1947-67
Mark C. Wheelock, 1947-64

John C. McCarter, 1949-50
 Hans Popper, 1949-56
 Willard T. Hill, 1952-60
 Emanuel Mandel, 1956-57
 Joseph D. Boggs, 1959-73
 Robert B. Jennings, 1960-63
 Julius B. Kahn, Jr., 1961-63
 Robert Schrek, 1962-72
 John P. Kaltenbach, 1963-
 Joseph C. Sherrick, 1963-67
 Frank A. Carone, 1965-67
 Herbert M. Sommers, 1966-71
 Byron S. Berlin, 1967-
 Geoffrey Kent, 1967-69
 Jacob N. Shanberge, 1967-69
 Richard E. Trueheart, 1967-
 Harry E. Harding, 1968-72
 Hector A. Battifora, 1969-74
 Donald T. Forman, 1970-78
 Edward J. Kaminski, 1972-
 Nehama Sharon, 1972-
 Edward J. Fitzsimmons, 1973-
 Thomas A. Harwood, 1973-
 Ryoichi Oyasu, 1973-78
 Eileen Randall, 1973-
 Pacita M. Estrella, 1974-75
 Charles E. Ganote, 1974-
 Tohru Inouye, 1974-
 Kenneth A. Schneider, 1974-
 James M. Kidd, 1975-
 Jan E. Leestma, 1975-
 Chung-hsin Ts'ao, 1975-
 Hidejiro Yakoo, 1976-
 Mauro C. Dal Canto, 1977-
 Curtis D. Port, 1977-
 Jayne Borensztajn, 1978-
 John R. Warren, 1978-

PEDIATRICS

Joseph Brennermann, 1918-21
 W. Stanley Gibson, 1929-39
 Charles A. Aldrich, 1937-41
 Arthur F. Abt, 1941-52
 Abraham Levinson, 1943-50
 John A. Bigler, 1944-49
 Louis W. Sauer, 1949-50

Gerard N. Krost, 1951-54
 L. Martin Hardy, 1954-75
 Alfred D. Biggs, 1955-58
 Meyer A. Perlstein, 1955-
 Alvah L. Newcomb, 1956-?
 David Y. Hsia, 1957-60
 Arthur H. Rosenblum, 1957-60
 Ralph H. Kunstadter, 1958-73
 Irving Schulman, 1958-60
 Herman F. Meyer, 1959-68
 Mathew H. Steiner, 1962-73
 Wayne H. Borges, 1963-67
 Orville G. Green, 1963-68
 Milton H. Paul, 1963-67
 John L. Reichert, 1963-64
 Jerome L. Schulman, 1963-65
 Alfred S. Traisman, 1964-65
 Thomas J. Egan, 1965-72
 Herbert F. Philipsborn, 1965-
 Hugh L. Moffet, 1967-71
 William J. Morrow, 1967-
 Howard B. Traisman, 1967-73
 Roger J. Meyer, 1968-78
 Henry N. Nadler, 1968-70
 John J. Boehm, 1970-
 Hans U. Wessel, 1970-
 Roger B. Cole, 1971-
 Lewis E. Gibson, 1971-76
 Joseph C. Kaspar, 1971-75
 Alexander J. Muster, 1971-
 Lauren M. Pachman, 1971-78
 Allen D. Schwartz, 1972-75
 Margaret E. O'Flynn, 1973-
 Emanuel Shapira, 1973-78
 Richard E. Burnstine, 1974-
 Philip S. Coogan, 1974-78
 Sydney B. Eisen, 1974-
 Floy C. Helwig, 1974-
 Carl E. Hunt, 1975-
 John D. Lloyd-Still, 1975-
 Helen Maurer, 1975-
 Edgar A. Newfield, 1975-77
 Aman U. Khan, 1976-
 Girimaji J. Rao, 1976-
 William A. Tomlinson, 1977-
 A. Todd Davis, 1978-

PHARMACOLOGY

Clarence W. Muehlberger, 1930-35
 Lathan A. Crandall, 1935-39
 Frederick T. Jung, 1942-46
 Kenneth K. Jones, 1943-53
 Joseph A. Wells, 1948-50
 Alexander C. Keyl, 1960-63
 Julius B. Kahn, 1961-63
 George T. Okita, 1963-66
 Charles A. Berry, 1968-
 Hugh J. Burford, 1968-71
 Donald H. Singer, 1968-77
 Gerald A. Kien, 1969-72
 Paula H. Stern, 1972-77
 Arthur J. Atkinson, Jr. 1973-76
 Robert E. Ten Eick, 1974-
 Jack Diamond, 1976-77
 Eugene M. Silinsky, 1978-

PHYSICAL MEDICINE

John S. Coulter, 1932-42
 Stafford L. Osborne, 1944-48
 Louis N. Newman, 1950-58
 Charles O. Molander, 1954-55
 Elizabeth C. Wood, 1959-72

PHYSIOLOGY

Lester Curtis, 1876-79
 Roy G. Hoskins, 1913-17
 Lathan A. Crandall, 1935-39
 Theodore E. Friedemann, 1940-49
 Smith Freeman, 1942-45
 Frederick T. Jung, 1942-46
 John S. Gray, 1945-46
 Fred S. Grodins, 1947-50
 Julian Alvarez, 1951-68
 John H. Annegers, 1951-68
 A. Joel Kosman, 1952-71
 Allan Lein, 1952-68
 Ardelle C. Lane, 1959-64
 Christina Enroth-Cugell, 1968-72
 Esmail Koushanpour, 1968-
 Theodore Braun, 1970-
 Lutz Birnbaumer, 1971-76
 George Flouret, 1972-
 Richard A. Jungmann, 1972-74

John F. Snarr, 1972-
 Barry D. Kahan, 1974-77

PSYCHIATRY

Jack Arbit, 1969-73
 Joseph Bernsohn, 1969-73
 B. Cullen Burris, 1969-
 Richard D. Chessick, 1969-73
 Bedrich Drechsler, 1969-70
 Jewett Goldsmith, 1969-
 Howard D. Kurland, 1969-
 Rodolfo R. Llinas, 1969-70
 Niles Newton, 1969-73
 Nathaniel J. Raskin, 1969-
 Maurice A. Schiller, 1969-75
 William B. Spriegel, 1969-
 Mischa Zaks, 1969-
 Norris Hansell, 1971-72
 Joseph C. Kaspar, 1971-76
 Francois E. Alouf, 1972-
 Aaron S. Mason, 1972-74
 Hyman C. Pomp, 1972-
 Peter D. Barglow, 1973-
 Leon Diamond, 1973-
 Richard B. Eisenstein, 1973-
 Robert M. Gluckman, 1973-
 Robert Gronner, 1973-
 Sydney B. Eisen, 1974-
 Meyer S. Gunther, 1974-
 Edward P. Sheridan, 1974-
 Joel P. Rosenfeld, 1975-
 Gilbert M. Hefter, 1976-
 Aman U. Khan, 1976-
 Soloman Cytrynbaum, 1977-
 Kathleen Sheridan, 1978-
 Bernard G. Suran, 1978-

RADIOLOGY

Edward S. Blaine, 1922-31
 Edward L. Jenkinson, 1932-47
 Hollis E. Potter, 1942-47
 Earl E. Barth, 1948-53
 Ralph G. Willy, 1954-61
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