Norman E. Shumway, MD, PhD: Visionary, innovator, humorist

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Born in Kalamazoo, Michigan, in 1923, Norman Edward Shumway, Jr, and his parents (Laura Vandervliet Shumway and Norman Edward Shumway, Sr) moved to Jackson, Michigan, when he was 1 year of age. His parents' business was operating "The Home Dairy," which consisted of the dairy in the back section and a diner up front. He went to the local grade school and was influenced early in a potential career in medicine when one of his classmates died of appendicitis. At Jackson High School, Dr Shumway was active on the debate team. His team was highly successful and won the Michigan state championship in his senior year and then placed second in a district contest. He was valedictorian of his class. His yearbook picture (Figure 1) was accompanied by a statement that said, "Norman Shumway, Jr—a man of few words but great meaning." This statement would be prophetic in Dr Shumway's career. His individuality was also demonstrated at an early age when as a 10-year-old boy, he went topless swimming in the local pool and was promptly ejected. This, of course, occurred in 1933 when tops of swimming suits were required for men.

Dr Shumway's love for the game of golf started in high school. He and his friends would hitchhike to a golf course outside of Ann Arbor where they would frequently caddy. This familiarity with Ann Arbor prompted him to apply to the University of Michigan. He enrolled as a pre-law student in the fall of 1941. In that year he also joined Phi Delta Gamma. He enlisted in the Army reserves in 1943 and was soon sent to John Tarleton, Jr, an Agricultural College in Stevensville, Texas. It was during this time that the Army gave all of the students a medical aptitude test. The last question on that test stated that if you passed the test, would you be more interested in medicine or dentistry? Dr Shumway said that, "Because he knew a little bit about the infantry, he was pretty sure they were going to need more doctors than dentists, so he marked medicine." This turned out to be prophetic in that the dental part of the program was eventually closed, and all those individuals were

sent back into the infantry. He then did three quarters of premed at Baylor University in Waco, Texas.

When it was time for Dr Shumway to matriculate to medical school, all of the military slots were filled. He took an interim job at Western State Mental Institution in Memphis, Tennessee, where he was an orderly for 6 months. A slot became open at Vanderbilt University in 1945, where he started medical school. At Vanderbilt he was influenced by 2 prominent surgeons of the time: Dr Barney Brooks, Chief of Surgery, and Dr Cobb Pilcher, Chief of Neurosurgery.

While at medical school, Dr Shumway spent a considerable amount of time in the old medical library and discovered a significant amount of surgical literature emanating from the University of Minnesota. He applied to the University of Minnesota and several other places. He was accepted by Dr Wangenstein, the Chairman of Surgery, to begin his residency in 1949. His training was interrupted by 2 years in the Air Force at Lake Charles, Louisiana, and San Antonio, Texas, during the Korean conflict.

It was at the University of Minnesota where he met Mary Lou Stuurmans, who was a Public Health nurse. Of note, Mary Lou was born at the University Hospital in 1930 and at 3 years of age developed staph sepsis and empyema, requiring a thoracotomy, under the direction of Dr Owen Wangenstein. Norm and Mary Lou were married in June of 1951, just before leaving for Lake Charles. It was in Louisiana where their first child, Sara, was born. Their next 2 children, Mike and Lisa, were born in Minnesota.

After his time in the Air Force, he returned to the University of Minnesota to complete his residency program. Of the 5 residency years, 1 year was spent in the Department of Physiology, 1½ years were spent in the surgical laboratories, and 2½ years were spent in clinical surgery. The clinical program was divided into 3 services: Green service, Dr Lillehei and Dr Lewis; Purple service, Dr Wangenstein; and Orange service, Dr Varco. The inability to perform an operation because of the large number of residents in surgery prompted Dr Shumway to say, "The hardest thing about cardiac surgery was getting a chance to do it."

Just before Dr Shumway left for his duty in the Air Force, Dr Lillehei underwent a radical neck and mediastinal dissection for a lymphosarcoma and received a unit of blood from Dr Shumway. Dr Shumway would later quip that whatever Walt accomplished was due to his unit of blood.

Dr Shumway's mentors included Drs F. John Lewis, Maurice Visscher, and Jack Johnson. Dr Lewis was the first physician to perform an open operation with closure of an atrial septal defect under hypothermic inflow occlusion. Drs Visscher and Johnson were physiologists who interacted

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Norman Shumway, Jr.
"A man of few words
but great meaning"

Assembly, Debate Club

FIGURE 1. Yearbook picture.

with Dr Shumway during his 2 years in the laboratory, where he completed his PhD thesis in the area of hypothermia.

