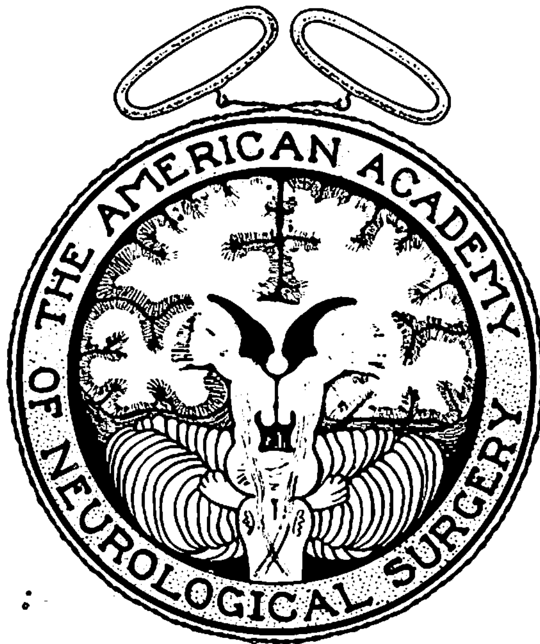
THE AMERICAN ACADEMY OF NEUROLOGICAL SURGERY



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C. Hunter

SHELDEN

We are presenting the Neurosurgeon Award to C. Hunter Shelden this year in recognition of his contribution to the Academy and of his distinguished career in neurosurgery.

Born in Minneapolis, Hunter grew up in Rochester, Minnesota where his father, affectionately known as "Pop" Shelden, was Professor of Neurology for many years. Attending the University of Wisconsin, he spent time as an undergraduate at the Albert Ludwig University in Frieberg acquiring a lifelong interest and appreciation for neuro-anatomy and German science and culture. He received his BA in 1930. His MD was obtained in 1932 from the University of Pennsylvania. He returned to the Mayo Clinic, receiving his training in neurological surgery under W. Adson. Married to the former Elizabeth Patterson in 1934, he and Betty have three sons and two grandchildren.

He entered the Navy in 1940 serving at the Bethesda Naval Medical Center where, in conjunction with Robert Pudenz, he published many innovative papers in clinical and experimental surgery. He has retained his Navy allegiance to this day, remaining a senior consultant to the Surgeon General, a post he filled with several trips abroad during the Viet Nam war.

Returning to Pasadena in 1946, he engaged in the private practice of Neurosurgery, gradually building a Residency Program, research facility, and engaging in continuing efforts to improve the technical aspects of surgery, particularly in the treatment of Trigeminal Neuralgia.

He is the author of numerous scientific publications. He is a member of regional and national neurosurgical societies.

Of particular interest to this Society, he is a two term Past-President, he served as member and Chairman of the Board of Neurological Surgery as a Representative of the Academy, and is now retiring, after five years, as the Chairman of the Round Robin Committee.

Although retired from clinical practice since 1978 he has not changed his work habits. Active in neurosurgical research at the Huntington Institute of Applied Medical Research he helped found, he was awarded the NASA Medal in 1980 for outstanding research; this for the work resulting in a stereotactic-CT coupled method for operating small intracerebral lesions.

Writing about Hunter without mentioning golf would be to omit a lifelong passion which he has pursued with diligence and analytical interest. However, that story will have to wait until the presentation of a "Golfers Award".

THE NEUROSURGEON AWARD WINNERS

Edwin B. Boldrey	1955
Georgia and John Green	1956
Dean Echols	1957
Arthur R. Elvidge	1958
John Raaf	1959
Rupert B. Raney	1960
R. Glen Spurling	1961
Hannibal Hamlin	1962
Frank H. Mayfield	1963
Francis Murphey	1964
The Ladies	1965
David L. Reeves	1966
Eben Alexander, Jr.	1967
Donald D. Matson	1968
Henry Schwartz	1969
Guy L. Odom	1970
William F. Meacham	1971
Richard L. DeSaussure, Jr.	1972
James G. Galbraith	1973
Lyle A. French	1974
Charles G. Drake	1975
Robert Pudenz	1976
William Sweet	1977
Robert B. King	1978
C. Hunter Shelden	1979

OFFICERS

PRESIDENT	Eben Alexander, Jr., M.D.
PRESIDENT-ELECT	Joseph Ransohoff, M.D.
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TREASURER	John T. Garner, M.D.
HISTORIAN	Edwin B. Boldrey, M.D.

Eben and Betty

ALEXANDER

I have been honored far more this year than I deserve and I suppose it is just a factor of being alive at age 66. Being selected by the Congress to be their honored guest this year is certainly a very great honor to me, but nothing quite reaches the pinnacle of being elected President of the American Academy of Neurological Surgeons. I am looking forward to that meeting more than I can tell you, and I hope that we can have an extraordinary meeting. I hope to personally write to each one of our senior members to see if they can bestir themselves to come this year since I think they would add so much to the group.

As the Academy grows, and it must grow, we need to assimilate and indoctrinate our new members in the traditions, aspirations, and goals of the Academy. If we don't do that, it will become like every other society, and it is a unique society in itself. I don't know any society I have enjoyed as much or been as proud of belonging to as the Academy and being President of the Academy is something I never really expected to achieve.

I am deeply involved in the national scene in the area of medical education now, being on the Council on Medical Education of the AMA, and also on the Liaison Committee on Medical Education which accredits medical schools. I have also just been appointed to a four-year term with the National Board of Medical Examiners.

In addition to this, I am privileged to carry on a full load with all my colleagues here, and we are having a great time with Dave Kelly leading our section. We couldn't have a nicer group to work with nor a finer group of residents, and I really enjoy every day of it.

Carolyn and James

AUSMAN

As regard to my thoughts on "Neurosurgical Manpower — Too Much or Too Little?" I have the following thoughts.

With the medical market place so regulated now by government decisions to increase the number of doctors and then diminish the funding and limit the physicians educated, the predictions of either doctor excess and, yes, possible doctor shortage, the number of women physicians, increases and the desire for salaried limited time positions, increases in our own efforts to limit manpower, it is very difficult to know what the natural needs in the marketplace are. Besides this, the future directions research may take us are unknown and no matter how well one can plan for this, projections on the basis of present needs can only be guestimates on future demand.

I see other specialties competing for areas that should be within the realm of the neurologic surgeons — the orthopaedic surgeon interested in peripheral nerve or spine problems, the plastic surgeon interested in peripheral nerve diseases, the vascular surgeon interested in cerebral vascular and carotid diseases. Unless we continue to assert our position in these areas we will be constantly trying to recapture these fields as we are now doing nationally in regard to the vascular surgeons who are involved with extracranial cerebral vascular disease. Ideally I would prefer to let the marketplace regulate the ebb and flow of neurosurgeons trained but in view of our creeping socialism, at least at present, this is not a popular view. History has repeatedly taught regulation stifles initiative and individuality. In my opinion, there is a whole world of potential for the neurosurgeon to explore and we ought to be able to have the manpower and opportunity to do it.

The past year has been a very busy one for Carolyn, the children and myself as we are becoming settled here in Detroit. It is an extremely nice community and the people both here in the hospital and in the community have been very kind in making us feel comfortable.

Bob and Louise Knighton have been extremely nice to us and have made our transition a really pleasant one.

We are extremely impressed with the progress in the community and the innovation in the hospital. Detroit has made a major effort in attacking the problems that were so evident in the 60's. It is a very pleasant place to live and an area of great ethnic mix. There have been major strides in rejuvenating the community with attention to the problems of the poor and involvement of business and industry in the city, making the city the safest of all the large cities in the country.

Being a private hospital, Henry Ford Hospital has had an opportunity to move quickly and innovate in a number of areas. We have developed satellite 24-hour, out-patient clinics in the suburban areas which will eventually completely ring the city to provide care to a large portion of the five million people in this community. Community health centers have been set up in the poor areas and the largest HMO in Michigan has been sponsored by the hospital in an effort to combat the costs of medical care which are of such great concern to the businesses in this area. Our continual challenge is to provide cost effective methods of delivering quality health care. This concern has also spurred the development of relationships with many different hospitals and groups in the community to cooperate and provide complementary services.

We have experienced a 50% growth in our surgery and have doubled our inpatient service to become one of the largest services in the hospital. We expect to perform 1,000 operations this year, up from six hundred 2 years ago. There is an amazing amount of vascular disease in this area and this has been a source of continuous challenge and stimulation.

We have been very fortunate to have a number of the Academy members and their wives visit us during the year. Of course, we were very glad to have Shelley here and Kemp and Fern Clark, Eben and Betty Alexander, Bill Meacham, A. Earl and Agnes Walker and Bill and Elizabeth Sweet, among others. They have all been a real addition to our program and they have been very stimulating for us. We haven't let Bob Knighton retire either and have him come back every two months to see some cases and perform some surgery. Bob has been a real confidant and a helpful advisor and we are really glad he is with us.

Time is passing very rapidly it seems as our oldest daughter, Elisabeth, will be leaving for college in another year and our younger daughter, Susan, is only two years behind her.

Carolyn and I look forward to seeing you all in New York in October and again I want you to know how deeply I appreciate the honor and opportunity of being a member of this fine Society.

Edwin and Helen

BOLDREY

1980 to date has been an unusual year in many respects — not all exactly neurosurgical in character.

The first excitement occurred shortly after the first of January. Our trip to the Pan-Pacific Surgical Association meeting seemed innocent enough, as planned, but we erred in deciding to go two or three days early and take a bit of holiday on Maui. Rather vigorous storms prevented our initial landing at Honolulu, destroyed buildings at Maui where we were going to have "our peace and quiet", isolated us at Lahaina — literally — during most of our stay there, and caused enough concern that our 747 was diverted at one stage and sat for four hours on Hilo before continuing.

Shortly after return home we had our second earthquake in less than a year and this was followed three days later by a third one. Some of you may have heard of the shake up which occurred over Livermore and involved the atomic energy activity sponsored by the University of California.

Three events exciting enough to us were not enough. My responsibilities take me from time to time to Fresno Veteran's Hospital, and there on the last occasion, the return to San Francisco was delayed by a hail storm which covered the airport landing area by some three inches of hail. After boarding the plane finally, but before completing the preparation for take-off, the doors of the plan were suddenly closed, winds seemed to increase in velocity, and the Captain came on the intercom telling us all to fasten our seat belts and get into crash position — that "this is no joke, we are facing a possible serious situation". This seemed difficult to fathom but he went on to tell us that he could see a tornado coming toward the airport and could not be certain where, exactly it would strike.

Fortunately it did not upset our plane but did two smaller ones and did major damage at the airport itself, unroofing most of the building and creating a considerable degree of havoc in the interim.

None of these have actually damaged us seriously but there has been enough proximity to provide excitement.

We remember with great pleasure the delightful meeting in Memphis and I am hoping to get into one of the issues of "The Neurosurgeon" a copy of the breakfast — lunch — dinner menus for those gastronomic events, unequaled in my experience in meetings of the Academy.

I have received, since the meeting, a notation of an event related to the first session of the Academy at New Orleans — the session which I referred to in my remarks about the earlier history of the Academy. I was informed that at the meeting in New Orleans a new reflex was described by Dean Echols. This extraordinary reflex has not received the attention which is due and details will be provided on specific request.

Helen and I are looking forward to the meeting in October and to the opportunity of seeing our friends in the Academy there — as well as our guests from Germany.

Jerald S.

BRODKEY

Neurosurgical manpower has always elicited much emotional controversy and very little hard data. As far as one can tell, most neurosurgeons are busy and I doubt whether there will ever be enough warm bodies to perform all of the possible operations which an affluent, medically-informed society can generate. The real question concerns operative indications. I am sure that the indication for certain procedures are often much too lax. Expensive, complex microsurgical procedures have a tendency to replace simpler, cheaper, and occasionally more benign operations. We simply do not have enough data to really know what is being done neurosurgically on a national scale today. However, I do suspect that the number of neurosurgical procedures will vary proportionately with the number of neurosurgeons available to do them. One can only hope that the indications for these operations will be appropriate and based on sound judgement. The American Board of Neurological Surgery has been working toward developing some kind of practice evaluation scheme. Whether this organization or one of the national societies is most appropriate to carry on this work is a question, but I do think that it would be highly desirable to generate some good statistical information about how neurosurgeons spend their time. Unless such data is available, I don't see how we can really make any meaningful statements about neurosurgical manpower.

Barton and Martha

BROWN

Most of our information this year is on the non-professional front. The only observations in the latter area are that we have seen a number of interesting paraspinal and retroperitoneal tumors revealed by the C-T body scan. The unusual symptom complexes associated with these and the negativity of x-rays and myelograms formerly made them a difficult diagnosis. One suspects it is only a matter of time before the myelogram is passé!

On the topic of neurosurgical manpower, I would express the statistically unsupported view that there is too much, simply because of the continued dilution of operative cases we have all witnessed. Sub-specialization within a multi-man group has helped us maintain our skills in dealing with the less frequent types of problems, but that's only a temporary alternative if the neurosurgeons coming on line continue to outstrip the retirees in a given year.

On the non-professional front, Martha and I had a very exciting pack trip in the high Sierra last year which was terminated by an all-night siege with a bear! The bear won the day, or rather the night, as the case happened to be. The tale is a lengthy and exciting one and for those interested, should appear in Medical Economics before long.

This summer we are opting for the quieter climes of Kenya and Egypt.

Both Pam and Bart, Jr. graduated from University of California, Davis in the past year and they are bending their considerable talents in agricultural and range management activities. Pam is working for the Forest Service and experiencing the toils of bureaucracy while Bart is in the private sector working with a large ranching and cattle outfit.

If I can learn how to mend fences and repair saddles, I will have an alternative career! My best regards to everyone.

Shelley and Jolene

CHOU

It was an unusual year for us. First of all, Jolene and I made a commitment to share our lives together again. We decided that there was far more in common in our basic beliefs than there were differences. Besides, we always have a family of three children who are now all over the world in their pursuits — one in Taiwan, one in Tokyo and one in Provo, Utah.

Secondly, this is the tenth year in my capacity as the Chief Executive person (how the language has changed!) of the Department of Neurosurgery here in Minnesota. There have been striking changes in these ten years. For one thing, the amount of paperwork has increased at least tenfold. For another, we no longer have the "good old days" when time, energy and funding were not so much in short supply. Perhaps such remarks are a reflection of my "maturing" process.

The last decade to which I alluded also saw magnificent technological advancement in neurosurgery — the CT scanner, the refinement of microneurosurgery, the revelation of an endogenous pain-relieving system, the sub-specialization in our specialty, the PET scanner and the expanding use of computers in education and practice of neurosurgery, etc., etc. Not to be unnoticed is the subtle but definite change in the characteristics, life style, motivation and sometimes brilliance of the residents in neurosurgery. I can hardly wait for what is to unveil in the next ten years. Whatever that may turn out to be, we are looking forward to seeing all of you more and to wishing you happiness and success.

"Neurosurgical Manpower — Too Much or Too Little?" I wish I could give you a simple answer based upon reliable data which we all can accept. The fact is that we do not have such data; whatever we have has been developed by groups, agencies or professional consultant groups who enjoy credibility or evoke hostility in neurosurgical circles.

There have been a number of major "manpower" studies in neurosurgery. The first ad hoc group to deal with this question was appointed in 1971 by Dr. Guy Odom as President of AANS. The members were Robert King, Dave Reynolds, Frank Wrenn, Shelley Chou with Kemp Clark as Chairman (Odom, G.: Neurosurgical Surgery in our Changing Times, *J. Neurosurg.* 37:255-268, 1972). We had many deliberations and out of such, there was an NINDB which was to become an NINCDS contract to study manpower supply in neurosurgery. As I recall, the report coming forth from this group was praised, booed and hissed at the same time. Subsequently, the AANS has a standing manpower committee, monitoring, studying and hopefully will come to some grips with this complex issue.

The GMENAC (Graduate Medical Education National Advertising Committee) was appointed by the Secretary of HEW, Joseph Califano. It was an ambitious, but in my opinion, somewhat arbitrary and simplistic endeavor. There were nine "Delphi" panels dealing with surgical specialties which is to "estimate the future requirements and supply of physicians by the year 1990." The neurosurgeons on the Delphi panel were Drs. Clark Watts, who was probably the most well-informed member of the panel, Roger Slater, neurosurgeon in private practice in Long Beach, California, Louis Schut of the University of Pennsylvania, a pediatric neurosurgeon, John Thompson, St. Petersburg, Florida, in private practice, Past President of CNS — and myself.

There were members on the panel from Neurology, Vascular Surgery and Orthopedic Surgery (the Orthopedic member was a Dr. Barr from Boston, son of Jason Mixter Barr). There was no representative from Neuroradiology.

The process of deliberation was a complex one. We had to use data employing ICDA (International Classification of Diseases), NAMCS (National Ambulatory Care Survey), HIS (Health Interview Survey), which in the very nature of the collection process, not to mention inherent defects in each, is a highly biased set. Furthermore, there are always turf and referral problems which cannot be clearly defined. Therefore, it seems reasonable to assume that the result of such deliberation is at best a controversial one (A Draft Working Paper Critiquing GMENAC Physician Manpower of 1990, American College of Surgeons, July 1980).

The recent CNS U.S. Directory indicates 3,000 practicing neurosurgeons including non-certified, but excluding resident members. The Delphi estimate for 1990 is roughly 2,500 practicing neurosurgeons excluding residents — and disregarding Nurse-Clinicians. Since there are about 600 residents now providing, to some degree, neurosurgical service, the two sets of numbers are not too much apart except with a ten year time factor. Here, the formula has to include further technological advances, the supply of neurologists, or orthopedic surgeons, of the new emerging emergency physicians and the neuroradiologist and possible others, in the next decade, to arrive at a reasonable and realistic number that will encompass service, teaching and R and D in Neurosurgery.

Well, as they say, before the computer becomes such an intimate part of our lives, garbage in, garbage out, Bible in, Bible out, perhaps I should add, "pros in pros out and cons in cons out."

As you see, I am no prophet in this complex question. The above expose is to give only a brief historical review of our manpower questions in Neurosurgery.

Gale and Marion

CLARK

Manpower is a heart-rending problem in the military. No matter what they tell you — it is the pay differential between some civilians and military medics that makes the grass look greener. This is true not only for doctors but at present is a problem at all levels in the Navy. An example is an E-4 plane handler on the USS Nimitz. He normally works 16 hours a day for about 100 hours per week. In the course of his duties he handles F-14 aircraft which cost 25 million per plane and helps operate a 2 billion dollar ship. Yet he makes less per hour than a cashier at a McDonald's, lives below the poverty level, is eligible for food stamps and has not seen his wife and child for six months.

Neurosurgery-wise only the Navy is fairly well staffed at this time; but the Navy has had to send neurosurgeons to the Army at Brooke, Landstuhl and Tripler and to the Air Force at Clark. The Navy's program at Bethesda is a boon to the neurosurgical manpower and is good for the country. If a training program can also be struggled into existence at Walter Reed, the Army will be helpful; but I know of no such plans for the Air Force. Retention will be helped by increased pay but men won't stay beyond their obligated tours unless they are moved less and then only with their consent. Neurosurgeons are rarely assigned overseas and almost never aboard a ship. Some men stay on for patriotic reasons and because they know the world-wide importance of the people they care for — but no one will admit this except to himself because it is so out of tune with the times. The admitted most rewarding part of practice in the Navy is that there is never any money relationship with the patient. Frustrations and personality conflicts are not limited to the military. There are about 31 neurosurgeons in the Navy. Increased respect for their work and an increase in pay will help our manpower problems. It would be helped considerably by an understanding Congress and President.

Edward and Elise

CONNOLLY

The Connollys had a busy year since the last publication of "The Neurosurgeon."

On the home front, our children continue to get older and provide their parents with ever new challenges. Our oldest son spent the summer with my sister in Pasadena taking a course in microbiology at Cal Tech. Elise worries that she lost her oldest son back to California.

On the medical side, major changes the past year have been the retirement of Dean Echols from the practice of medicine. Dean had, after he retired from the Clinic, remained in the Tulane/Ochsner Neurosurgery Program running the service at the New Orleans Veterans Administration Hospital but, as of July 1, 1980, he has retired. The other change has been the resignation of Raeburn Llewellyn as Chairman of the Tulane Neurosurgery Department and he has been succeeded by Don Richardson. The combined teaching conferences, however, have remained intact with LSU, Tulane, and Ochsner Clinic continuing our close relationships which I feel make all the teaching programs in the city stronger.

1980 will always be remembered by me as the Year of the Thoracotomy. When I had my routine yearly physical this spring, I had an abnormal chest X-ray, showing a left upper lobe mass. This was initially thought to be reactivation of tuberculosis since it was just distal to a Ghon complex. This, however, led to bronchoscopy and an obstructive mass in the bronchus could be seen. Although I have not smoked cigarettes for ten plus years, I had smoked a pipe until a year prior to the discovery of this lesion and I was assured in my own mind that I had a cancer growing in an old tuberculous scar. Fortunately, however, a segmental resection showed that this was a broncholith that had eroded the bronchus, obstructing it and causing a lung abscess behind it.

Outside of the indignities of being a patient, I have recovered fully and have a better understanding of post-thoracotomy syndromes.

Elise and I will be looking forward to seeing everybody in New York this fall.

Courtland and Marilyn

DAVIS, JR.

Perhaps too late, but better late than never? Each year seems to be an expansion and continuation of the previous one. There are more neurosurgeons in the area, but, thus far at least, we have plenty of clinical material for our teaching program and more demands for office time than there is time available. The quality of resident staff applying and accepted continues to be impressive. At times they are working too hard and too long for optimal educational balance, but this evens out over the year. Again, the presence of clinical nurse specialists to assume routine repetitive duties is a tremendous aid in preventing submersion of education by service.

This serves, by implication, as my view of Neurosurgical Manpower. All of our members are familiar with the Mendenhall report. Clark Watts' superb analysis, and the combined ACS-AANS report of March, 1980, to the House and Senate committees, as well as Holden's editorial comment in the NEW ENGLAND JOURNAL OF MEDICINE. These all address numbers, distribution, practice patterns, and above all, imponderables. My interpretive and intuitive feeling from these studies and from observations on our regional scene, is that for now organized neurosurgery and the public are best served by our policy of no further expansion of neurosurgical manpower capability. No neurosurgeon is suffering from too little damand for his services but geographical areas of questionable need are being filled. One could surmise that this could easily lead to increased primary care involvement by the neurological surgeon, and I am not convinced that this is conducive to skilled performance when a need to exercise his special abilities is less frequently required.

To my mind, the overwhelming need for healthperson power is now in nursing. The nursing shortage is a national crisis — general floor nursing, specialty unit nursing, and skilled OR nursing. We have, at the present rate of production, the potential of too many physicians (and PA's may soon be past a time of usefulness) but general and specialty nurses are in critically short supply both in numbers and in willingness to be employed because of their perceived lack of professional status in responsibility and support by ancillary personnel, shift changes, and pay. To me, this is *the* serious and present manpower (personpower) problem, and it will not be soon resolved.

In a personal vein, I would expand on my note of last year. Marilyn and I have been blessed by another healthy and happy year together. Sometimes it seems a struggle to get away from work for a reasonable time together and with family and friends — but it is more than worth the struggle. May it continue.

Hans Erich
and
Karin

DIEMATH

It is almost unbelievable how fast this year has past since the last "Neurosurgeon". Not much news is to be reported from here.

At the clinic we are busy as ever and in 1979 we have performed 1345 operations. Our main interest in science is in tumorsurgery in combination with local interoperative chemotherapy, in neurotraumatology as well as in functional neurosurgery and here especially in trigeminusneuralgia.

Last year we celebrated the tenth anniversary of our Neurosurgical Department. We had press conferences, invitations of the heads of our government, all doctors working with us and of all former residents. With the whole department we had a great feast.

Though being not more than ten years old, parts of our equipment have already to be restored, especially in the sterilization, therefore higher investments have to be faced.

Some days ago the enlargement of our operating wing has been permitted, which will be mainly used as a new intensive care unit, but we decided the number of beds to stay the same, that means nine.

The family is well, Karin is happy and busy with Maren Christina, who is about attending the Kindergarten. Hans Peter finished school and now after having "Matura", he intends to study law in Graz this autumn. Our eldest daughter Karen is very busy with studying medicine and now is in her fifth year.

Our family increased, since May we again have a new dog — a German boxer, called Othello. (see Picture).

October and November last year we had been in South Africa, visited friends in Johannesburg, Pretoria, Cape Town and Stellenbosch and I also gave papers there and was very much impressed by the high standard of the South African neurosurgery. A visit to this wonderful country as well in matters of science as for sightseeing can only be warmly recommended.

We are looking forward to seeing our friends at the world congress in Munich.

Auf Wiedersehen in Salzburg!

