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“We must welcome the future, remembering that soon it will be the past; and we must respect the past, remembering that it was once all that was humanly possible.” – George Santayana

Of all the Presidential Addresses delivered at STS Annual Meetings, just three have focused primarily on the technical challenges faced by cardiothoracic surgeons. The first of these was that of Lyman Brewer, MD, with Wounds of the Chest in War and Peace 1943-1968 (Ann. Thorac. Surg. 7: 387-408). Dr. Brewer states that the general principles of chest wound management were summarized in 1942 by Dolley and Brewer as, “At the outset, the problems are primarily those of mechanical derangement of the thoracic organs and hemorrhage, while later, infection assumes a dominant role.”

During World War II, due to the foresight of the Subcommittee on Thoracic Surgery, specialty teams in thoracic surgery were incorporated into surgical groups, and in Tunisia many principles of chest wound treatment were developed. It was discovered that “resuscitation was mandatory before the initial operation was carried out.” Also, the term “traumatic wet lung” was coined in 1944, and treatment consisted of improving cough, aspirating the bronchi; and later, intermittent positive pressure oxygen therapy was introduced. The indications for thoracotomy were established over time, and Dr. Brewer noted the contributions of Dr. Dwight Harken who extracted 13 intracardiac foreign bodies without mortality, and Dr. Thomas Burford who performed the first pulmonary decortication in 1943.

Dr. Brewer then reviewed 381 cases of chest wounds treated in Los Angeles after World War II. He explores the advances in care related to shock management, cardiovascular diagnosis and surgery, alimentary system diagnosis and surgery, renal system, including the use of dialysis when indicated, and advances in respiratory system support, including improved use of endotracheal tubes, tracheostomy, and the use of blood gases. Dr. Brewer also stated a truism which remains relevant today, “Antibiotics are not a substitute for adequate debridement and precise surgery.”

Next, Dr. Brewer analyzed a 16-year follow-up on WWII soldiers who sustained chest injuries and explained that the majority were asymptomatic with a low incidence of hemoptysis. Also, cough, chronic infection, chronic lung abscess, and empyema – which were frequently found in survivors of chest wounds in WWI – were absent in those who underwent care in WWII. Lastly, Dr. Brewer noted the interdependence of civilian and military surgeons, with contributions by each group being put to use by others “for the benefit of both types of practice.”

Earle B. Kay, MD, presented the Presidential Address of 1974, I. Professional Standards Review Organizations and Their Implications for Physicians, II. Thromboembolism on Mitral Valve Prosthesis. (Ann. Thorac. Surg., August 1974; 18: 105-121). In Part II, Dr. Kay noted improving results at that time related to prosthetic valve replacement. However, the problem of tissue deposit and thrombus formation on and around prosthetic valves remained an unsolved problem. He also discussed various techniques that had been employed to minimize tissue proliferation, including covering the fabric fixation rings with pericardium and the application of a film of polyurethane. At that time, a typical anticoagulation program for patients with a mechanical mitral valve prosthesis consisted of Coumadin, Persantine 50 mg three times daily, and Ascriptin one tablet twice daily. Dr. Kay concluded that in short-
term follow-up, “the addition of polyurethane-filmed fixation rings to this anticoagulation program in January 1972 has so far eliminated the incidence of thromboembolism and valve dysfunction from tissue overgrowth.”

Next, in 1989, Hermes C. Grillo, MD presented Notes on the Windpipe. (Ann. Thorac. Surg., January 1989; 47: 9-26). In this address he gave a “personal account of this last buccaneering sally of thoracic surgery – the attack on the trachea over the last 25 years,” and discussed his early research time working on the biology of wound contraction and collagenases. This and other work led him to conclude, “A most important lesson was that one cannot repeal the laws of wound repair.” Dr. Grillo admitted, “I failed then, as so many young investigators do, to explore the literature thoroughly before embarking on the project.”

He pointed out that progress in tracheal surgery was facilitated by close collaboration with other clinicians in related disciplines, such as anesthesia, pulmonary medicine, otolaryngology, radiology, etc. After working on mobilization of the cervical trachea he “realized how much cervical flexion could contribute to intrathoracic tracheal resection and reconstruction,” and stated that, “The obvious is often only obvious after you have recognized it.” Later, Dr. Grillo mentioned that he and a young resident named Joel Cooper discovered from autopsy studies that the most important factor leading to postintubation tracheal stenosis was pressure necrosis. That discovery led to the development of low pressure cuffs for endotracheal tubes.

Dr. Grillo then discussed his pioneering work on resection of the trachea in adults and children which led to the development of a general rule: approximately one-half of the adult tracheal length can be resected, but only one-third in children. He recounted the development of a single-stage operation to repair tracheoesophageal fistula and his admonition that prevention of this problem may be achieved by avoiding prolonged use of foreign bodies in the adjacent aerodigestive tracts. He also stated that tracheoarterial fistulas involving the innominate artery may be avoided by a properly placed tracheostomy at the level of the second or third tracheal ring. In addition, he noted the progress achieved in the operative repair of the trachea that has previously received high-dose irradiation by the addition of covering the repair with omentum.

Dr. Grill stated, “The airway surgeon must extend his work into areas that are not ordinarily the domain of the thoracic surgeon. The thoracic surgeon is best prepared to handle the total problem.” He explained that his presentation “documents not only the specific value of an education in general surgery, but, to cite a caution by Edward Churchill, the value of a general education in surgery.”

Finally, Dr. Grillo reminded his audience that not all problems in airway surgery have been resolved, namely, subtotal replacement of the trachea and tracheomalacia. He reminded them, “Our learning process in life is continuous.” Dr. Grillo then outlined the principles for progress:

1. “A willingness to question and to reexamine conventional wisdom.”
2. “Experience in scientific research, even in a remote discipline, helps to prepare the clinician for an analytical approach to problems.”
3. “One should undertake “careful laboratory preparation to the extent it is possible before the battle is joined in the operating room.”
4. “One should be willing “to return to the laboratory as further problems arise.”
5. “The surgeon should work within the laws of biology.”
6. “Sustained and persistent efforts are generally needed to make forward movement.”

He ended his address by noting how enjoyable it had been for him to work with a succession of such talented surgical residents, and said, “A measure of the validity of an operation is that it may be taught successfully.”

Dr. Grillo’s closing was advice to the younger generation. “Do not let us – your seniors – discourage you with such words or by pronouncements of immutable rules. Remain skeptical, work carefully and reasonably, and you may rewrite the rules – at least for a time.”