

“Death Comes, As It Must...To All Men”

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This will be a story of the life and death of Charles C. Reed and what he left behind. It has not been an easy task to decide what to say today. This is the 24th consecutive Reed Lecture. All, save but one, were from speakers outside the United States. Aaron Hill, who was a good friend of Charlie's, gave the Reed Lecture six years ago and captured many of the facets of Charlie's personality and his important contributions. I hope to tell you some things about Charlie that Aaron may have touched upon but also some things not generally well known. At the end, I will convey some of Charlie's thoughts about our profession that continue to have relevance a quarter of a century after his passing.



Charles C. Reed (1936-1990)

Charles Reed is a figure so important in the early development of our field, yet today he may be fading in memory but for those who either

trained under him or knew him professionally or as a friend. All of us, every one of us, owe a great deal to Charlie for what he helped us to accomplish as a profession. He had his flaws, as we all do, but he had the courage and drive to accomplish some great things. A major aim is to share with the newer generation of perfusionists something of Charlie's legacy and why the American Academy honors him in this manner.

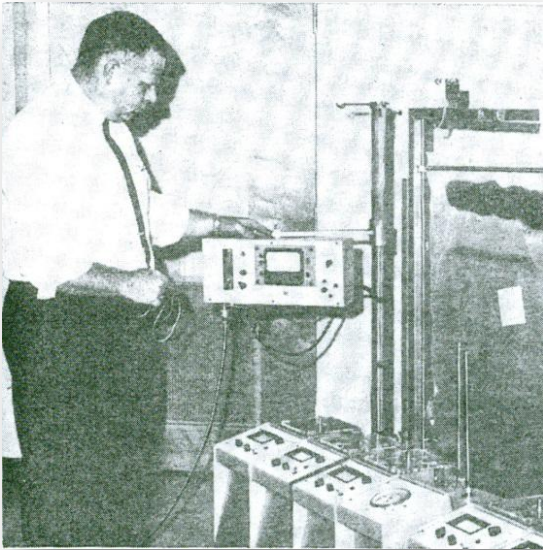
I really only knew Charlie for about ten years, so much of what I am about to say is based on some personal interactions with him during the 1980s. To fill in some of the gaps, especially when recounting events from Charlie's early years, I called many of those who knew him then. Fortunately, Charlie was a prolific writer, and his writings were also valuable sources for his story. It is impossible to recount all aspects of his life, but I have tried to capture many of the highs and some of the lows of Charlie. In the final judgment, he contributed much that was good and lasting for our field, and that is the real message of his story.

First, some facts: Charlie was born in January 1936. His father was a prominent surgeon in Little Rock, Arkansas, who died when Charlie was in the 11th grade. In the early 1950s, in a coincidence that would manifest decades later, Charlie played football at Little Rock High School with George Cate, who was to become the Executive Director of AmSECT. George has written a book on the legendary coach they had, Wilson Matthews, who Charlie emulated in many ways. After graduating high school in 1952, Charlie attended Hendrix College in Conway, Arkansas for a few semesters and continued to play football, but in 1954 he joined the Navy.

He was based first in Pensacola and then in San Diego and earned the distinction of becoming a Naval Aviator. He flew fighter planes off aircraft carriers in support of Korean War troops. Charlie would witness a fellow pilot and friend burn to death in a plane crash, which,

by his own admission, profoundly affected him and may offer some clues to his personality. He was also certified as a helicopter pilot, and the bond he had with his fellow Naval Aviators was one he maintained his whole life.

In 1959, upon discharge from the Navy, Charlie attended Little Rock University, obtaining a Bachelor of Science degree in 1961. This was followed by some postgraduate work in Chemistry. In 1962, Charlie applied for and was accepted into the University of Arkansas Medical School. However, Charlie was not to become a second-year medical student because he flunked out.



Charlie at Baptist Medical Center (mid-1960s)

Nevertheless, Charlie found work as a Research Technician in the cardiac catheterization laboratory at Baptist Medical Center, where he became the Chief Technician after one year. His job duties included operating the heart-lung machine as well as running the cardiac catheterization and pulmonary function laboratories.

