THE LETTERS

A Glance at Neurosurgery, Past, Present and Future

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First, I must express my sincere appreciation to the membership for bestowing on me the honor of this office. To be accorded membership in such a distinguished Academy is in itself signal honor, and surely no other organization is graced by such a charming group of lovely ladies. The pleasure of such company is of itself sufficient raison d' etre for this organization. There is just one fly in the ointment, to paraphrase my predecessor, Guy Odom, namely, the Presidential Address.

This, the third visit of our organization to Colorado Springs is truly an historic occasion, for it also marks the 30th Anniversary of this Academy. It therefore seems appropriate to pause for a brief backward glance at our speciality as it was then constituted, before viewing our present status and some of the prospects for the future. The year 1938 saw the first scientific meeting of this Academy, with seven charter members and seven prospective members in attendance. There were then only a hand-ful of neurosurgical centers in North America, these being staffed by a small group of pioneer surgeons. The older membership of this Academy represents the first generation of neurosurgeons trained as such, our mentors having been largely self-trained pioneers who established neurosurgery as a special discipline within the broad fields of Surgery and Neurology. A total of thirteen neurosurgical residency training programs were listed in the educational issue of the AMA Journal that year, with thirteen residents and five assistant residency positions filled. The American Board of Neurological Surgery came into being two years later (1940).

A glimpse of the contemporary scene of neurosurgery in 1938 may be afforded by a few excerpts from a Review of Recent Advances in Neurosurgery published at that time by Cobb Pilcher. He stated that neurosurgery was still a youth among the medical and surgical specialties. Attention had recently been called to the spinal cord and nerve root compression produced by rupture of the inververtebral disc with herniation into the canal, as reported by Peet and Echols, Mixter and Barr, and Love and Adson.

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A rather new development in the roentgen diagnosis of spinal canal lesions followed the work of the above named investigators. Hampton and Robinson have demonstrated brilliantly the roentgen findings under these circumstances after the injection of 5 cc of Lipiodol. It was stated that a correct diagnosis of this condition can only be made in this manner.

Pilcher further stated, "A recent innovation is cerebral arteriography, introduced by Moniz of Lisbon. Its present field of usefulness must be considered limited by its potential danger, its difficulty of interpretation, and its restricted visual ization of intracranial structures."

Moving forward a decade to 1948, in his Presidential Address before The Harvey Cushing Society, Cobb Pilcher proclaimed that Neurosurgery had come of age as a particular therapeutic discipline constituting a full-grown specialty. And from its origins in the various basic sciences, it had grown to the point where its disciples, the neurosurgeons, could no longer be all things to all men in the broad field of neurology. He called for a return to emphasis on surgical competence, ceasing all pretense to competence in matters which neither time nor training permit him to become proficient. He proclaimed the neurosurgeon's rightful destiny to be the road to finer surgical accomplishment.

At that juncture in time, neurosurgical practice was heavily committed to various methods of psychosurgery or lobotomy, and to surgery of the autonomic nervous system. Both fields were to yield shortly to chemical methods of management. And though one might still find merit in these procedures in selected instances, they have been virtually abandoned in current medical practice.

One of pessimistic view might then, even as now, have viewed the future of neurosurgery with dire misgivings and apprehension, fearing its relegation to a diminishing place in medicine as other fields advanced.

However, the ensuing years have witnessed rapid growth of our discipline in newer areas of endeavor. Surgical interest in cerebrovascular disorders has been the stimulus for widespread clinical and research activity in this field. More recently, microsurgery has enlarged and improved the neurosurgeon ability to cope with disorders previously considered inoperable Stereotactic surgery has opened up new fields of neurophysiological exploration and surgical treatment. Its growth has made it a special field within the broad discipline of neurosurgery, virtually a specialty within a specialty.

This, then, is the state of our art today. Let us now con sider briefly some of the issues facing us now and for the future. Critics of the medical profession have long accused us o

categories. Who is to pose the solution to this dilemma? Will the neurosurgical community seek answers to these problems or will they go by default to other agencies for action?

The guiding principle obviously is to seek what is best for the patient. However, to this now have been added other considerations such as the most efficient utilization of health personnel, and effective delivery of first rate care to all of our population. Since the cost of this care is being increasingly assumed by the government, it is likely that they will press for changes which appeal to them toward meeting these goals. Thus, if we are to maintain a determining voice in the practice of medicine, we must present compelling medical reasons for our decisions, including socio-economic considerations. If we do not address ourselves to these problems, others stand ready and willing to assume this responsibility for us.

Medical tradition emphasizes giving the best care that is technically possible, the only legitimate limitation being the state of the art. It is a fundamental proposition in economics that decisions involving allocation of scarce resources require weighing of benefits against costs. There is little in the training of a physician to allow him to think in these terms. The increased demand for medical care is only one aspect of the complex health problem. Victor Fuchs of the National Bureau of Economic Research (supported by USPHS and Commonwealth Fund Grants) states:

"The medical care industry is in some respects among the most progressive in the entire economy, but in many others, it is among the most backward. The explanation for this paradox is not difficult. The training of physicians in science and in medical technics inculcates a respect for research, for discovery ~~and~~ for technical change. At the same time, the organization of the industry, with its many shelters from the harsh winds of competition, with its emphasis on the non-profit character of its principal institutions and with its relative freedom from immediate government supervision and control, permits the continuation of practices that could not be long maintained in a less benign environment.

When we try to deal with these problems, when we consider possible changes in the present system, the logical place to begin is with the physician. It is clear that many regard the physician as the principal obstacle to improving the current system of health care. The physician has been cast (or has cast himself) in the role of preserver of the status quo.

