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Presidential Address

The challenge of progress

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The date was April 23, 1974, when I was selected as President-Elect of this Association. The annual meeting was being held in Las Vegas, Nevada, a city known for its gambling instinct, and the Committee in charge of my selection was undoubtedly influenced by the care-free atmosphere and chance-taking attitude so locally manifest. The announcement of my selection to this high office came not only as a surprise to me, but also as a great shock. My surprise was evident to any member sitting near me in the audience at our Executive Session, but the shock carried with it the shadow of giving a Presidential Address. The fact that the address would not be due for two years did not particularly soften the blow, and the sudden realization that I was to follow in the wake of the great fathers of thoracic surgery made the trip from my seat to the podium, even with the help of two of my predecessors, a shaky and tremulous journey. Though the trip to the stage was relatively short, many thoughts raced through my mind as to how this had occurred.

Since I had started my medical career as a general practitioner in Cleveland many years ago, how did it happen that now I was honored with a position of such high esteem as President of the most prestigious society of thoracic surgical specialists. Actually, I became a

thoracic surgeon by an act of Congress. With the declaration of World War II, most young doctors either by choice or by a compelled sense of responsibility joined the armed services with the idea of getting it over and returning home to their individual practices. Having the enriched background of two years of general surgical residency, I was qualified for nothing in particular and was certain that I was headed for an overseas spot as a battalion aid surgeon. For reasons which I am sure can be explained only by the unpredictable wisdom of the United States Army, I was ordered to Walter Reed General Hospital in Washington, D. C., where upon arrival I was handed instructions to "Temporary Duty for a period of approximately six weeks for the purpose of pursuing a course of instruction in thoracic surgery at the University of Pennsylvania." Nine other medical officers, all high-ranking first lieutenants from as many Army hospitals, received identical orders and made up the remainder of this select group. The course was designed as an experimental study for future Army use and started out with a magnificent banquet at the Philadelphia Athletic Club. I do not think the experiment was repeated. The term thoracic surgery was new to me, but I soon learned that it had to do with operations within an area which I had felt should be surgically avoided. I had never contemplated a career in such a field and, although the course would probably prove interesting, I saw no specific advantage in the training as far as my

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plans for return to my practice in Cleveland were concerned.

This Army-sponsored program included lectures in physiology and the aspects of administering drugs such as prontosil, the sulfonamides, and the newly discovered penicillin. These drugs were all under investigation at the time. Although their effectiveness was still unproved, the sulfonamides in particular were considered the most promising in the management of pulmonary infections. Observing surgical operations was to have been part of our thoracic exposure. However, chest surgical operations were not frequent, and the only such procedure to which we were invited during the entire six weeks was a thoracotomy by Emory Burnett in which he removed a mediastinal dermoid. Dr. Burnett, a highly respected member of this Association, performed a superb operation and all ten of us, although bewildered, were impressed.

One of my first assignments was to pass a bronchoscope on an elderly and well-preserved cadaver, and the difficulties encountered in such an attempt prompted me to slip out a handy exit to a nearby matinee. The practical demonstration of endoscopy, however, was dramatically emphasized when our class was sent to Temple University to observe the famous Chevalier Jackson using the rigid bronchoscope which he had perfected. The ceremony connected with the passage of the bronchoscope was most impressive and, because Dr. Jackson had a head holder, a first assistant, and an instrument nurse plus two circulators, gave considerable support to our impression that endoscopic procedures were, indeed, deserving of momentous consideration.

An important part of our instruction included a course in anatomy, and we were all sufficiently close to our medical school days to appreciate this welcome refresher course. Our instructor was Dr. Oscar Batson, Head of the Anatomy Department of the University of Pennsylvania. Dr. Batson was a very large man with long flowing hair, much ahead of his time. He wore a white shirt with long collar lapels, a shoestring tie, and a black frock tail coat. He¹ had just completed a manuscript published in the *Annals of Surgery* on "The Function of the Vertebral Veins and Their Role in the Spread of Metastasis." Batson was the first investigator to demonstrate scientifically this route of metastatic spread, and clinical verification has subsequently confirmed his original proposal. Exposure to such a highly skilled anatomist was most exciting, and his delicate dissection of tiny blood vessels in the cadaver would rival the meticulous techniques of our present day coronary surgeons.

