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 antisepsis, 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.
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,
prosumably 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 commer-
cialized 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 re-
quirements in general education for admission to its medical
schools. For nine years the Chicago Medical College likewise fol-
lowed the nationwide pattern of maintaining silence concerning ad-
mission 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 war-
ranted 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 recitational 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 4½ to 8½, 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,
Union With Independence

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 state­
ment 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:

<table>
<thead>
<tr>
<th>Year</th>
<th>Receipts</th>
<th>Expenditures</th>
<th>Deficit</th>
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</thead>
<tbody>
<tr>
<td>1872</td>
<td>$3,118.00</td>
<td>4,948.70</td>
<td>$1,830.70</td>
</tr>
<tr>
<td>1875</td>
<td>$6,868.45</td>
<td>3,857.78</td>
<td>$3,010.67</td>
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</tbody>
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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 en­
dowments from private sources or from an associated city. But, in
general, the main support of most medical colleges came from stu­
dent 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 ar­
ticles 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:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
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<tbody>
<tr>
<td>In medical journals</td>
<td>$255.00</td>
</tr>
<tr>
<td>In college publications</td>
<td>75.00</td>
</tr>
<tr>
<td>In miscellaneous publications</td>
<td>191.65</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$521.65</strong></td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Fee Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matriculation (annually)</td>
<td>$ 5.00</td>
</tr>
<tr>
<td>Lectures (annually)</td>
<td>75.00</td>
</tr>
<tr>
<td>Dissection</td>
<td>5.00</td>
</tr>
<tr>
<td>Graduation</td>
<td>30.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$115.00</strong></td>
</tr>
</tbody>
</table>
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.