

Presidential address

Leadership in Neurosurgery

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It is a great honor to have served as President of the Congress of Neurological Surgeons over the past year. This year, along with the nine years I have been on the Executive Committee, has provided me the opportunity to work with people of high purpose and commitment. This group of thoughtful individuals has handled complex issues that will have far-reaching impact on our profession and indeed on society. Their decisions have been reached without political or geographic considerations, and independently of personal gain.

These men and women have been an inspiration to me as an individual, as a neurosurgeon, and as a citizen. As an individual, I have been helped to reaffirm the essential principles of decency and unselfishness; as a neurosurgeon, I have found them compatriots in the challenge of advancing medical knowledge; and as a citizen, I have been taught that medicine and humanitarianism are inseparable.

DEVELOPMENT OF LEADERSHIP IN MEDICINE

If we look beyond medicine, it is clear that leadership in society is at a low ebb. We have had outstanding leaders in medicine and neurosurgery—the names of Sir William Osler and Harvey Cushing stand out. Unfortunately, today's society does not adequately encourage nor reward the development of character, individuality, and originality. The concept of the leader has slipped to low esteem (4), but we, as a profession, need to respond to the challenges that confront us. Ideally, we need to become an entire profession of leaders. To this end, we must all study the characteristics of leadership, identify role models for ourselves, and strive to emulate their ideals. I will enlarge on the theme of leadership in our profession, discuss the role of neurosurgeons as leaders in our society, and suggest some areas where we, as individuals, can contribute in a positive and constructive way to the betterment of our community.

People thrive on challenge and competition, and both have surely reached a zenith in neurosurgery. We compete when applying for a residency position, with only a fraction of the best applicants entering one of the 125 neurosurgical residency training programs in the United States and Canada. Academic accomplishment is, of course, an essential prerequisite for life in this rigorous profession. The successful applicant has often reached the peak of another field of endeavor such as the arts, music, or athletics—but must further excel to embark on a career in neurosurgery. Those who have not experienced the competitive spirit, the passion to excel, will not appreciate the motivation of those who strive to reach the pinnacle of our profession.

Recent presidents of the Congress of Neurological Surgeons distinguished themselves on the football gridiron or as crack naval aviators before embarking on a career in neurosurgery, and the self-discipline gained through high-level competition was an invaluable preparation for this demanding profession. Outstanding professional athletes thrive on the exhilaration, challenge, and mastery of new skills. The benefits of social recognition, healthfulness, and self-image also offer similar motivation for many to enter and enjoy neurosurgery (9). I believe the most valuable lessons that the competitive spirit imparts to young men and women entering neurosurgery is the ability to focus, to concentrate, and to direct their mental and physical energies in a single direction. The importance of lifelong, dogged persistence toward a single goal of successful achievement cannot be overemphasized. Few individuals effect this—not even for the task immediately at hand, let alone for lifelong goals. Many in our ranks have demonstrated excellent results by concentrating on a single goal. Harvey Cushing himself was the master of a highly focused mind. As a surgeon, researcher, writer, artist, and raconteur, he achieved the highest caliber in each endeavor.

Additional characteristics that identify successful athletes and neurosurgeons are versatility and adaptability. Football quarterbacks demonstrate versatility by scrambling to make a seemingly disastrous play result in a long yards gain. During the past 80 years, our profession has displayed the highest level of adaptability. We have accepted unbelievable scientific advances, demands from the legal profession, government, and big business, and monumental social change. To the scientific challenge we have responded in an exemplary fashion. But we have not dealt well with other challenges from arenas foreign to our profession. We must endeavor to respond to these pressures if we are to maintain control of our profession in the twenty-first century. The measure of our success will be determined by our flexibility and accommodation to new change and growth over the next decade.

LEADER/MENTOR RELATIONSHIP IN NEUROSURGERY

We have two historic leaders in medicine, Sir William Osler and Harvey Cushing. Their special leadership qualities have always been recognized and, with the passage of time, are revered even more today. In my opinion, these two men distinguished themselves in our profession through superior scholarship; knowledge of how to get things done; originality and constructive imagination; great industry and intensity of

application; judgement; and a historical perspective of their place in medicine.

Sir William Osler (Fig. 1) was born and trained in Canada and spent his early professional career there. He affected generations of physicians and perhaps had the most influence on Harvey Cushing, who stated that Osler was the beacon that directed him throughout his professional life. More than anyone else, Osler encouraged Cushing to pursue neurosurgery as a profession.

