THE AMERICAN BOARD OF NEUROLOGICAL SURGERY*

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In 1952 Paul Bucy began his Presidential Address to this Society with these words, "The future of neurological surgery in North America lies in the hands of the members of this Society." At this meeting, we, as a group, have reached the age of thirty years, and we now have more members than any other neurosurgical society in the world. It is a distinct honor to be selected as your president, and I would like to express my gratitude for the privilege of serving. At the same time, I would like to say honestly and sincerely that it is an honor that I do not justly deserve, for my only contribution to our specialty has been as a clinical neurosurgeon with reasonable surgical judgment and moderate technical skill. In many months of contemplation as to the why of my selection, I have been able to assign only one reason, and that must be because of my service on the American Board of Neurological Surgery. During the ten years of my membership, six as a representative of this Society, I became convinced that this organization was very worth-while, but I also realized that many neurosurgeons are very unfamiliar with its make-up, its objectives, or its attainments, so it is my purpose to discuss it with you today. William German included an analysis of some aspects of Board activities as a part of his discussion of the past, present and future of neurological surgery in 1953, so I am by no means introducing a new subject, nor is it a subject in which this organization has no interest. Four of the members of the Board are appointed as representatives of this Society, more than the number appointed by any other organization.

The principle of certification in a medical specialty was established first in ophthalmology. The American Board for Ophthalmic Examinations (now the American Board of Ophthalmology) was incorporated in 1917 after four years of study of ophthalmic education. I think it is interesting to review the original statement of the purposes of this Board. These are:

1. To elevate the standards of ophthalmology.
2. To determine the competence of ophthalmologists who desire certification.
3. To conduct examinations for candidates who appear before the Board and to issue certificates to those who pass.
4. To act as advisers to prospective students of ophthalmology.

Then follows this significant statement:

"The American Board of Ophthalmology has never been concerned with measures that might gain special privileges or recognition for its diplomates in the practice of ophthalmology. It is neither the intent nor has it been the purpose of the Board to define requirements for membership on the staffs of hospitals. The prime object of the Board is to pass judgment on the education and training of competent and responsible ophthalmologists, not who shall or shall not practice ophthalmology as a specialty. The Board specifically disclaims interest in or recognition of differential emoluments that may be based on certification."

By 1938 specialty certification had become so well established that an Advisory Board for Medical Specialties had been formed, and all recognized Boards were members. The Advisory Board was made up of representatives of all existing specialty boards, of the Association of American Medical Colleges, The Council on Medical Education and Hospitals of the American Medical Associa-

* Presidential Address at the meeting of the Harvey Cushing Society, Chicago, Illinois, May 1, 1962.

* Italics mine.
tion, The Federation of State Medical Boards of the United States, and the National Board of Medical Examiners. It had been established that each recognized specialty board should be a member of the Advisory Board, so requirements for membership were established as follows:

"To be eligible for membership on the Advisory Board a proposed new Specialty Board should be sponsored by two or more national organizations representing that specialty, including a related section of the American Medical Association. If favorable action is taken by the Advisory Board, the Specialty Board in question is recommended for official recognition to the Council on Medical Education and Hospitals of the American Medical Association. "The council will approve new boards only after recommendation by the Advisory Board for Medical Specialties."

The matter of a board for certification in neurological surgery was considered at a meeting of the Society of Neurological Surgeons in 1938, and on August 1, 1940, such a board was established, the preamble to the articles of incorporation being as follows:

"The principle of certification in medical specialties is now well established. Recognizing the need for detailed training and special qualifications for the practice of neurological surgery, representatives of both The Society of Neurological Surgeons and The Harvey Cushing Society held an informal meeting on March 27, 1939, to consider this matter. Later, the group was enlarged by representatives from the Section on Nervous and Mental Diseases of The American Medical Association, the Section on Surgery of The American Medical Association, The American Neurological Association and The American College of Surgeons.

"It was unanimously resolved by the enlarged group that a separate Board be formed for Certification in Neurological Surgery."