Having completed the series, the ten thoracic surgi-

cal wonders returned to their regularly assigned station, which in my case was Walter Reed. I have recently learned that none of my fellow trainees continued in their Army-ordained specialty. Two are general surgeons, one is in internal medicine, one is in family practice, one is a neurosurgeon, two have died, and two I have not been able to locate.

Having been groomed for a brilliant thoracic surgical career by a brief six weeks' training period, I was further instructed to report to the Chief of Thoracic Surgery Service at Walter Reed, Captain Brian Blades. Being young, naive, and not very well read, I had no knowledge of my Chief's prominence. However, I was soon to learn that his fame had preceded him and, even at that early time, he was held in considerable respect by the great names in surgery. Visiting dignitaries were frequent at Walter Reed and during my three-year assignment included John Alexander, Edward O. Churchill, Michael De Bakey, Leo Eloesser, Evarts Graham, Dwight Harken, and Colonel William Keller. It was during this time that it was my good fortune to meet John Jones of Los Angeles, a pioneer chest surgeon and teacher of many in this audience. Dr. Jones, a true professional, was an inspiration to me. His calm and gentle manner combined with his surgical excellence and true patient concern early placed him in a very special category. This type of professional exposure at a tender age was bound to impress even a general practitioner but did not immediately change my original intent to get it over and go home.

My first contact with my new Chief was rather abrupt. Dr. Blades' welcoming remark, "What makes you think you can help me?," and my response, "I am not here to think, I am in the Army," not only made our association more interesting, but our friendship more lasting for these many years. The relaxed atmosphere of our Surgical Service at Walter Reed was exemplified by the following episode. During one of the Grand Rounds on the Chest Surgical Ward, we were honored with the presence of the then Secretary of War, Henry L. Stimson. Dr. Blades, of course, conducted the bedside rounds and my responsibility, being the other half of the Service, was to present the individual cases. At that particular stage of my physical development, I weighed 120 pounds and had not overcome the typical hospital pallor of my training days. The secretary deciding to evidence some interest asked the question:

"What is it, Captain Blades, that determines when you place the patients on the seriously ill list?"

To this our leader dryly responded, "When they begin to look like Lieutenant Dugan."

Assigned to our Service and under my close direction was Captain Donald Effler, a young, energetic, and strong character who was later to gain prominence in the then unventured field of cardiac surgery. In spite of it all, Dr. Blades saw in me a faint ray of hope, and his perseverance with an obstinate subject converted me by actual necessity to becoming a thoracic surgeon. In the summer of 1945, with the war at an end, Dr. Blades felt that while my three years' exposure to thoracic surgery had not been a complete waste, I had no knowledge whatsoever of the surgical treatment of tuberculosis. With his marvelous insight and maneuverability, Blades managed to have me transferred for my last year of Army service to Fitzsimmons General Hospital in Denver, a mecca of tuberculosis therapy. There I met and worked with John Grow, a brilliant chest surgeon, member of this Association, and present close friend. During that year, in addition to doing pulmonary resections for tuberculosis, closed pneumonolyses, and phrenic nerve crushes, we managed to operate upon all of the remaining patients with bronchiectasis in the armed services due to the closure of other chest centers. The experience gained in such an academic atmosphere was unparalleled. The patients at Fitzsimmons were all young, otherwise healthy men with demonstrable bronchiectasis in various lobes of the lungs. They had been well studied at other centers throughout the armed services. They were transferred to Fitzsimmons for surgery and, fortunately, we had an eager group of chest surgeons available. During this time, the late Colonel James Forsee of the famed Second Auxiliary Surgical Group, having completed his overseas command, was added to our Chest Surgical Service. Over a ten-month period extending from September, 1945, through June, 1946, our Service performed a lobectomy a day with only an occasional minor complication and no deaths.

This valuable experience completed my four years' tour of duty with the Army and the world was waiting! By this time I had become convinced that thoracic surgery was indeed here to stay. Leaving Denver, I headed further west and started my thoracic surgical career in private practice in Oakland, California, with Paul Samson, a trail blazer in our specialty and past President of this Association. The fact that this partnership has lasted for thirty years is proof that "some marriages work."