Charles and Ruth

DRAKE

The years go by so quickly and as of July, Ruth and I will be rattling around in the house alone — all four boys will then be on their own. Ruth and I now have four grandchildren including the first girl born in the Drake side of the family in 87 years. Remarkably Ruth is a keen baby sitter — no doubt to the joy of John, Jim and their wives.

Steven has just married Martha Prueter, the lovely daughter of one of our gynecologists. Tom, the youngest, graduates from the University of Toronto School of Engineering and will be working for one of the large oil conglomerates in Northern Alberta in the extraction of oil from the Athabasca tar sands. Ruth has some concern about this since we hear that young men who go West in Canada seldom return to the East. However she is already talking about taking some more university courses next year.

I have put down my thoughts on neurosurgical manpower before and still feel much the same about it — to retain excellence and quality must mean some form of regionalization and subspecialization. A modest reduction in output should occur by selection only of the first class men for training, the elimination of marginal or unproductive programs and the restraints on F M G immigration.

George and Lari

EHNI

For the neurosurgical manpower study of a few years ago I was appointed the academic representative from the region composed of Texas, Oklahoma, Arkansas and Louisiana, and formed the opinion that the study was embarked upon for political reasons, the finding of excessive numbers of neurosurgeons did not derive from the overall data (though that may have been true of certain densely populated regions) and that the mechanism recommended to correct the perceived excessive numbers of neurosurgeons was suspect. The 20% reduction in numbers of trainees was coupled with a 20% increase in time of training, keeping the total number of neurosurgical residency hours available to training program directors undiminished.

The stimuli for making the study seemed to be to validate the options of certain liberal politicians that there were too many specialists and the concerns of a few vocal mature neurosurgeons that youngsters were not getting the same training in acoustic nueroma surgery that they had had; because of dispersion of cases among too many surgeons. No adequate accounts seemed taken of regional differences in availability of neurosurgeons nor the facts that neurosurgical practices inevitably change from decade to decade with newer problems to solve, and that it is not necessary for trainees to have experience with 50 eighth nerve tumors before they are competent to go into the world to deal with newer problems such as vehicular head injuries, cervical spondylotic myelopathy, spondylotic caudal radiculopathy and hypophyseal tumors.

The introduction of the operating microscope and the recently discovered high frequency of pituitary adenomas, functioning and otherwise, has had a great and beneficial influence in improving surgical delicacy, not only in the pituitary region but in others also. It is evident to me that a man who does a commendable transsphenoidal adenectomy or a superficial temporal to middle cerebral by-pass or a Jannetta procedure for trigeminal neuralgia will do a commendable job on a pineal or eighth nerve tumor though he may not have seen many in his training period.

The effect of the manpower study was depressing for a time. Medical students, interns, and others trying to make career choices, seemed to know instantly that neurosurgeons had said they were in excess supply and that there would be no place for them to practice if they took such training. Simultaneous with this, many teachers of neurosurgeons started devoting more research and clinical interest in pulmonary, cardiac, metabolic and other problems relating to trauma, brain tumors and aneurysms with actual degeneration of spinal and peripheral nerve surgery ("disk jockey" was a cute and trendy epithet for a time). The result was that otologists made inroads on our eighth nerve tumor surgery aided by a few compliant neurosurgeons they needed to help them; orthopedists made hay at our expense with cervical and lumbar motion segment disorders, and orthopedists and hand and other surgeons took peripheral nerve surgery away from us in many quarters. Otolaryngology, orthopedic surgery and hand surgery, as surgical specialties, showed no impulse to apologize for their numbers such as neurosurgery did. They remain aggressive in recruitment of new trainees and devote their attention to getting better men and upgrading their teaching and training programs, letting the numbers be determined by rule of the marketplace. This is what neurosurgery should have done.

Neurosurgeons justify their existence to society in various ways beside expert performance of classical tumor operations at sites indicated for them by medical neurologists and CT scans. Many patients diagnosed in the current fashion as having polymyositis, anxiety, and neuropharmacologic disorders benefit from exposure to the practical neurology and common sense of experienced neurosurgeons. Many patients who have had surgical disease erroneously diagnosed by nonsurgeons cannot be put on the right track except by a neurosurgeon. There is enough to do if the young neurosurgeon, properly selected and trained, seeks out the people who need him.

Joseph and Hermene

EVANS

That July 1 deadline for "The Neurosurgeon" is imminent and each of us, I am sure, wonders how the previous year can have sped by so rapidly.

My assignment as International Liaison for the American College of Surgeons has continued and since October 1978 the International Office, of which I serve as Director, has been based in Kensington, Maryland. Kensington is one of the Washington suburbs, is about four miles from Bethesda and some eight or nine miles from the center of Washington. This location has obvious advantages for me. Frequent trips to Chicago keep me in touch with headquarters.

Much of the past year's work has been related to providing information to key legislators and their staffs of the devastating effect of recent legislation on our role as medical educators. Hopefully, amendments will be passed before the end of the year that will permit foreign medical graduates who have passed the ECFMG and the VQE to remain for that length of time necessary for qualification according to the board rules of the chosen specialty. Rules relating to return to the sending country will be strictly enforced. Moreover, the opportunities that induced so many to remain in this country rather than return to their homelands are now much less beckoning. Physicians already trained who wish to come for brief periods for "observation, consultation, teaching or research" are not required to take the VQE. These individuals may not assume direct responsibility for patient care, including the writing of orders, but may assist in the operating room.

The International Office has been busy in other ways as will be seen by reference to the July 1980 issue of the Bulletin of the American College of Surgeons. Notable in my opinion is the cooperative effort to produce at modest price Spanish translations of important English-language medical articles.

These and related activities entailed a six-week trip to many of the principal

medical centers of Latin American. I am greatly impressed with much of what I have seen, often achieved under difficult circumstances.

I'm glad to report that all goes well in the Evans clan. I commented last year at the joy Hermene and I experienced in having all our children, nearly all the grandchildren, and many friends on hand for our 50th wedding anniversary. June 24, 1979.

A second event of major importance occurred this May 24 when Ed, the "senior" twin, was ordained, at the age of 48, to the priesthood in St. Matthew's Cathedral in Washington, D.C. It was an impressive event with all the pageantry of ages of repetition. So also was his First Mass the next day at which the "younger" twin sang the final hymn, the ancient Salve Regina. Hermene's and my cups have indeed been full to overflowing.

Robert and Connie

FISHER

I have your letter of the 11th of April, 1980, and after the meeting of the Harvey Cushing Society it certainly reminds me that I had better write to you for "The Neurosurgeon," having seen so many old faces and being reminded that the next meeting of the Academy will be in October in New York City.

The number one item that has happened to us recently, which is as pleasant an activity as anything that I have participated in for years, has been introducing our nine year old grandson to the ski slopes of Snowmass in Colorado, having joined the other two generations for skiing. Both his father and mother were athletically inclined and this little fellow took to skiing like a duck takes to water; there was no problem. All of the pictures that we took failed unfortunately because of shutter difficulties, but we did have the great pleasure of having him along and I am sure that this will be a yearly event from here on out.

It was pleasant to see so many faces at the Harvey Cushing meeting. I enjoyed the meeting. Unfortunately I commuted, and I think this is to be condemned, and certainly with the Academy we will stay right in New York City.

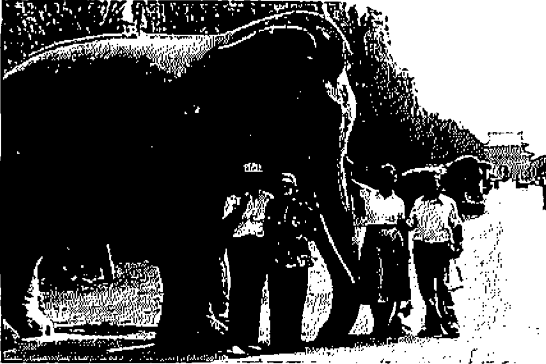
At the medical school things are certainly starting to evolve. The university hospital is being converted from a former community hospital by the additional funding of both the hospital and the State of New Jersey, and this hopefully will be completed within two years. Various committee meetings take a lot of time and cut down on the amount of research that I am able to do, but fortunately we are carrying on a research program which we hope will yield some results within the next two to three years. The clinical practice remains heavy.

As for the topic which you have selected "Neurosurgical Manpower-Too Much or Too Little?", New Jersey certainly presents problems which are relatively complex. The number of FMG's in this state is abnormally high, simply because of the fact that there have been no educational efforts until really the last decade and this has been improperly funded, and to a great extent still is. The state is now starting two other medical schools, one in Camden and another school in Camden which is to be Osteopathic in its nature. In other words there will be four schools under the direction of CMDNJ — Newark, Piscataway (New Brunswick), Camden, and Camden Osteopathic. There is no neurosurgical residency in New Jersey and we are most concerned about this and every authority seems to feel that there should be. The competition with the aggressiveness both of Philadelphia and New York has, in the past, cut down on any enthusiasm for the evolution of graduate medical education in this state. The legislature has had a great deal todo with it too.

As to the particular problem you have posed, I think that this really boils down to an answer which I suspect many other correspondents will indicate to you — there aren't enough good neurosurgeons. This really boils down to the quality of the educational institution, the frailties of the educational staff, the personal emotions interplaying between resident and educator, and I unfortunately feel that there probably are those who feel that they must carry on with a pair of hands as an assistant or resident rather than firing the individual. Again, the emotional end of individual factors are always so hard to combat. I do believe that major efforts have been put out in the last five or ten years to correct this, both by the Board of Neurosurgery, and the individual chiefs as well, to make certain that the best people and those best qualified for the specialty manage to get through.

Let me suggest that another topic that might be discussed sometime in the future is "Is Neurosurgery Too Smug and Isolated in Its Relations to Associated Neurological Sciences?".

We will be anxious to see everyone at the October meeting. Connie and I send our best wishes to all.



John and Dorothy

FRENCH

I like your new format and think it will evoke interesting, useful opinions. Does it also mean that the editor will digest the replies and circulate a consensus?

My contribution to your "pertinent topic" is extracted from a story in the Los Angeles Times, April 14, 1980, "Doctors May Be in Surplus by the 90s."

EXCERPTS

— The number of physicians increased by 17% between 1970 and 1978

— HEW predicts that the number of physicians needed by 1990 will range between 553,000 and 596,000; the supply is expected to be about 600,000.

— "It appears that training capacity is adequate for meeting current and future needs."

— "This conclusion fortifies the Carter Administration in efforts to cut-off federal aid grants to health professional schools and eliminate assistance for starting new schools."

If one accepts the conclusion that what happens to physicians as a whole also affects neurosurgeons then the latter would seem to be in overproduction in the 1990s.

I, Tid Magoun and Don Lindsley are about halfway through "The Brain Research Institute, Product of an Era" which will be published by the University of California Press. Dorothy is about at the same point with her autobiography to be published by Doubleday. We both got in some good licks during the month of June which we spent in Maui.

Warmest regards to all the members.

Doctors May Be in Surplus by '90s

Dentist, Optometrist Ranks Also Increasing

WASHINGTON (AP)—The number of physicians in the United States is growing at such a rapid rate that the nation may have more doctors by 1990 than it needs, a government report asserted Sunday.

The report by the Department of Health, Education and Welfare predicted that the number of physicians needed for the century's final decade will range between 553,000 and 596,000. But it said the supply of doctors is expected to number about 600,000.

It said the number of physicians increased by 17% between 1970 and 1978. There were 379,000 physicians in 1978, compared to 323,000 eight years earlier. Based on current data, the HEW study said, the supply will be adequate or slightly in excess of need for serving the American population in 1990.

The number of doctors in 1990 "could bring about an unprecedented ability to balance supply and demand for health services," the report said.

In an interview, HEW Secretary Patricia Roberts Harris said there was no clear analysis showing whether the cost of medical care

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EXCESS OF DOCTORS

Continued from First Page

would be reduced because of the projected adequate supply of doctors.

"We have never lived in an excess supply situation so we don't have a model that would give us an answer," she said.

Besides the 17% increase in the number of physicians, the number of dentists has grown by 19% and the number of optometrists by 15%, figures show. At the same time, the number of pharmacists increased by 23%, podiatrists 14% and veterinarians 32%.

The report attributes the growth during the eight years surveyed to the expansion of training facilities and enrollments with the federal government's support.

"While projections vary somewhat in their estimates of excess physician supply, it appears that the training capacity is adequate for meeting current and future needs," it said.

This conclusion fortifies the Carter Administration in its effort to cut off federal aid grants to health professions schools and eliminate assistance for starting new schools.

The Administration has also sought to change the focus of federal aid from general support of medical education to targeted funding aimed at increasing the number of physicians in specific areas such as family medicine, internal medicine and general pediatrics.

The report did not include figures on the number of nurses. But Harris said the problem in the field is that once trained, nurses often leave the profession for other types of work.

The projected figures on the supply of doctors are expected to reduce reliance on foreign-trained physicians, who have helped fill gaps in supply. They comprised 20% of the American physician force in 1977.

The report did not make specific projections for the number of minority and women doctors in 1990. But, it pointed out, "even with the increases of the past 15 years . . . there is no health profession in which the percentage of practitioners or the level of enrollment of minorities and women has reached parity with their representation in the civilian population."

Lyle and Gene

FRENCH

This has been perhaps the most humdrum year that we have experienced for a long time. That is not to say that we have not been very busy but we really have not done anything that is unusual in any way. This is true of my professional work as well as our family . Our three children are all very happily married, working hard, and "making ends meet", so they are no problem to us. As a matter of fact, we have enjoyed them very much because they all live close enough to visit frequently. Gene has been spending an increasing amount of time in Southern California and I go out to visit her whenever possible — she is the perfect Lorelei.

You asked the question of "Neurosurgical Manpower — Too Much or Too Little". As far as I am concerned, I think that one cannot answer the question of neurosurgical manpower as a single issue but this must be considered in the broad context of all health manpower. Pertinent is the question of whether we need the same or fewer M.D.s, nurses, clinical pharmacists, etc. Much depends on our method of delivering health care. If we are going to stay with the status quo, utilizing the various disciplines in a manner consistent with the way we have during the past ten years, then I think the question of neurosurgical manpower has more focus and relates a great deal to specialty training in general. I, personally, am of the opinion that we need more providers of primary care (family practice, internal medicine, and possibly pediatricians) and we need fewer specialists which include general surgeons as well as the various surgical specialties and medical specialties (right bundle branch block specialists, geriatric neurologists). I believe that to unilaterally reduce the number of neurosurgeons would simply result in an increase in the number of orthopedists, plastic surgeons, and medical neurologists. I firmly believe this would be wrong. It is my opinion that all the disciplines should be reviewed and

comparative judgements made. For one discipline to reduce its numbers and not have allied disciplines reduced would be a mistake. For this reason I think that as far as medical manpower is concerned, we should increase the number of generalists and diminish the number of specialists and do so in a unified, coordinated manner.

The question that also arises is whether or not we should reduce the overall production of physicians at this time, especially after we have made such an effort during the past decade to increase their production. The answer to this, I think, relates to our delivery system; that is, whether or not we are going to have an increase in the activities of the nurse clinicians, the clinical pharmacists, and whether or not we are going to be able to increase the productivity of our schools of public health so that there is more preventive medicine and health education. I could go on and on and on relative to this because it has been such a component part of my administrative job. I am sure, however, that you do not want to waste good paper and print.

We are looking forward to the San Francisco meeting; I am certain it will be a very, very good one.

John and Barbara

GARNER

This has been a busy year for us. I have moved my office and gone into solo practice. My relationship with the Research Institute is unchanged and I remain Coordinator of the Huntington Memorial Hospital Neurosurgical Residency Program.

Barbara is working full time and enjoying it immensely. Two of the children are at UCLA and the third a senior a high school.

Most of our leisure time is spent sailing and maintaining a lovely old Sparkman and Stephens yawl we acquired last year.

The response to "The Neurosurgeon" was gratifying. Unfortunately, our early meeting date made it impossible to publish prior to that time, as so many responses came after the summer holidays.

As to my own thoughts on the manpower situation at the present time it seems that if we maintain high standards in the selection of residents, the forces of supply and demand will ensure a self-regulating effect. The problems will arise only if we lower our standards to fit a preconceived number of vacancies. As the pressures of private practice mount, there will be more fully trained neurosurgeons available to fill the service requirements now undertaken by surgeons in training.

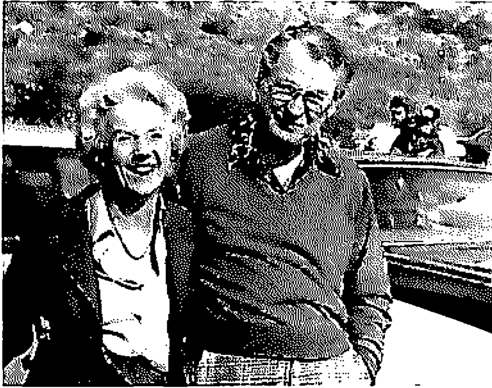
Henry and Marianna

GARRETSON

Appropriate to the season, this spring finds our unit showing some further evidence of growth. A fourth full-time faculty position is being added to hopefully assist us in keeping up our individual productivity in areas outside the immediate clinical arena. We have also just added to our section our first full-time non-clinical member with a Ph.D. in neurophysiology, to hopefully again provide a greater continuity of our laboratory endeavors. New funding is also on line for a research associate and an additional full-time Ph.D. faculty member. The long awaited entry into our new University Hospital is now coming close enough to permit some definite planning in this regard with the final details of our neurosurgical intensive care area and the neurosurgical operating suite being ironed out. Concrete is being poured at a great rate and the topping off ceremonies for the hospital should take place before the first of June.

Life here in Louisville remains full and rewarding with the boys (John age 12 and Steven age 9) keeping the pot well stirred. They have both managed to fracture an arm at about eight-week interval early this spring. This has helped Marianna's cup to flow slightly over. I am giving our seven apple trees extra attention and respect this spring with the market price for apples now approaching a dollar a pound in our area. We garnered some 30 bushels of apples several years ago and discovered there is an active barter market in our area with trade offs, not only for a wide variety of garden produce but also other types of non-agricultural services in return for tree picking privileges.

John has asked us to comment on the manpower situation. I am not sure that I really have the wisdom or the type of data that would be necessary to have a really intelligent opinion about this. I do have a strong feeling that many of us in academic neurosurgery would have a great deal of stimulus and fun go out of our lives were we to lose the interaction with the residents in training with us. The real need that I see at this time is not for reducing the number of neurosurgical graduates but for increasing the size and more especially the calibre of our applicant pool, including a higher percentage of the top 15 or 20 percent of our graduating classes to go into neurological surgery.



John and Georgia

GREEN

Our main family news since I communicated with The Neurosurgeon last year is the marriage of our daughter, Gretchen, to Mike Ewing of Flagstaff, Arizona, where they are making their home. The photos are of Gretchen and our son, Charles, at the time of this happy occasion.

The Academy meeting in Memphis was outstanding due to the gracious hospitality of Valeria and Jim Robertson, Vanita and Jim Simmons, and Phyllis and Dick DeSaussure. Leonard Malis, Julian Hoff, and Skip Peerless put on a fine scientific program.

Our 1980 BNI Symposium on New Perspectives in Cerebral Localization in early January went off very well, and we are again grateful to faculty members from the Academy who helped so very much to make it successful and who have submitted their manuscripts for publication by Raven Press. I am speaking of George Ojemann, Ted Rasmussen and Bill Sweet.

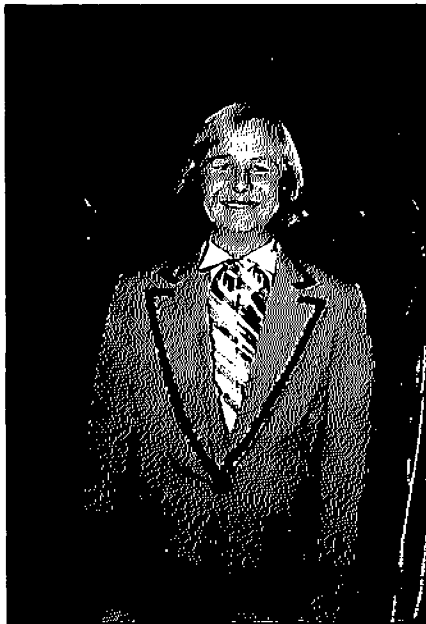
The BNI Sally Harrington Goldwater Visiting Professor for 1980 was Ted Rasmussen. We enjoyed having Catherine and Ted very much and his scientific contributions are always meaningful and well received. Nick Zervas will serve in this capacity in January, 1981.

Academy members who will be among the faculty for our 1981 Symposium, January 8-10, 1981 at Del Webb's La Posada Resort Hotel in Paradise Valley, Arizona, are Sean Mullan, Russel Patterson, Jim Robertson, John Tew, two of Charlie Wilson's associates, and I. I hope others will come for the program which will be on some controversies in cervical spinal surgery, cerebral tumors, and cerebrovascular disease — and, for the fun.

Like many of you, I found that my spring seemed almost too busy with meetings away from home. I enjoyed working with Sid Goldring on his breakfast panel on the Surgery of Epilepsy at the AANS meeting in New York and to be in New York. In May, Georgia and I traveled to Monterrey, Mexico — a city of over two million people — to present their Sir William Osler Lecture V (I and II were given by Ted Rasmussen and Bill Feindel, respectively). Our hosts were most gracious. Two weeks later we proceeded to that lovely city by the bay, San Francisco, for the meeting of the Society of Neurological Surgeons hosted by Charlie Wilson and his team. This was a fine meeting in all respects.

Our major professional news revolves around some significant appointments (my opinion, of course) to the staff of the Barrow Neurological Institute. Dr. Dan Pollen and his group of neuroscientists (4 laboratories) are now productive since arriving beginning on July 1, 1979. I mentioned this group last year. Ron Lukas, Ph.D., will be coming from Stanford on September 1st to join Dan and to extend neurochemical and endocrinological capabilities. By the time The Neurosurgeon is published, you will have received our announcement of the appointment of Robert M. Crowell as Chairman of the Division of Neurological Surgery and Director of the Neurosurgical Residency Program as of September 1, 1980. He will join Hal Pittman, Andy Shetter, Al Sidell and me in our corporate practice, will direct his Stroke Research Laboratory, and help us establish a multidisciplinary Stroke Center. He will have academic support from endowment and a great opportunity. The plan is for me to continue as Director of the Institute as well as to practice and provide instruction for the residents. We have no mandatory retirement age, but I am sure that common sense on the part of all concerned will prevail.

Georgia is painting better and more than ever before. We are planning a number of our weekends to be spent at our condominium in Pinetop, Arizona, this summer and to stay in Phoenix for the first two weeks in September to get Bob Crowell introduced. We will then proceed to take off for the rest of September in Pinetop, before proceeding to New York for the Academy meeting. We are bringing Kim and Andy Shetter as our guests. You may recall that Andy received the Academy Award in 1975 and after completing our program worked with Bill Sweet for two years. He returned two years ago, when Jim Atkinson was killed, assuming direction of Jim's laboratory and practice. In my opinion, Andy is one of the best of his age group and would be a great asset to the Academy as a productive member. I hope that you will get acquainted with him and consider him in this light. He has submitted an abstract from the 1980 program on monitoring neurosurgical patients with visual and brain stem auditory evoked potentials.



James and Mary

GREENWOOD

The following is a contribution to the Neurosurgeon. Time Marches On. Although well past retirement age, I keep telling myself that I will never retire and Mary humors me in this. The paper I am polishing at the present time for "Executive Health" on Vitamin C and longevity reinforced by regular exercise and proper weight control pretty well outlines my feelings. Much of the theories on Vitamin C proved to be correct but it is a strong chemical for maintaining the basic structure of the body and for controlling infections by localization and seems to be achieving good acceptance from much of the medical profession at this time. My book on Vitamin C, although partly completed, will probably not be ready for another year or so.

My secretary of 36 years, Mrs. McDonald, retired last July and Mary has been serving as my office manager, secretary and receptionist, and is doing a good job. She has so many irons in the fire herself that we finally had to reduce her to three full days a week which seems to give us adequate coverage.

The Texas Association of Neurological Surgeons honored me with the award of Neurosurgeon of the Year 1980 which is shared with Robbie Robertson, and at the dinner for the Society, there were about 25 of our former residents who gave me a Ben Hogan Memorial Driver, a limited production of 2500 supposedly identical with the driver used by the Great Ben in 1953 when he was playing such great golf. Incidentally, that is the year I first broke par and scored as low as 68. Robbie received a fine fishing reel.

My 44 years as Chief of Neurosurgery at Methodist Hospital comes to an end this month with the arrival of our new Chairman at Baylor who automatically now becomes Chief of Methodist. I will continue as senior consultant and some of my youngsters (age 50) will continue with my work at the hospital under Bob Grossman. We are most fortunate in having Dr. Grossman come to us as he is already a close friend of all of the neurosurgeons and we are delighted to have him.