The aims and purposes of the Board were stated as being:

"To encourage the study, improve the practice, elevate the standards and advance the science of Neurological Surgery and thereby to serve the cause of Public Health.

"To grant and issue to physicians duly licensed by law, certificates or other recognition of Special Knowledge in Neurological Surgery (hereinafter called \"Certificates\") and to suspend and revoke the same.*"

* Italics mine.

"Certificates granted or issued by the Corporation shall not confer or purport to confer upon any person any legal qualification, privilege or license to practice Neurological Surgery, nor purport to be issued under or in pursuance to or by virtue of any statutory or governmental sanction or authority. Recipients of Certificates shall not by virtue thereof become members of the Corporation or shall they be entitled by virtue thereof to vote on any matter whatsoever.

"To determine by examination, investigation and otherwise the fitness and competence of specialists in Neurological Surgery who shall apply for Certificates and to prepare, provide, control and conduct examinations, written, oral and otherwise, for such purpose and to determine the results of such examinations.

"To furnish to the public, hospitals, medical schools, medical societies and practitioners of medicine and surgery lists of Neurological Surgeons who from time to time have been granted Certificates by this Corporation."

The original composition of the Board was stipulated in the following paragraph:

"The incorporators named in this certificate shall elect twelve initial members, five from The Society of Neurological Surgeons, three Neurological Surgeons from The Harvey Cushing Society, one from the Section on Nervous and Mental Diseases of The American Medical Association, one from the Section on Surgery of The American Medical Association, one from The American Neurological Association, and one from The American College of Surgeons."

There have been two changes in representation. In the early 1940s one representative was accepted from the Academy of Neurological Surgery, reducing the number from the senior society to four. In 1961 the number of representatives from this society was increased to four and the number from the senior society was reduced to three. Term of membership is six years, except for the secretary, and the provision that no member shall serve two consecutive terms is assurance that the Board may never become self-perpetuating.

In any evaluation of our Board, one must consider the purposes for which it was created. Like all other Boards, it has no legal standing. Certification, or the lack of it, does not in any way affect the physician’s legal right to practice, for this privilege is conferred by the individual states of our union. It was never
intended that certification be used as a standard of excellence by hospitals, medical schools, the armed forces, or any other agency, private or governmental, but in many instances it has been so used without the Board’s knowledge or consent. That this has caused feelings of ill will in certain quarters is common knowledge, but the responsibility for these situations cannot be placed upon the Board.

What, then, are the purposes of the Board? In my opinion there are two primary objectives. One is to be able to say to the medical profession and to members of the lay public who inquire, that a physician who holds a certificate from the Board has fulfilled three requirements:

1. He has had training in neurological surgery which meets at least the minimum standards set forth by the Board.

2. In the two years of practice between completion of training and the time of examination, he has not, as far as may be determined by diligent inquiry, exhibited any qualities inimical to the practice of medicine in general and neurosurgery in particular.

3. He has passed the Board examinations.

This means, then, that as far as the Board is able to determine, he is capable of doing a good job in neurological surgery. It is not now, never has been, and never should be, the purpose of the Board to certify only those men who may be capable of a career in academic neurosurgery or who may be expected to perform valuable research in the field. What is being said is that the individual who is certified has completed a training program that satisfies the requirements of the Board, and who, as far as could be determined during his two years of practice, appeared to be of good moral character and adhered to the principles of medical ethics proven by time and experience to be in the best interests of medicine in general.

The second objective of the Board should be to evaluate residency-training programs. This is necessary, for the young man who plans to take up neurosurgery as a specialty must be certain that if he enters a training program approved by the Board, he will in fact get good training in neurosurgery. I believe that it is very important for our Board to continue to have final say as to whether or not a training program should be approved or disapproved. This right should not be surrendered to a residency-review committee or to any other agency, no matter how necessary the evaluation by this committee or agency may be, for when this has been done by other Boards, many misunderstandings have arisen. This statement, however, should not be construed in such a manner as to detract in any way from the importance of the work of the Residency-Review Committee which was set up for neurosurgery in 1952.