At the past 10 meetings of the Congress of Neurological Surgeons, Osler has been quoted four times in the presidential addresses. Although all physicians recognize his name, few are aware of why he continues in such esteem 70 years after his death. The answer lies in a review of his contributions to science, medical education, literature, and medical history—all magnified by his magnetic, charismatic personality and humanism. Important as his scientific contributions have been to medicine, his legendary reputation stemmed largely from his introduction of bedside teaching, incorporated from the model of the European teaching hospital, to American medicine in the late nineteenth century. He wrote in a familiar, lucid manner and was author of the *Principles and Practice of Medicine*, which served as the standard medical textbook for over 40 years. He was a bibliophile *par excellence*, collecting over 7,600 rare books; these were donated on his death to McGill Medical School, where he had served his first

faculty appointment. He also authored the *Bibliothèque Osleriana*, one of the finest documentations of the history of science and medicine ever written.

Osler developed close rapport with young physicians, and had a special ability to stimulate, instruct, and guide them. His profound influence on Harvey Cushing, the father of neurosurgery, began in 1896, when Cushing entered the Johns Hopkins Hospital as an assistant resident under Halsted. Cushing (Fig. 2), then 27 years old, had already shown signs of brilliance and originality. As a medical student, he had designed and introduced the original ether chart for recording the pulse and respiration during surgery. During his internship, he purchased an x-ray tube within one year after Roentgen's discovery and wrote two seminal papers on the value of radiology in medical diagnosis. Cushing was captivated by the spell of the vibrant, vivacious, and brilliant Osler, who was then the undisputed leader in American medicine. These men were to develop an affinity lasting almost a quarter of a century, until Osler's death. Osler's influence on Cushing was profound, and each man was perhaps the best friend the other ever had (1). Their medical careers showed many parallels, created, in part, by Osler's influence and direction on the young Cushing. They were born exactly 20 years apart, Osler in 1849 and Cushing in 1869, and died 20 years apart, each at 70 years of age. Both men were the youngest of large families, and were raised in the ethic of hard work and the

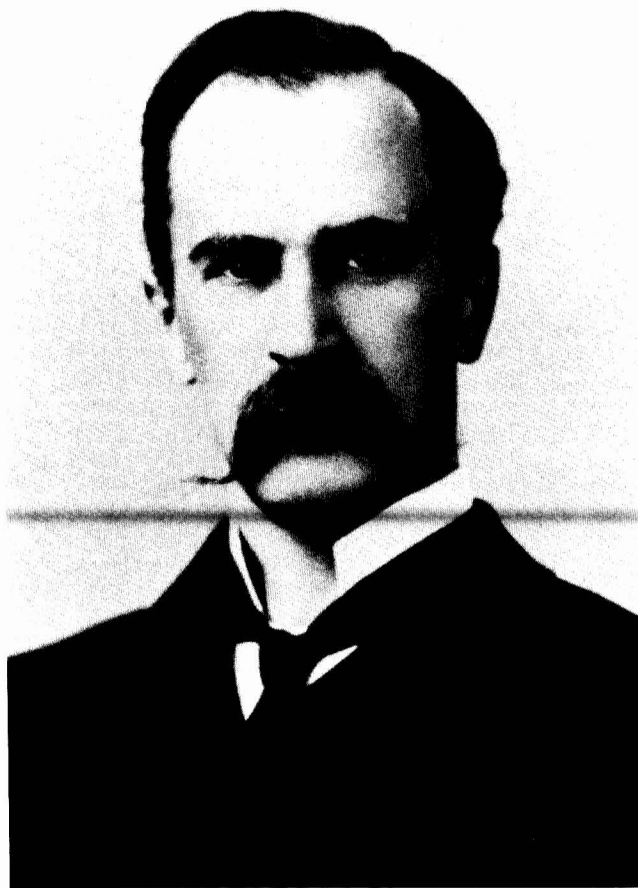


FIG. 1. William Osler at 32 years of age. (From the Notman Photographic Archives, McCord Museum, McGill University, Montreal, Quebec, Canada).



FIG. 2. A young Harvey Cushing, when he was a faculty member at Johns Hopkins University. (Source of photo unknown.)

need to make one's own way. High-spirited as youths, each channelled this characteristic energy into productive and creative endeavors under the guidance of older men.