In spite of my age, the young people at St. John's Church ran me for election to the vestry with the guarantee that I would not have to work too hard, and that I would continue with my former attitude of the responsibilities of the church.

Mary and I will travel by car up to Philadelphia the first of July for the first real vacation we have had together in over two years.

On the question of "Neurosurgical Manpower —Too Much or Too Little?", I would like to express the view sponsored by me when I first began the practice of neurosurgery, that one neurosurgeon would be needed for every 50,000 population. This has been borne out very well with the proper evolution of neurosurgery realizing that operations and procedures which we develop will be taken over by general surgeons if they can do them as well as we can, realizing also that there will be new procedures developed. There should be, in the Centers at least, very marked sub-specialization where there is too little at this time and general neurosurgery will be done chiefly in the medium and small cities. We have, at the Methodist Hospital, 25 neurological surgeons, 16 of whom will continue to do all of their work at Methodist and 9 part of their work at Methodist. We are trying to develop a situation where neurosurgeons of the outlying hospitals can be members of the Methodist staff to attend our conferences and bring the difficult cases such as aneurysms or the problem cases to Methodist.

Some of the more difficult branches of neurosurgery have been temporarily reduced or discontinued. These would include the surgery of epilepsy, psychosurgery, and surgery of movement disorders.

Mary and I are sorry to have missed the last two or three meetings but hope to be able to attend some in the future.

PS: We will celebrate our 45th wedding anniversary Sunday, June 22 — and at that time have all 6 of our children home with us, plus 11 of our 16 grandchildren. Monday, June 23, Methodist Hospital, Administration and Medical staff will honor Jim's 44 continuous years of service as Chief of Neurosurgery at Methodist Hospital. (P.S. written by wife, Mary).

Wallace and Ellie

HAMBY

Hey, John, you can't do this to us.

In the 1979 NEUROSURGEON you brought up the suggestion of considering at the Memphis Meeting the possibility of discontinuing the publication. If so, please take into account the fact that your list of retirees continues to grow and eventually will include you. Most of us in this category retain a strong affection for the Academy and interest in the activities of both retired and active members. What with inflation, the high cost of fees, travel and room rent, many of us regretfully can't afford to attend meetings, as much as we would like to. The NEUROSURGEON remains our basic tie with the organization.

I am as remiss as any at contributing but my excuse, beyond procrastination, is putting the matter aside hoping to get a photograph made. Black and white photography has been practically replaced by color, which is not good for your purpose. Special arrangements must be made and I have disposed of all of my cameras. Whenever I can get around to it, I will send you a fresh shot of Ellie and me.

Our lives remain uneventful. Travel is confined to an annual visit to our kids in Vermont and Canada respectively. On my last visit to Burlington, I had the opportunity of visiting Pete Donoghy and his staff where a number of our members have had training in working thru the microscope. Now he too is retiring. I hope his reported shift to a farm gives him the contentment that did my shift to the golf course. Of course, if he doesn't do better at his hobby than I do, he won't eat much.

Julian and Diane

HOFF

Diane, the children and I were indeed fortunate to take a six-month sabbatical from July through December, last year. Our host was Lindsay Symon at Queen Square in London. After traveling for a month in France and Italy as a family, we located in the Primrose Hill section of London and quickly adjusted to the life of Londoners. The children attended school there and had a fantastic educational experience. They even did their homework without the vigorous encouragement of their parents! (Picture is family in the Alps).

We took full advantage of all the cultural opportunities available in London and also were able to travel throughout Great Britain. Trips as a visiting faculty member to Newcastle, Edinburgh and Glasgow highlighted the end of our stay there.

On return to San Francisco in January, we found our house, car, dog, etc. intact and my job still waiting for me. It was good to get home! Perhaps even better to get home than to leave!

We are looking forward to a summer at home, enjoying the California sunshine and the joys of quiet domestic life in San Mateo. Our next foray beyond the boundaries of California will be to New York City for the Academy Meeting. It will be great to get back to see the changes in the Big Apple after ten years away from it.

We both look forward to seeing you in New York City.

Ed and Marion

HOUSEPIAN

This has been a very happy family year for us. All of our children are in New York and in school. Our son, Stephen, graduated from Columbia College. We have two to go; a pre-med son at Columbia and an English major daughter at New York University.

An enjoyable highlight of the year was the unveiling and presentation of a portrait of Larry Pool to the Neurological Institute by his former residents.

The third annual Neurosurgery-New York City combined medical school course was again well attended and enjoyable. There was an "innovative" all day A/V workshop on surgical technique which worked out well and will be repeated in 1980. Our own (Columbia University) Postgraduate Neurobiology Review Course has grown, is finally on a sound financial footing and will be offered again in 1980-1981 with an excellent syllabus.

Despite my 1979 prediction, we are, (as of this writing) still without a replacement of our Department Chairman but expect a commitment by the time this is in print.

Regarding the manpower question, I am certain that we will see the day when we will deeply regret our public statements that "there are too many Neurosurgeons." About the time we have curtailed our training programs and reduced the number of practicing Neurosurgeons, we will begin to regionalize and alter our practice arrangements (already necessitated to some extent by sub-specialization).

We will then realize that we need **more** not less manpower when our practices and incomes are regulated and we are still working 60-70 hours a week.

We look forward to welcoming all of you to New York this fall.

Alan and Susan

HUDSON

In the year following my election to the Academy, I was appointed Chairman in Toronto, succeeding Tom Morley. Much of my time has been devoted to "learning the ropes," and I have been assisted by the reviews of our programme conducted by Charles Wilson and Lindsay Symon. Two of the Academy founders, Frank Mayfield and Bill Keith, recently entertained our 17 Residents with reminiscences from their outstanding careers. This gave our Residents a real sense of the history of our specialty.

Susan and I took our four children and Susan's parents on a five week trip to South Africa. I attended a meeting celebrating the 150th anniversary of the University of Cape Town (my alma mater). The children found it strange swimming on Christmas Day rather than building snowmen. They learned far more from the trip than they would have absorbed sitting in classrooms back home. There are many encouraging signs of changes in attitude in the South African way of life.

My main academic interest continues to be peripheral nerve regeneration and I recently welcomed to our laboratory Hanno Millesi from Vienna and Dave Kline. Dave and I have a longstanding cooperative venture in studying various methods of repair of primate nerves. My other main area of interest is the study of cerebrovascular and cardiovascular variables during neurosurgical operations.

Susan and I thoroughly enjoyed the tour of Southern Germany which followed the Academy meeting in Munich. We are looking forward to returning the hospitality to our German colleagues following this year's meeting in New York.

David and Sally

KELLY

1979 and 1980 have been very good years for the Kelly's. We have an outstanding group of residents at present and my major responsibility is keeping up this high standard. Most all problems disappear in your institution if you're surrounded by young men of quality.

Unfortunately, tennis and an occasional fishing and hunting trip have had to take a back seat to my career for the time being.

Sally and I now have two children in college. Kathy will probably go into law. David has left the nest for his freshman year. We still have two at home that are a real delight. We managed to get everyone to the seacoast for our usual summer vacation.

Regarding "Neurosurgical Manpower-Too Much or Too Little?" I submit that we don't have the answers. There are too many variables and unknowns. My gut feeling is that we are training a few too many. However, it seems to me that neurosurgeons are changing their working habits somewhat and, thus, more people are looking for new associates than ever. I am equally as concerned about the quality of the people that we are turning out as the quantity. We should maintain very high standards of selection and expectations.

Sally and I extend our best wishes to all.

Molly and Bob

KING

When Molly and I reflect on the Memphis meeting, we recall in full measure the extraordinary fellowship of the Academy which expressed itself in many ways. Our cup ran over in Memphis.

Nancy is taking an accelerated nursing program at St. Louis University this year — broiling — but having a great time. It seems good to have a member of the family back in the old stomping ground. Susan is going for her Masters in Education at Syracuse University, teaching in an inner city program this summer and starting classes soon. Kim goes to Smith in the fall after a superb senior year in high school and four weeks at Camp Miniwanca (Michigan) this summer. In three weeks this summer we touched into Houston, Michigan, Boston and Hilton Head. Now back to reality for a spell before the fall circuit begins. Molly plans to teach again this fall and continue in her role with Meals-on-Wheels and at church, let alone helping the rest of us keep our heads above water while we get to work on the Christmas projects and tend "the farm." If any of you know how to get rid of woodchucks (which have destroyed the garden) short of a shot gun, let me know!

The Upstate program continues to grow in clinical material, faculties, residents, research programs and facilities. Charlie Hodge and Mike Owen are pushing their clinical work with unusual vigor and originality while their research presses new horizons of somatosensory physiology and anatomy as you know from Charlie's paper last year, and will see in the "papers in press." No program director could be away from home base as much as I have been recently without acknowledging a deep indebtedness to his family, the faculty, residents and staff. They keep the program rolling forward with sustaining enthusiasm throughout the year. Few are as fortunate as I in these matters.

Neurosurgical manpower demands for the future are still a perplexing problem. Certainly, I sense a dearth of training in research and limited reserves of vigorously trained faculty who will pursue research seriously while contributing to the high quality of clinical care demand in our training centers. The expanding field of neurosurgery (encroached upon frequently by others) suggests to me that an appropriately vigorous competitive posture by neurosurgeons will expand the field even more rapidly. The data generating processes used by GMENAC puzzle me on several counts. Their suggested range for neurosurgeons for 1990 is alarmingly low — if excellence is to be any criteria for patient care with current practices, let alone the expanded field I am confident is coming. I'll be fascinated to see other exclamations concerning manpower.

Looking forward to seeing you all in New York City and in Boston for the commemorative meeting of the AANS next April.

Wolff and Marie-Claire

KIRSCH

Shalom, Shalom!

I have been invited to sample the Chairmanship in Neurosurgery at the Hadassah University in Jerusalem and will do so on a sabbatical trial basis. Both Marie-Claire and I are looking forward to the experience. Jerusalem is an absolutely golden city. Enclosed find two photographs. Figure 1 is a typical Jerusalem street scene. The colors are so vivid that they must be viewed in real life to be appreciated. All new buildings in Jerusalem conform to a code in which only Jerusalem limestone, rose and gold tinted, can be utilized. There has been a tremendous urban renewal project since the '67 war, and now Jerusalem is one of the really beautiful cities of the world. Transportation still remains a bit of a problem as you will note from Figure 2. The device that Marie-Claire is riding gets about 120 miles to the gallon, and until the Israelis learn to drill diagonally into Saudi Arabia, will be a popular model. We will be in the Middle East at the time of your meeting in New York. Perhaps at some future time the Academy can come to Jerusalem for a joint meeting with the Israeli Neurosurgical Society. The Hebrew University Hadassah Hospital is actually two complexes, one on Mt. Scopus and the other in a delightful village called En Karem, a few miles outside of Jerusalem. The scenery and climate of Jerusalem is very reminiscent of Denver. Jerusalem is an elevated city in the Judean Mountains, surrounded by reforested areas. Though Mediterranean in atmosphere, it can become cold in the winter though snows occur only once or twice a year. For skiing we will either have to go north up to Mount Hermon (yes, you can ski Israel) at the head waters of the Jordan, or fly to Switzerland. Marie-Claire and I spent a delightful two-week visit here (Jerusalem in May) and we were captivated by the heroism of this tiny nation state. Israel poses a real threat to its Arab neighbors because it espouses a very dangerous principle, that is, democracy. This notion is unheard of in this part of the world. At any rate, we expect challenges but great rewards aplenty for us during this sabbatical year. We plan to keep the laboratory functioning in

Denver where really significant strides are being made. Publication of our paper dealing with the discovery of a new amino acid in ribosomes (the first one discovered since 1974), B-carboxyaspartic has made an impact. More of this at a later date.
The children have mixed feelings about the move. Stan and Daniel will remain here in the United States, finishing college, whereas Jonathan and Claudia will go with us. Everything should be a snap for Jonathan. He will make the transition from all boy, rigorous Catholic prep school here in Denver to a coed, free-wheeling, Jewish, yet English-speaking boarding school. His limbic system is sending signals that this is a move in the right direction. The extracurricular activities may even make a Zionist out of him. Claudia, though quite adaptable, is apprehensive. After taking first place in the Denver Marathon, first place in the Denver Science Fair, and spending her summer working at a dude ranch in Wyoming, she may miss the Rocky Mountains. Israel, though, is designed around youngsters and the experience should be a memorable one for both kids.

The situation at the medical school is a blend of an Italian comic opera, the Watergate scenerio, and Doonesbury. The Middle East is tranquil in comparison. Residencies in both Neurosurgery and Plastic Surgery have been eliminated in strokes of "creative administration." The details of these gruesome events will surface some day and make very interesting reading. Since Denver has over 30 neurological surgeons, and the needs of the indigents will have to be served, some of our surplus manpower may find themselves dedicating their time to the proposition that VA cases and medical indigent patients also deserve 24-hours-a-day neurosurgical coverage. Our residency program filled this need in the past. Their dedication may be tested by this surgical exercise. A matter of real concern for the future of American neurosurgery is that the appetite of neurosurgical training programs for prospective residents greatly exceeds the qualified candidate pool. In the past few years, I had the traumatic experience of firing two residents for clearly substandard behavior. These men were immediately picked up by other programs without any inquiries. They subsequently left these programs, only to be picked up again by other training programs. These men will undoubtedly recycle until they consider themselves "trained" and open up practices: "caveat emptor." These facts speak for themselves. Contemporary American neurosurgery faces some very serious problems, largely traced to this truism of Snoopy, e.g., "We have met the enemy and it is us."

David

KLINE

Much has happened in the last year and like life in general some has been good and some not so good but on the balance it has been an interesting period. In June, Susan finished her course work at American University and has a fine job as an accountant with a firm in Georgetown. Robert began classes at Cornell just a week ago and Nancy will be a senior at Mt. Carmel Academy here in New Orleans this year. Carol and I are divorced and she stays busy with her art and co-operative gallery. I've sold the large house which some of you will remember was out by the lake and moved to a smaller home but one with a nice private back yard and a separate cottage in the rear — something quite common in the New Orleans area. Leilani has been out on the lake a little this spring and summer and has just had her woodwork stripped and oiled and should be ready for stiffer breezes this fall.

The Medical Center remains busy with myself having an increasing influx of peripheral nerve cases - certainly more than most would care to see. We are re-working our Nerve Center Grant application and will host the second meeting of the Nerve Study Group here in 1981. The Board's office is functioning well enough so that input is not as demanding as a year ago. Mike Carey returned from his sabbitical with some good research ideas and both Rick Miller and Roger Smith have taken a firm grasp on their teaching and clinical activities. Applications for our residency remain of the high caliber and I believe our finishing residents are capable of a neurosurgical practice without further training or assistance. Our finishing residents are Drs. Judice and Johnson. Dr. Judice was Navy sponsored and will be working in Bethesda or San Diego at the Naval Medical Center. Dr. Johnson has begun practice in Montana.

You have asked for comments concerning "manpower, too much or too little?" The following is not necessarily American Board of Neurological Surgery's opinion but rather my own opinion. First and foremost, those of you interested in pursuing this topic in more depth should avail youself of a critique published by the American College of Surgeons and made available in July, entitled "GMENAC Manpower Working Projections for 1990: A Draft Working Paper." Predictions of a decade ago that there would be "too many" neurosurgeons by 1980 have not been borne out. These documents suggest that we are on track and neither oversupplied nor undersupplied. I feel that the type of practice conducted by the average neurosurgeon which centers on spinal diseases with little intracranial or peripheral nerve work is less than a fulfilling prospect. However, the public's expectations of physicians and not just neurosurgeons, have changed greatly in the last several decades and I believe will continue to change in that input from physician to patient or family complex concerned with the patient is steadily increasing. Time for paper work not only connected with insurance carriers and the government but the very institutions we work in has increased and will continue to increase so that time to care for a large number of patients and thus a great variety of patients, has shrunken and I believe will shrink further with more time. I do not believe we should decrease the numbers of neurosurgeons we are training and turning out. On the other hand, I do not believe we should increase their number. Neurosurgeons leaving training programs today still have a variety of practice opportunities available to them even though their ability to pioneer by setting up a large service in a community is not what it was a generation or two ago. Nonetheless, jobs with responsibility and with a chance to serve our fellow man and yet do well financially are still plentiful. Rather than changing the number trained, I would prefer that more attention be given to mechanisms to improve the distribution of neurosurgeons and to concentrate the difficult surgical cases and those requiring more intensive care in fewer centers. It is also time for us to redirect more attention to the several neurosurgical areas which for a variety of reasons have been deemphasized in recent years. More training and thus hopefully interest needs to be generated for areas such as pain management, stereotaxic surgery, and peripheral nerve surgery.

Hugo

KRAYENBUHL

My activities since retirement from clinical services have consisted in functioning as a consultant abroad, especially in Italy. However, I am still engaged as Managing Editor in the publication "Advances and Technical Standards in Neurosurgery" (Springer Publishers, Vienna and New York), which is sponsored by the European Association of Neurosurgical Societies. This series deals with neurosurgery and related fields, in which important advances have been made.

An exciting event in the past year was my attendance as Honorary President at the Sixth European Neurosurgical Congress of the European Association of Neurosurgical Societies in Paris from July 16 to 20, 1979. Many basic new approaches were offered in the areas of cerebral anatomy, physiology and chemistry, and various new forms of treatment were presented. At the reception at the Hotel de Ville of Paris I was surprised to be awarded the Silver Medal of the City of Paris by the Mayor of Paris. The photograph was taken on this solemn occasion, and the President of the Congress, Professor Bernard Pertuiset, appears in the background.

As for the question of "Neurosurgical Manpower — Too Much or Too Little," it is my conviction that one neurosurgeon is needed for every 100,000 inhabitants and that microsurgical techniques must, in the future, be applied to all cerebro-spinal operations, including those for herniated discs and that stereotactic and functional neurosurgery will remain a specialized sub-field within neurosurgery.

Kristian and Brit

KRISTIANSEN

The question "Neurosurgical Manpower — Too Much or Too Little" is pertinent also for Norway, but must be considered in relation to the particular organizational pattern prevailing in the Scandinavian countries. Neurosurgery is carried out only in regional hospitals connected with the universities. At the 4 neurosurgical centers in Norway there is a sufficient number of staff members — e.g. 6 permanent positions in the neurosurgical department of Ullevaal Hospital, Oslo. The number of residents is too high for the future requirements of neurosurgical manpower, but a certain training in neurosurgery is obligatory also for neurologists and orthopedic surgeons, and desirable for a few other specialities. Thus we have a built-in mechanism of regulation.

In November last year I was honored by the invitation to give the second Sixto Obrador Memorial Lecture (on morphological studies of cerebro-vascular spasm) at the Centro Special Ramon y Cajal. Brit and I spent a memorable week in Madrid and it was a special treat to be together with Margarita Obrador and her family. Leonard and Ruth Malis were also there and Leonard gave admirable lectures showing his professional eminence.

In March we visited Egypt (picture), had wonderful experiences in Cairo, Luxor and Asswan, and spent a Sunday morning at the Cairo University Hospital with Dr. Sorour and his staff presenting interesting neurosurgical cases.

A week in April at the Wessex Neurological Centre in Southampton with Mr. John Garfield, his charming wife Agnes, and other neurosurgical and neurological colleagues, was an excellent postgraduate training for a retired Norwegian — combined with delightful excursions to pre-Roman, Roman and British places of historical interest in the neighborhood.

We have just finished our summer holidays in the cottage at the seashore, and are looking forward to quiet weeks in Oslo — a very enjoyable town when most of the busy inhabitants have left for the countryside.

Raeburn and Carmen

LLEWELLYN

My thoughts concerning the present population of neurological surgeons is as follows:

Whether we have trained too few or too many depends upon what type of neurological surgeon you are referring to. If you are discussing department heads and program directors, then I confidently have trained too many. When Tulane's position was offered, I was aghast at the bright energetic, extremely talented, healthy, and aggressive younger men who were responsive to the call. If you are medical center oriented and feel that neurosurgery as a specialty can only be practiced in a team concept with patients bussed miles from their community to a strange environment, then again we have more than enough neurosurgeons. It appears to me that only a minority of current trainees are interested in the physician's role, even after six years of post-graduate training. I am referring to the neurosurgeon anxious to enter the 500,000 to 1,000,000 population city, share calls with medical neurologists, interpret his own CAT scans and EEG's, man an EMG station and practice rough and tumble neurosurgery, referring the Baptist minister's wife to the center for treatment of her intractable migraine, and the unusual post-traumatic epilepsy, the large dominant hemisphere arteriovenous fistula or the child with the persistent shunt infection. The orthopaedist falling short of post-graduate training is quite capable of assuming this specialty — physician and practitioner role in the smaller communities of caring for skeletal injuries and quite capable it seems of caring for the entire peripheral nerve problems and the entire gamut of spine problems, trauma and disease and maturing problems, as well. In addition, the orthopaedist finds time to function as the physician in youth camps, accompany the high school and college athletic teams, provide physical therapy and rehabilitative centers for the smaller communities and indeed inevitably has x-ray equipment in his office as an integral part of his practice. Plastic surgeons, the vascular surgeon and the ear, nose and throat specialty are amply inclined and trained to function in the smaller community, having admittedly a smaller impact on potential neurosur-

gical patient population, but nevertheless dissuading smaller community location of the neurosurgeon and diminishing the number of referrals to the centers. Given 80% of our trainees interested in the physician's role managing patients and their families during neurosurgical related illnesses or medical problems, 10% of the trainees with interest in research, teaching, subspecialization in the medical school arena and 10% of the trainees with interest in sustaining the government medical projects and/or having roles in neuroscience fields in industry, then Bergland's position that neurosurgery as a specialty is doomed could be challenged. It is my contention then that we are training neurosurgeons with interest in the medical center or members of large groups interested and many too few with the desire to act out the physician's role as a practitioner in the smaller community with neurosurgery or specialization.

Dr. Donald Richardson has been appointed as the new Professor and Program Director at Tulane. Don graduated from Tulane Medical School, trained with Dr. Echols in the Tulane program and has remained in New Orleans providing a familiarity that would enhance his keeping those portions of the old program that are valued while introducing newer concepts, particularly in the areas of his major interest in pain. As of July 1st, Dr. Echols gave up coming to the hospital, purchased a brand new automobile with intent to "travel." Having just achieved a young 60-age status with a 3 year old daughter, I intend to concentrate my efforts in the private practice sector while assisting in the training program by maintaining my clinical appointment at Tulane. Our family has had a nice year and we have been fortunate in being able to attend the Academy meetings of late.

Alfred J.

LUESSENHOP

For this issue I have very little to report that is newsworthy relative to personal and professional activities aside from the addition of one more full-time member to our group. This will give us a full complement of four full-time neurosurgeons in the Division of Neurosurgery at Georgetown. It is remarkable that we have been able to do this considering the high density of neurosurgeons in the Washington metropolitan area which leads me to the next point which is the assigned topic for this year.

When discussing the topic of "too many neurosurgeons" some of my colleagues have replied that everyone seems to be busy. I am not sure that this is really correct. For the past years I have become increasingly convinced that there are far too many neurosurgeons particularly in metropolitan areas. Some years ago, we reduced the number of residents in our program from eight to five, finishing only one resident per year rather than two. I had hoped that many other training programs would do this as well. It has not created any problems, in fact, the efficiency and overall clinical exposure has increased for each resident.

By my last count, the density of neurosurgeons in the Washington metropolitan area probably is the highest in the country and perhaps the world. The ratio is something like 1 to 25,000 population. This does not seem to detract from

the clinical activities in the university hospitals and a few major suburban hospitals, but certainly greatly reduces the operating experience for at least half of the neurosurgeons in this area, and makes it very difficult for a young neurosurgeon to get started particularly when he has a large malpractice premium to pay. Many of the younger neurosurgeons seem willing to transfer difficult cases and content themselves with the routine neurosurgery such as head injuries and ruptured discs. It seems that we are heading, by force of circumstances, to two classes of neurosurgeons whether we like it or not. For the future, I think that the program directors must recognize that they are responsible for training that extends beyond the training years, and it is quite fruitless to train an excellent man when you know that his future hope of a full neurosurgical career may be restricted.

Ernest and Roberta

MACK

Let me say first that the Academy meeting in Memphis I thought was a tremendous success, both professionally and socially. It was a wonderful return to Memphis. This meeting will always rank as one of the outstanding meetings of the American Academy.

From the standpoint of the Mack's, we have had a fairly quiet year, enjoying occasional visits from our three attractive granddaughters and having the fun of taking one of our daughters to a meeting in Hawaii and another one to a meeting in New York; trips which Bobbi, the girls and I all enjoyed.