Wayne Miller authored a book about Dr Walton Lillehei entitled, *King of Hearts: The True Story of the Maverick Who Pioneered Open Heart Surgery*. In the chapter devoted to the University of Minnesota residents, Miller starts the section by saying, "Of all the young surgeons who passed through Minnesota in the 1950s, Norman Shumway was the most irreverent, which was saying a lot." Miller continues on to say, "When a particularly arrogant surgeon bragged that he was the only Chief Resident whom Owen Wangensteen had ever personally assisted on a certain type of operation, Dr Shumway said, George, there is no chief resident who needed help more than you."

Another particularly amusing story involved Dr Owen Wangensteen. He liked to start daily rounds in his laboratory and then continue them on the ward. Dr Shumway at this particular time was an intern on Dr Wangensteen's service. Dr Lillehei was Chief Resident, and when Dr Wangensteen was out of town for a few days, a female patient thought that Dr Lillehei was Dr Wangensteen. When Dr Wangensteen returned and the team was making rounds, Dr Wangensteen reintroduced himself, and the lady said, "You're not Dr Wangensteen, that's Dr Wangensteen over there," pointing to Walt Lillehei. Dr Wangensteen was visibly annoyed that the woman did not recognize him, and when he turned to leave, Shumway, the intern, put his arm around him and said, "You know you've got to stop going around this hospital and telling patients that you're Dr Wangensteen!"

As one might expect, this type of interchange did not leave Dr Shumway in the good graces of Dr Wangensteen. Toward the end of Dr Shumway's training, which was determined completely by Dr Wangensteen, he was invited into Dr Wangensteen's office. To a large extent, Dr Wangensteen considered a trainee was ready to go into practice on the basis of how many articles he/she had published. At the time of this meeting, Dr Shumway had only 7 publications, which prompted Dr Wangensteen saying to Dr Shumway something to the effect about what he should do with these 7 publications. Dr Shumway answered him by saying, "Well, you could actually read the publications." Needless to say, this did not bode well for Dr Shumway obtaining a job in an ac-

FIGURE 2. Drs Lillehei, Lewis, and Wangensteen.

ademic medical center. Dr Wangensteen offered Dr Shumway a position at Ancker Hospital (now called Regions Hospital) in Minnesota. This did not appeal to Dr Shumway, and he chose to move west.

Despite these differences, however, Dr Shumway had fond feelings for Drs Wangensteen, Lewis, and Lillehei (Figure 2). In regard to Dr Wangensteen, Dr Shumway said "He was a marvelous individual. He referred to himself as the regimental water carrier. His job was to be sure that the troops had enough support. It was a remarkable attitude, particularly for those days." Dr Shumway wrote an essay at the time of Dr Lillehei's 80th birthday. The abstract states, "This paper is a brief biography of two of the most important contributors to the development of open heart surgery. In 1952, John Lewis performed the first successful open heart surgical procedure of any kind, repairing an atrial septal defect under general hypothermia in a 5-year-old girl. In March of 1954, Walt Lillehei, using cross circulation, embarked on a series of 45 consecutive patients, repairing many congenital heart defects for the first time. The bubble oxygenator appeared in 1955, and open heart surgery was introduced to many of this nation's major medical centers." He goes on to say, "I wish I knew them so well. I could call them C and F, but actually to me they were always C. Walton Lillehei and F. John Lewis. They were the most spectacular and productive surgeons to come out of the University of Minnesota in the 1950s. The long-time Chief of Surgery Owen H. Wangensteen created an atmosphere so conducive to learning that the discovery of pseudo-miracles were essentially a daily occurrence." In continuing his essay, Dr Shumway states, "As an interested second and sometimes third assistant it was fun for me to compare the surgical skills of the Professor and those of F. John. Wangensteen personified the old observation of Somerset Maugham that mediocre man is always at his best. Some days, Wangensteen looked like the greatest surgeon on the planet, the next day he might prevail against all of Lewis' attempts to save the patient. Probably Wangensteen's greatest attribute was his total lack of envy. When his young

FIGURE 3. Dr Lillehei, assisted by Dr Varco, performs the first cross-circulation operation in 1954.

colleagues became world leaders in cardiac surgery, he fully supported their celebrity and took great pride in their accomplishments.” Indeed, Dr Wangenstein was instrumental in introducing Ralph and Marian Falk (Dr Falk founded Baxter in 1931 for the purpose of commercial preparation of intravenous solutions for the first time) to Dr Shumway. Dr Wangenstein recommended Dr Shumway for grant support, which then led to both heart transplant research and the establishment of the Falk Cardiovascular Research Building at Stanford in 1984.