It was under Osler's influence and guidance that Cushing spent 14 months in Europe in 1900. In Kronecker's laboratory that year, Cushing performed his epoch-making experiments on the relationships among intracranial pressure, pulse, and blood pressure, known as the *Cushing response*. Osler imbued in Cushing an interest in medical history and rare books. The search for original works by Vesalius became an obsession that consumed both men for the rest of their lives. Their interest in old treasures was more than acquisitive. They wanted to know about the author and his life, as well as what motivated him to write.

Both men were dedicated teachers, though their styles were dissimilar. Osler was gentle, kind, and paternalistic with each student, nonetheless, he expected much in return, which he invariably received. Cushing was a firm, demanding, hard taskmaster, and his criticism of associates often resulted in strained relations.

In 1905, at 55 years of age, Osler became Regius Professor of Medicine at Oxford University. The Osler-Cushing intimacy continued, and the tragedy of World War I brought them even closer. Osler's beloved only son, Revere Osler, named for his great-great-grandfather, Paul Revere (of American Revolution fame), was mortally wounded in France. Cushing, then leader of the Harvard Medical Unit, attended the young Osler. Sir William, who by that time had been knighted, was devastated by the loss of his son and died two years later, in 1919. His wife, Grace Revere Osler, asked Cushing to write a definitive biography of Osler. Cushing could not decline this request since Osler had meant so much to him for 20 years. But the enormous task of writing Osler's biography was undertaken at a time when even Cushing was taxed by the expanding field of neurosurgery. The book, planned to be completed in 18 months, took 4 years. *The Life of Sir William Osler* won the Pulitzer Prize for literature in 1926 (2). Cushing never referred to himself by name in the book; he is known only by nondescript terms such as the "American student."

The scientific contributions made by Cushing are well-known to this audience and need not be reviewed. Any young neurosurgeon with an interest in learning the history of his profession should read Fulton's (3) or Thomson's (10) biography of Cushing and join the soon-to-be-developed Joint Section on Neurosurgical History.

Both men have been honored by having medical societies named after them: the Harvey Cushing Society, now the American Association of Neurological Surgeons, and the numerous Oslerian Societies, the most notable being the American Osler Society. Both men have had a stamp struck commemorating their contributions—Osler in Canada on the 100th anniversary of his birth, and Cushing this year, as part of the Great American series (7).

DEDICATION TO NEUROSURGICAL EDUCATION

The legacy of Osler and Cushing is greatest in medical education. We, their descendants, must maintain their high ideals and adhere to educational excellence. The Congress of Neurological Surgeons (CNS) was dedicated 38 years ago with the purpose of elevating and sustaining education in neurosurgery. From the beginning, this organization has followed the Osler-Cushing tradition by fostering scholarship and education in technical advances in neurosurgery, basic science,

and medical ethics. The Congress is the only organization totally dedicated to this end.

The American Association of Neurological Surgeons (AANS) is the spokesman for neurosurgery, as stated in the Mayfield Proclamation in 1966, and the Congress has contributed personnel and financial backing to promote that role (6). Examples of this cooperation include shared sponsorship of the Washington Committee, the Joint Council of State Neurosurgical Societies, and, most recently, the national neurosurgical survey. Some Congress members propose that we totally withdraw from socioeconomic activities, but the majority adhere to the opinion that continued involvement and support by the Congress is necessary to educate young neurosurgeons in socioeconomic matters. We need also to maintain a voice on issues that affect all neurosurgeons, many of whom are not members of the AANS.

The main thrust of the Congress is clearly education, both of residents and of neurosurgeons in practice. The advancement of neurosurgical education was our primary charter, continues to be our current emphasis, and will be our direction in the future. I hasten to add that this reaffirmation is not meant to imply that the role of the AANS in education is less, since it, too, is an educational organization as well as being the spokesman for neurosurgery. The implication of this recommitment is rather that the Congress's finances will be directed in a major way toward the continuation of neurosurgical educational endeavors through books, journals, meetings, and public education, as is exemplified by the Head and Spinal Cord Injury Prevention Program.