One time, a 42 year-old major in the Air Force came in with suspected pulmonary embolism. He had been a World War II bomber pilot. Charlie helped in the catheterization laboratory as the diagnosis was confirmed, and then went to the operating room to run the heart-

lung machine for a pulmonary embolectomy operation. Even though the patient was on the pump for only 13 minutes, Charlie sat at the major's bedside for a full week until he was extubated. Charlie said at the time he could not let a fellow pilot die. That was Charlie.

In 1967, Charlie moved to Memorial Medical Center in Savannah where he performed the same duties as in Little Rock, plus that of being an instructor in the Hemodialysis Unit. It was in Savannah that Charlie became good friends with Dr. Victor Irving, a urologist, who encouraged him to become involved in a leadership position in our field. In 1970, Charlie moved yet again, this time to Ohio State University where he worked briefly with Jim Dearing as an instructor in the Circulation Technology Division until 1971.

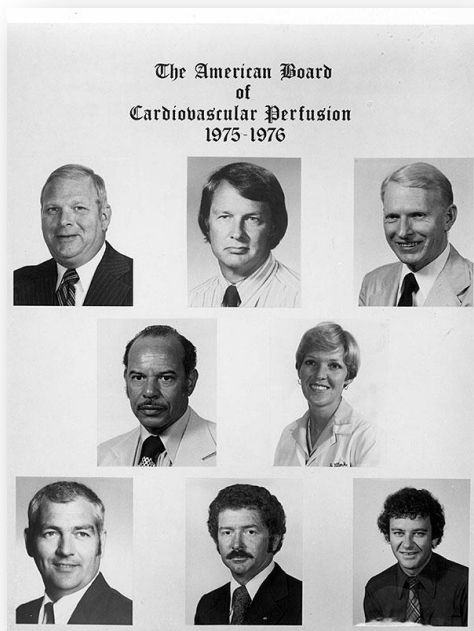
In fall 1971, Charlie was recruited by Dr. Denton Cooley to St. Luke's Episcopal Hospital in Houston, but he resigned that position after only two weeks at Dr. Cooley's urging to become Chief in the Section of Perfusion Technology at the Texas Heart Institute. Two months later, again at Dr. Cooley's urging, Charlie founded the THI School of Perfusion Technology, which eventually became affiliated with the University of Texas Health Science Center. Charlie ultimately was involved in the training of about 300 perfusionists. According to Terry Crane, the total number of graduates since the first class of six now numbers 825. To put that in perspective, of about 3,500 currently practicing Certified Clinical Perfusionists in the United States, 500 are THI graduates. Surely, this is one of Charlie's legacies.

Charlie remained at THI for 15 years, and it was during this time he exerted the most influence on the field of perfusion. In 1985, he built a large home in the country and retired to Pickle's Gap, a small town near Conway, Arkansas.

In the 1970s, Charlie worked tirelessly for AmSECT and served as its president. He was also chairman of the Long Range Planning Committee. He had great organizational abilities. Major efforts by AmSECT at that time were to establish a national certification examination and to obtain recognition by medical organizations. Internal strife was rampant among the leaders within our fledgling

profession on how best to meet these goals, but Charlie had an unshakeable vision on what was necessary to obtain professional recognition.

In 1975, the American Board of Cardiovascular Perfusion was established, and Charlie led those efforts, expanding on the significant work accomplished by AmSECT's Certification and Education Committee and Jim Dearing, in particular. Accreditation, the oral exam, and annual recertification were also established by the board during Charlie's tenure.