In March of 1954, Dr Shumway was on Dr Lillehei’s service as a third-year resident. Dr Lillehei, assisted by Dr Varco, performed the first cross-circulation operation (Figure 3). Dr Gott, who is also pictured in Figure 3, was an intern at that time. Dr Shumway ends his tribute to Dr Lillehei by saying, “This so-called narrative constitutes certainly a meager birthday gift to the remarkable C. Walton Lillehei. Those days were high adventure for us fortunate enough to have been there set the style for our future travels in cardiac surgery. We never panicked. We always had fun. We kept going after early failures. We learned to persevere in the face of seemingly insurmountable obstacles, both medical and political. Whatever this audience has achieved is owed in large measure to our association with Walt Lillehei; Happy Birthday Walt and many more of them!”

These previous comments, more than any, sum up Dr Shumway’s philosophy of patient management and innovative work. Several years later under the scrutiny of essentially the nation, Dr Shumway persisted in the area of cardiac transplantation when most programs abandoned the procedure.

At one of the national meetings, Dr Shumway met a man who was performing thoracic and cardiac surgery in Santa

Barbara, California, and agreed to join him in practice. This professional relationship lasted only 6 weeks. Dr Shumway said “I cannot remember if I quit or if he fired me, but it was one or the other or maybe both.”

Around this time, Dr Shumway met Dr Francis Chamberlain, who was a clinical professor at the University of California School of Medicine and President of the Santa Maria County American Heart Association. In December of 1957, Chamberlain arranged an appointment for Dr Shumway to meet Dr Leon Goldman, who was Chief of Surgery at University of California at San Francisco. According to Dr Shumway, “As I was telling Dr Goldman how great I was, he nodded off and nearly fell asleep.” He realized he would not be obtaining a job from Dr Goldman.

Next, Dr Shumway came over to the Stanford Hospital, which was in San Francisco at the time, to meet Dr Victor Richards, who was Chief of Surgery. Dr Richards offered him a position in the laboratory, as well as operating the hemodialysis unit for a salary of \$3000 per year. Dr Shumway, Mary Lou, and their family initially lived in Daly City and then moved to Sunnyvale, when the Stanford Medical School moved to the Stanford campus in Palo Alto. Their fourth child, Amy, was born during this time in 1959.

This period turned out to be one of the more productive periods of his life. Dr Shumway met Dr Dick Lower, who was a surgical resident who had finished his internship in Seattle and came to Stanford for general surgery training, and together they began working in the laboratory. They studied the use of topical hypothermia for myocardial protection to facilitate open heart surgery in dogs. They used an early Kay-Cross oxygenator for these studies. Norm and Dick carried out some of the most innovative and important work in

FIGURE 4. Ray Stofer, Drs Shumway and Lower, and 3 of their technicians.

the history of surgery (Figure 4). They demonstrated that canine hearts could tolerate 60 minutes of anoxic arrest if they were cooled with topical hypothermia. This seminal article, published in *Surgery, Gynecology, and Obstetrics (SG&O)* in December of 1959, reported on 4 of 5 dogs who survived 60 minutes of anoxic arrest with hypothermic protection. By expanding on this experience, they then attempted an autotransplant of the heart to pass the time. They soon realized that this was difficult because of a shortage of tissue and severe bleeding. Dr Shumway commented that Dr Lower said, "Why don't we use the heart from a different dog? Then we will have more tissue and we can bolster the suture lines so there won't be so much hemorrhage." Dr Shumway continued his comments by saying, "So I said, that is fine. We will just see if it works. It started as sort of an accidental technique." Through this experience they soon observed that a heart allograft functioned well for several days before undergoing rejection.

It was also during this time that Dr Shumway met Dr Anne Purdy, a pediatric cardiologist and the wife of Dr Emile Holman. Because Dr Shumway was quite junior at that time, it was difficult to get the opportunity to perform heart surgery. With Dr Purdy's support and referrals, Dr Shumway was able to perform closed and then open cardiac procedures, working at the Children's Hospital in San Francisco. To perform these procedures, Drs Shumway and Lower would transport the Kay-Cross oxygenator over to Children's Hospital. However, it was clear that Dr Shumway would not be able to start an adult practice, because Dr Frank Gerbode was the established adult cardiac surgeon at Stanford Hospital in San Francisco. An opportunity soon presented itself later in 1959, when the Stanford Medical School was moved from San Francisco to the Stanford Campus. Because Dr Gerbode would not move from the city, Dr Shumway then had the opportunity to establish

the new cardiac surgery service at the new Stanford Hospital (Figure 5).