My first Board experience began in 1950, a time when confusion caused by World War II was beginning to subside. Many men appearing for examination had been trained in ways that were then approved by the Board, but it soon became obvious that the training of many of these men had suffered because of the lack of continuing supervision. Frequently, an individual would spend a year in each of three programs with a different chief each year. It was felt that much good could be accomplished by a resurvey of all residency-training programs, a task obviously unsuitable for consideration by the entire Board because of its magnitude. There were, in 1951, fourteen accredited programs in Veterans Administration Hospitals offering 35 residencies and 76 programs offering approximately two hundred four places in civilian hospitals. Accordingly, in 1952 a Residency-Review Committee was set up, to review all of the accredited training programs. In its inception, this committee consisted of three members of the Board, usually the officers of the Board, and two neurosurgeons appointed by the Council on Medical Education and Hospitals of the American Medical Association from a list submitted by the Board, plus an Executive Secretary from the Council. Working in conjunction with the Council, all the residency-training programs were resurveyed as rapidly as possible and a number of programs that had been
approved for one or two years of training were found to be deficient. These programs were either abandoned or, when feasible, combined with additional centers furnishing additional training so that they could be continued. In the re-evaluation, it was soon apparent that training in some veterans hospitals tended to be not of top quality and these veterans hospital programs were either abandoned or, if geographically situated so that they could be tied in with a training program in association with a medical school, they were included as a part of the larger training program. In order to avoid any confusion, it was also stipulated that in Veterans Administration Hospitals, appointments of residents entering the training program should be made by the chief of the neurosurgical service rather than by the administrator of the hospital. Because of the large amount of work that must be done by the Residency-Review Committee it is obvious that it must meet independently of the time of Board examinations. It usually meets twice yearly in Chicago, and an attempt is made to resurvey each training program, at least every three years, or oftener if some situations such as a change in the chief of service occurs in the intervening period. The make-up of the Residency-Review Committee has been altered so that it now consists of three members of the Board, and three neurosurgeons appointed by the Council from a list submitted by the Board with the Executive Secretary of the Council serving in an ex-officio capacity. For obvious reasons an attempt is made to have the Committee members come from widely distributed areas so that a broad geographic representation is obtained.

When it was decided by the Board that all residency-training programs should be re-evaluated, certain rules were made which have come in for criticism from a number of quarters, but which, in my opinion, were sound.

It was felt in the first place that a considerable number of men who were appearing for examination were obviously deficient in their knowledge of clinical neurosurgery and discussions with some of these candidates indicated that the amount of clinical material available to them as residents had been quite small. It was decided, therefore, that for each resident completing training it should be required that the program should provide 200 major neurosurgical procedures during the calendar year, and that included in these 200 major neurosurgical procedures should be at least twenty-five verified intracranial tumors. There was, in the beginning, a considerable apprehension on the part of some chiefs of services in anticipation of the dilution of neurosurgical material by reason of the increasing number of neurological surgeons. There was a feeling on the part of many that eventually the time would come when it would be very difficult to be assured of twenty-five verified intracranial tumors each year. So far as I have been able to determine, this apprehension certainly has not materialized to any appreciable extent. Well run residency-training programs have clinical material far in excess of that necessary for their needs. It still happens occasionally, however, that one examines a candidate who will admit that he has never seen an operation for trigeminal neuralgia, has never seen the removal or attempted removal of an acoustic neuroma, or who has never seen an operation for craniostenosis. Such instances, however, are certainly becoming increasingly rare.

In 1955 the length of neurosurgical residency was increased to four years, and in 1957, a fundamental change was made, this being the dropping of the requirement of one year of general surgery as an absolute necessity. Because a number of states require that an individual must have served a rotating internship before he is permitted to practice in that state, it was decided that residency training could be started after a rotating internship, because it was the feeling of the Board that it should be possible to complete training within five years of graduation from medical school. It was stipulated, however, that if an individual began his residency training after a rotating internship, the chief of his service must arrange for an additional
six months of training in general surgery in an approved residency program in general surgery, and this training usually is obtained in the parent institution.