LEADERSHIP IN SOCIETY

Last year, Donald Quest's presidential address stressed commitment to family, profession, and self (8). The previous year, Joseph Maroon emphasized the need for greater attention to family, religion, and physical well-being (5). He argued that we spend excessive time advancing our professional careers, thereby depriving ourselves of equanimity and balance in life. They advanced the philosophic concept of the neurosurgeon as the whole person. I propose today that we further develop the theme of the whole person. In this regard, I suggest that each of us commit a larger personal contribution to professional and societal needs. When I refer to profession, I do not mean the quality of patient care nor the standard of diagnosis and therapy, because the advances in these areas over the past quarter of the century are testimony to our commitment to improvement. Rather, I am attempting to outline a plan of action by which we can promote good outside the patient setting and, in so doing, become identified as leaders in the medical profession. Let me give you some examples:

- Fletcher Eyster and Clark Watts have been instrumental in developing the joint CNS/AANS Head and Spinal Cord Injury Prevention Program.
- Michael McWhorter provides medical care for the underprivileged in the West Indies several weeks each year.
- Russell Travis has emerged as a leader in pursuing a policy of compassionate care for the indigent in Kentucky.
- Mark Kubula has been working for tort reform in Texas.
- Roy Bakay is helping the Office of Technology Assessment respond to the United States Congress with expert advice on tissue transplantation.
- Robert King works unselfishly for increased support for biomedical research.

- Merwyn Bagan works with the United States Congress to develop a realistic health care agenda.
- Cone Pevehouse is working with the Physician Payment Review Commission to assure that access to care is not compromised by cost.
- Donald Stewart continues to press for a rational program of tort reform in New York.
- Frank Wrenn is developing voluntary standards for Emergency Medical Services.
- Buz Hoff works with the Veterans Administration on issues of training.

Of course, there are many others who are major contributors, but I fear that there are still too few individuals in organized neurosurgery who make public service an area of their lives. As Professor Howard Odum of the University of North Carolina warned his students, "It is easier to find scholars for needed research than to find statesmen for needed reform."

Each of the neurosurgeons mentioned above is acting as a guardian of the public trust. Each of us can and should acknowledge by his or her actions that the individual can influence events for the betterment of medicine and society. Naturally each of us must find his or her own arena for participation; however, there are three programs that I want to mention specifically, because each of you here, if willing, can be a contributor.

ORGAN RETRIEVAL AND TRANSPLANTATION

It is my strong belief that our profession must increase its commitment to the cause of organ donation and transplantation. Neurosurgeons are a vital link in the procurement process, yet we have been reluctant to assume a leadership position in this humanitarian endeavor. Organ transplantation today is a proven medical therapy. Transplant surgeons performed almost 12,000 organ transplants in 1987. The medical profession has taken great strides in making transplantation a viable procedure, the benefits of which include both improved quality of life and saving life itself. We recognize that as a social issue, transplantation has progressed beyond the point of public debate. Yet the organ procurement system does not work as effectively as it should, and we, as a profession, need to be more involved.

Today, almost 15,000 chronically and terminally ill patients are waiting for organs. Unfortunately the organ retrieval system has been unable to provide enough donors, and that is precisely where neurosurgeons can take a leadership role. In the sequence of events leading to organ donation, the timely declaration of brain death is paramount. If the declaration of brain death is delayed by just a few hours, the chance of the organ survival is drastically decreased. No more than a third of all medically suitable cadaveric organs are actually retrieved. It is our responsibility to work closely with hospital staffs and local organ procurement personnel to help the donation process to work effectively.

To those who object that our assuming of this role is a conflict of interest, I say there is no conflict. Unquestionably, we are the ultimate advocates for our patients. But once the patient is dead, we must lead in advocating better health care for all, and this includes actively assisting organ retrieval.

Every neurosurgeon should make initial contact with the family members of any patient who has reached the point of being brain dead. We often overlook this, perhaps because of our perceived failure of successful treatment. But we must not let this get in the way of our responsibility to the patient's family and to the health care profession. A recent survey

indicated that 79% of donor families believe that the donation helped ease the grieving process, and 89% would donate again. If approached properly, given the time to weigh the issues and make a decision, families are usually interested in donating. There are brain death laws and legal precedents protecting physicians from legal liability in 44 states. In the remaining 6, passage of legislation will surely facilitate the retrieval process, and the Congress of Neurological Surgeons is actively supporting such legislation.