The first chairman of surgery at the new campus site was Dr Garrott Allen, from the University of Chicago. Again with the influence of Dr Ann Purdy, her husband, Dr Emile Holman, wrote Dr Allen and highly recommended Dr Shumway for the position. Dr Allen had invited Dr Shumway to come to the campus and, quoting from Dr Lower, "fill the position as Chief of Cardiac Surgery, until such time as a big name surgeon could be recruited."

Having made the move, Dr Shumway and his team established a routine of performing clinical cardiac operations on Monday, Wednesday, and Friday and laboratory research on Tuesday and Thursday. They had translated their laboratory experience with topical hypothermia to their patients and began achieving significantly superior results with both adults and children.

In 1960, Drs Lower and Shumway achieved the first long-term canine heart transplant survival, with a dog living

FIGURE 5. Stanford University Medical Center, Stanford, California.

FIGURE 6. Drs Shumway and Stinson performing Stanford's first heart transplant in 1968.

an extended time. For the next 8 years, Dr Shumway and his team worked out many challenging aspects of heart transplantation, including preservation, the effect of denervation, proper immunosuppression, and the noninvasive detection of rejection. In 1965, in *Surgery*, they reported on their long-term survival of dogs with allografts.

On November 20, 1967, the *Journal of the American Medical Association* published the following quote from Dr Shumway. "We think the way is clear for trial of human heart transplantation. We have achieved the degree of experience with heart transplantation in the laboratory with which we feel confident we can take appropriate care of the patient with a cardiac transplant...although animal work should and will continue, we are more or less at the threshold of clinical application."

Approximately 2 weeks later, on December 3, Dr Christian Barnard performed the first human heart transplant in Capetown, South Africa. The story behind Dr Barnard performing the first heart transplantation began in the summer of 1967, when he was invited to the Medical College of Virginia by Dr David Hume to study rejection in kidney transplantation. While working in Dr Hume's laboratory, he befriended his former perfusionist, Carl Goosen, who also worked at the Medical College of Virginia. Through that relationship he met Dr Lower, who invited them to watch the heart transplantation procedures being performed in Dr Lower's laboratory. Dr Barnard returned to Capetown, and the rest is history.

In 1967, Dr Shumway was ready to begin a clinical trial. However, one of the main difficulties was the lack of standardization for the definition of brain death. It would not be until 1973 that the state of California recognized brain

death. Dr Shumway said, "For the first 5 years, we were technically in violation of state laws as far as donor utilization was concerned." In fact, his first donor was referred by a private neurosurgeon in Palo Alto, not from Stanford's neurosurgery or neurology departments. Dr Shumway performed his first clinical heart transplant procedure on January 8, 1968, with Dr Edward Stinson assisting him (Figure 6). This operation, based on more than a decade of research, launched the Stanford program, which to date has performed 1438 heart transplantations in 1351 patients. Of the 471 patients who underwent transplantation before November 1987, 60 have lived at least 20 years after transplantation.

During the early 1970s, the heart transplant procedure came under great scrutiny. In 1971, many of the more than 100 patients who underwent heart transplantations worldwide died, leaving a 1-year survival of approximately 20%. However, because of Dr Shumway's intensive years of research, and his philosophy imbued from the early years at the University of Minnesota, he persisted with the belief that heart transplantation would be successful and have a significant impact on patients with end-stage heart failure. This

FIGURE 7. Drs Reitz and Shumway performing the world's first successful heart lung transplant procedure in 1981.

FIGURE 8. Dr Shumway and his family (left to right, Lisa, Amy, Sara, Dr Shumway, and Mike).

determination was shared only by Dr Lower at the Medical College of Virginia, and all the other centers in the United States stopped performing heart transplantation because the results were perceived to be so dismal.