When the training program in neurological surgery was increased from three years to four years, the stipulation was made that an individual must have a minimum of thirty months of clinical neurological surgery. If the trainee has had a year of general surgery, this allows eighteen months which may be spent in additional training in neurological surgery, in neurology, the basic sciences, general surgery, or in the experimental laboratory, whichever the chief of the service and the trainee feels is best. If the training is begun after a rotating internship, only twelve months of such free time is allowed because an additional six months of general surgery is required. No stipulation whatsoever is made by the Board as to how this time should be spent except to say that the individual will be examined in neuroanatomy, neurophysiology, neuropathology, neuroradiology, organic neurology and general surgery, and that he must be prepared to pass examinations in these subjects as well as having a comprehensive knowledge of neurological surgery as a whole.

It is these regulations that have perhaps come in for the greatest amount of criticism. Meyers, for example, stated:

"the board has manifestly gone beyond its primary task of examining candidates and has entered the realm of education, by stipulating what must be the essential features of the student's training—e.g., a year in general surgery, thirty months in clinical neurosurgery, two years in clinical neurosurgery in a single institution, a minimum number of surgical operations, etc."

He also questioned the advisability of the requirement of general surgical training, suggesting that basic surgical principles might be learned on the neurosurgical wards, an opinion occasionally expressed by others. In fact, Meyers appeared dubious about the whole situation stating that:

"in the present circumstances, no one knows in an epistemologically meaningful sense precisely what the course of training should be for any specialty; that many alternatives are conceivable; and that the boards would do well if they were to confine their efforts to properly examining candidates (which in many instances they do not) rather than prescribe the devices by which the clinical skills they so vaguely envision are to be acquired. There can be no objection whatever to the boards' expressing preferences. Admittedly, a beginning has to be and should be made; and such a beginning must necessarily consist of arbitrary features, more or less intuitively arrived at. But there is a wide difference between setting these features up as preferences with the clear implication that they constitute but a tentative and highly hypothetical answer to questions relating to improving medical education, and uttering them as pontifications, from which there is little if any appeal."

There is, of course, much truth in this statement, but there are certain facts that tend to prove the necessity for having regulations. One must remember that the Board makes its own rules, but it also alters its own rules, and an organization that has a 33\% per cent change in personnel every two years has a continuing infusion of new ideas so that the organization is dynamic and not static. One then quite logically may ask if there are facts to prove the assumption that rules are necessary. I say that there are.

I tabulated the grades of every individual who was examined from September 1952 through May 1959. During this period 379 candidates took 436 examinations, and 297 passed, an over-all "success" rate of 79 per cent (Table 1). Of these, 268 passed the first examination, 27 the second, and 2 the third, both having had additional training at the suggestion of the Board (Table 2). This entire group has been divided into three categories:

1. Those trained in a manner not now acceptable by the Board, i.e., in three separate programs, by preceptorship, or a combination of these (Table 3).

2. Those trained in programs no longer recognized or in programs that have been

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**TABLE 1**

Results of examinations from September 1952 through May 1959

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<tr>
<th></th>
<th>No. of examinations</th>
<th>No. of candidates</th>
<th>No. passed</th>
<th>Over-all &quot;success&quot; rate</th>
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<tr>
<td></td>
<td>436</td>
<td>379</td>
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3. Those trained in programs no longer recognized or in programs that have been
subject to Board inspection and review (Table 4).

3. Those trained in programs consistently considered satisfactory by the Board (Table 5).

In the first group, there were 107 candidates and they took 135 examinations. Sixty-three passed and received certificates, a success rate of 69 per cent.

In the second group, 59 candidates took 74 examinations and 34 passed and received certificates, a success rate of 57.6 per cent.