Some of these thoughts went through my mind as I approached the Las Vegas podium to acknowledge the Presidency which I presently possess. My gratitude has been overwhelming and, although humility has never been one of my assets, I fully appreciate the honor and

dignity of this high office. In retrospect, while not myself having been a part of making thoracic surgery history, I became a mildly interested Army recruit, participating in what I later learned was a period of tremendous technical advance in this new specialty. Today, lobectomy and pneumonectomy operations are relatively commonplace and in most cases are followed by rapid recovery free of complications. Such was not always the case, and a brief dip into the past might be of interest to present day thoracic surgeons who are enjoying the results of the early labors of great surgeons and heroic patients.

One of the first papers on pulmonary resection was entitled "Lobectomy and Pneumectomy in Man" and was delivered by George Heuer² in his Presidential Address before this Association at its Seventeenth Annual Meeting in Boston, June 1, 1934. In this most fascinating address, Dr. Heuer reviewed the history of lung resection and brought out many dates of historical interest. The first deliberate lobectomy was performed in 1861 by a famous surgeon named Pean.³ Prior to that time, lung resections were completely accidental and associated with severe trauma. Dr. Heuer reviewed the mortality rates in both the newly described daring and hazardous one-stage operation and the prolonged but considered safer two-stage tourniquet procedure. The high mortality rate associated with tourniquet lobectomy compared closely with that originally experienced by our modern cardiac surgeons. Tourniquet lobectomy as described by Duane Carr⁴ in 1935 related the technique of the then-popular two-stage operation, and a subsequent pleural empyema was accepted as an integral part of the procedure. In closing his Presidential Address, Dr. Heuer referring to the single-stage operation concluded, "I foresee as a result, that many surgeons, lured by the simplicity of the one-stage operation, will be tempted to perform it without perhaps an adequate training in thoracic surgery, and with at least a temporary increase in the mortality rate." Dr. Heuer must have had great vision, for as we all know this firm belief among thoracic surgeons eventually brought about the formation of the Board of Thoracic Surgery.

With the status of chest surgery so grim in 1935, it is little wonder that young, highly motivated surgeons started investigations and research experimentation in an attempt to develop a safe and direct method of anatomic dissection in one-stage lobectomy and pneumonectomy with the hope of reducing the ever-present incidence of postoperative empyema. Prominent among these investigators was my Army associate and Chief, Brian Blades. Dr. Blades, together with his

fellow trainee at Barnes Hospital in St. Louis, Edwin M. Kent, presented a paper at the Twenty-third Annual Meeting of the Association in Cleveland in July, 1940, entitled "Individual Ligation Technique for Lower Lobectomy."⁵ Working with Dr. Evarts Graham, they must have been stimulated by Dr. Graham's⁶ performance of the first successful removal of an entire lung for carcinoma of the bronchus. This operation received national recognition and was a pleasant departure from the cautery pneumonectomy reported by Graham⁷ in 1925. The satisfactory results from the ten cases presented by Blades and Kent proved the possibility of direct exposure of the blood vessels in the pulmonary hilus without necessarily having "hemorrhage develop from manipulation during resection"—a most encouraging feature of the operation. This approach to operative dissection in pulmonary resection stimulated further experimental study and was, without question, a definite advance in surgery within the thoracic cavity. This work proved that meticulous dissection of the pulmonary hilus not only made possible safe and deliberate operations in this area but, in a direct way, brought about the sophisticated open-heart procedures now so commonly performed. Without the ground work and anatomic techniques so well described by these clinical investigators, together with admitted anesthesia support and antibiotic sanctification, present day miracles in thoracic surgery would never have been achieved. It is therefore my most considered and thoughtful opinion that the standardization of individual ligation in pulmonary resection has done more to establish and advance the specialty of thoracic surgery than any other single contribution.

Such was the progress of our specialty until the late 1940's. The accomplishments of the previous ten to fifteen years of thoracic surgical practice were astounding, and during that time thoracic surgery became a recognized specialty. During those early days, areas of endeavor included, for the most part, operations within the thorax exclusive of the heart. Bronchiectasis, pulmonary neoplasms, and tumors of the esophagus, diaphragm, mediastinum, and chest wall were all situations which well-trained thoracic surgeons could handle with ease. Chest surgeons even became facile in the use of the bronchoscope and developed an expertise in this diagnostic and therapeutic aid.