In recognition of the unique approach at Stanford, the National Institutes of Health awarded Stanford a National

Institutes of Health program project grant, beginning in 1971, that supported both clinical and laboratory investigations for the many unsolved problems associated with heart transplantation. Dr Ed Stinson was the principal investigator for this grant, which spanned a period of 23 years, led to numerous advances, and trained surgeons and other specialists

FIGURE 9. Senior Cardiovascular Surgery Society: (standing left to right) Drs Oschner, Bender, Cooley, Wilcox, Buckley, and DeWeese, and (sitting left to right) Drs Ankeney, Magovern, Ebert, Mackenzie, and Shumway.

in the new field of heart transplant medicine. As Dr Shumway said, “During the 1970s, with the exception of Dick Lower’s program, we were pretty much alone with the continuous program of clinical heart transplantation. In Europe, Terrence English began a program at Papworth Hospital near Cambridge in 1977. The other individual who started up at that time was Chris Cabrol in Paris. Both of them were very good friends of mine, and we all worked together and helped them as much as we could; these programs continue today.”

Clinical heart transplantation at Stanford and around the world benefited from the innovative developments in the experimental laboratory at Stanford University Medical Center. These included topical hypothermia that provided excellent preservation; demonstration that the denervated heart functioned well; the use of the electrocardiogram voltage to monitor the presence of rejection; the development of the transvenous endomyocardial biopsy; the production and use of rabbit antithymocyte globulin; the use of a totally implantable left ventricular assist device (Novacor, World Heart Corporation, Ottawa, Ontario, Canada) for a “bridge to transplant”; the use of cyclosporine A as an investigational drug for heart transplantation; and the use of cyclosporine A for the first successful transplantation of the lung as a combined heart–lung transplant by Dr Bruce Reitz, assisted by Dr Shumway (Figure 7).

Some of the milestones in basic and clinical research reached by the Stanford group during Dr Shumway’s tenure included the following:

- more than 300 articles on experimental and clinical heart and heart–lung transplantation;
- more than 80 articles on biological valves, including the first report of feasibility of the “Ross procedure”;
- approximately 90 articles on congenital heart surgery with outstanding clinical outcomes, even during early days; and
- more than 25 additional articles dealing with aortic surgery, including a system for classification of aortic dissections.

Dr Shumway received 45 honors and awards from all over the world. These included the Renée Leriche prize of the International Surgical Society in 1971; President of the American Association of Thoracic Surgery in 1986–1987; American Surgical Association Medallion for Scientific Achievement in 1993; and the Lister Medal of the Royal College of Surgeons of England in 1994. His important role was also recognized by the International Society for Heart and Lung Transplantation by being given the title of lifetime “Honorary President”. On a visit to Stanford, one would never know about these honors, because none were displayed in his modest office. He also belonged to more than 25 societies throughout the United States and the world. He was recognized as an honorary fellow in all the 4 Royal Colleges of England, Ireland, Glasgow, and Edinburgh.

His children grew up to be accomplished individuals in various fields (Figure 8): Lisa is a principal with Sun Professional Services at Sun Micro Systems in Menlo Park, California; Amy is an artist in Sausalito, California; Sara is a cardiothoracic surgeon in Minneapolis, Minnesota; and Mike is a forensic certified public accountant in San Jose, California. His first daughter, Sara Shumway, followed in his foot steps and is currently professor of surgery and director of heart transplantation at the University of Minnesota, the same university at which Dr Norman Shumway received his surgical training.

Dr Shumway’s golfing career began in high school when he hitchhiked with his buddies to Ann Arbor, Michigan, to caddy. It became “a love” at Stanford, where he became a frequent visitor to the Stanford University golf course, always walking and carrying his bag. His golfing buddies included Drs Jim Mark, Chief of General Thoracic Surgery,

FIGURE 10. Drs Mark and Shumway at the 1993 AT&T Pebble Beach Pro-Am Tournament.

Ron Dorfman, pathologist, and Bill Rogoway, oncologist. These 4 would play on Wednesdays and Saturdays during most weeks. He also belonged to the “Senior Cardiovascular Surgical Society,” which convened once a year at a golf resort and included such friends as John Oschner, Denton Cooley, Dick Cleveland, Mort Buckley, Jim DeWeese, and many others (Figure 9). His camaraderie on the golf course was probably similar in many ways to the environment he established among the members of his department at Stanford. His career in golf was culminated by being invited to the 1993 AT&T Pebble Beach Pro-Am Tournament. He and Jim Mark, his caddy for that tournament, talked about this event for years (Figure 10). Dr Shumway was honored with a unique tribute when a plaque was allowed to be placed on the tee box on hole number 12 of the Stanford Golf Club.

