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 im-
portant advice in the "Flexner report" that the medical schools of
the country should be brought under the management of univer-
sities, which should then assume full responsibility for them.
Throughout the nation this advance was not accomplished defini-
tively 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 main-
taining 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 station-
ary 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 enroll-
ments. In fact, his School was still turning in good annual profits at the time of his death, and even for some years afterward. The immi-
nent 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, com-
posed 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 investiga-
tion 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 phy-
sicians, provided little more. What was done was essentially on
an individual, self-propelled and self-financed basis. As the indepen-
dent schools found haven in the universities, laboratories were
organized in all of the basic medical sciences. This led to the selec-
tion 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.