Regarding the subject of Neurosurgical Manpower — Too Much or Too Little, I would have to state that at the moment I feel there is, without question, too much; however, on the long range picture as I review the statistical evidence, I think that the picture will come once again into balance with the passage of time. There is no question that in our own area we have an excess of neurosurgeons and that this has led to certain inescapable problems. One is that an excess of neurosurgical procedures are being done, some of which I am sure would not be done except for the fact that there are too many hands trying to keep busy. In some measure this obviously leads to the problem of certain new surgical methods and procedures which may or may not stand the scrutiny and test of time, but are certainly convenient and handy as a means of keeping busy and also for producing needed income. I have encountered comments to the effect that the Residency Review Committee should reduce the number of neurosurgical trainees, or reduce programs. As you all know, the Residency Review Committee continues an ongoing review of all programs and it is certain that any programs that appear to be inadequate or deficient are carefully studied and might be discountinued. However, it is not possible to even consider that the Residency Review Committee should have the power to arbitrarily curtail the number of residencies or act in a manner to curtail the number of people in residency training, other than to attempt to fit the number of people to the quality and capacities of the various programs.

At the urging of the American College of Surgeons, it appears that the Residency Review Committee may become more concerned with the approval of residency programs than they have heretofore, some of the power of the LCGME being moved back to the Residency Review Committees, and if this comes to pass, I do not think that it will be bad for the training programs. In fact, it might be beneficial to them.

At the AMA level the Section Council as a result of organizational changes in the AMA has been in some measure emasculated and some of its activities have been discontinued. The changes were brought about in an endeavor to bring the specialties in a closer and stronger position in the AMA, and I think that perhaps before we are through the opposite will come to pass.

As you all know by now, the American Association of Neurosurgery, by its constitutional reorganization has eliminated the American Academy as one of the suppliers of members of the board of the American Association of Neurosurgery, and this will mean that if the American Academy is to have a direct relationship to the American Medical Association, it must have an appointee to the Section Council as it does not have sufficient members to allow it to have a delegate. The changes which have taken place in the American Association of Neurosurgery I do not see as beneficial. As I review what has taken place, it appears to me that the control of the American Association of Neurosurgery will pass from one group which has been regarded as elitist, and which I think came to this title by virtue of training, experience, production and ability; to a group which will become the elitist group by virtue of the fact that they are able to create a noisy and somewhat disturbing mob-type effect which, unfortunately, was not dealt with at the proper time. As I look at the events that have taken place in the American Association of Neurosurgery in the last two years, I am reminded in some measure of the French Revolution.

The AMA continues to have its major focus of attention taken up with the problem of increasing difficulty with the control of medical cults, and then the ever present problem on National Health Insurance. We have, as most of you know, a member of the Academy running for President of the AMA this year, Tom Ballentine, and look forward hopefully to his being elected to this position.

Bobbi and I look forward to seeing all of our friends again in September in New York.

M. Stephen and Jane

MAHALEY

The pace of activities here seems to have remained about the same during this past year. One of the Mahaley household, Rhett, will be starting his second year in college at the University of North Carolina at Charlotte this year and his younger brother, Steve, is enrolled to begin his first year at the University of North Carolina at Chapel Hill. Jane has been enrolled here at Chapel Hill on a part-time basis taking cell biology and genetics most recently and studying German over the summer. Despite this, she has been active in the garden from which we anticipate vegetables for the summer and some for canning for the winter.

The professional activities at the University of North Carolina are continuing to grow. Dr. George Tyson from Charlottesville will be joining our faculty this year after spending nine months with Dr. Bryan Jennett in Glasgow. We have just added a full time immunologist to our faculty (Dr. Yancy Gillespie) who is spear-heading our laboratory efforts including attempts to produce monoclonal specific anti-glioma antibody using hybridization techniques.

The issue of neurosurgical manpower has been debated back and forth for a number of years now. It would seem that there are certainly some areas in the country where the neurosurgical manpower is over-abundant and other regions that are still looking for more hands to get the job done. The distribution problem right now seems to be more practically important than the actual numbers. However, I would favor trying to discourage any enlargement of graduating numbers of neurosurgeons and try to concentrate if possible upon the quality of experience at the various established training programs.

George and Sim

MALTBY

Just a brief note for "The Neurosurgeon".

Things are much the same as my last communication. Retired from practice - seven months in Boca Grande, Florida and five months in Maine. We have become Florida residents. I am still doing a little work for Medicare and the Federal S.S. Disability courts as a medical advisor.

Sim and I plan to attend the New York Meeting in October to renew old contacts but especially to honor our old and great friends Betty and Eben in this presidential year.

I am enclosing a picture of Sim and myself in front of our Florida house.

Raul and Milu

MARINO

Another year went by and, for the second time, Milu and I were not able to leave for overseas meetings. We were planning to be at the Waldorf meeting to see all our friends, but many commitments at our Medical School have demanded our presence here. I hope we will be able to see you all next year.

As I have mentioned in the last letter, we have tried, during the last few years, to implant Functional Neurosurgery in Brasil — all its branches in a single service. We are now close to 100 cases of operated epileptics, almost 300 pituitaries and many cases of pain, abnormal movements, trigeminal pathology, facial spasms, and a variety of conservatively treated clinical cases and stereotactic procedures. Psychiatric surgery cases are very rare, since our team psychiatrists screen those patients very rigidly for us.

The book that celebrated our inauguration Symposium (FUNCTIONAL NEUROSURGERY, RAVEN PRESS 1979), which we have published with Dr. Rasmussen (who also chaired the dedication Symposium), has been very well received. Many publications like the present one are recently trying to reconvey the brain to its old philosophical and dignified position as the organ of thought. Very few neurosurgeons have discovered Neurosurgery as a tool to study the higher mechanism of the brain. Men like Foerster, Penfield, Bucy, Hassler, Sweet, Talairach, Ward, Mac Lean and Nauta, to mention just a few, should emulate our younger neurosurgeons in the future. Sometimes we forget that tumor removal, aneurysm treatment, surgery of trauma, herniated discs and so on, are "extra-encephalic" procedures. Their management does not imply that the surgeon should know much on the more superior functions

of the brain like: congition, affection, volition, reasoning, learning, suffering, memory, motivation and behavior. That gives us the feeling that neurosurgeons are getting more technical every year. One of our patients, that suffered from many procedures for pain, dared to say: "If the gall-bladder was located in the skull, many neurosurgeons would be doing cholecystectomies, without bothering with the organ to which it was attached"...

More neurosurgeons should get involved in leading multidisciplinary teams of neurologists, psychiatrists, psychologists, neurophisiologists, and other personnel, to investigate the equation of mind with brain, the relation of mental to nervous activities — a stimulating design for neurosciences and for neurosurgery in particular — as a tool for achieving that goal.

Ricardo and Rodolfo are now 6 and 4 years old, respectively. Milu, the chief of our "Pediatric service" at home, is also teaching them English, the only condition we imposed on them to deserve a visit to the U.S. in the future. I have been surprised with their progress.

Milu and I look forward to seeing you in the next meeting, and send our cordial greetings to all the Academy members.

Frank H.

MAYFIELD

With apologies, I note that several years have passed since I contributed to THE NEUROSURGEON, yet I enjoy reading it each year and each issue has an honored place in my library. So — I thank you for keeping it going so well.

As to your question concerning the number of neurosurgeons needed, I ask that you read my contribution to Tom Morley's book, "Controversies in Neurosurgery." I cannot express my views better; they have not changed.

Lastly, if you will not think me too bombastic, I would say that this has been a remarkable and moving year for the Mayfields. I enclose a copy of an in-house newsletter of this Institute. In one year to be the Honored Guest of the Congress, to be recognized by the local Chamber of Commerce as a Great Living Cincinnatian, and by the AMA as a recipient of the 1980 Distinguished Service Award, and then to have one's colleagues commission a portrait — well, "my cup runneth over." Somehow I keep thinking of a $10 mule with a $40 saddle, but I am grateful.

"Queenee" joins me in affectionate greetings to all members of the Academy.

Dr. Frank Mayfield, A Great Living Cincinnatian

On February 1, 1980, Dr. Frank Mayfield was honored as one of the three eminent business and civic figures in our area to earn the designation, Great Living Cincinnatian, by the Cincinnati Chamber of Commerce.

Selections are made in recognition of those men and women in the community whose competence in their chosen profession and whose investment of time and talent in the community's behalf have significantly enhanced the community's business, philanthropic and cultural environment.

Mr. Mayfield was cited for his work in bringing about a mutual cooperative pact between community hospitals and the University of Cincinnati, by the establishment of a Graduate Training Program at the Christ and Good Samaritan Hospitals, development of a number of surgical firsts, his role in development of the first automobile seat belt and in the founding of the American Academy of Neurological Surgery.

Dr. Mayfield was honored along with Mr. William E. Anderson, lawyer, banker and civic leader; and Mr. Philip O. Geier, Jr., industrialist and civic leader.

This honor by the Cincinnati Chamber of Commerce coincided with the unveiling of Dr. Mayfield's portrait at the Institute by the members of the Mayfield Neurological Institute. This momentous occasion was attended by Dr. Mayfield, his family, colleagues, staff, and other friends.

Prior to the luncheon, Dr. Curwood Hunter made the presentation, in the absence of Dr. Richard Budde, President of the Mayfield Neurological Institute. In the words of Dr. Budde, "There are three groups of people, one group makes things happen, the second group sees things happen and the third group wonders what happened. The fact that we today are placing Dr. Mayfield's picture on permanent display here in the Institute and the Chamber of Commerce is recognizing Dr. Mayfield as a Great Living Cincinnatian certainly indicates that he is being honored as someone who has made many things happen over the last 40 plus years that he has been practicing medicine and neurosurgery in the city of Cincinnati. I believe that I can speak for everyone present by saying that we are extremely proud to have worked with and been associated with Dr. Mayfield in one way or another over the years, and so in closing, I wish to propose a toast to Dr. Mayfield that he have many more years to make things happen."

Should the Number and Quality of Neurosurgeons be Determined by Control or by the Market?

FRANK H. MAYFIELD

University of Cincinnati

Socrates was a Greek; he went around telling people what to do. They killed him.

An Anonymous Child

The methods necessary to assure that all neurosurgeons are competent have been under continuing study within the discipline since it was founded. Neurosurgical leaders have, with the consent of their colleagues, taken steps which seemed appropriate from time to time to correct deficiencies in the accrediting system. The number of neurosurgeons needed to best serve the populace without developing a surplus has also been under consideration and has been a source of concern to many.

Recently there have been suggestions that the power of the accrediting agency be used to limit the number of neurosurgeons trained. This has become the central theme of controversy among neurosurgeons today, for there are many who feel that this would be a misuse of power. To the present time, the sole purpose of the certifying agency has been to maintain high scientific and ethical standards. By excluding itself from the political and economic arena, it has maintained its lever of power.

Neurosurgical Manpower Needs in the United States

A look at the experience of other disciplines gives some substance to the concern of those who feel that too many neurosurgeons are being trained. The lines of unemployed teachers and technical scientists attest to the risk of legislative overkill in the resolution of short-term problems. Indeed, the massive expansion of medical manpower training programs at all levels in the United States, triggered, I believe, by unmet needs for primary care only in some ghettos and certain rural areas, may well result in excess production of physicians, nurses, and technicians. If excess numbers are produced, it is unlikely that they will be unemployed, and the possibility that they will do unnecessary work must be recognized. If this develops in the field of medicine in general, the discipline of neurosurgery will not escape. It is imperative, therefore, that there be, as there has been, a continuing review of manpower needs in neurosurgery.

In keeping with this obligation, Odom, in his Presidential Address to the American Association of Neurological Surgeons (1972), discussed the number of neurosurgeons in the United States in relation to population, their methods of practice, and the number of neurosurgical operations done, and he alerted the members of the Association to the possibility that the saturation point in neurosurgical manpower was approaching.[1] He did not, however, undertake to determine the number of citizens that one neurosurgeon could properly serve, nor how to bring the patient and the neurosurgeon together. More importantly, he did not undertake to circumscribe or predict the limits of service which could best be rendered by specialists in the neurological sciences who are also trained in surgery.

Largely as a result of this thought-provoking address, the AANS established a committee which it named the Manpower Commission; it entered into a contract with the National Institute of Neurological Diseases and Stroke to implement its work, with the hope of providing reliable data to guide all who are concerned about the number of neurosurgeons that should be trained.* This is an essential study, but it is a very difficult undertaking, and when finished, its findings may not relate to the problems that confront society at that time.

At about the time this study was undertaken, Bergland's lament that the specialty might die[2] brought to light a general unrest among and between neurosurgeons which is manifesting itself in many less well defined controversies. This unrest appears to have evolved to a large degree from outside factors such as spreading government control, not only of medical education and medical care, but of personal and professional freedom as well. The current problem in reference to professional liability (malpractice) is but another example of the threat to these freedoms.

In any period, like the present, of political revolution, the voices of leaders are often drowned by the roar of falling institutions; short-term solutions

*This article was written before publication of the Manpower Study —Ed.

may be retained beyond their intended time. Galen, in "Passions of the Soul," recognized this human failing:

> We have in our souls two irrational powers. The one (the irascible) has for its task to become angry and wrathful on the spot with those who seem to have treated us ill in some way. It is also a function of this same power to cherish its wrath for a longer period since the passion of anger is greater in proportion to the length of time it endures. The other irrational power in us (the concupiscible) is the one by which we are carried forward to what appears to be pleasant before we have considered whether it is helpful and good or harmful and bad. Strive to hold the impetuosity of this power in check before it grows and acquires an unconquerable strength. For then, even if you will to do so, you will not be able to hold it in check.[3]

It is hoped that the Manpower Commission will be able to develop reliable data, for it is difficult to judge the issues of the current problem. It is hoped also that it will be left to others to determine appropriate courses of action which may evolve from their findings. Medical care is not a static thing; yesterday it was different, and, whether it is controlled or allowed to drift, it will be something different tomorrow. How can one know what new fields may open to the skills of neurosurgeons at any time?

Detribalization

Some training program directors are concerned that their centers might be rendered surplus by the success of their trainees. It is, I believe, an accepted fact of nature that individuals and institutions must either adapt or die; the good will survive, the others should not. It is not essential, or indeed important, either to society in general or to the special discipline of neurosurgery, that any specific program survive. As Jefferson put it so well, laws and institutions must go hand-in-hand with the human mind.

External factors, however, do not account for all of the unrest within the discipline. The phenomenon of "detribalization" seems to be a major factor. The mutual respect between teacher and practitioner and between neurosurgeons and other medical disciplines, which was so characteristic of this fraternity for so many years, seems somehow to be less firm. The educational system of the West has properly been one in which the young learn, the middle-aged work, and the old teach. Immigration has weakened this relationship in the general educational system in the United States, while in neurosurgery the migration of young graduates away from their own training centers without having been identified with and accepted as a part of a group seems to be having a similar effect.

Bergland's warning that he sees neurosurgery as a fading star owing in part to lockstep methods of selection and training which send inferior people to small communities, lowering the quality of medical care, is undocu-

mented. He further suggests that the certifying board has placed unnecessary restraints upon individual initiative, and that the board itself does not have the authority to control these problems. These ideas seem to be common in the rumor mill. I can see no documentation of their truth, but I cannot verify that they are untrue.

On the other hand, he offers an exciting plea for individual creativity with responsible self-restraint. Tracy, the French philosopher, whose work influenced Thomas Jefferson so much in the writing of the Declaration of Independence, stated,

> Logic may be reduced to two facts: One, our perception being everything for us, we are perfectly, completely and necessarily sure of whatever we actually feel, and two, that consequently, none of our judgments, separately taken, can be erroneous except insofar as we permit previous judgments to persist.... All constraint is sufferance and all liberty is enjoyment. Our sole duty is to augment liberty and its value. The object of society is solely the fulfillment of that duty, but liberty can be retained only with self-discipline.[4]

Responsibility of Training Institutions

The editor of Surgical Neurology, a distinguished scientist and former training program director, sought the views of two other neurosurgical teachers in reference to these issues. Oscar Sugar responded with the statement that reliable data upon which to base definitive action in reference to the control of numbers are not yet available.[5] He did not deny that problems of competence and numbers exist, but he cautioned against premature arbitrary action, preferring no action to error.

Mullan, on the other hand, proposed that the American Board of Neurological Surgery undertake to pass on the qualifications of all candidates for neurosurgical training.[6] He presumed that it is possible to discover merit in objective nonpersonal ways. This is the ultimate merit trap, for it presumes that merit can be so discovered, and that if it is discovered, it should be rewarded. Screening examinations are capable of eliminating those with intelligence and drive unequal to the demands of this discipline, but those who pass do not with any consistency perform well as clinicians. Even if it were true, however, that such screening could identify excellence, it would, if put into effect, destroy one of the basic prerogatives of a teaching profession (a profession in which neurosurgical educators qualify), namely, that of selecting its students.

Bucy, commenting on the same issue, suggests that directors of training programs be held accountable for their products.[7] He states correctly that the authority to do this is already vested in the accrediting agency, and that if this authority were firmly and fairly applied, the problems of competence and of numbers might be resolved. Perhaps this is true, but quality control should not be used for quantity control. This would indeed be a misuse of power. To attempt to control the volume or quality of any resource by legislation or edict assumes that the legislator can foresee the long-term results of

his decisions, and also that his constituency (in this case, the neurosurgeons of this country and their patients) approve and will accept the constraints.

The Role and Responsibility of the American Board of Neurological Surgery

It is inadvisable to attack ad hoc social problems with long-term plans. As Nock stated, "All that one psychic human being can hope to do constructively is to present society with one improved unit."[8]

The American Board of Neurological Surgery was organized in 1939 because virtually all neurosurgeons wanted a standard which would identify them, in the judgment of their peers, as competent and ethical. Although in the changing economic and social scene the Board has lost some of its authority to other committees, it will continue to be accepted as the arbiter of standards for neurosurgeons as long as it applies its wisdom to quality control only.

From the very beginning the Board has refrained from participation in the economic arena and has refused to apply its rules retrospectively. Adherence to these principles has resulted in upgrading the standards of neurosurgical education, practice, and research. There are many examples of wise self-restraint that confirm the record of the Board. The "six-year rule," for example, was adopted to protect the rights of those who were already in practice when the American Board of Neurological Surgery was formed.

Another example of this wisdom came to light when the Board observed that certain trainees who had been dropped from one program would claim credit when they transferred to another. This resulted in the adoption of a rule that the program director would be responsible for the student he selected and that the student could only be transferred from one program to another by mutual agreement.

At the outset the certifying examination was delayed until two years after completion of training. For those who failed, it was too late to correct their deficiencies, but the investment of time and money in their training was too great for them to change careers. The in-service written examination was then developed to permit the trainee and his director to correct the defects or to give the candidate time to change his career before the cost was too great to do so.

When experience confirmed that the in-service written examination was a reasonably reliable method of identifying level of knowledge, it was adopted as a requirement of the certifying process and performance on these examinations became, as well, a measure not only of the candidate but also of the program in which he trained.

Thereafter, as Bucy correctly indicated, the training program director was to be held accountable for his product. No doubt additional rules will be adopted on the basis of experience in the future, but at this time I can see no

justification for a policy which would exclude any candidate or any training program on the basis of numbers or economics rather than competence. If the American Board of Neurological Surgery or any other accrediting agency should attempt to control numbers, it would, in fact, be guilty of dictation by accreditation which would inevitably lead to revolt.

It is possible that the time has come for the Board to review some of its rules in reference to training methods. There are many opportunities available at this time in institutions not accredited for training which would be of great benefit to trainees. Perhaps more flexibility should be granted to program directors in selecting such assignments. Moreover, there has been a tendency to look upon a vacancy in a training program as a demerit in its record. Actually, if a trainee is dropped or persuaded to change his career, it is to the credit of the director who made the decision.

How Many Neurosurgeons?

The question of numbers is an entirely different issue. From the data presented by Odom, it is obvious that careful, continuous thought must be given to the question of the number of neurosurgeons needed per capita, but it is also necessary to keep a close eye on past experience before making any decisions.

Throughout my graduate career in neurosurgery, which now extends over 40 years, I have heard neurosurgeons state that too many were being trained. One neurosurgeon for one million people was the accepted figure during my residency training period. This figure was attributed to Dr. Harvey Cushing; it was the number considered necessary to keep a neurosurgeon busy. The aphorism that a neurosurgeon made his reputation on brain tumors and his living on epilepsy, however, developed during this period, and the principle has not changed.

How does one decide the number of neurosurgeons that should be trained without flooding the market? Harvey Cushing, during his active career, was unaware of intervertebral disc disease. His clinic gave comparatively little attention to pain problems. He did not foresee that the correction of cerebrovascular disease, the principal cause of death, would come under the domain of neurosurgery. Although he did a great deal of work in the problems of vascular hypertension, he could not know that the treatment of this disease by surgical sympathectomy would open the field to medical therapy. The research benefits developed from surgically created lesions of the brain, as in psychiatric disorders and Parkinson's disease, were not anticipated. His experience with head and spinal trauma was gained in World War I. The massive case load of patients suffering trauma to the head, spine, and peripheral nerves, which has developed from mechanization of industry and automobile traffic, was not a significant part of Dr. Cushing's service. The remarkable advance of neuro-radiology, virtually all of which was developed by neurosurgeons, and which required so much time, was in its infancy when Dr. Cushing was at work.

Dr. Cushing, however, did not consider the specialty dead or dying. He accepted young men, some already trained in neurology, some in surgery, many of whom took on only short periods of training under his direction, and sent them back to their communities, where they upgraded the quality of care in disorders of the nervous system. His students, and those of Frazier, Dandy, Sachs, and others, followed this tradition. In the United States, neurologists for the most part after 1920 gave their time to care of psychiatric problems, and the neurosurgeon became the surgical neurologist, which, in my judgment, he still should be.

If there is a lack of confidence by the public and by professional colleagues in neurosurgeons, it is perhaps because they have become a specialty identified with the surgical theater rather than with the clinic and the research laboratory. People do not want to be operated upon if they can avoid it. The relationships between specialties in medicine are changing. During the first two decades of my career the management of trauma of the spine and intraspinal surgery was not in the realm of the orthopedic surgeons, nor were fractures of the extremities. The former were the neurosurgeon's responsibility, while the latter were dealt with by general surgeons. But now orthopedists deal with all fractures of the extremities, and many do intervertebral disc surgery as well. These are factors which must be taken into consideration in estimating the number of neurosurgeons needed now and over future changing decades.

From Odom's report, the number of operations done per neurosurgeon appears relatively low. This does not necessarily indicate a surplus of neurosurgeons. It is entirely possible that neurosurgeons, as they should be, are rendering care to nonsurgical problems and that the small number of operations per neurosurgeon is an example of self-restraint rather than unemployment.

Little help can be drawn from the experience of other countries to establish a formula for neurosurgeons per capita. In Great Britain, a nation of fifty million people confined to a land area approximately the size of the state of Oregon, there are 39 neurosurgical centers, with two or more senior consultants in each supported by a substantial number of fully trained but unpromoted neurosurgeons waiting for consultant openings, the number of which is rigidly controlled by government. If one assumes that the British formula for number of centers per capita is correct, and applies it to the United States, 180 neurological centers would be required. This would be without taking into account the differences in regional densities of population. On the other hand, the experience in Great Britain is not comparable to that of the United States, for head trauma is not a part of the neurosurgical work load in Great Britain.[9] Only the more complicated cases of head trauma are dealt with by neurosurgeons. Moreover, the orthopedic discipline in Great Britain deals with the majority of intervertebral disc problems.*

*There is appreciable variation in the extent to which neurosurgical centers assume responsibility for head trauma and disc disorders in Great Britain. One potent reason for delegation to other disciplines (where this occurs) is the shortage of neurosurgical units or neurosurgical appointments imposed by government. —Ed.

Those who have visited the neurosurgical centers of Great Britain recognize that a very high level of excellence is achieved in each of these centers. On the other hand, I am not convinced that even though skilled neurosurgical services are legally available to all people, that actual delivery of care to the populace of Great Britain is comparable to that of the United States. A study of the cost of indigent medical care in the city of New York has shown that advanced disease was overlooked frequently unless there was close and continuous communication between specialists in the centers and the practitioner in the community, even though the distances involved were measured in city blocks.

Among other factors which must be considered in the evaluation of manpower needs is the number of patients that one neurosurgeon or one neurosurgical center can attend in one time unit (unit production). There is general agreement that young doctors work less hard than their predecessors; my experience confirms this. If this is true, then more physicians will be needed to care for the present work load. Certain technological advances also influence unit production. The surgical microscope is an example. It has greatly increased surgical skills, but it has slowed production, and hence more trained people will be needed to do the same work, even though they do it better. Because of the long hours involved in any one operation, more than one surgeon is commonly needed at the table, either as an assistant or as a relief team. Perhaps these factors will offset the differential between the production of newly qualified neurosurgeons and the attrition rate.