Dr Shumway was totally supportive of his younger colleagues. He had sincere pride in their accomplishments, often saying he would only hire surgeons better than himself. Of course, this was not really the case, but he tirelessly promoted his trainees and provided invaluable opportunities for them. Year after year, the graduating academic surgeon finishing the chief year would be sent out to a new university, frequently with a recently trained perfusionist, to start a new “Stanford-like program,” often with spectacularly good results. He trained 76 residents, of whom 22 became chiefs or chairs of significant divisions or departments throughout the United States and the world (Figure 11).

This was perhaps his most significant legacy, summed up by his personal surgical philosophy: “The most difficult thing about surgery—even open heart surgery—is getting a chance to do it. It certainly doesn’t matter as much who does the operation, as how it is done.” His trainees have carried forth these principles to their own training programs, influencing another generation of surgeons. He thought of himself and indeed was “the world’s best first assistant.” He was able to simplify the operation to its basic components, creating the most elegant and uncluttered operative field imaginable, and was remarkably calm and supportive for the then chief resident. He was able to get the very most out of the abilities of his residents.

Dr Shumway’s sense of humor probably began with his debating expertise during high school, was further developed at the University of Minnesota, where the stories are legendary, and was then refined at Stanford. His humor and quick wit could relax and entertain the entire operative team. His “Shumwayisms” are often quoted, including “all you need to know to perform open heart surgery is that water runs down hill and seeks its own level,” “air rises,” and “all bleeding stops sometime.” He believed that every resident coming through the training program added something to the “Stanford method,” which then became known as doing things according to the “Norm.” He gave the 2000 Commencement Address at the Stanford University School of Medicine’s graduation on the topic of maintaining the interests of the patient first. “While on

FIGURE 11. Trainees with Dr Shumway on his 70th birthday celebration and retirement.

your way to finding a cure for the health care mess, do not contract silicon valley fever. Beware of the venture capitalists who want your idea for the proverbial start-up company.... The mystery of life could be deciphered in this millennium, but hopefully not to your satisfaction.”

His Presidential Address at the American Association for Thoracic Surgery meeting in April of 1987 was entitled, “Some thoughts from the other side of the table or the last Presidential Address,” where, after apologizing to the previous presidents of the Society, he stated that the Presidential Address should be abandoned, which would allow the addition of at least 2 additional scientific papers to be accepted for presentation. Referring to Presidential Addresses, he said, “It is usually a summary of material already published and sometimes reveals more than we ever want to know about the incumbent. You will soon appreciate why this should be the last Presidential Address. It very definitely will be my last.”

Dr Shumway, the person, had a unique ability to relate to patients in a warm, personal, and reassuring way. The love and affection he engendered was apparent at a dinner in his honor in 1993 on the occasion of his 70th birthday. More than 600 persons, including former trainees, colleagues, and patients alike, honored him in a truly amazing outpouring of affection. The many letters in Stanford’s “Norman Shumway Memorial Guest Book” attest to his incredible humanism. An observation by Joanne Meagher sums up Dr Shumway’s compassion and his caring and humanistic approach to life.

“I came to pediatrics at Stanford as a brand new graduate nurse in late 1966 where, after 3 days of orientation, I was assigned to nights as the only RN on peds. To say I was young, stupid, and terrified gives me more credit than was due. A little after midnight, this smiling guy in rumpled scrubs strolled in and asked me who I was, what was going on, and how the kids were. I rather tearfully replied that there were these 4 kids who had heart surgery and were on monitors that I had no idea how to work and was afraid something bad would happen and...he smiled, escorted me to the room, gave me a 20-minute crash course on the basics

FIGURE 12. Dr Shumway at his desk in the Falk Cardiovascular Research Building at Stanford.

with lots of laughs thrown in, walked out on the patio, brought in a lawn chair, and stayed there with me until morning. I had no clue who he was, and I did not care because he clearly cared about those kids and about me. That is the Norman Shumway I knew for the next several decades, and mostly from afar. Kind, professional, caring, funny, dedicated, and a real gentleman.”

This was the Dr Shumway we all knew and loved (Figure 12). He loved cardiac surgery and the department he established at Stanford. He provided a superb setting that trained the best possible surgeons. His commitment to his patients, to always “keep operating,” led him to make enumerable contributions to our field. His work in establishing the team devoted to heart and later lung transplantation was an example of doing everything he possibly could to help the most ill patients. He was able to inspire many and to overcome seemingly insurmountable obstacles. He brought many others along with him on an incredible journey. When he died on February 10, 2006, 1 day after his 83rd birthday, a true pioneer and friend passed from us. We will miss him very much, but his legacy will never be forgotten and will continue to grow as further generations of cardiothoracic surgeons are trained.