The issues are clear, and we cannot ignore them. Organ transplantation is an accepted and valued life-saving procedure, and the current performance of organ retrieval systems is unacceptable. We must work cooperatively with others—internists, general surgeons and urologists, and organ procurement coordinators—but we cannot relinquish to others the responsibility of obtaining donors. As neurosurgeons, it is our responsibility to become leaders in organ retrieval efforts, and to do everything possible to facilitate organ retrieval, until there is no one in this country in need of an organ.

HEAD AND SPINAL CORD INJURY PREVENTION PROGRAM

The second area where every neurosurgeon may make meaningful contribution is the CNS/AANS-sponsored Head and Spinal Cord Injury Prevention Program. This program began seven years ago in Florida and Missouri, and has the potential to provide the greatest public good of any neurosurgical sponsored activity. We now have hired a full-time program coordinator to work in the Chicago office. If you are interested in participating, write to Louise Miller and offer your services in developing or furthering the goals of the program in your state. Alternatively, you should press your state neurosurgical association to seek assistance in developing a state program. Be willing to offer your expertise as part of the team that visits intermediate and high schools. Be prepared to talk to the Rotarians, Chambers of Commerce, Kiwanians, and other civic groups.

Currently, there are 37 states that have a program in place, and there are more than 100 groups or individuals who have attended one of the teaching centers to learn the mechanism for establishing this program. Forty-five state neurosurgical societies have cooperated in statewide programs by designating representatives to interact with the National Program. Several private, state, and national organizations, including the Departments of Health and Transportation, are offering help in this humanitarian and altruistic project. In several states, where the program is in place, the incidence of spinal cord and head injuries among youth seems to have decreased.

NURSING CRISIS

Thirdly, the critical shortage of nurses that affects every aspect of medicine, from essential patient services to the allocation of resources, calls for our involvement. I submit that physicians have contributed to the problem by not recognizing and addressing the professional, economic, and personal needs of our fellow health care providers. While the problem is now being addressed at every possible level, including that of a Presidential Commission, one might ask what neurosurgery can do.

First, recognize the dignity of the individual nurse as a professional and the wonderful tradition that she or he represents. Be an advocate for the nurses at each of your hospitals, especially with regard to their advancement, improved financial reimbursement, and ongoing educational opportunities.

Nurses need recognition for their skills and knowledge. We must appreciate the necessity of collaboration among the many tiers of health care delivery, including nurses, hospital administrators, physicians, and patients. Physicians must offer support, because unless all parties work together to solve the existing problems, conflicts will become more acute. This developing crisis is so central to health care standards that we cannot watch the problem develop from the sidelines. Hospitals cannot function without nursing staffs and we must all realize that the most important issue is developing a system that best meets the needs of the patient.

SUMMARY

These are challenging times for neurosurgery. Although no one can predict our future, great changes are in the wind—many of which we are powerless to prevent. We must all take on added social responsibility, above and beyond that of patient care. The leadership of your organization can only act with the support of active and concerned neurosurgeons who are willing to participate in many programs available to our profession. The individual must personally embrace the leadership standards of Sir William Osler and Harvey Cushing.

One of the privileges of giving a presidential address is to pay public homage to those who have been supportive and instrumental in my long professional journey. During my residency, Dr. Dwight Parkinson was my mentor and teacher and set a wonderful standard for the ideal practice of neurosurgery. Decisions were black or white, never gray, with Dr. Parkinson, who left little doubt as to the correct way to handle clinical problems. He was, and continues to be, one of the most incisive, imaginative, innovative scientific minds in neurosurgery, and I owe him a great debt of gratitude.

Two other men influenced my neurosurgical development. They are Dr. William Horsey, formerly neurosurgeon at the St. Michael's Hospital in Toronto, and Dr. Peardon Donaghy, with whom I spent a most enjoyable and productive year in

Burlington at his microvascular neurosurgical laboratory. These two men demonstrated the humility, warmth, and kindness to patients that cannot be learned by formal study, but comes from observing the example of people who manifest those qualities in their own personality.

Finally, I would like to thank my partner, friend, and mentor of 15 years, Dr. Henry Garretson, past president of the AANS. Fortune must have been looking kindly on me when I joined the University of Louisville in 1974, where Henry was already a faculty member. Our relationship has been one of cooperation and respect. From Henry I have learned that good things will come to those who practice patience, timing, and equanimity. To each of these four men I owe a great deal. For me and for many others, they have been leaders in neurosurgery.

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