At the moment of writing, I see no evidence that the luster of the neurosurgical star is dimming. Bright young people continue to apply for training in adequate numbers. Moreover, many career opportunities appear to be available for each person who finishes his training program. Many practitioners seek them as associates, and communities without neurosurgeons help them to establish a practice.

Quality Control and Appropriate Practice Patterns

All would agree that quality in neurosurgery, as in all disciplines, should be fairly but rigidly controlled. The control of numbers should be left to the marketplace. It is obvious that the number of species is limited by the availability of substance to support them, but in neurosurgery the analogy of the grazing oxen referred to by Bergland does not apply, for there is nothing to prevent the vigorous and the wise from jumping the fence to graze in newly found pastures.

Quality control, however, involves more than discipline within the neurosurgical fraternity. It requires constant review of our relations with other specialties as well. It is not important to society whether neurosurgery as a specialty continues to exist; it is only important that the skills which are developed within the specialty be made available promptly and at low cost.

Specialties were developed for the benefit of patients, not for the benefit of specialists.

The relationship of neurosurgery to orthopedic surgery, to vascular surgery, and to medical neurology should be reviewed. Are the standards of diagnosis and treatment of spinal disorders better when done by neurosurgeons (as we think they are), or by orthopedists, or by the use of the combined skills of the two specialties?

Perhaps national organizations should propose and sponsor comparative random studies to clarify these problems. Some restructuring of the teaching process might result, and perhaps even a new subspecialty of spinal surgery might develop. High skill in extremity surgery, which is a keystone of orthopedics, does not necessarily confer high skill in spinal surgery; similarly, skill in spinal surgery does not necessarily confer skill in intracranial surgery. There should be room for many with limited special skills in the field of neurosurgery. Do teams of neurologists and surgeons trained primarily in vascular disease deal with stroke problems better than do neurosurgeons? I think not, but we do not know. Comparative studies are essential.

These are the types of study that society expects of the medical profession in general and of neurosurgery in particular in order that it may know that it will continue to receive promptly the highest levels of care at the most reasonable cost. It is entirely appropriate, it seems to me, that restructuring of specialty training be considered from time to time to be sure that the public interest is being best served. When neurosurgery first became a specialty, there was great debate as to the merits of neurology and general surgery in the training of neurosurgeons. The skills of both were preserved. Are we continuing to preserve these skills? These questions cannot be fairly answered on a partisan basis at the local level; they must be explored by leaders of the specialty with the consent of its members, who will let the findings speak for themselves.

Among issues which the manpower commission must study is the quality of care in small hospitals. My experience on the Professional Practice Committee of the American Association of Neurological Surgeons and from visits to many hospitals manned by residents in whose training I participated convinces me that the quality of care in these hospitals is good. On the other hand, all agree that itinerant surgery is bad, and that certain rare and unusual disorders should not be dealt with in small centers. To deal with these problems we must face the question of retribalizing our fraternity. He who is qualified to select and train students in neurosurgery should also be expected to refrain from jealousy at the success of his students. For example, many great performers in the cultural arts are not necessarily great teachers, and, conversely, an inspirational teacher and leader may not achieve superiority over his students in performance. Medicine differs from other teaching disciplines in that the teaching aids of the educator are the patients who will later become the customers of his students. This relationship between teacher and student must not be permitted to generate competition or to breed distrust and lack of mutual respect.

Acceptance into an approved training program and creditable completion of the training provided by it entitles the graduate to certain rights in the tribe. If teachers want to retain the respect and trust of their students, then their rights must be recognized, respected, and promoted.

If training program directors want to encourage the transfer of difficult and complicated cases from small communities to centers where, presumably, better care can be rendered, they can bring this about by promoting the confidence of the community in the neurosurgeon of that community by helping him develop and apply the standards necessary for those things that he can and should do. Respect is a two-way street. Training program directors should encourage their graduates to identify with the centers they move to, and the established surgeons in those centers should accept them with enthusiasm. It seems to me that review of the quality of work in small community hospitals could, and should, be undertaken by state and/or regional neurosurgical societies on a voluntary basis. We propose to undertake this in Ohio.

If we, as a fraternity of neurologists trained in surgery, recommit ourselves to the high ideals of our profession, we will, I am confident, refocus the light which shone feebly a scant three-score and ten years ago but which has been handed to us in full glow; then neurosurgery will not die.

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William and Alice

MEACHAM

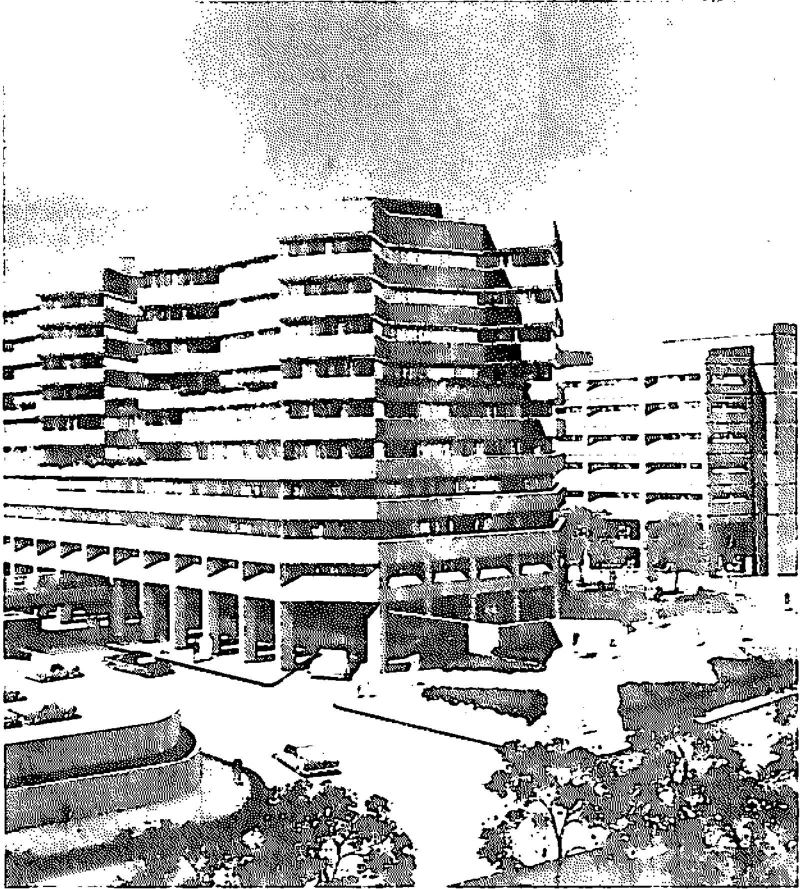
Things have gone very well here at Vanderbilt this summer. The service has been busy with the usual run of things clinical and the understandable excitement we are experiencing regarding moving the entire hospital across the street into our new building.

Neurosurgery will occupy the eleventh floor, affording a nice view of the surrounding city. Our operating rooms (two) will be on the third floor among the general operating rooms and seem to be very adequate for all types of procedures. We will have our own six bed intensive care unit and a six bed step-down nursing unit for the seriously sick patients.

Our two finishing residents have begun practice, one in Lexington, Kentucky and the other in Ft. Collins, Colorado.

The new residents are working hard and are apparently pleased with their arrangements. We are soon going from eight to ten residents in training in view of the new five year training requirements.

We will see everyone in New York in October.



John and Vivian

MULLAN

Neurosurgery at the University of Chicago continues to keep us busy and excited. We have been strengthened recently by the addition of Fred Brown whom we trained and who has taken over much of the experimental head injury work and blood flow work, both clinical and research and also by George Dohrmann, trained by Bill Collins after first acquiring a Ph.D. in pathology under Paul Bucy's guidance. George likes microvascular work in all its branches and is taking an increasing interest in epilepsy. Carotid cavernous fistulae still challenge us but ultimately do well; we are working on the in-vitro spasm problem with interest and we are acquiring more experience on both the transfemoral embolization and the operative liquid occlusion of A-V malformations. We are particularly pleased with our percutaneous (balloon compression) modification of the Hunter Shelden-Tarnhoj ganglion compression for trigeminal neuralgia. Having not yet had a return of pain we are hoping that the recurrence rate will be lower than the figure established for alcohol or the R.F. lesions.

The personal highlights of the year include invitations to deliver the Don Matson lecture in Boston in May and the Wilder Penfield lecture in Halifax in June, to drop in as visiting professor on Henry Schmidek in Vermont in May, Bob Wilkins at Duke in December and Ross Miller at the Mayo Clinic in January, to appear as guest of the Japanese Neurosurgical Society in October and of the Australian New Zealand Society in April of this year. All of these were very pleasurable and indeed very memorable occasions. Vivian was with me on all except the visiting professor journeys. In Japan we met several former trainees of ours and especially enjoyed the several invitations to Japanese homes. It is an impressive country in its history, and its monuments and the beauty of its landscapes and above all in the industry, courtesy and hospitality of its people. Despite Percival Bailey's fears in 1946 it has come of age neurosurgically and, if one may judge by the intensity of effort of its many yound men in, and just out of training, it is in a position to assume an increasing role in neurosurgical development and research. Shozo Ishii was president of a very impressive team. Ken Bleasel of Sydney presided over an equally impressive group which is perhaps better known to us, though unless one had been warned one might not have been prepared for the lavish Aussie hospitality. We visited and lectured in Brisbane, Sydney, Melbourne, Hobart and Auckland as well as Camberra where the annual meeting was held. We also looked up some family in both countries, leaving with an impressive wealth of

knowledge of the dairy industry, the beef cattle industry, wheat farming, general practice and general surgery, as well as of the neurosurgery we had acquired in the more formal section of the visit.

In both Japan and Australia there was a serious concern about over production of man power. The young Japanese after his training expects to spend several years without a significant job or pay. During this time he must produce significant research if he wishes to advance. It is a powerful stimulus to productivity. Australians cannot limit the number of trainees effectively because their young men can go to England for training. However, these overseas trainees now must expect a diminishing chance of securing a hospital appointment on their return, but in their mixture of government and private hospitals the door is not by any means closed. In New Zealand which is a socialized country a more rigid control was possible. I was surprised to find there that some activities for which a neurosurgeon is usually responsible, were delegated to others. The vascular surgeons did the carotids and the anesthesiologists looked after the more deeply unconscious patients. Our numbers cannot therefore be readily compared with those in other countries. If we were to restrict our activities to the single discipline of technical surgery we could have fewer neurosurgeons and more vascular surgeons, orthopedics surgeons, anesthesiologists, radiologists, neurologists, psychiatrists, social workers and rehabilitation experts. If we continue to plan an active role in diagnosis, in pre-and postoperative care, in rehabilitation and in family counselling and relationships as well as in technical surgery then our numbers are not yet unmanageable (though in time even with this spread of activity, they will become unworkable). We are presently moving into a new phase of neurosurgical evolution, that of specialization. This is a natural development which is being accelerated and will be further accelerated by patient expectations, by an aggressive medicolegal liability, by the increasing technical demands of surgery and by the increasing costs of supportive teams and equipment. There are now three types of neurosurgeons, the restricted generalist, the generalist and the restricted specialist.

The restricted generalist looks after head injuries, backs and gliomas. He does not have enough accoustics, epileptics, aneurysms, pituitaries and difficult meningiomas. He may have enough carotids and tics. An increasingly demanding public and legal liability persuades him to send these patients to the generalist or to the restricted specialist. He also refers patients with simple problems but difficult relatives.

The generalist does everything, and if he is very good he probably does most procedures, but not all of them, as well as the restricted specialist.

The restricted specialist will probably increase in numbers. His assets are not necessarily his technical skills but his experience, and his specialized team and specialized equipment. Such emerging restricted specialists are the pediatric neurosurgeon, the vascular neurosurgeon, the pain and epileptic neurosurgeon and the pituitary neurosurgeon. The public is becoming more

aware of them.

If we restrict our numbers excessively we will prevent the natural development of the restricted specialist who will do some things superbly well and we will restrict the availability of the restricted generalist who is indeed vital to the community hospital. Some restriction of entry into the speciality should be made but it should be on a determination of quality rather than on numbers. We should have an elite entry. If this could be carried out we would have much less need for determining the content and policing the activities of the training center and for elaborating the difficulties and complexities of the final examination.

Looking forward to our next meeting.

Francis and Marge

MURPHEY

Life goes on in a very lackadaisical fashion here in southwest Florida with perfect weather except for afternoon showers at three o'clock in the summer. I have no obligations or duties and never read anything about medicine except The Neurosurgeon. I don't do a damned thing I don't want to do except that which Marge wants me to do, and fortunately, we have similar tastes and like the same sports.

In regard to neurosurgical manpower, this has been one of my pet peeves for many years. Memphis, with about a million population, has more certified neurosurgeons than any other city in the world except possibly New York and all are as busy as they can be. The Semmes-Murphey Clinic has a daily hospital census of between 300 and 400 patients in Memphis and another 100 in Jackson, Tennessee where we have a branch. These facts are the results of neurosurgeons taking care of the type of cases they should be trained to treat — discs, peripheral nerves, seizures, cerebrovascular lesions, and other lesions with microsurgery now being treated by other physicians who know little or nothing about them and certainly are not competent to operate on them.

There is little doubt that subspecialization is necessary, assigning individuals to become proficient in the difficult lesions such as aneurysms, 8th nerve tumors, etc. This in turn requires a big clinic to supply such lesions to those specializing in them.

I well remember that four of my friends who were professors of neurosurgery at well known medical schools and I were called to Washington by the N.I.H. to discuss this very problem about ten years ago. I was the only one who thought we were training too few neurosurgeons.

When I was on the Cardiovascular Committee of the College of Surgeons, the Executive Committee voted to limit the number of trainees in cardiac surgery as well as the number of training programs. As I recall, John Kirklin and I were the only ones who voted against it, but it subsequently was killed as I recall by the Board of Regents. Where would we be now if this had passed with all the coronary bypasses to be done?

As you know, I have been out of neurosurgery for eight years and things may have changed, but I doubt it. I know of none of our residents who are not doing extremely well. I still believe if residents are trained properly to treat these lesions there are still not enough of them to take care of all who need such neurosurgical care. Let the law of supply and demand determine the number trained. An old dog can't learn new tricks and seldom changes his mind. I don't even try.

The Academy should meet at the Beach Club in Naples some time in the near future. I am sure the members would enjoy it.

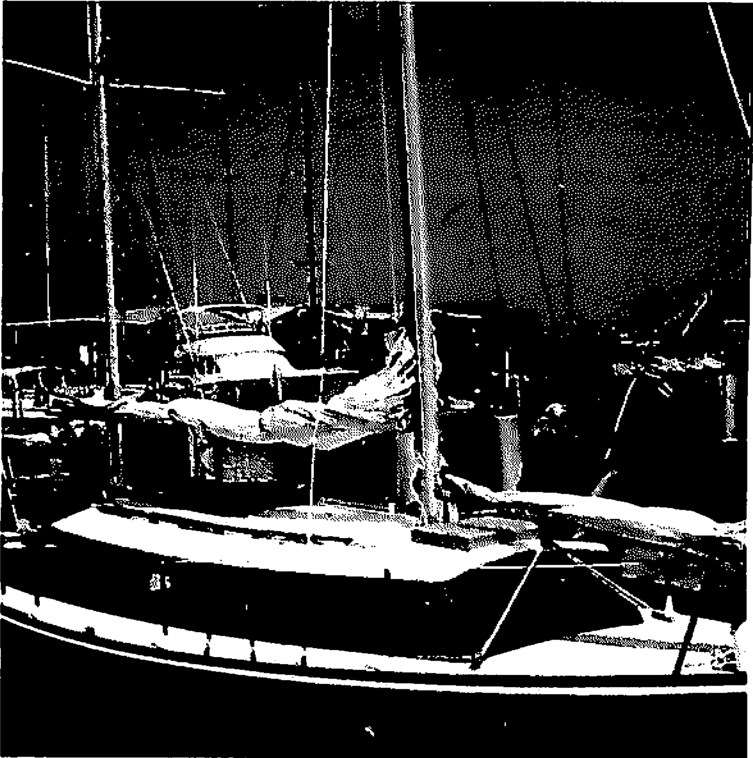
Blaine and Irene

NASHOLD, JR.

1980 has been a year devoted primarily to our continued work on the dorsal root entry zone lesions and the expansion of the Neurophysiology Laboratories at Duke. At the present time, we have expanded the dorsal root entry zone lesion to include pain relief for patients with brachial plexus avulsion, pain with paraplegia, and more recently, herpetic pain, particularly involving the extremities. Direct electrical recordings on the spinal cord, now, have been carried out in a group of about twenty patients intraoperatively, and we are seeing a number of very interesting phenomenon related to the direct stimulation of the spinal cord and pathology under relatively normal spinal conditions. The eventual aim, of course, is to develop an intraoperative recording system which will give the surgeon a method of determining physiologic function during spinal surgery. This may be more difficult than probably has been thought about initially. Neurophysiology laboratories at Duke are gaining strength again after a few years of quiescence in that we have a full time neurophysiologist now working in the lab and in the OR, as well as fortunate to have a biomedical engineer, who is computerizing much of the physiologic information now being gathered in the operating room.

Irene and I have concentrated mainly on sailing this year. We are at the present time rerigging our old ketch for a trip to Bermuda, which lies about 600 miles directly east of North Carolina. We are hoping to make this in '81. Susan Nashold is very active in nursing education, and our youngest girl will be graduating soon from Centre College. Jim Nashold has kept up an active author's career, so far, unpublished, but now has made plans to return to medical school. Our next big project will be getting ready for the World Society of Stereotactic Neurosurgery, which will just precede the International Neurosurgical Meeting in Munich next July. It is of great interest to see a rebirth in the sense of stereotactic interest and the important development of the interface between the CT scan and stereotaxis.

It seems that the manpower subject is still alive and kicking and yet, as I see the little fellow grow up, I haven't noticed really any change, although I know over the years everyone talks about too many neurosurgeons, poor distribution, etc., etc. It seems to me very little basically has been doen even by the major societies other than set up committees. No doubt there are many neurosurgeons now. The ones in North Carolina that have come out of Duke seem to be working hard and doing a variety of neurosurgical procedures, and not just involved in neurosurgery, etc. It is of great interest to me that I see neurosurgery trying to hold back the training of their group and yet other disciplines, such as ENT, Orthopedics, etc., go right on their merry way with increasing numbers of people in the field all the time and particularly in Orthopedics, which is now beginning to overlay into Neurosurgery, and I think makes a very serious inroad into our discipline.



Russel and Julie

PATTERSON

Julie and I are now into our second year with the children off at school. Julie's work as acting Chairman of the Board of Trustees of the school volunteers has turned into a full-time job with lots of meetings to attend, talks to give, and visits to corporations and foundations to solicit funds. Our daughter, Ritchie, continues in physics at Cornell where she has been assigned the task of designing a small part of new synchrotron, Cornell's giant atom smasher. Hugh has finished his second year in physics at the University of Chicago, and Alexander is through with Andover and wants to take a year off before going to Reed College.

Dick Fraser and I were joined in July, 1979 by Mike Lavyne, a graduate of Cornell who trained at the MGH. He has been a big addition to the team. We still are short-staffed and will take on Frank Gamache in July, 1980. Frank trained with us and then went a year in London, Ontario with Drs. Drake and Peerless. Frank will be working with Cornell's PET scanner, which should come on line in January, 1981.

As for the manpower question, who really knows if we are too many or too few? So much depends on the job description. Perhaps we are too many for the tumors and aneurysms; possibly we are not enough for the head injuries, backs, strokes, and consultations. Our present policy of limiting our training slots through standards of quality seems quite appropriate and eminently defensible in a questioning world.

J. Lawrence and Angeline

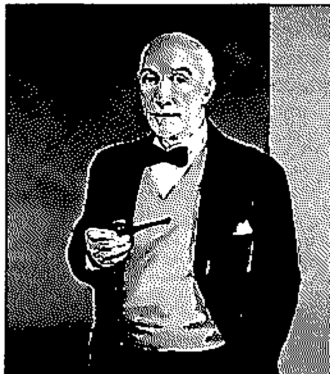
POOL

Angeline and I, so far, have had another happy year of enjoyable retirement. A highlight was a three week cruise through the Greek Isles last winter plus a fine cruise from Antigua in the Caribbean, on a 50 foot Hinckley yawl. In ocean squalls she fetched along at better than 9 knots at times, under sail. Another highlight was being a guest speaker at the Southern Neurosurgical meeting in the lovely city of Savannah in March of this year. It was a fine occasion in every respect. A third happy event was a reception and then a banquet tendered us in New York on April 24th after my portrait was unveiled at the Neurological Institute.

Meanwhile I have been busy almost daily at writing non-medical books — each now in search of a publisher — and continuing activity in painting and fly fishing. Have also taken up golf after a lapse of nearly 50 years. Best score is 102. Hope I can match this in time by 'shooting my age!'

Am not sufficiently in touch to comment on neurosurgical manpower. My guess is that it is about right.

Warm regards to all our good friends.



Robert and Rita

PUDENZ

Rita and I continue to enjoy our life in the country — blue skies, fresh air, 15 heifers, 8 acres of seed oats and a variety of fruit trees and vegetables. When I was a medical student at Duke (1931-35) I read a book entitled "The Have More Plan" about a Manhattan couple who moved to 2½ acres in New York State and subsisted on what they produced. I never dreamed that I would be following a similar pattern in my twilight years.

Our lives are not entirely oriented to agriculture. We are still involved in research projects in Pasadena and at our new medical research corporation in Goleta. In March-April, 1980 I went to Taiwan and Japan and gave a series of lectures on electrical stimulation of the nervous system and the history of the surgical treatment of hydrocephalus. Apropos of this latter report I spent many hours reviewing the literature and found many inaccuracies, mostly due to assumptions rather than facts. I am grateful to Eldon Foltz, Frank Nulsen, Harold Hoffman, Sal Hakim, John Holter and many others for their feedback. The paper will propably be published about the same time as THE NEUROSURGEON.

It is always a great joy for Rita and me to go home to Pasadena, see Hunter and the other colleagues and learn their plans and accomplishments. I am particularly proud of Hunter for his microneurosurgical innovation.

Our best to all of the Academicians.

B. RAMAMURTHI

It is a pleasure to write again to "The Neurosurgeon."

You have requested my special comments on "Neurosurgical Manpower — Too Much or Too Little." There are enormous differences in neurosurgical manpower requirements between the United States and Europe and developing countries of Asia and Africa. At the modest estimate of one neurosurgeon for a million population, India would require 600 neurosurgeons. At present there are only about 100 neurosurgeons in this country. Further development of this speciality has been hampered by lack of sustained economic development and also by the obstacles placed by the medical profession itself.

In spite of persistent effort to streamline neurological training and Residency programmes over the past two decades, the Medical Council of India which is the ultimate controlling body is not able to see beyond its nose. Could you imagine that the Medical Council of India is satisfied with a two year training in Neurosurgery after a postgraduate qualification in General Surgery? The neurosurgeon's contention is that a minimum four year period must be spent in Neurosurgery with a preliminary one year in General Surgery. In spite of

these obstacles, it is hoped that wiser counsels will prevail and a proper training in Neurosurgery will be given. When it is insisted that a postgraduate degree in General Surgery is essential before one can take up neurosurgical training, many young men are not inspired to take up neurosurgery. It is our hope that this is only a temporary setback in thought and our present programme will be allowed to continue without much disturbance.

At present the problem in India is lack of Neurosurgeons rather than a oversupply.

With kind regards.

Joseph and Rita

RANSOHOFF

I am dictating this note to "The Neurosurgeon" as the first piece of "work" that I have even considered doing in the past week. I am on the beach in Antigua with Rita, my daughter and son-in-law and a couple of male grandchildren. Unfortunately, my son, daughter-in-law and the third grandson could not make the trip or I would have had my entire brood surrounding me while I try to make some sense of this letter. I know, however, that once I get home things will get superbusy, hence, this seems the time most appropriate to send you my semi-annual contribution.

I was naturally disappointed not to be able to make last year's meeting, even if only for 24 or 36 hours. I was, on the other hand, surprised, pleased and mightily honored by the phone call from Art Ward asking whether I would accept the position of President-Elect of the Academy. I am looking forward to working with Eben this year and with the membership of our organization. I think, however, that I was even more pleased and certainly proud of the fact that Gene Flamm was elected this year to the Academy. Gene, of course, is one of my right hand men and the type of individual who I am certain will maintain the high quality of our membership ranks.