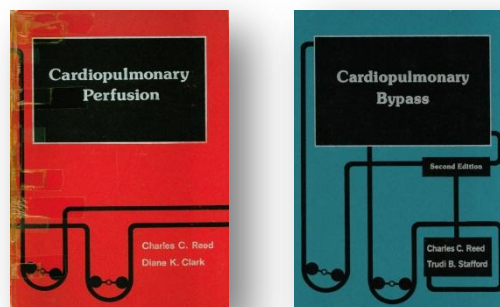


Original Directors of the ABCP (1975-76)

The first directors and officers of the American Board were Charlie, who was president, Jim Dearing, vice president, and Jeri Dobbs, secretary-treasurer. Others were Calvin Scott, Diane Clark, LeRoy Ferries, Larry Shelton, and Mike Burgess. Today, as we approach the 40th anniversary of the American Board, there should be no doubt in anyone's mind that we owe a great deal to these original directors for their foresight in setting policies that have defined our profession.

In December 1979—"black December" as I remember it, Charlie had to resign from the American Board due to political pressure brought to bear upon him by surgeons. They

were, in his words, "beating the tom-toms." Their primary concern was over perfusionist manpower needs since the board had decreed that as of 1981, candidates would only be admitted to the certification process if they had graduated from an accredited school—no longer would on-the-job training be acceptable. This entirely logical mandate was considered outrageous by some surgeons who expressed that the board was being too independent in not consulting them, which was a falsehood. Somehow the board survived without Charlie's leadership, and a few weeks after his departure, it administered the written and oral exams in Philadelphia.



"Cardiopulmonary Perfusion" (1975) and "Cardiopulmonary Bypass" (1985)

The "Reed and Clark" textbook published in 1975 was to be one of Charlie's first major accomplishments. He and Diane completed it in five months, and it immediately became widely used, not only by perfusionists but by surgery residents and others involved in open-heart surgery. It was an excellent text, full of terrific illustrations. It became the go-to source for those studying for their boards. In 1980, as chairman of the American Board's examination committee, I polled all the directors on what books they had used when generating questions for the certification examination. The "Reed and Clark" text was the only book on a list of 21 that was reported by every director as the one they had most heavily relied upon in their roles on the board. In 1985, a second edition was published, this time with Trudi Stafford as co-author, and the page count was expanded to 500 from 339.

In 1984, Charlie became the fourth president of our American Academy, but, prior to that, in 1979, he was really the one who worked behind the scenes with Earl Lawrence to get it started. Their choice of charter members and in recruiting sponsors was masterful, and the Academy's Constitution and Bylaws were mostly plagiarized by Charlie from those of the American Association for Thoracic Surgery.

The Academy was something special. One evening each year, the members wore tuxedos and formal gowns with their Academy medallions. We were accused by some of being elitist, but that was just the icing on the cake. The year we had a fleet of stretch limousines to take us to the formal dinner did not help our image, but it sure was fun. The real import of the Academy seminar was that we all worked hard to put on the best perfusion meeting we could, stressing scientific content, open discussion, and publication of papers and comments following the presentations. Nearly 20 years ago, the membership decided to submit Academy papers to the journal *Perfusion* wherein they must undergo peer review before publication, thus further advancing our professionalism as envisioned by Charlie.



Charlie in Retirement (1987)

Charlie's retirement years were short-lived, but he remained active in perfusion affairs. He corresponded and spoke frequently with Dr. W. Gerald Rainer on trends in the field and how best to keep our profession moving in what Charlie considered was the right direction. In

1987, he singlehandedly drafted original position statements of the Academy, one entitled, "Education for Perfusionists" and the first "Standards of Practice" both of which were unanimously adopted by the membership.

Late one evening in November 1988, when he was only 52 years-old, Charlie suffered a ruptured abdominal aortic aneurysm. He was taken emergently to the operating room at Baptist Medical Center. During surgery he had to be resuscitated three times and received 26 units of blood. The next several months were spent in the Intensive Care Unit where he developed many complications. He was on a ventilator for three months, was weaned off briefly, but put back on for several more weeks.

When I first visited him that December, Charlie looked like a very old man, someone who was not 52 years-old. Fortunately, he was heavily sedated. Later, during another visit, Aaron Hill saw Charlie when he was still in the ICU but entirely lucid. As Aaron tells it, Charlie looked up at him with his intense blue eyes, and in all seriousness told Aaron where to find a gun at his house. He wanted it brought to the hospital so he could kill one of the ICU nurses. To everyone's relief—except probably Charlie's, Aaron did not follow through with that demand.