Some of the opposition to change can be justified. But it is of vital importance to face realistically the problems of the existing system, and to take the lead in devising ways to improve it." This, then, is the way the economist views us today.

limiting the intake of new personnel into medicine in order to restrict competition. That there is a shortage of physicians in some areas we all agree, but the only restrictions on training of doctors have been those imposed by limitations of facilities and personnel for the proper education of physicians. As for our specialty, it has been stated that there is no longer any shortage of neurosurgeons in this country. Thirty years ago, it was held that a population area of one million people was needed to provide clinical material for one neurosurgeon. Last year, Guy Odom told us that the ratio is now 1 to 3 neurosurgeons per 500,000 population; and on this basis he raised the question as to whether the field is now in danger of being flooded. It is my belief that a dynamic and progressive field such as ours will attract increasing numbers of well qualified young trainees and this is surely needed to insure continued growth and development. In this regard, a serious hazard is the current trend in undergraduate medical education so well documented by Francis Murphey in his Presidential Address before The American Association of Neurological Surgeons. Clinical disciplines, especially surgical subspecialties, are being excluded from the undergraduate curriculum in many medical schools, thus posing a serious problem in reaching the gifted student so as to motivate him toward the neurological sciences. If neurosurgery is to continue to flourish, it must continue to recruit the best minds entering the study of medicine. We cannot and must not abandon this struggle.

The medical school of the future is likely to be aligned with the schools of physical and social sciences, being divorced from the parent university and the schools of humanities.

However, the curricular trends toward Ph.D. type training must be restrained if they are to fulfill their primary goal, namely, the training of physicians for the practice of medicine. And unless they realize their obligation in this regard to the general public and to the taxpayers contributing to their support, they will be open to intervention by a third party. While their budgets have more than doubled in the last decade, enrollments have shown relatively insignificant increase. Medical schools cannot live by research alone.

Related to numbers of physicians are problems concerning the delivery of health care. It is frequently stated that ours is the best system of medical care in the world. This may well be so, but it will not continue unless changes are made to cope with changing conditions. Some hold that brain tumor victims received better care twenty years ago when they were largely treated in neurosurgical centers than they do today. The young neurosurgeon in private practice today often does not handle enough such cases to develop full competence in their management, while his participation dilutes the clinical material available for residency training centers. The same case can be made for intracranial aneurysms and certain other diagnostic

Dr. Dwight Wilbur, President of the AMA, recently pointed out that we are now facing a new era of government commitment to health care. Medicare, Medicaid, regional medical programs and comprehensive planning are all directed toward medical car Some of the barriers to these goals lie outside our scope, so we must associate ourselves with others having interest in the health field in seeking solutions to these problems.

The new view of health need is involved with broader and more powerful forces than those contained within the field of medicine alone. The reaction to pressures to meet this need will come from many sources within and without the health professions, particularly the public sector and the government. In the past, the medical profession has enjoyed relative immunity from the political and social forces about us. Now, however it is clearly evident that this detachment or immunity is a thing of the past. Like it or not, we are involved fully in the social and economic pressures of our time. Experiments seeking solution to some of these problems are already under way under titles such as The Regional Medical Programs, The Comprehensive Health Planning Act and ~~The~~ National ~~Center~~ for Heal Services Research and Development. These health programs have been originated by the Federal government and, with the possible exception of The Regional Medical Programs, have been announced to the medical profession as accomplished facts. It has been said that these programs were created to meet important existing needs, and that we as a profession have failed to keep pace with the social changes of our time.

Dr. Robert Marston, the Director of the National Institutes of Health, tells us that the essence of the Federal role in health service is not direction but stimulation. He indicates whereas in the past the government has assumed the dominant role in support of biomedical research, it is now assuming a leading role in providing health services for the aged and, with the states, for the indigent. It will require wise and positive action on the part of the medical profession to see that the government role remains one of support and not one of direction.

It has been said that the last two decades belonged to the medical investigator, but that the next two will belong to the consumer - the patient population. We must recognize the fact that the public has a legitimate voice in plans and provisions for programs to meet its health needs.

As neurosurgery and neurosurgeons have matured, there has been a trend toward assumption of responsibility in the broader fields of medicine, both academic and professional. Several of this Academy's members have become Deans of Medical Schools and other Administrative Officers in Universities. Others have filled responsible positions relating to the governmental support of medical research through the National Institutes of Health. Many have taken leading roles in local, regional and

national medical organization. With the increasing role of government in health care, medicine must assume a leading role in planning and organization. Many deplore the past role of the AMA, yet this is the only medical organization capable of representing the entire medical profession at the national level. It, therefore, behooves us to exert every effort to rejuvenate the AMA into a truly representative body. The laudable efforts of neurosurgeons to develop active participation in the AMA both by development of a Section on Neurosurgery and by representation in the House of Delegates, is a most commendable start. We must not let this fail. We should retain our identity and direction but cannot risk isolation from the broad field of medicine.

Stated another way, no longer can we afford the luxury of full-time devotion to our chosen specialty, but must participate actively in medical education at undergraduate as well as graduate levels. We must join with all of our medical colleagues at the national level through the AMA for a more effective role in shaping the future course of medical practice. And a better public relations effort is needed to strengthen our position in dealing with Federal agencies in planning and delivery of health care. In all these areas an excellent beginning has been made, due largely to the efforts of a few industrious and far-sighted individuals. It is our responsibility to support them and assist in these efforts to the full extent of our capabilities. Today's problems represent the opportunities for the future, and I am sure that the next thirty years in the life of the Academy will be even more stimulating and productive than the first thirty years.

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By tradition, The Presidential Address is not open for discussion, but Jim should be complimented on his lucid analysis. Many physicians are reluctant to become actively involved in the problems facing the medical profession, but if we drift with the stream we may find ourselves going over the waterfall.

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