Certainly the Academy is a unique organization within the ranks of the neurosurgical societies in the United States. This membership represents the best of both the academic and practice worlds and brings us together in a relatively nonstressful environment where we can exchange ideas in the friendly, yet critical milieu which has always made our meetings so enjoyable. With the increasing level of organizational complexity which is occurring of necessity in our two major societies, the AANS and the CNS and with the SNS

now becoming spokesman for the academic segment of neurosurgery, the Academy, I believe represents a kind of refuge where good friends can meet, try out new ideas, discuss our various problems and introduce our younger colleagues to a neurosurgical meeting which has maintained its special friendly attitude since its inception.

In our own department, I guess the major development of this year has been the move of all of our Neurosurgical Laboratories which were scattered throughout the center into a centralized facility which we converted from one of the floors of the operating rooms in the Old Bellevue Hospital. These were essentially air conditioned operating rooms added about 15 years ago to the hospital and, of course, lend themselves to conversion in a relatively inexpensive fashion. We now have approximately 12,000 square feet of research space which includes our own Animal Facility, fully equipped Neuroradiological Suite, a couple of electron microscopes, a Microsurgical Laboratory for the residents and nine large laboratories for biochemical and physiological studies. There are offices for the individual investigators and fellows as well as a comfortable conference room. The other O.R. floor just below us has been converted to the Computer Laboratories of the Department of Psychiatry under Dr. Roy Johns with whom we are working in very close collaboration. Dr. Johns and his group have developed a totally computerized technique for monitoring central nervous system actively, i.e., the Brain State Vector. This methodology which includes SEP's, evoked and far field brain stem potentials and EEG is being used in the evaluation of barbiturates for the treatment of severe head injury. His laboratory has also developed an animal model of coma vigil and utilizing the brain state studies we plan a series of experiments stimulating rostral arousal sites in animals with the long term goal, of course, of coupling both neurochemical and neurophysiological studies with stereotactic stimulation in comatose man. I believe I mentioned last year the initiation of a specially designed CT scanner for stereotactic surgery and probably by the time this note is published Max Koslow will have carried out his first procedures.

Our Spinal Cord Trauma Center is very active but as yet we are still awaiting the "silver bullet." Our PET Project in collaboration with Brookhaven Laboratories is getting off the ground and Gene Flamm plans to study his EC-IC anastomosis before and after surgery with this technique. We have also made contact with the Brookhaven scientists and are attempting to get proton beam therapy stated at that institution both in patients and in an experimental brain tumor model where we will compare classical R.T. therapy with proton

beam therapy and with neutron capture therapy. Fred Epstein has been active with the Children's Service and has recently followed several children with nerve grafts bypassing meningomyelocele plates with both electrophysiological and clinical evidence of reenervation of previously paralyzed muscles. This work, of course, is just in its infancy, to make a bad pun, and is going to require a good deal more laboratory as well as clinical experimentation before its real value can be documented. Arthur Battista is active in our newly organized Multidisciplinary Pain Center and is one of its major coordinators and so it goes.

Hopefully, our newly designed computer system for keeping track of our expanding patient population will enable us to make some sense out of the multitude of projects which seem to be floating about. This was designed by one of our residents, John Mangiardi, during an elective period. He tells me that the "idiot box" is simple enough for even me to use.

Finally, I have been needling the Administration to get busy and put together a Search Committee for the next Chairman of the department but as it looks now it is going to drag on a bit, hopefully, not too long. I will be 65 on July 1, 1980, 19 years after I was given the chairmanship at NYU, long enough, I think for any man. (I guess I should say chairperson).

Hugo and Helen

RIZZOLI

We have survived the past year in this unstable and troubled world. Our personal health and that of our Department remains good. I am grateful for the loyal support of our full and part-time staff.

Helen has given up her real estate endeavors to help administrate Hugo Jr.'s book store and Bobby's race care building enterprise. Paul continues as a resident in Medicine in Providence, Rhode Island. He is considering a career in Neurology. Pia, his twin sister, has graduated with a degree in Business Administration and is still trying to find a field of interest.

Regarding Neurosurgical manpower, I feel strongly that we should be concerned only with the quality of manpower — the selection and training of neurosurgeons and not the number. The CT scan will identify more and more lesions. The disparity in the number of Orthopedic Surgeons versus the number of Neurosurgeons is in part responsible for the number of spinal and peripheral nerve lesions operated upon by the Orthopedic Surgeons. Certainly, there continues to be a great demand for Neurosurgeons. I believe we can effectively use all the competent Neurosurgeons we can produce.

Theodore S.

ROBERTS

Best wishes for the coming year to all of our associates in the American Academy. The University of Utah Medical Center is expanding by the addition of a new clinical facility which will open in the Spring of 1981. This will allow our neurosurgical service better capabilities of going ahead with stereotactic surgery in a much larger room with improved x-ray facilities. We have been very pleased in the past with our arrangement in the Cerebrovascular Unit with the medical neurologists and this will be enlarged to 10-12 beds in the new hospital.

Salt Lake City is expanding in terms of excellent hotel facilities. The new acoustically superb music hall and art facility has opened up, so hopefully in the near future we can be into hosting neurosurgical society meetings here.

To make a worthwhile comment on neurosurgical manpower, I feel that this is likely a regional problem and so it is difficult to make an overall covering statement about it. The younger neurosurgeons that practice now in the smaller communities are superbly trained so that they are able to handle difficult tumor and aneurysm problems that come their way, and it is surprising to me to find out how much of this type of work they do in cities that are in the 50,000 population range. There is a continuing demand for neurosurgeons to join other neurosurgeons in smaller community practices to meet the continuing turnover in metropolitan areas. It would be my judgement that there should be very careful consideration of applications of new training programs that do show considerable merit and promise and across the board are deferred from being approved, where, on the other hand, we have a continual importation of neurosurgeons trained in other countries. I think a careful balance should be established there if this, in fact, could be accomplished.

James and Valeria

ROBERTSON

The last year has been a very busy personal and professional year for the James Robertson family. Valeria is very busy as a Mary Kay Consultant, and her business grows each year, as many of the girls in the Academy have learned.

All of the children are well and only three remain in college. Roberta is just completing her first year at Smith College. Clay will graduate from college in Memphis this June and will continue in graduate school at the University of Texas. Daniel will be going to Duke University upon his graduation from high school in May. Beth is a school teacher, and she and her husband have recently purchased a home. Catherine remains the rebel of the family. Tom, the eldest, is working hard in Washington with a mass mailing company.

During the last year, I had a fascinating trip with my son, Daniel, along with Drs. Henry Barnett and Murray Goldstein when we visited European Centers for the Extracranial/Intracranial Bypass Study. We were in Florence, Italy, Belgrade, Yugoslavia, Essen, Germany and Amsterdam during November. Valerie and I enjoyed a very interesting trip to the Bolivian Surgical Congress in La Paz in the fall. On the day we left Bolivia, another revolution began.

The neurosurgical training program here in Memphis continues to function very actively and, hopefully, is improving every year. All of our resident spots are filled with reasonably bright young men. During the year, the only female resident we had resigned and went into Emergency Medicine. I would urge all members to use extreme caution in accepting women as residents, because I would suspect many of them will not spend the long training required in a neurosurgical program.

Our high point of the year was hosting the Academy meeting in Memphis. We feel that it was an outstanding success, but, unfortunately, the meeting ex-

penses were much greater than anyone anticipated, and I trust that all my fellow Academy members will think of the good times and not the money.

My brother, Jon H. Robertson, has joined the Department of Neurosurgery as well as the Semmes-Murphey Clinic and promises to be a very good neurological surgeon.

All of my colleagues in the Semmes-Murphey Clinic are well and active, and Dr. Semmes will soon be 96 years old. I had the pleasure of participating with him in a video tape that will be shown at the Fiftieth Anniversary of the Cushing Society. Some of his remarks are a scream.

William and Helene

SCOVILLE

I am late, as usual. Life goes on unchanged in Hartford.

I am glad to discuss manpower for I feel so very strongly that we need "more" rather than "less." I cannot understand how anyone wishes to preserve quality by reducing the number of men in neurosurgery, especially when orthopedics, cardiovascular, and other specialties infringing on surgical neurology, now outnumber us by a great percentage.

Europe has always practised limitation and such has proven its ruination in patient care, in advances in research, and even in techniques. The United States, allegedly crowded by neurosurgeons, actually leads in all of the above categories.

It is availability of neurosurgeons which saves lives — not technique. I would rather have a relatively inexperienced neurosurgeon than a general practitioner or general take care of my wife with a brain tumor or head injury in its early stages. The United States has one neurosurgeon to 80,000 inhabitants. It has 209 neurosurgeons in New York City alone and 400 in California — more than in Great Britain, France and Germany combined. Great Britain has 60 million people and 114 neurosurgeons. Scandinavia's four nations with 23 million has only 100 neurosurgeons. France with 53 million people has 142 neurosurgeons. Italy with 57 million people has 136 neurosurgeons. In Scandinavia, Switzerland and Great Britain the aneurysms do not get to these neurosurgeons until the majority have died.

I believe that the stress should not be to limit neurosurgeons but rather to insist on subspecialization within all groups having more than four neurosurgeons; and any operation which requires highly complex technique or is comparatively rare should be transferred to centers specializing in such operations. Let us remember that there are 3,000 practising neurosurgeons in the United States, the majority of whom are practising in small cities and non-university centers so overall limitation of neurosurgeons will not result in improving the techniques of the vast majority of neurosurgeons nor will it satisfy our need of subspecialization within our larger groups and our larger cities.

PS: There appear to be some advantages to old age for at the age of 74 I have at long last been given an Honorary Degree at Colby College where I have directed seminars on "Neurosurgical Techniques" for the past 11 years.

Bennett and Doreen

STEIN

The past year has been an extremely busy one for the Neurosurgical Service at the Tufts New England Medical Center. We have added a member to our staff, Dr. Stephen Dell, who is primarily responsible for the Neurosurgery at the Veterans Administration Hospital but is also adding a dimension of a physiological background to the program. He trained at the Neurological Institute in New York and has specific background in neurophysiological experimentation. In addition, we moved from being a portion of a multispecialty group practice to our own corporation. This took a good deal of time and effort but when accomplished, has been of an immense benefit to the department.

We are continuing to develop areas of special expertise within the department. My own interests have been directed toward the treatment of arteriovenous malformations of the brain, pineal tumors, and intramedullary tumors. Dr. Kalmon Post has worked diligently with our neuroendocrinology group in developing techniques for pituitary surgery. Dr. Michael Scott has taken over all of the pediatric neurosurgery and has also been responsible for the extracranial bypass and carotid artery surgery. He has worked very closely with one of the neurologists who is developing a stroke service.

Laboratory activities in our program are centered around anatomical and psychological studies of the hypothalamic area, specifically the mamillary bodies. There is ongoing research being carried out on cerebral vasospasms using small animal models.

The residency program has prospered and we have a number of good applicants for current years and subsequent years. We have lengthened our program now to 6 years so as to accomodate a full year in the laboratory and a lengthened clinical rotation.

I have had a number of major trips the past year and one of the most exciting ones was to Argentina, Brazil, and Columbia during which I took my older daughter to visit the various cities involved in neurosurgical meetings on this trip. Although I have been in Brazil on a number of occasions, it was my first opportunity to visit Argentina and Columbia. Doreen was briefly hospitalized in December, but after a low period following hospitalization has been in excellent health and is as active as ever. We recently, in conjunction with a meeting in New Orleans, were able to visit our daughter who is doing graduate work at Tulane and perhaps will eventually enter law school. There is a contemplated marriage this summer of the older of two daughters, and the younger, who is at Tulane, still remains single although is engaged.

The forthcoming year will certainly be one of excitement and challenge as it appears that when this comes to press I will have assumed the positon of Chairman of Neurological Surgery at the Neurological Institute in New York. This is a great honor and one which offers significant challenge. The prospect of returning there is exciting and promises to open a whole new facet of my neurosurgical career.

Regarding the neurosurgical manpower situation, it is my firm conviction that we are training too many neurosurgeons, that the dilution of the field by numerous qualified neurosurgeons each year is to the detriment of developing technical as well as research expertise. Amazingly, graduates from most programs have no difficulty in finding jobs and making a decent living even to the present time. However, it is my impression, at least from observations in the Northeast area, that many individuals are compromising their neurosurgical activities following completion of residency. It appears that many in solo or group practice are not doing the types of surgery that they were trained for, and therefore run the risk of losing their technical ability. We have attempted to cut back in our program by lengthening the program to 6 years and also making liberal use of physician's assistants. There are obvious difficulties encountered in pursuing this course of action. However, the positive benefits of a physician's assistant program in Neurosurgery far outweigh any imagined or real disadvantages of such a program. The use of physician assistants significantly decreases the need for residents and I believe improves the training program of the residents.

Jim and Joanne

STORY

We have had a good year here at the University of Texas Health Science Center at San Antonio. Our service load has increased and the diversity of our clinical material has grown also.

Our vascular program is going well. We continue to work with carotid to middle cerebral artery long grafts. Our longest follow-up is a prosthetic bypass functioning well at 35 months. Five vein grafts are functioning or have functioned for a year or more. The procedure has about a 50% success rate at this time. Bypass failures have occurred only within the first several hours or days postoperative. Of the failures, increased neurological deficit has occurred in one patient. We have learned a great deal about the procedure and I feel confident that our success rate will improve significantly.

Our vertebral to carotid artery transposition project for basivertebral insufficiency and subclavian steal syndrome is highly rewarding. Our series is still small, but we have now done nine procedures with excellent clinical and angiographic results in all but one; a patient who died shortly postoperative from a myocardial infarction.

In the laboratory, we are working with thin wall 3mm diameter prosthetic (PTFE) vascular tube grafts. The thin wall grafts have greater compliance and thus are more adaptable to use with cortical arteries. We shall have some data available from this project in the next few months.

We have finished our second resident, Dr. Moustapha Abou-Samra, and we are pleased that he has joined our faculty which now numbers four.

We are delighted that Dr. Willis Brown has been rewarded for his many efforts by promotion to Associate Professor, a highly deserved honor.

Dr. Eduardo Eidelberg continues with his very active research program in spinal cord injury and is anticipating a project site visit pursuant to renewal of our center grant soon.

Regarding the manpower question — there probably are not too many certified neurosurgeons practicing our specialty though the distribution is not optimal.

It has, however, been essential to limit the number of residents in training so that an appropriate balance can hopefully be maintained. We have come to grips with this issue early and I sense that other specialties are now becoming aware of the problem. The task has been difficult for all of us, but I believe it has been especially difficult for those of us fortunate enough to be given the privilege and opportunity to develop new programs. The general notion prevails that our specialty is over-populated. This, I believe, probably adversely affects our resident applicant pool in terms of numbers as well as calibre of residents. Further, medical school administrators and hospital administrators seize upon this idea in support of their attitudes of restricting or not funding neurosurgical residency slots and limiting faculty compensation. A similar attitude undoubtedly exists at governmental levels and is reflected, as an example, through restricted resident slots in the V.A. system.

While many well established programs are blessed with large numbers of high quality applicants, it is imperative that those programs who do not enjoy such wealth, must resist the temptation to appoint residents of less than optimal quality strictly to fulfill service obligations. Such restrictions and insistance upon high standards make our task difficult, but it is imperative that our standards remain high at all costs if our specialty is to prevail.

On the home front, we have two daughters at the University of Texas at Austin. Kris, our eldest, has about finished undergraduate school and is applying to medical school. She was selected Sweetheart of the University of Texas and will represent the University in the Cottonbowl festivities this year. We still have a daughter and son at home in high school. Joanne and I have just finished one of our most relaxing and rewarding vacations. Whether it was going to the ranch to build fence, "pulling" a water well or dining out, the time we spent together as a family was invaluable.

Thoralf and Lois

SUNDT

Below you will find our report from the Northland for 1979-1980. We had a relatively mild winter here in Minnesota last year and were blessed with an ample amount of snow. Therefore, we had very little to gripe about regarding the climate and all we could do was complain about inflation, the nation's economy, governmental intervention, and the bureaucrats. Our children are all out of the nest now and Lois has returned to employment. This will reduce our traveling. As my hours are getting worse and worse, she is looking forward to this new challenge. Laura, our oldest daughter, is happy as a CPA in Phoenix, but I believe she will be moving to Dallas shortly. She loves Dallas, having gone to SMU. Thor graduated from Princeton and will now be entering Johns Hopkins Medical School in September. John, our youngest, is still in college at SMU.

We are enclosing a picture of our department. Collie retires is September and will be replaced by Mike Ebersold, one of the young men in the back row behind the "old ones sitting down." Ross stepped down as Chairman of the Department and yours truly assumed that title. This was not much of a transition as, of course, we are still a small farming community and we try to keep a low profile in our department.

We were instructed by John to respond to the question of "Neurosurgical Manpower — Too Much or Too Little." Obviously, this is a very complex question and I am sure some of my colleagues in this society will respond to it much more eloquently than I. However, I do venture the suggestion that a critical mass must be maintained in our specialty for us to survive and compete with those other disciplines which are encroaching upon our areas of interest. I am thinking particularly about the orthopedists who now have a "spine surgery" subsection and in fact have even established some type of suborganization for that which may or may not have the blessing of the parent group. If we are to maintain a leading role in the management of occlusive vascular disease, it is necessary that we have enough neurosurgeons in this country treating that illness for our voice to be heard.

It would appear to me that the challenge is not so much in numbers as in group practice or partnerships with subspecialization. Obviously, each person is not going to be able to do all of the "goodies." These will have to be shared but it is best this way for the patient and best for our discipline.

William and Elizabeth

SWEET

In addition to maintaining a 7-day week at the practice of clinical neurosurgery, with a major emphasis on the neurosurgical treatment of pain, I am seeking to learn how the newly discovered neuropeptides fit in to the body's machinery for activating and suppressing the sensation of pain.

Elizabeth and I do our office work on the ground floor and reside on the 33rd floor of a new building about a hundred yards from the Massachusetts General Hospital.

A new and intellectually rewarding task has come my way since May this year — namely the Chairmanship of the Committee of Publications of the Massachusetts Medical Society. The most important responsibility of this committee is the New England Journal of Medicine. It now has by far the largest voluntary subscription list of any medical journal in the world with over 208,000 paid weekly copies. Only the JAMA with its huge number of sucscribers via AMA dues has a larger total number of subscribers. At present we are engaged in arranging the construction of new quarters to house the business activities of this journal. Its editorial functions are permanently installed in the Countway Library of Medicine, the structure in which the coalesced Boston Medical Library and that of Harvard Medical School have been united.

RE: Neurosurgical Manpower in this country. We have more neurosurgeons than we need in my view.

Ronald and Mary

TASKER

I am sorry that I do not have a black and white or any other picture having not intentionally having had a picture of myself taken in many years.

Though the event required less than a few hours, thanks to the superb efficiency of the Toronto General Hospital Housekeeping Department, our whole year has been overshadowed by the move of the Toronto General Hospital Neurosurgical Unit, from the 12th Floor of the Norman Urquhart Wing to the 7th Floor of the new Eaton Wing of the hospital. Some academy members will remember the official opening ceremonies organized by Harry Botrell at the time we moved into the 12th Floor Unit gathering together the rag-tag ends of Neurosurgical Service spread all over the General Hospital. That seems just like yesterday even though I was Harry's chief resident at the time and the year was 1958. We had no special celebration at the time of our move for the real achievement was Harry's putting together the Neurosurgical Service as a functional unit. All that has happened is that we have moved to a more modern and air conditioned building, the desirability of air conditioning being the motivation for our move. Those who visited Toronto at that time will recall the magnificent murals painted by Toronto artist Charles Comfort gracing the walls of the patients' waiting area on the Neurosurgical Unit and of the superb portrait of Ken McKenzie painted by the great Canadian artist Fred Varley, for the occasion. The Toronto General Hospital has generously assumed the expense of moving these works of art to the new unit. And finally, the move to the new unit will bring with it a proper, separate, fully equipped, neurosurgical Intensive Care area which we desperately need with our busy practice in critical care neurosurgery.

You ask for my views, pro and con, on the subject of neurosurgical manpower — too much or too little. The number of neurosurgeons is such a relatively small part of the medical manpower overall, that rather small changes plunge the specialty from one extreme to the other. We have gone through such a phase here in Ontario, but my current feeling is that existing levels of neurosurgical manpower in the Toronto area are just about right. Our Service at least sees a large volume of head injury problems and neurosurgical emergencies and a wide range of intracranial surgery providing an ideal base of material for residency training. Each of us also sees a large volume of specialty cases according to our particular interests. Having been used in the past to a situation where residents completing their fellowship examinations had no difficulty finding a place to practice, we briefly went through a period in which few opportunities were offered. It seems to me now that the situation is reversed and that our graduating residents look forward to a variety of opportunities from which to select. My only concern is that there may be an overswing. The Provincial Government which pays the bills not only for health care, but also for post-graduate education, has substantially reduced the number of residency posts available across the board including neurosurgery

and at the same time placed a limit on the number of non-Canadian residents we may have in the program. While at the present time this results in an acute manpower shortage as far as residency coverage of our busy Neurosurgical Services down the road it may result in an actual signficant shortage of neurosurgeons in the province.

Arthur and Janet

WARD

For reasons that are not clear, life unfortunately seems to get busier rather than more organized as time goes by. This past year has been no exception. The department seems to continue to grow and, fortunately, to prosper. Some four years ago we took on the development of a major regional center in epilepsy which was one of five national centers. This has now developed and matured to the point where it is a busy and productive enterprise and shows some signs of being worth the effort that has gone into its development! It is certainly true that all aspects of our professional lives are becoming increasingly overburdened with bureaucratic regulations at all levels. The only good news is that university policy requires that I give up the chairmanship in 1981! The administrative burdens are becoming overwhelming and this permits me to take this action without a guilty conscience. So I am looking forward to getting back to more productive things with unbelievable anticipation!

At a personal level, our two daughters, Sally and Lindy, are now in their late twenties, still unmarried, and doing well. Sally is in the Palo Alto area and busily involved in selling home computers which seems to be a lucrative enterprise. Lindy has returned to Seattle from Los Angeles and has risen to the point where she is a store manager specializing in jeanwear. Janet and I are well and doing our best to enjoy life in the occasional free moments we have. I was invited to participate in a seminar in Sydney, Australia, in February, so we had an opportunity to have a lovely visit in New Zealand with a stopover in French Polynesia on the way back. Unfortunately, the timing was bad since this preempted our usual winter ski vacation. We have recently been alternating between skiing in Europe and in Utah. The latter has been in association with the Winter Neurosurgical Conferences which has the added inducement of skiing with good friends at Snowbird where the conditions have never failed to be superb. We are now back to trying to get our golf handicaps down to a respectable level!

It will be a great pleasure to meet with the Germans again. I had the honored privilege of serving as President when we met jointly with them in Munich, and they certainly put on an outstanding and lavish show for us. From what I hear of the plans for New York, I think they will be pleased and impressed with what we can do for them.

I don't really know if you need any comment from me on the matter of neurosurgical manpower. I think I have expressed myself on this topic on several occasions. As a generality, I happen to be a firm supporter of the concept that, when dealing with complex issues, the best end result is often achieved by allowing a free system to work out the appropriate checks and balances. Thus, I have been opposed to arbitrary limitations or attempts to make firm judgements about absolute numbers of neurosurgeons required to meet the public need. I do feel that there should be more differentiation within the field of neurosurgery so that some of the less common neurosurgical problems would be handled in tertiary centers where the numbers would be adequate to maintain the necessary skills and where a broad range of resources can be made available. However, again, I think this pattern of various levels of care is one that is best achieved by evolution and not by central planning, regardless of how wise the latter might be. If such a real differentiation of appraised levels of neurosurgical care were to be acheived, I suspect that the total manpower requirements to provide optimal care for all types of neurosurgical conditions (including head injuries) might well require a very significant increase in the total number of neurosurgeons in this country.

Clark and Patty

WATTS

Patty and I continue to stay busy. She has returned to work part-time to maintain her nursing skills and to give her something to do between tennis matches and driving the kids hither and yon.

The activities of the Division have increased in all spheres of academia. Our clinical case load is steadily increasing. As a result of a required combined neurology/neurosurgery clerkship of 4 weeks duration we will see all the senior medical students. We are colloborating with several groups in various research efforts. Paramount among these are: (1) the use of lymphokines and antigens to stimulate autologous lymphocyte activity against glial tumors in tissue culture, (2) use of evoked potentials to study increased intracranial pressure in trauma and hydrocephalus, (3) evoked potentials in spinal surgery and acute spinal trauma, and (4) several neuroimaging projects involving CT scans and the neutron beam. My study of neurosurgical manpower problems is increasingly time consuming but also fruitful. Perhaps singularly the most enjoyable activity I've undertaken during the past year is, as Scientific Program Chairman, the development of the Scientific Program of the 1980 meeting of the Congress of Neurological Surgeons.