Our specialty has always been represented by an aggressive, imaginative, and skillful group of surgeons. It was, therefore, no surprise that in the 1940's, the heart itself, the only remaining organ in the chest not previously thought to be surgically approachable,

should be considered. Congenital and acquired heart diseases were well-known conditions; however, the character of this vital organ had not only precluded incisions in its structure, but had even discouraged manual manipulations. Serious consideration of elective operations in and about the heart was not entertained until reports of combat and civilian experience appeared in the thoracic literature. These successful cardiac surgical operations were related by many, the most dramatic of which were presented by Beck,⁸ Elkin,⁹ Harken,¹⁰ and Samson,¹¹ all surgeons from this Association. As is so common in surgical history, many other investigators simultaneously pursued the possibility of direct cardiac procedures. In 1953, John Gibbon¹² described the successful use of a heart-lung apparatus by which intracardiac operations could be performed. The rest of the story is well known to everyone in the audience. The predominance of cardiac essayists at this meeting, however, should in no way be construed as downgrading the ever-present need for the general thoracic surgeon. The establishment of surgical principles in the treatment of general thoracic disease has been our inheritance, but this knowledge is nonetheless important because of its common acceptance.

Now for a brief moment, consider with me why this progress presents a challenge. The challenge is to the young thoracic surgeons and, although survivors of the "olden days" may not be asked, I am taking advantage of my position to submit my hopes for the future.

Let us consider a few of the commonly made statements and questions proposed relative to our specialty. Some say that the time of the general thoracic surgeon is passing and that the real specialty is represented by the cardiac surgeon. Shall general thoracic surgery be returned to the general surgeon? Shall a Board of Cardiac Surgery be formed to supplant the American Board of Surgery? Are we training too many specialists in cardiac and chest surgery? To these questions, I would earnestly emphasize that the need for the general thoracic surgeon is great. Let us not downgrade the care of these patients to poorly or partially trained surgeons. The reputation for general thoracic surgery has been established. This is due to our excellent training programs and should by no means be abandoned. General surgical training is still the safest and best foundation for a surgical specialist, and I would hope that requirement would be maintained.

The demand for surgical excellence is ever on the increase, and there is at present no indication that there is oversaturation by our trainees. This fact has been

well proved by Lyman Brewer's¹³ statistical report on manpower in thoracic surgery. The American Board of Thoracic Surgery was established to perfect the excellence of surgeons performing operations on and within the thorax. Because members of the Board believed that fundamental surgical principles were a necessary requirement of a thoracic surgeon, experience in general surgery was made necessary for thoracic board eligibility. With the more recent cardiac surgical techniques, a specialized compartment of the chest was invaded. It was only natural that the thoracic surgeon would perform cardiac surgical operations; however, in some centers the basic training in general and thoracic surgery is not necessary in order for the individual to pursue cardiac surgical excellence. Therefore, these surgeons are well qualified for intracardiac procedures, but they are not sufficiently experienced in general thoracic surgery to qualify to take the American Board of Thoracic Surgery examination. This has given rise to the feeling of many that a special board of cardiac surgery be established. Conversely, surgeons interested in general thoracic surgery, and not in cardiac, feel that the requirement of training in heart surgery is not in their situation essential.

In answer to this dilemma, I would submit the following. The heart definitely belongs in the chest. Heart surgeons are now doing cardiac operations with great facility in the large centers and are being dispersed throughout our communities. While their performance in heart operations is unquestioned, it seems to me in the event the need for heart surgery may not continue in their particular practice, they should have sufficient training in operations elsewhere in the thoracic cavity to satisfy community needs. The general thoracic surgeon likewise should have sufficient cardiac exposure to make certain that familiarity with heart surgical problems makes him comfortable in that area. The trial-training programs established with the approval of the American Board of Thoracic Surgery have directed their efforts to this end. By all means, both cardiac and general thoracic surgeons should come under the American Board of Thoracic Surgery without splintering into two separate groups. Perhaps the training time could be reduced, with the over-all requirement of three years of general surgery and an additional three years of thoracic and cardiac surgical training. In a period of six years, the trainee should be able to receive adequate experience in both fields and should have indoctrination in surgery within the thoracic cavity to allow him to pass the Board examinations in both branches of the specialty. The cardiac surgical

specialist who is devoid of general thoracic surgical experience and opening his community practice may need the extra security of excellence in resection operations.

