The Paradox of Medical Practice and Medical Education

The 1969 Cushing Oration*

JOHN S. MILLIS, PH.D.
Vice President, National Fund for Medical Education,
Chancellor Emeritus, Case Western Reserve University, Cleveland, Ohio

First, may I express my very deep appreciation for the privilege of delivering the Cushing Oration on this most important occasion. When the invitation was first extended, I hesitated, for at least a moment, as to whether I might properly accept it, much as I wished to. I have always had the feeling that there is a basic impropriety in an address by a layman to a group of physicians on a medical subject or on one which is in the mainstream of the interest to the profession. However, I overcame my scruples very rapidly for three reasons.

First, I have been a most fortunate person, for in my life as a university president I have had the privilege of working very closely with two faculties of medicine made up of very distinguished people who were extremely kind to me, and who became my teachers in the hope that I might come to understand something of medical education and of medical practice. Second, through the good offices of the American Medical Association, of some of its constituent societies, and of the Association of American Medical Colleges, I have been given opportunities to observe, study, consider, learn, and to write about some of the aspects of medical education. The third reason that I felt I might properly accept a very welcome invitation is because this is the centennial year of the birth of Harvey Cushing. He was a Clevelander and was deeply attached to the Western Reserve, a region and institution in which I have some proprietary interest.

I would remind you that Harvey Cushing, born 100 years ago in this city, came from a long and distinguished line of physicians whose lifetimes and practices spanned the early history of this interesting region of our nation. His great grandfather, Dr. David Cushing, Jr., his grandfather, Dr. Erastus Cushing, and his father, Dr. Henry Kirk Cushing, were all distinguished practitioners and medical educators of this city and of the Western Reserve. Though Harvey Cushing left Cleveland after his graduation from Central High School to go to Yale, nevertheless his interest in and his affection for Cleveland, for the Western Reserve, and the Western Reserve Medical School persisted throughout his life.

In preparation for this afternoon's address, I had the good fortune of being able to browse throughout the Cleveland Medical Library and the Dietrich Museum to see what has been written about Harvey Cushing but, more interestingly, what Harvey Cushing wrote and said. One thing that particularly attracted my attention and which would seem to be peculiarly prophetic to those of us who have lived and worked in this community and particularly in this university, were the words which he spoke in October, 1924, when he was the honored guest at the dedication of what was then called the "new medical school building." I quote from his address since I think it is as valid and interesting today as it was 45 years ago.

"Time and experience have shown that few institutions erected by men are more enduring than universities. Governments may come and go but an institution endures so long as there is any vigor in the race. Moreover, to endure, it must show growth, and so a university becomes a natural magnet which may at times appear to repel but in the long run must serve ultimately to attract unto itself bodies which temporarily labor under the impression that their own orbits are independent ones. In all such affairs the process of amalgamation is a slow one, but inevitable. It takes imagination, courage, time, and sacrifice, and necessitates a surrender of autonomy of certain personal or vested interests for the common good. The day will
come, I foresee, when under the banner of the Western Reserve, a term which represents an historical episode not to be lightly laid aside and forgotten, there will be a fusion of many institutions which, though retaining their name and individuality and purpose as separate schools and institutions, can only become great when thus affiliated with an ever greater university."

To those of us who have been engaged over the last two decades in the creation of what we call the University Circle Concept and the Greater University now called Case Western Reserve University, these words have a remarkable and prophetic ring.

I take my text (since I am, Mr. Chairman, a licensed lay preacher and always prefer to have a text) from an address given by Dr. Cushing in November of 1928 at Dartmouth College. At that institution there is a Department of Biography and an endowed lectureship which each year brings to the campus very distinguished members of the several professions to speak to the students about their lives and respective professions. Dr. Cushing, in that year, was the representative of the profession of medicine.

His paper was entitled, "The Ideals, Opportunities, and Difficulties of the Medical Profession." He spoke eloquently of the unchanging tradition of the medical profession since its very earliest times in these words:

"So, while the professional ideals are not essentially different from what they were to our predecessors of antiquity, its opportunities are becoming these later years amazingly increased on account of the many-sidedness of the doctor's vocation which the subdivisions of medicine have made possible. For, in spite of its continuity of tradition, the medical profession has succeeded in effectually shaking off the shackles of dogma and a precedent, which still appear to hamper the progress of divinity and of law."

When I read these words, at first I had a negative reaction for I was a bit annoyed that Dr. Cushing had failed to include in his list of the ancient and learned professions my profession, that of teaching. He mentioned only the Church, Medicine, and Law. I wondered why he omitted teaching, but this was not a very interesting or profitable speculation. My mind then ran to the question of how Dr. Cushing would have placed teaching had he thought to include it in his list of learned professions. Would he have put it as having the characteristic of medicine, that of adaptability, or would he have placed it in the category of divinity and law—two professions which do not exhibit adaptability to a marked degree? I realized that if I were to speak his thoughts today, I would reiterate Harvey Cushing's words. I would speak of the capacity of the medical profession to follow its long-established tradition but not to be hampered by the shackles of dogma and a precedent, which do appear to still hamper the progress of divinity, law, and teaching. This observation about teaching brings me to the title of my remarks this afternoon, which is, "The Paradox of Medical Practice and of Medical Education."

The paradox to me seems to be quite clear, for medical practice has certainly, over this century, proven its capacity time and time again to adapt rapidly to new knowledge and to changing circumstances. In my observation and in sharp contrast, medical education has shown little capacity to adapt to new knowledge and to altered circumstances. Therefore, it seems to me, we do have a paradox wherein medical practice is adaptable, creative, inventive; and whereas medical education lacks these characteristics. To make my point, I shall cite four aspects of, and the consequences of, the scientific revolution which have been recognized in medical practice but which are not now recognized philosophically or in fact in medical education. The four are: the knowledge explosion; the disappearing time lag between the two worlds of science and of art; the reversed order of precedence of science and of art; and the requirement for institutionalization and organization.

First, the knowledge explosion—a matter wholly familiar to this distinguished audience—but may I remind you of two less familiar aspects of it. It is not an ordinary explosion in the sense of gunpowder or TNT; it is an explosion in the mode of an atomic explosion—it is a chain reaction. It is a constantly accelerating phenomenon, and the graph which represents it is, of course, an exponential curve. What we have seen in our lifetime, even the lifetime of the youngest