Our Division continues to enlarge with the addition of Q. Michael Ditmore, M.D., a young, bright neurosurgeon trained by Doctor Kemp Clark in Dallas. Doctor Donald York, a neurophysiologist has a joint appointment with us. A graduate student and several medical students are involved directly in our research efforts especially those dealing with evoked potentials under the direction of Doctor York.

It is somewhat unfair for me to try to answer the question "Neurosurgical Manpower — Too Much or Too Little?" I have spent so much time looking at this question over the past 5 years that I'm afraid I can't see the forest for the trees. It is very difficult to make much sense out of the various manpower studies which have looked at neurosurgical workload, neurosurgical disease (incidence and prevalence), patient demands, societal needs, the overlap amoung specialties of therapeutic-focused patient encounters, etc. It is clear to me, as a whole, the population of the United States has adequate access to neurosurgeons. It is also clear, however, there are certain areas where, on a regional basis, patients do not have adequate access and in other areas there are more neurosurgeons than are needed to care for the neurosurgical disease present.

There is little justification in the time of accountability for continuing to educate the numbers of neurosurgeons that are presently being educated unless the trust of the educational goals is changed.

There are communitues in this country, of less than 50,000 population, who need a neurosurgeon trained in neurological diseases, the management of central nervous system trauma and nontraumatic spine disease. Is it appropriate to spend the time, energy, and financial resources to educate that neurosurgeon in the management of difficult and relatively unusual tumors and the intricacies of microsurgery for aneurysms and arteriovenous malformations when those communities will yield for his care only a paucity of these conditions throughout his professional lifetime? Perhaps the question is not are there too few or too many neurosurgeons but, are too many neurosurgeons being educated to take care of too few of certain type of diseases.

Benjamin and Margaret

WHITCOMB

First, in regard to Neurosurgical Manpower, from my experience in assisting recent residents in placement, the demand for young neurosurgeons still seems to be greater than the supply.

Perhaps it is because, among the senior neurosurgeons, there comes a time when you are treated with greater deference by hospital personnel, (even the operating room staff are getting more polite); a time when, for some reason, the grass on the lawn seems to grow too fast; and when your grandchildren will no longer ski with you but want to borrow your car; a time when you find yourself reading the Wall Street Journal more than the Journal of Neurosurgery; and, when you ask your secretary about a patient you operated upon 3 months ago, and she tells you it was 3 years ago; and when the resident orders newfangled drugs you have never heard of and you can't remember the next day what they are used for (and what is the name of that resident anyway?); then for some reason the operating microscope makes your neck stiff; and you feel you need a swivel chair in your car in order to back up; and, when sailing, you slack off the sheets instead of changing the head sails; and when, old boy, it takes you twice as long to do half as much, then you need some more younger men in the department, but try to find some dedicated candidate! Even in the good old U.S.A., there are good opportunities going unfilled to say nothing of the Third World countries for those whose interests are oriented in that direction. We are grateful that some of our qualified men wish to stay in Academia, and many seem to gravitate to California. There appear to be areas on the East Coast as well as on the West Coast where there are gluts of neurosurgeons. I believe where this occurs there is a need for sub-specialization in order to preserve the expertise in neurosurgery that the patients deserve and experience only will provide. We can be pleased with the excellent neurosurgery that is provided in some of our less urban areas and unfortunately can be ashamed of some of the care witnessed in some of the hospitals in some of our larger cities. Sub-specialization should help this situation. We still need good neurosurgeons. If the pool of candidates of neurosurgical residents is dropping off, we must not train inferior men for service needs. P.A.'s often do a fine job; if this situation occurs, our manpower soon will be inadequate.

On the personal side, our grandchildren are suddenly as large as their parents were a few months ago. Our younger daughter has just finished her 5th year of general surgical residency at Cornell; and, after 9 years in the big city, she is now fleeing the environment and apparently to get as far away as possible is starting her practice in Anchorage, Alaska where she states, "Everybody is younger, and surgical patients therefore should do better." The family of our older sons, Stuart, who is a designer at Tektronix in Portland, Oregon, now sits disconsolately in the ashes of St. Helena. Peggie has finally overhauled me in

disconsolately in the ashes of St. Helena. Peggie has finally overhauled me in tennis — although no great feat, it is a bit embarrassing.

The practice of elective neurosurgery is really a pleasant experience. There are no night calls or emergency work. One is therefore spared the emotional tension of the severe head and spine injuries, particularly in young people, and it concentrates the aneurysms and vascular surgery in the hands of the younger partners so that the strains on the tired old coronaries are largely removed. Yet our clinical load of brain tumors, spine and peripheral nerve surgery and interesting consultations seems to keep one as busy as ever, and we enjoy it.

I am sending a photograph or two if you dare to use them.

Lowell and Margie

WHITE

The White family has done little of note during the past year. We continue to dwell in Alabama, Seattle and California, with Britt still in college at Salem in North Carolina.

The changing economic scene has made my activities more concentrated close to home. The early part of the year was taken up completing the manuscript on a book entitled UNDERSTANDING YOURSELF, AN INTRODUCTION TO NEUROSCIENCE. We used the text during the Spring Quarter and it is being reviewed for publication. In the laboratory we have been actively pursuing the morphology and physiology of the nucleus accumbens. The work will be an integral part of a symposium on this topic in Maine in September.

"Neurosurgical Manpower — Too Much or Too Little?"... When you look at the roster of Neurological Surgeons you wonder what they are all doing, yet we all know you can be as busy in our specialty as you want to be. There is little question that the population of neurosurgeons has grown and continues to grow at a rate greater than that of our country and in many ways looks much like the baby boom which followed W.W.II. In so doing, has the incidence of neurological illness applicable to surgical therapy similarly increased or has our technical improvement made it easier to get away with more? Simple perusal in historical perspective of the commercial exhibits versus the academic quality of the program at recent Congress and Association meetings makes a reasonable case for the latter.

Therein may be the problem. Not one of simple numbers, but a problem based on technical advances and a relative decrease in the training commensurate with the advances. This naturally affects the statistical quality of care and similarly modifies the judgement required in the decision to use the technical skills of Neurological Surgery.

On this basis, I make a plea for considering more academic training for the neurological surgeon charged with judgemental decisions; considering the important technical job played by the resident physician making the role more attractive to those so inclined as an end stage and permanent occupation. Lastly, encouraging group practice with intradisciplinary specialization to maximize technical skills. It's axiomatic that "no man is an island" and "two wrongs don't make a right." Why we continue to increase our numbers on the basis of "more is better" has always been an enigma to me. Is this the premise upon which Harvey Cushing put the American show in Neurological Surgery on the road?

The new format for "The Neurosurgeon" is in my opinion an intriguing one and I look forward to future topics. Some suggestions that come to mind relate to my comments on Neurosurgical Manpower:

1) Could the resident's job become a recognized semi-permanent position and
2) Is there a need for intradisciplinary specialization?

As you suggested in the 1979 "The Neurosurgeon," interest seems to be dwindling — possibly this change in format will be its rejuvenation. Warmest regards.

Bob and Gloria

WILKINS

This August finds the Duke Division of Neurosurgery moving in to our beautiful new hospital. The new facility adds a few beds to the overall patient census at Duke, but it primarily replaces worn facilities with increased space and new equipment. The 616 beds in the new North Division of Duke Hospital are in private rooms, arranged in two triangular intermediate care wings and a central intensive care bed tower. On the other side of the central elevator core is the ancillary section which houses the support facilities such as the emergency/trauma center, central laboratories, radiology department, and operating rooms. The old hospital, now known as Duke South, is being renovated and approximately 400 patients requiring intermediate or minimal care will use that facility. The two hospitals are connected by a rapid transit system that adds a bit of the flavor of Disneyland.

With the move we have consolidated our service somewhat. In the old facility we are able to house 25 of our patients on one unit, but the others were scattered thoughout the other wards. Now we have 400 patients together on one floor, and the neurology service has 32 of the other 40 beds on the same floor. This should streamline our efforts and enable us to work more closely with the neurologists. In the move we have also increased our assigned operating rooms from 9 to 12 per week.

Our offices and clinics will stay in the old building for now, which of course increases the time required for each of us to move back and forth each day. As one wag put it, we are now located near a major medical center. All in all, though, the neurosurgical patients and the neurosurgeons are gaining a lot with the new facility.

In regard to neurosurgical manpower, I think that we are overproducing neurosurgeons to do what we all do now. However, if we continue to just do what we now do, our areas of activity will be gradually eroded by other surgical and medical specialists. To remain strong, I think that we need not only to continue to produce neurosurgeons, but to expand the areas of neurosurgical activity.

On the home front, Gloria and I continue along as usual. For the next two years we will continue to edit **Neurosurgery** from our home and then we will turn this over to Clark Watts. Mike is starting his last year at Stanford, and is in the process of applying to medical school. Jeff is a biomedical engineering student at Duke. Betsy is in high school, and much of her free time is spent in athletics.

Gloria and I are currently preparing for upcoming events. Dr. Eben Alexander will be quite busy this October, serving as our Academy President in New York from the 2nd to the 5th and then as Honored Guest of the Congress of Neurological Surgeons in Houston from the 5th to the 10th. We hope that a number of you will be able to join us in Houston after the New York meeting, to honor the Alexanders.

Charles and Roberta

WILSON

Events of the past year are punctuated by two recent developments. First, we decided to move into San Francisco from Tiburon and in fairly short order found an old house near the Presidio. I have become habituated to daily runs and the Presidio is a runner's paradise. While only 30 minutes away from downtown San Francisco, when we did do something in the City it often meant having two cars and getting home a little later at night with the accompanying inconvenience. Living in the City, we will take greater advantage of the many opportunities that it provides. The second new acquisition is The Flower Boutique, a flower and gift shop of long standing on Union Street. Roberta will take over in September.

My practice and the Department's activities have been maintained during the past year with no major changes. Pituitary adenomas continue to turn up and constitute the largest part of my practice. I wish that I could report dramatic progress in the treatment of malignant brain tumors, but the strides continue to be small and eratic. This spring I was the guest of the Canadian Neurosurgeons at their Annual Congress of Neurological Sciences. They were superb hosts and added to our enjoyment of Ottawa. I gave the Penfield Lecture on the subject of malignant gliomas. Giles Bertrand gave a magnificent presidential address on his experience with the surgical treatment of syringomyelia; this series will be a classic.

Neurosurgical Manpower: Clearly too much. The situation is worse than the figures indicate because many men now practicing are incapable, either by training or by aptitude, of practicing neurosurgery up to present standards. In my strongly expressed view, some practicing neurosurgeons are substandard, and I see no end to the steady production of inadequately prepared graduates. Those of us with established practices see little threat by the excess of neurosurgeons, but I fear for the future of our recent graduates. Our training programs have unfilled positions: I interpret this as indicating that anyone who wants to be a neurosurgeon can find a spot in some training program. This state of affairs hardly makes neurosurgery a select specialty.

Frank and Betty

WRENN

I recognized in Memphis that I should indulge in no more procrastination in my contribution to "The Neurosurgeon."

We are nearly through our second year of the empty nest which we find a decidedly mixed bag. We delight in the occasional visits. Our older son and his marvelous new bride are thirty miles away where he is the chief executive of a bank. Our second boy is finishing his work in Wisconsin for a Ph.D. in anatomy and facing decisions about his future track. Our only daughter finished Duke with some distinction but has foresworn all in favor of a job which allows her to train and show saddle horses and live, though in a somewhat constricted society, in Kentucky. Betty has had her difficulties with adult onset asthma with several bouts of severe respiratory distress, long term steroids, some medication side effects, but now thankfully under control and feeling better.

I have completed my term on the American Board of Neurological Surgery. I found the experience rich and rewarding and darned hard work. Much of my time in the last several years has been devoted to the development of a practice profile methodology. With computer help we can do a good job which is useful to the practitioner and any reviewing agency. There are problems. The system is more expensive than we originally thought and the Board has not been able to decide about how to use it.

Service on the Board of the AANS during the current transition has been challenging. I believe we are achieving a more representative society but its responsiveness to the needs of the membership requires further tuning. Unfortunately, the conflict between certain pre-Congress meetings and the New York meeting in October may preclude more than a brief attendance at the meeting. This I regret but I do enjoy the work.

Neurosurgical Manpower —Too Much or Too Little?: This is a simple question which defies a simple answer. I fear that efforts at rationalization will continue to be frustrating.

The basic problem lies in our present pluralistic arrangements, individual freedoms as neurosurgeons, the market influences, and certain demographic and distribution considerations. Monolithic systems do not have these problems and those systems which would abrogate our freedom do not either.

If we agree that pluralism, freedom and the market considerations are worth preserving then the problems become those of task definition within our present plural modes of delivery. Several efforts such as the original AANS — Manpower Study, the SOSSUS Study, the more recent AANS Study and the GMENAC Study — have all addressed this issue and, if not already published, will be, in one form or another. These studies all conclude that there are limits to the need for many additional neurosurgeons in those parts of the systems which were studied. Yet there are neurosurgeons who are seeking associates while in some areas the numbers of operative cases is small due to the presence of too many neurosurgeons. It remains to be seen how the 15,000 new MD graduates emerging each year will distribute themselves in a free market.

I believe we should concentrate upon resolving those turf or territorial problems which exist with our competing medical brethren. Perhaps a more elegant way to say this is that organized neurosurgery should address the problems of how best to organize for care of what we perceive or define as neurosurgical problems so as to make the maximum impact upon society's needs. I would, therefore, propose that we change the question since the one proposed "too many or too few" depends upon how one puts together the plan which will allow neurosurgeons maximum impact upon society. I believe a legitimate first approach might emerge from the trauma care programs currently under study. Later this can be expanded to include other disorders within our "territory." This will require guidelines for primary as well as the tertiary care for each disorder studied. I believe this sort of effort will be more fruitful than those previously made to count numbers or to accomplish time motion studies.

In summary, too much or too little depends upon how you design or define the system which will utilize neurosurgeons. The latter is the major challenge for organized neurosurgery.

David and Myrna

YASHON

The surgical practice with Dr. Ed Sadar has been extremely busy so that we have been required to take in a third associate, Dr. Thomas Hawk. Tom is covering at Ohio State University Hospitals for me also. Unfortunately, grant support for research is slim now and our laboratory activities have had to be curtailed because we can't keep going without sufficient funds. Nevertheless we are still trying to obtain funding particularly in the area of spinal injury where some of our ideas I believe are quite worth while. Regarding the previous practice plan problems at Ohio State all is now quiet and I believe the problem has been settled to everybody's satisfaction.

The family is thriving. My daughter Jaclyn is in her third year of Nursing at Ohio State University. Lisa (age 17) and Steven (15) are doing well both in school and athletics. We have just moved into our new home (which is 50 years old) and are busy with remodeling. The area in which we live is relatively unique since it is so close to the hospital and downtown Columbus and yet remains a private well kept residential neighborhood. I hope to see everybody at the next meeting.

Nicholas and Thalia

ZERVAS

The problem of neurosurgical manpower too much or too little cannot be answered in a small paragraph. I believe our obligation is not to consider numbers but the quality of individuals trained for neurological surgery. If we insisted on training only those with the greatest potential for this field, the numbers would take care of themselves by forces of the market on the one hand and the motivation of the most highly qualified applicants. Some very stiff requirements should be placed in the way of those wishing to enter neurological surgery and those programs unable to obtain good residents should refrain from training those with lesser competency for this most demanding of all surgical specialities. If this utopia can be realized we will in fact attract even more good students into the field.

As for personal notes, I must say that I am enjoying my new position and I am working very hard in several areas including what makes arteries dilate and what can make glioblastomas go away forever. It is refreshing to have so many good people around here who can bring new perspectives and fresh ideas to these problems and I stand in awe of our junior staff.

THE ACADEMY AWARD WINNERS

Paul M. Linn	1955
Hubert L. Rosomoff	1956
Byron C. Pevehouse	1957
Norman Hill	1958
Jack Stern	1959
Robert Ojemann	1960
Lowell E. Ford	1962
Charles H. Tator	1963
Earle E. Crandall	1964
M. Stephen Mahaley, Jr.	1965
Chun Ching Kao	1966
John P. Kapp	1967
Hoship Hosobuchi	1968
Gary G. Ferguson	1970
Richard Pressley	1971
D. G. McLone	1972
Arden R. Reynolds	1973
Richard L. Rapport, II	1974
Andrew G. Shetter	1975
John S. Howe	1976
Howard W. Blume	1977
Howard J. Senter	1978
Elisabeth M. Post	1979
David Dubisson	1980

COMMITTEES
THE AMERICAN ACADEMY OF NEUROLOGICAL SURGERY

1980

EXECUTIVE COMMITTEE
Edwin B. Boldrey, M.D.
Eben Alexander, Jr., M.D.
Joseph Ransohoff, M.D.
George Ehni, M.D.
Phanor L. Perot, Jr., M.D.
John T. Garner, M.D.
Robert B. King, M.D.
Glenn W. Kindt, M.D.

PROGRAM COMMITTEE
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S.J. Peerless
James I. Ausman

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Robert Wilkins
John T. Garner

REPRESENTATIVE TO BOARD OF AANS DIRECTORS
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DELEGATES TO WORLD FEDERATION OF
NEUROLOGICAL SOCIETIES
Gilles Bertrand
Russel H. Patterson

REPRESENTATIVE TO COUNCIL OF THE
NATIONAL SOCIETY FOR MEDICAL RESEARCH
John Mullan

REPRESENTATIVE TO THE INTERNATIONAL COMMITTEE
ON NEUROSURGICAL IMPLANTS
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ON IRREVERSIBLE COMA AND BRAIN DEATH
A. Earl Walker

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FOUNDED OCTOBER, 1938

HONORARY MEMBERS - 6

	ELECTED
Hugo Krayenbuhl, MD CH-8702 Zollikon (Zurich) Schlossbergstrasse 18 8000 Zurich Switzerland	1974
Guy Lazorthes, MD 26 Rue d'Auriol 31 Toulouse, France	1973
Valentine Logue, MD Maida Valle Hospital London, W. 9, England	1974
Gosta Norlen, MD Neurokirurgiska Kliniken Sahlgrenska Sjukhus Goteborg, SV Sweden	1973
Keiji Sano, MD Dept. of Neurosurgery School of Medicine University of Tokyo Tokyo, Japan	1975
R. Eustace Semmes, MD 20 S. Dudley Street, Suite 101-B Memphis, Tennessee 38103	1955

SENIOR MEMBERS - 38

		ELECTED
George S. Baker, MD 607 N. Litchfield Road Litchfield Park, Arizona 85340		1940
E. Harry Botterell, MD Faculty of Medicine Queens University Kingston, Ontario, Canada	Margaret	1938
Howard A. Brown, MD 2001 Union Street San Francisco, California 94123	Dorothy	1939
Harvey Chenault, MD 2370 Nicholasville Road Lexington, Kentucky 40503	Margaret	1949
Donald F. Coburn, MD Devon Apts. #112 2401 Pennsylvania Avenue Wilmington, Delaware, 19806	Ellie	1938
Edward W. Davis, MD Providence Medical Office Building 545 N.E. 47th Avenue Portland, Oregon		1949
Francis A. Echlin, MD 100 East 77th Street New York, New York 10021	Letitia	1944
Dean H. Echols, MD 1550 Second Street New Orleans, Louisiana 70130	Fran	Founder
Arthur Elvidge, MD Montreal Neurological Institute 3801 University Street Montreal 2, Quebec, Canada		1939
Theodore C. Erickson, MD 425 No. Livingston Madison, Wisconsin 43706	Martha	1940

		ELECTED
Joseph P. Evans, MD American College of Surgeons P.O. Box 274 Kensington, Maryland 20795	Hermene	Founder
John D. French, MD The Center for Health Sciences University of California Los Angeles, California 90024	Dorothy	1951
James G. Galbraith, MD University of Alabama Medical Center 1919 Seventh Avenue, South Birmingham, Alabama 35233	Peggy	1947
Everett G. Grantham, MD 234 East Gray Street Louisville, Kentucky 40202	Mary Carmel	1942
James Greenwood, Jr., MD 1117 Hermann Professional Building 6410 Fannin Street Houston, Texas 77025	Mary	1952
Wallace B. Hamby, MD 3001 N.E. 47th Court Fort Lauderdale, Florida 33308	Eleanor	1941
Hannibal Hamlin, MD 270 Benefit Street Providence, Rhode Island 02903	Margaret	1948
Jess D. Herrmann, M.D. Post Office Box 135 Mountain Pine, Arkansas 71956	Mary Jo	1938
William S. Keith, MD 55 St. Leonard's Crescent Toronto, Ontario, Canada M4N 3A7	Eleanor	Founder

		ELECTED
John Lowrey, MD 888 South King Street Honolulu, Hawaii 96813	Catherine (Kay)	1965
George L. Maltby, MD Box 504 Boca Grande, Florida 33921	Isabella (Sim)	1942
Augustus McCravey, MD 1010 East Third Street Chattanooga, Tennessee 37403	Helen	1944
Edmund J. Morrissey, MD 450 Sutter Street, Suite 1504 San Francisco, California 94108	Kate	1941
Francis Murphy, MD 3951 Gulf Shore Blvd. Naples, Florida 33940		Founder
Lawrence J. Pool, MD Box 31, West Cornwall Connecticut 06796	Angeline	1940
Robert H. Pudenz, MD 734 Fairmount Avenue Pasadena, California 91105	Rita	1943
Robert C.L. Robertson, MD Shamrock Professional Building 2210 Maroneal Boulevard Houston, Texas 77025	Marjorie	1946
Stuart N. Rowe, MD 6847 Reynolds Street Pittsburgh, Pennsylvania 15208	Elva	1938
Henry G. Schwartz, MD Barnes Hospital Plaza Division of Neurolog. Surgery St. Louis, Missouri 63110	Reedie	1942

		ELECTED
William B. Scoville, MD 85 Jefferson Street Hartford, Connecticut 06106	Helene	1944
C. Hunter Shelden, MD 734 Fairmount Avenue Pasadena, California 91105	Elizabeth	1941
Homer S. Swanson, MD 1971 Mt. Paran Rd., NW Atlanta, Georgia 30327	LaMyra	1939
John Tytus, MD Mason Clinic Seattle, Washington 98111	Virginia (Gina)	
Alfred Uihlein, MD 200 First Street SW Rochester, Minnesota 55901	Ione	1950
A. Earl Walker, MD The Univ. of New Mexico School of Medicine Div. of Neurosurgery Albuquerque, New Mexico 87131	Terrye	1938
Exum Walker, MD 490 Peachtree Street NE Atlanta, Georgia 30308	Nelle	1938
Thomas A. Weaver, Jr. 141 Kopekon Road Lake George Coldwater, Michigan 49036	Mary	1943
Barnes Woodhall, MD Duke University Medical Center Durham, North Carolina 27706	Frances	1941

	ELECTED
Jean Brihaye, MD 98 Audo Franciscoin 1150 Bruxells Belgium 7	1975
Karl August Bushe, MD Neurochirurgiscnen Klinik D-8700 Wursburg Josef-Schneider-Strass 11 W. Germany	1972
Fernando Cabieses, MD Instituto Peruano de Fomento Educativo Av. Arnales 371, Of. 501 Apartado 5254 Lima, Peru	1966
Juan Cardenas y C., MD Av. Insurgentes Sur 594 Mexico, D.F.	1966
Juan C. Christensen, MD Ave. Quintana 474 8° A Buenos Aires, Argentina	1970
Giuseppe Dalle Ore, MD Dipartimento di Neurochirurgia Ospedale Maggiore 37100 Verona, Italy	1970
Hans E. Diemath, MD Prim. Univ. Doz. Neurochir. Abt. D. Landersnervenklink Salzburg, 5020, Austria	1970
Mr. John Gilligham Dept. of Surg. Neuro. The Royal Infirmary Lauriston Pl. Edinburgh, EH3 9YW	1962

ELECTED

Dr. Jaime Gomez Cra. 13 No. 43-23 Bogota 8, Colombia South America	1975
Mr. John Hankinson Dept. of Neurosurgery Newcastle General Hospital Newcastle-upon-Tyne 4 England	1973
Dr. Shozo Ishii Dept. of Neurosurgery Juntendo Medical College Tokyo, Japan	1975
Mr. Richard Johnson Dept. of Neurolog. Surgery Royal Informary Manchester, England	1974
Katsutoshi Kitamura, MD Univ. Kyushu Hospital Faculty of Medicine Fukuoka, Japan	1970
Kristian Kristiansen, MD Oslo Kommune Ulleval Sykehus Oslo, Norway	1962
Lauri Laitinen, MD Skogveien 15 5232 Minde Norway	1971