Now that I have given you the story of my life and have exposed you to the advantages of my opinion, as well as burdened you with my hopes for the future, I would like to make a few concluding remarks as to the effect of my exposure to many great surgeons and personalities during my thirty years as a thoracic surgeon. It has long been my belief that the practice of medicine including surgery is a privilege to all of us who are so fortunate. We are all dedicated to our profession. In such a state, we are not unlike our religious confreres and have a genuine vocation, carrying with it the responsibilities of the care of our fellow man. This care includes many facets of life. The fact that, occasionally, our referring physician prefaces his information with "this patient is a very important person" should in no way influence our attention. All of our patients are important, and the attention and service given to each patient should not be influenced by his social prominence, public image, or financial status. The nature of practice, be it medical or surgical, inclines many of us to consider diseases instead of people. We are all busy, and we tend to get on with the case before perhaps relating the methods to our frightened, bewildered, and confused patients. The advances in anesthesia and surgical techniques have made possible lifesaving operations previously out of the question, the most common, of course, being cardiac operations and organ transplantation. In our enthusiasm to learn newer techniques and modern methods of treatment, let us not overlook the underlying reason for all of our advances, the patient.

Membership in this Association has afforded me an opportunity to become acquainted with the great surgeons of our time. This exposure has emphasized to me that the greater the man, the more concern and the more genuine the compassion. Without question, we in this Association, which was founded over fifty years ago, have through the endeavors of our predecessors established the specialty of thoracic surgery with a strong foundation and an ever-increasing prestige. May all of us appreciate the secure position in which we find ourselves today, and may we demonstrate our appreciation by maintaining those high professional standards. Finally, may we continue to conscientiously practice and deliver our services with a dedication and devotion deserving of the patients who seek our help. Let us all strive to be mature in youth, youthful in old age,

adorned with the grace of wit, wise, kind, faithful in friendship, and in *all* dealings, tolerant and humane.

REFERENCES

- 1 Batson, O. V.: The Function of the Vertebral Veins and Their Role in the Spread of Metastasis, *Ann. Surg.* **8**: 1940.
- 2 Heuer, G. J.: The Development of Lobectomy and Pneumectomy in Man, *J. THORAC. SURG.* **3**: 560, 1934.
- 3 Pean, J.: Chirurgie des poumons, Discussions Assoc. Francais des Chirurgie, Proc. Verb Paris, 1895, IX, 72-78.
- 4 Carr, D.: Automatic Hilar Ligature for Lobectomy, *J. THORAC. SURG.* **4**: 327, 1935.
- 5 Blades, B., and Kent, E. M.: Individual Ligation Technique for Lower Lobe Lobectomy, *J. THORAC. SURG.* **10**: 84, 1940.
- 6 Graham, E. A., and Singer, J. J.: Successful Removal of an Entire Lung for Carcinoma of the Bronchus, *J. A. M. A.* 1371, 1933.
- 7 Graham, E. A.: Cautery Pneumonectomy for Chronic Suppuration of the Lung, *Arch. Surg.* **10**: 392, 1925.
- 8 Beck, C. S.: Contusions of the Heart, *J. A. M. A.* **104**: 109, 1935.
- 9 Elkin, D. C.: The Diagnosis and Treatment of Cardiac Trauma, *Ann. Surg.* **114**: 169, 1941.
- 10 Harken, D. E., and Zoll, P. M.: Foreign Bodies in and in Relation to Thoracic Blood Vessels and Heart: Indications for Removal of Intracardiac Foreign Bodies and Behavior of Heart During Manipulation, *Am. Heart J.* **32**: 1, 1946.
- 11 Samson, P. C.: Battle Wounds and Injuries of the Heart and Pericardium, *Ann. Surg.* **127**: 1127, 1948.
- 12 Gibbon, J. H., Jr.: Application of a Mechanical Heart and Lung Apparatus for Cardiac Surgery, *Minn. Med.* **37**: 171, 1954.
- 13 Brewer, L. A., III, Ferguson, T. B., Langston, H. T., and Weiner, J. M.: National Thoracic Manpower Study, Final Report. Cunningham Press, Los Angeles, Calif., February, 1974.