Contrast these groups with the candidates trained in programs consistently considered satisfactory by the Board. Here, 213 candidates took 297 examinations and 190 passed, a success rate of 89.1 per cent. To me these facts are convincing, and I think that the Board has the right, as well as the obligation, to see that training programs that do not meet its minimal standards should be discontinued.

Another point of criticism has been that "individual differences in aptitude and learning potentials among trainees are disregarded in favor of elementalistc temporal formulations that can be automatically implemented by the board sitting in solemn session."

I would interpret this as the expression of an opinion that John A., who is smart, should be allowed to complete his training earlier than James B., who is average. That there is merit to this proposal is obvious but I can foresee many pitfalls in its implementation. In spite of the intensive work of the Residency-Review Committee and the Board, there has been an increase in the number of accredited residencies offered so that now seventy-seven programs could easily "graduate" ninety-five residents each year. By what means would one of the seventy-seven chiefs of service and his staff decide that John A., in training on the East coast, is smarter than James B., a resident in the midwest, and should, therefore, be allowed to complete his training in thirty-two months rather than forty-eight. How could satisfactory evidence of this be presented to the Board secretary and Credentials Committee, and what answer from the secretary would satisfy James B. when he inquires as to the reason why the time of his examination is so long delayed beyond that of John A.? Could John A.'s chief convince James B.'s chief that John A. is really a smarter lad, and could the Board convince James B.'s chief that his service was not being discriminated against? Since I cannot answer any of these questions, I shall not raise the hundreds of others that quickly come to mind!

The matter of the number of training programs now accredited does, however, cause some apprehension. German said in 1953:

"If the increase of approved training programs were to continue at the present rate, there would..."
be 250 programs offering 650 residencies by 1960. This is obviously ridiculous.”

In 1951 there were 90 accredited programs. Today there are 77, but the change has been much greater than the figures would indicate. Although many programs have been dropped or combined, twenty new ones have been added, many in new medical schools from Florida to Washington, and much new blood has been infused into the chiefs of services. There are, however, 436 residencies offered, but many of these are unfilled. It is important, nonetheless, that the Board retain its attitude of not attempting in any way to limit the number of men who go into neurosurgery, for this is a traditional right guaranteed by the American creed of free enterprise and it must not be encroached upon.

It is important also that the Board continue the policy of allowing certain individuals to appear for examination even though their training might not meet the Board’s standards. There are many reasons for this, but two will suffice to prove its value. The first is simple—under its constitution the Board considers routinely only individuals trained in the United States or Canada. More and more is it becoming obvious that these two countries are a haven for foreign physicians who come here either because of dissatisfaction with the political control of their country of origin, or lack of opportunity because of governmental control of or interference in the practice of medicine. Among these may be outstanding foreign-trained neurosurgeons who wish to practice here and be certified by the Board. Occasionally, also, an individual may have to interrupt his training here for financial or other reasons, but may, by acquiring experience in some other way, become proficient in neurosurgery.

For these unusual cases, a door has been left open, and the Board may, at its own discretion, examine such a person after he has completed six years of satisfactory independent practice. During the period of tabulation previously mentioned, eight such individuals were examined of whom six passed and two failed. One failed the first examination but was successful on re-examination. Obviously this group is too small to be statistically important, but it must be remembered that the Board is dealing with persons and not statistics, so it must always retain a position of flexibility.

One other matter has merited many hours of discussion. Are oral examinations broad enough in scope, is sufficient time allowed for actual evaluation of the candidate, and does the “panic reaction” occasionally seen actually influence the examinee’s ability to think? I can only say that my experience, the observation of many teams of examiners, and the questioning of many candidates both successful and unsuccessful, has convinced me that the oral examination is best suited for neurosurgery. While more and more men are appearing for examination, the number is still small when compared with many other Boards, and I believe the personal contacts between the Board members and the candidates are invaluable. As to time element, it is always very adequate when there is no language barrier and the candidate “knows his stuff.” Additional time is frequently arranged for if it seems necessary in the unusual case, so I see no reason for a change.