ELECTED

William Luyenkijk, MD Pr. Bernhardlaan 60 Oegstgeest, Netherlands	1973
Prof. Dr. Frank Marguth Direktor d. Neurochirurg Univ. Klinik, Beethovenplatz 2, 8 Munchen 15, DBR (W. Germany)	1978
Raul Marino, Jr., MD Rua Itapeva, 490, 11 andar, 01000 Sao Paulo, Brazil	1978
Prof. Dr. Helmut Penzholz Vorstand d. Neurochirurg. Abt., d. Chirurg Univ.-Klinik Heidelberg, 69 Heidelberg, DBR (W. Germany)	1978
Prof. Dr. H.W. Pia Dept. of NS, Univ. Klinik, Klinikstrasse 37, 63 Giessen, DBR (W. Germany)	1978
B. Ramamurthi, MD 2nd Main Road G.I.T. Colony Madras 4, India	1966
Prof. Dr. K. Schurmann Neurochirurg. Klinik Universitatskliniken Mainz, Langenbreckstrasse 1; Postfach 39-60 6500 Mainz, DBR (W. Germany)	1978
Charles Suwanwela, MD Chulalongkorn Hosp. Medical School Bangkok, Thailand	1972
Kjeld Vaernet, MD Rigshospitalets Neurokirurgiske Afdeling Tagensvej 18, 2200 Copenhagen, Denmark	1970

Mr. Sidney Watkins
The London Hospital
Whitechapel, London E1, England

1975

Dr. Gazi Yasargil
Neurochirurgische
Universitatsklinik
Kantonsspital
8000 Zurich, Switzerland

1975

		ELECTED
Eben Alexander, Jr., MD Bowman-Gray School of Medicine of Wake Forest University Winston-Salem, N.C. 27103	Betty 1941 Georgia Avenue Winston-Salem, N.C. 37104	1950
James I. Ausman, MD, Ph.D. Henry Ford Hospital 2799 West Grand Blvd. Detroit, Michigan 48202	Carolyn	1978
H. Thomas Ballantine, Jr., MD Massachusetts General Hospital Warren Bldg. Rm. 805 275 Charles Street Boston, Massachusetts 02114	Elizabeth 30 Enbankment Road Boston, Mass. 02114	1951
Giles Bertrand, MD Montreal Neurological Institute 3801 University Street Montreal, Quebec, Canada H3A-2B4	Louise 385 Lethbridge Montreal 16 Quebec, Canada	1967
Edwin B. Boldrey, MD University of California Hospital 3rd Avenue and Parnassus San Francisco, California 94143	Helen 924 Hayne Road Hillsborough California, 94010	1941
Jerald S. Brodkey, MD Division of Neurosurgery University Hospitals of Cleveland 2065 Adelbert Road Cleveland, Ohio 44106		
Barton A. Brown, MD 2001 Union Street San Francisco, CA 94123	Martha 1648 8th Avenue San Francisco, CA 94122	1968
Shelley Chou, MD Univ. Neurosurgical Associates Box 96 - Mayo 420 Delaware St. S.E. Minneapolis, Minnesota 55455	Jolene	1974

Gale S. Clark, MD Univ. of Calif. Med. Center San Francisco, CA 94143	Marion 12621 Brookpark Road Oakland, CA 94619	1970
W. Kemp Clark, MD The Univ. of Texas Health Science Center at Dallas 5323 Harry Hines Boulevard Dallas, Texas 75235	Fern 3909 Euclid Avenue Dallas, Texas 75205	1970
William F. Collins, Jr., MD Yale Univ. School of Medicine 333 Cedar Street New Haven, Conn. 06510	Gwen 131 Uncas Point Road Sachemo Head Guilford, Conn. 06437	1963
Edward S. Connolly, MD Ochsner Clinic New Orleans, LA. 70118	Elise Lapevre 18 Richmond Place New Orleans, LA 70118	1973
James W. Correll, MD Neurological Institute 710 West 168th Street New York, New York 10034	Cynthia Algonquin Trail Saddle River, N.J.	1966
Courtland H. Davis, Jr., MD Bowman-Gray School of Medicine of Wake Forest University Winston-Salem, N.C. 27103	Marilyn 921 Goodwood Road Winston-Salem, N.C. 27106	1967
Richard L. DeSaussure, MD 920 Madison Avenue - Suite 201 Memphis, Tenn. 38103	Phyllis 4290 Heatherwood Lane Memphis, Tenn. 38117	1962
Donald F. Dohn, MD 2020 East 93rd Street Cleveland, Ohio 44106	Betty 3010 Huntington Road Shaker Heights, Ohio 44120	1968
R.M. Peardon Donaghy, MD Mary Fletcher Unit Medical Center Hospital of Vermont Burlington, Vermont 05401	Francis 466 S. Prospect Street Burlington, Vermont 05401	1970

Member	Spouse	Elected
Charles G. Drake, MD University Hospital 339 Windermere Road London, Ontario, Canada N6G 2K3	Ruth 1545 Gloucester Road London Ontario, Canada	1958
Stewart B. Dunsker, MD Mayfield Neurological Inst. 506 Oak Street Cincinnati, Ohio 45219	Ellen 551 Abeline Trail Cincinnati, Ohio 45215	1975
George Ehni, MD 1531 Hermann Prof. Building 6410 Fannin Street Houston, Texas 77025	Valerie (Lari) 16 Sunset Houston, Texas 77025	1964
William H. Feindel, MD Montreal Neurological Inst. 3801 University Street Montreal, Quebec, Canada	Faith A-31 Cote Des Neiges Montreal Canada H3H 1W2	1959
Robert G. Fisher, MD College of Medicine & Dentistry of New Jersey Rutgers Medical School Neurosurgery Section University Heights Piscataway, New Jersey 08854	Constance 1175 Johnson Drive Watchung, N.J. 07060	1957
Richard A.R. Fraser, MD 525 East 68th Street New York, New York 10021		1976
Eugene I. Flamm, MD N.Y. Univ. Med. Center New York, New York 10016		1979
Eldon L. Foltz, MD Division of Neurosurgery Univ. of Cal. School of Medicine Irvine, CA 92664	Catherine 2480 Monaco Drive Laguna Beach, CA 92651	1960
Lyle A. French, MD Univ. of Minnesota Med. Center Minneapolis, Minnesota 55455	Gene 85 Otis Lane St. Paul, Minn. 55104	1954

		ELECTED
John T. Garner, MD 1127 E. Green St. Pasadena, California 91106	Barbara 3075 Monterey Road San Marino, CA 91108	1971
Henry Garretson, MD Section of Neurosurgery, Health Sciences Center University of Louisville Walnut & Preston Streets Louisville, Kentucky 40201	Marianna 517 Tiffany Lane Louisville, KY 40207	1973
Sidney Goldring, MD Washington University Division of Neurosurgery St. Louis, Missouri 63130	Lois 11430 Conway Road St. Louis, Missouri 63131	1964
Philip D. Gordy, MD Wyoming Neurosurgical Associates 1727 East 2nd Street Casper, Wyoming 82601	Silvia	1968
John R. Green, MD Barrow Neurological Inst. 360 West Thomas Road Phoenix, AZ 85013	Georgia 2624 E. Crittendon Lane Sutton Place Phoenix, Arizona 84016	1953
John W. Hanbery, MD Division of Neurosurgical Stanford Univ. Medical Ctr. Palo Alto, CA 94304	Shirley 70 Mercedes Lane Atherton, CA 94025	1959
Maj. Gen. George S. Hayes, MD 303 Skyhill Road Alexandria, Virginia 22314	Catherine	1962
E. Bruce Hendrick, MD Hospital for Sick Children 555 University Avenue Room 1502 A Toronto, Ontario R5G 1X8 Canada	Gloria 63 Leggett Avenue Weston, Ontario Canada	1968
Julian Hoff, MD Dept. of Neurosurgery Univ. of Calif. Medical Center San Francisco, CA 94143	Diane 330 Clark Drive San Mateo, CA 94402	1975

Edgar M. Housepian, MD 710 West 168th Street New York, New York 10032	Marion 531 Next Day Hill Englewood, N.J. 07631	1976
Alan R. Hudson, F.R.C.S., MD St. Michael's Hospital 30 Bond Street Toronto, Ontario, Canada M5B-1W8		1978
William E. Hunt, MD 410 West 10th Avenue Columbus, Ohio 43210	Charlotte 1000 Urlin Avenue Columbus, Ohio 43212	1970
Ellis B. Keener, MD Atlanta Neurosurgical Associates, P.A. 370 Winn Way, #301 Decatur, Georgia 30030		1978
David Kelly, MD Bowman-Gray School of Medicine of Wake Forest University Winston-Salem, NC 27103	Sally 350 Buckingham Road Winston-Salem, N.C. 27104	1975
William A. Kelly, MD University of Washington School of Medicine Seattle, Washington 98195		1978
Glenn W. Kindt, MD University of Michigan Hospital 1405 East Ann Street 57-9 Ann Arbor, Michigan 48109		
Robert B. King, MD University Hospital Upstate Medical Center 750 East Adams Street Syracuse, NY 13210	Molly 408 Maple Drive Fayetteville, N.Y. 13066	1958
Wolff M. Kirsch, MD University of Colorado Med. Center 4200 E. Ninth Avenue Denver, Colorado 80262	Marie-Claire 635 Bellaire Denver, Colorado 80220	1971

		ELECTED
David G. Kline, MD Louisiana St. Univ. Med. Center 1542 Tulane Avenue New Orleans, Louisiana 70012		1972
Robert S. Knighton, MD 9388 Avenida San Timoteo Cherry Valley, CA 92223	Louise 27486 Lathrup Blvd. Lathrup Village Michigan 48075	1966
Richard S. Kramer, MD Duke University Medical Center Dept. of Neurosurgery Durham, North Carolina 27710		1978
Theodore Kurze, MD 111 Congress Street Pasadena, California 91105		1967
Thomas W. Langfitt, MD Hospital of the Univ. of Penn. 34th and Spruce Streets Philadelphia, PA 19104	Carolyn 71 Merbrook Bend Merlon, PA 19066	1971
Raeburn C. Llewellyn, MD 9661 Lake Forest Blvd. Suite 350 New Orleans, LA 70127	Carmen 32 Versailles Blvd. New Orleans, LA 70124	1963
William M. Lougheed, MD Toronto General Hospital #124 170 St. George Street Toronto 5, Ontario, Canada	Grace Eleanor 67 Ridge Drive Toronto, Ontario Canada	1962
Alfred J. Luessenhop, MD Georgetown Univ. Hospital 3800 Reservoir Road N.W. Washington, DC 20007		1977
Ernest W. Mack, MD 505 South Arlington Avenue Suite 212 Reno, Nevada 89502	Roberta 235 Juniper Hill Road Reno, Nevada 89502	1956

Member	Wife	Elected
M. Stephen Mahaley, Jr., MD Univ. of North Carolina 440 West Franklin Chapel Hill, North Carolina 27514	Jane 3940 Nottaway Road Durham, NC 27707	1972
Leonard Malis, MD Mt. Sinai School of Medicine 5th Avenue & 100th Street New York, New York 10029	Ruth 219-44 Peck Avenue Hollis Hills, N.Y. 11427	1973
Frank Mayfield, MD 506 Oak Street Cincinnati, Ohio 45219	Queenee 1220 Roodwood Drive Cincinnati, Ohio 45208	Founder
Robert L. McLaurin, MD Division of Neurosurgery Univ. of Cincinnati, Med. Ctr. 231 Bethesda Avenue Cincinnati, Ohio 45267	Kathleen 2461 Grandin Road Cincinnati, Ohio 45208	1955
William F. Meacham, MD Vanderbilt Hospital Division of Neurosurgery Nashville, Tenn. 37232	Alice 3513 Woodmont Blvd. Nashville, Tenn. 37215	1952
John F. Mullan, MD University of Chicago Clinics Dept. of Neurosurgery 950 East 59th Street Chicago, Illinois 60637	Vivian 6911 S. Bennett Ave. Chicago, Illinois 50549	1963
Blaine S. Nashold, Jr., MD Duke Univ. Medical Center Private Diagnostic Clinic Surgical Division Durham, North Carolina 27706	Irene 410 E. Forest Hills Blvd. Durham, North Carolina	1967
Frank E. Nulsen, MD Division of Neurosurgery University Hospital of Cleveland 2065 Adelbert Road Cleveland, Ohio 44106	Ginney 31200 Fox Hollow Drive Pepper Pike, Ohio 41124	1956

Guy L. Odom, MD Duke University Medical Center Post Office Box 3807 Durham, North Carolina 27710	Madaline 2812 Chelsea Circle Durham, North Carolina	1946
George Ojemann, MD University of Washington Department of Neurosurgery Seattle, Washington 98195	Linda 6424 E. Mercer Way Mercer Island Washington, 98040	1975
Robert Ojemann, MD Massachusetts General Hospital Div. of Neurological Surgery Boston, Massachusetts 02114	Jean 85 Nobscot Road Weston, Mass. 02193	1968
Burton Onofrio, MD Mayo Clinic Rochester, Minn. 55901	Judith 1105 10th Street SW Rochester, Minn. 55901	1975
Russel H. Patterson, Jr., MD The New York Hospital 525 East 68th Street New York, New York 10021	Juliet 535 East 86th Street New York, N.Y. 10028	1971
S.J. Peerless, MD University Hospital Post Office Box 5339 — Postal Stn. A London, Ontario, Canada N6A 5A5		
Phanor L. Perot, Jr., MD Medical Univ. of So. Carolina 80 Barre Street Charleston, SC 29401	Elizabeth 704 Willowlake Road Charleston, SC 29407	1970
Bryon Cone Pevehouse, MD 2001 Union Street San Francisco, CA 94123		1964
Robert W. Porter, MD 5901 East 7th Street Long Beach, CA 90804	Aubrey Dean 5400 The Toledo Long Beach, CA 90803	1962

		ELECTED
John Raaf, MD 1120 NW 20th Avenue Portland, Oregon 97209	Lorene 390 SW Edgecliff Road Portland, Oregon 97219	Founder
Aiden A. Raney, MD 2010 Wilshire Blvd., Suite 203 Los Angeles, CA 90057	Mary 125 North Las Palmas Los Angeles, CA 90004	1946
Joseph Ransohoff II, MD N.Y. Univ. Medical Center 500 First Avenue New York, New York 10016	Rita 140 Riverside Drive New York, New York	1965
Theodore B. Rasmussen, MD Montreal Neurological Institute 3801 University Street Montreal 2, Quebec, Canada	Catherine 29 Surrey Drive Montreal 16 Quebec, Canada	1947
Hugo Rizzoli, MD Geo. Washington University Dept. of Neurosurgery 2150 Penn Avenue NW Washington, DC 20037	Helen 6100 Kennedy Drive Kenwood Chevy Chase, MD 20015	1973
Theodore S. Roberts, MD Division of Neurosurgery Univ. of Utah Medical Center Salt Lake City, Utah 84132		1977
James T. Robertson, MD Semmes-Murphy Clinic 920 Madison Avenue, Suite 434 Memphis, Tennessee 38103	Valeria 628 N. Trezevant Street Memphis, Tenn. 38112	1971
Richard C. Schneider, MD University Hospital 1405 East Ann Street #579 Ann Arbor, Michigan 48104	Madeleine 2110 Hill Street Ann Arbor, Michigan 48104	1970
James C. Simmons, MD Semmes-Murphy Clinic Suite 201 920 Madison Avenue Memphis, Tennessee 38103	Vanita 190 Grove Park Road Memphis, Tenn. 38118	1975

Bennett M. Stein, MD New England Medical Center Hospitals Department of Neurosurgery 171 Harrison Avenue Boston, Massachusetts 02111	Doreen 16 Tamarack Road Weston, Mass. 02193	1970
James L. Story, MD 7703 Floyd Curl Drive San Antonio, Texas 78229	Joanne 3211 Stonehaven Road San Antonio, Texas 73230	1972
Thoralf M. Sundt, Jr., MD Mayo Clinic 200 1st Street SW Rochester, Minnesota 55901	Lois 1406 Weatherhill Court Rochester, Minn. 55901	
Anthony F. Susen, MD 3600 Forbes Avenue Pittsburgh, Pennsylvania 15213	Phyllis 3955 Bigelow Blvd. Pittsburgh, PA	1965
William H. Sweet, MD Massachusetts General Hospital Div. of Neurological Surgery Boston, Massachusetts 02114	Elizabeth	1950
Ronald R. Tasker, MD Toronto General Hospital Room 7-221-Eaton, N. Toronto, Ontario, Canada M5G 1L7	Mary 12 Cluny Drive Toronto 5 Ontario, Canada	1971
John Tew, Jr., MD Mayfield Neurological Institute of Cincinnati, Inc. 506 Oak Street Cincinnati, Ohio 45219	Susan 2145 East Hill Avenue Cincinnati, Ohio 45208	
George T. Tindall, MD Emory Univ. School of Medicihe Division of Neurosurgery 1365 Clifton Road NE Atlanta, Georgia 30322	Suzie 859 Lullwater Parkway Atlanta, Georgia 30307	1968

Arthur A. Ward, Jr., MD Dept. of Neurological Surgery Univ. of Washington Hospital Seattle, WA 98105	Janet 3922 Belvoir Place NE Seattle, WA 98105	1953
Clark Watts, MD Univ. of Missouri-Columbia N522 Medical Center Columbia, Missouri 65201	Patty 213 Devine Court Columbia, Missouri 65201	1975
W. Keasley Welch, MD Children's Hospital Med. Ctr. 300 Longwood Avenue Boston, Massachusetts 02115	Elizabeth 25 Gould Road Waban, Massachusetts	1957
Benjamin B. Whitcomb, MD 85 Jefferson Street Hartford, Connecticut 06106	Margaret 38 High Farms Road West Hartford, Conn.	1947
Lowell E. White, Jr., MD Professor & Chairman Div. of Neurosciences Univ. of S. Alabama Mobile, Alabama 36688	Margie 912 Regency Drive W Mobile, Alabama 36609	1971
Robert Wilkins, MD Duke Univ. Med. Ctr. Box 3807 Department of Neurosurgery Durham, North Carolina 27710	Gloria	1973
Charles B. Wilson, MD Dept. of Neuro. Surgery Univ. of Calif. Medical Center Third and Parnassus San Francisco, CA 94122	Roberta	1966
Frank Wrenn, MD 123 Mallard Street Greenville, South Carolina 29601	Betty 712 Crescent Avenue Greenville, SC 29601	1973
David Yashon, MD 410 West 10th Ave., N. #911 Columbus, Ohio 43210	Myrna 5735 Saranac Drive Columbus, Ohio 43227	1972

Nicholas T. Zervas, MD Massachusetts General Hospital Fruit Street Boston, Massachusetts 02144	Thalia 100 Canton Avenue Milton, Mass. 02186	1972

DECEASED MEMBERS — 24

Dr. James R. Atkinson Phoenix, Arizona	(Active)	2-12-78 1970
Dr. Percival Bailey Evanston, Illinois	(Honorary)	8-10-73 1960
Dr. William S. Beswick New York, New York	(Active)	5-12-71 1949
Dr. Spencer Braden Cleveland, Ohio	(Active)	7-29-69 Founder
Dr. D.F. Keith Bradford Houston, Texas	(Active)	4-15-71 1938
Dr. Winchell McK. Craig Rochester, Minnesota	(Honorary)	2-12-60 1942
Dr. Wesley A. Gustafson Jensen Beach, Florida	(Senior)	7-16-75 1942
Dr. Henry L. Heyl Hanover, New Hempshire	(Senior)	3-1-75 1951
Dr. Olan R. Hyndman Iowa City, Iowa	(Senior)	6-23-66 1942
Dr. Kenneth H. Jamieson Brisbane, Queensland, Australia	(Corresponding)	1976 1970
Sir Geoffrey Jefferson Manchester, England	(Honorary)	3-22-61 1951
Dr. Walpole S. Lewin Cambridge, England	(Corresponding)	1973
Dr. Donald D. Matson Boston, Massachusetts	(Active)	5-10-69 1950
Dr. Kenneth G. McKenzie Toronto, Ontario, Canada	(Honorary)	2-11-64 1960
Dr. James M. Meredith Richmond, Virginia	(Honorary)	12-19-62 1946
Dr. W. Jason Mixter Woods Hole, Massachusetts	(Honorary)	3-16-58 1967

Dr. Sixto Obrador (Alcade) Madrid, Spain	(Honorary)	1978 1973
Dr. Wilder Penfield Montreal, Quebec, Canada	(Honorary)	4-6-76 1970
Dr. Rupert B. Raney Los Angeles, California	(Active)	11-28-59 1939
Dr. David L. Reeves Santa Barbara, California	(Senior)	8-14-70 1939
Dr. David H. Reynolds Tampa, Florida	(Active)	4-3-78 1964
Dr. Samuel R. Snodgrass Nashville, Indiana	(Senior)	8-8-75 1939
Dr. O. William Stewart Montreal, Quebec, Canada	(Corresponding)	1948
Dr. Glen Spurling La Jolla, California	(Honorary)	2-7-68 1942
Dr. Hendrik J. Svien Rochester, Minnesota	(Active)	6-29-72 1957

PAST MEETINGS

ARIZONA	Phoenix, 1956	
BERMUDA	Hamilton, 1974	
CALIFORNIA	Los Angeles, 1941 Santa Barbara, 1953 Pebble Beach, 1959	Palm Springs, 1963 San Francisco, 1966 Pasadena, 1973
CANADA	Montreal, 1948 Toronto, 1958	
COLORADO	Colorado Springs, 1947, 1954, 1968	
DISTRICT OF COLUMBIA	Washington, 1961	
ENGLAND	Oxford, 1972	
FLORIDA	Miami, 1964, 1967	
GEORGIA	Sea Islands, 1957	
GERMANY	Munich, 1978	
HAWAII	Mauna Kea, 1977	
ILLINOIS	Chicago, 1942	
LOUISIANA	New Orleans, 1939, 1962	
MASSACHUSETTS	Boston, 1960	
MEXICO	Mexico City, 1970	
MICHIGAN	Battle Creek, 1943	
MINNESOTA	Rochester, 1950	
NEVADA	Lake Tahoe, 1971	
NEW YORK	New York, 1952, 1969	
OHIO	Cincinnati, 1938, 1965 Cleveland, 1940	
OREGON	Portland, 1949	
SOUTH CAROLINA	Charleston, 1976	
TENNESSEE	Memphis, 1939 (Organizational Meeting) Memphis, 1979	
TEXAS	Houston, 1951	
VIRGINIA	Hot Springs, 1946, 1955	
WEST VIRGINIA	White Sulphur Springs, 1944	

FOUNDERS

Spencer Braden

Dean H. Echols

Joseph P. Evans

William S. Keith

Frank Mayfield

Francis Murphy

John Raaf

* * *

"PAST PRESIDENTS CLUB"

1938-39	Dean Echols	1958	Edwin B. Boldrey
1940	Spencer Braden	1960	George S. Baker
1941	Joseph P. Evans	1961-62	C. Hunter Shelden
1942	Francis Murphey	1963	Samuel R. Snodgrass
1943	Frank Mayfield	1964	Theodore Rasmussen
1944	A. Earl Walker	1965	Edmund Morrissey
1946	Barnes Woodhall	1966	George J. Maltby
1947	William S. Keith	1967	Guy L. Odom
1948	Howard A. Brown	1968	James G. Galbraith
1949	John Raaf	1969-70	Robert H. Pudenz
1950	E. Harry Botterell	1971	William B. Scoville
1951	Wallace B. Hamby	1972	Robert L. McLaurin
1952	Henry G. Schwarz	1973	Lyle A. French
1953	J. Lawrence Pool	1974	Benjamin B. Whitcomb
1954	Rupert B. Raney	1975	John R. Green
1955	David L. Reeves	1976	William H. Feindel
1956	Stuart N. Rowe	1977	William Sweet
1957	Arthur R. Elvidge	1978	Arthur A. Ward
1958	Jess D. Herrmann	1979	Robert B. King

THE GRANDFATHERS' CLUB

George S. Baker
Tom Ballantine
Edwin B. Boldrey
E. Harry B. Botterell
Howard A. Brown
Gale G. Clark
Donald F. Coburn
R.L. De Saussure, Jr.
Charles G. Drake
Dean J. Echols
George Ehni
Joseph P. Evans
Robert G. Fisher
Eldon L. Foltz
Lyle A. French
F. John Gillingham
Philip D. Gordy
James Greenwood, Jr.
Wallace B. Hamby
Hannibal Hamlin
Jess D. Herrmann
William S. Keith
Kristian Kristiansen
Ernest Mack
George L. Maltby
Frank H. Mayfield
Edmund J. Morrissey
Gosta Norlen
Guy L. Odom
J. Lawrence Pool
Robert H. Pudenz
John Raaf
Joseph Ransohoff
Stuart N. Rowe
William B. Scoville
Henry Schwartz
C. Hunter Shelden
George T. Tindall
John S. Tytus
Alfred Uihlein
Thomas A. Weaver
Benjamin B. Whitcomb
Barnes Woodhall
Frank Wrenn