The “panic reaction” is not a large problem numerically, but when it occurs, it may be very disturbing. To see a pale, sweaty, stammering, tremulous individual become almost mute will disconcert even the most hardened examiners, and occasionally a candidate will not be able to continue. One always wonders, but somehow never finds out, how such a man would react to a situation of emergency and stress in the operating room or at the bedside. I can only say that the number of such cases is small, that every consideration is shown by the examiners, and that lack of knowledge, not panic, is the cause of failure.

Do the candidates regard the examination as fair? Most of you here have been candidates and are in a better position to answer than I, but I have questioned many of you when the ordeal was fresh in your memory. Almost without exception the answer has been that it was fair, it covered enough ground, and that it was at least an experience that was unique and in many instances re-
warding. There are others who are not here who may feel differently, but even those, in almost all instances, accept the responsibility for failure rather than placing that responsibility upon the Board.

Our Board was among the first to issue a "Foreign Certificate," and the wisdom of this move seems established by the fact that our State Department has requested that all Specialty Boards do so. It seemed unfair that a citizen of a foreign country spend the necessary time in training and then return home with nothing to "hang on the wall." In order to make it easy for these men financially, examination is given upon completion of training rather than after two years of practice, but before the foreign certificate is granted, a photostatic copy of the candidate's license to practice in his native land must be presented to the Secretary. It is also stipulated that if the candidate returns to this country or remains here, he must surrender his certificate and be re-examined after two years of practice. The issuance of Foreign Certificates has caused no major problems, but has been a measure of much good will at a time when our country can use such a feeling, even in small amounts!

Concern has been expressed\(^6,\) at times because the certificate issued is for the life of the recipient. Is this as it should be, or would it be advisable to re-evaluate periodically each holder of such a document? Personally, I think that routine re-evaluation would be impossible of achievement. How could this be done? Would the information come from patients? That this is not feasible is obvious, for we have all had the experience at times of being appreciated most by some patient upon whom we have made a technical failure that produced unwanted and difficult-to-handle complications. Should it come from confreres in the community, hospital authorities, or a team of "inspectors"? The confreres' opinions would vary, the hospital authority might be prejudiced for or against, and a one- or two-day visit by a team of inspectors need not disclose the true character of the individual being evaluated. I believe we must, therefore, accept the fact that a certificate, once obtained, is good for life, and have faith that the neurosurgeon who obtained it was trained in such a manner that he will continue to manifest an interest in the progress of his specialty. The Board, I am sure, will continue in its effort to see that only those who are fully qualified receive its stamp of approval.

But, what if, very, very rarely, this effort fails? Neurosurgeons are only people, and as much subject to human frailties as any other group. Should not, therefore, the Board always remember that it has the power to revoke as well as the power to bestow? I think it should, but this has been made a difficult process by agencies outside the Board's control. When hospital-staff committees decide that certification is a prerequisite to appointment, or federal agencies reward certification by increased emoluments, the possession of a certificate becomes entangled in the web of "means of livelihood." This could mean, therefore, that the revocation of a certificate could result in a long and costly legal battle, but I personally think that if a situation that justifies revocation should arise, the battle should be joined. This might, once and for all, clearly establish the fact that the Board is interested only in excellence of performance and not in financial reward or professional prestige, thereby raising even higher the esteem in which its diplomas are held.

It has now been two years since my term of service on the Board ended. It was a rewarding experience, and I am deeply grateful to this Society for my original appointment. But the Board is a continuing organization, constantly infused with new men and new candidates, and I believe that it will continue to function well for many years to come. It should not be allowed to come under the domination of the academic neurosurgeon nor should it be controlled by the private practitioner. With a wholesome admixture of the two, and with the injection of an occasional pint of good, rich Canadian blood, it will continue to render a valuable service to North American neurosurgery in particular and to world neurosurgery in general. I shall never forget the diligence, the patience, the
wisdom, and the selfless devotion to duty of its members, who, laying aside all personal problems and duties, spend countless hours in performing what I consider to be a very valuable service to our specialty and to us all.

REFERENCES