Subsequently, Charlie developed more complications. Despite this, he was able to be discharged home nine months later. A hospital bed was set up in his living room, and his wife, Linda, became his caregiver. More visits followed. Richard Chan saw Charlie several times during his illness, and on their last visit they shared a great bottle of wine Richard had brought. Charlie's time at home was temporary, however, and he was readmitted later that winter and underwent several bronchoscopies and tracheal reconstructions. His once deep voice had become nearly unrecognizable. Subsequently, his right leg was amputated twice—first below the knee and then above the knee. Decubitus ulcers on his back had to be debrided multiple times and never healed. He was in a great deal of pain most of the time. Throughout this long ordeal Linda was totally devoted to his care.

Charlie did not want to live like this, and on Monday, February 26, 1990, he died. It was six o'clock in the morning, just when thousands of

perfusionists across the country were setting up heart-lung machines for surgeries that day. Like some events in his life, his death was not without controversy. The Little Rock Police department got involved, and Charlie's burial was delayed, but no evidence of wrong-doing was found.



Charlie's Gravesite

On a cold and overcast day, Charlie's funeral was held with a few friends and relatives in attendance. His teenage son, whom Charlie had only recently reconnected with, also attended. Linda had chosen that Charlie would be buried wearing his Texas Heart scrubs. We drank a tontine in his memory, and I read a eulogy. It was a profoundly sad time for reflection, and we knew a great man had passed—one who had influenced us all in some important ways. A little over a year ago, Richard Chan, Aaron Hill, and I made a road trip to the Crystal Bridges Museum in Bentonville, Arkansas. On our way back to Texas we stopped at Charlie's gravesite, sipped some scotch, and quietly reminisced about Charlie.

So, those are some facts of Charlie's life. Next, I will recount a few impressions and some thoughts about Charlie as expressed by others. Of nearly 100 scientific papers he published, Charlie was the author or co-author of 57 that appeared in the *Academy Proceedings*. He wrote thought-provoking editorials and chaired some memorable panel discussions on ethics, perfusion accidents, and a bubble versus membrane debate. He was also a historian who reflected on "circus movement" in our field wherein once supposedly new technologies and

ideas reappear after having been previously described, but abandoned for decades.

Sometime after Charlie's death, Terry Crane and I visited his wife, Linda. She gave me Charlie's correspondence files. Of many letters contained in it, one was from the widow of Dr. John H. Gibbon, Jr. She and Charlie wrote each other several times. During Charlie's tenure as president of AmSECT, the Gibbon Award was established, and Mrs. Gibbon came to several of the meetings to help present it to a distinguished recipient. Another time Charlie, Maddie Massengale, Mike Dunaway and Patti Ann Gaich visited Mary at her farm, and she played the piano as they sang Christmas carols together. It was a very special evening, according to Maddie.

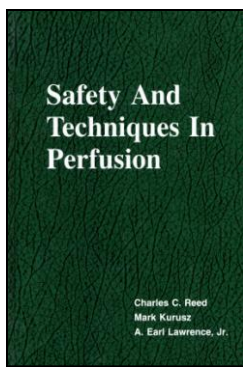
The correspondence files contain many items attesting to Charlie's wit and humor. There are letters to and from industry representatives with spirited, hilarious exchanges back and forth. There are also many letters from his AmSECT days that clearly express his frustration with the politicking and policies he disagreed with as the profession struggled forward. One in particular stands out: in it, Charlie wrote Mike Dunaway, who was president of AmSECT at the time. Charlie was clearly ticked off at some previous criticism, because he wrote, "The Phoenix rises once again from the ashes to sprinkle its droplets of confusion over the land...I trust that some type of freedom of speech still exists in this country and I can use my own god damn stationery to make whatever observations that I feel called upon to make whenever I damned well feel called upon to make them." Charlie was addressing some misunderstandings between AmSECT and the American Board, and went on to write, "I personally have told the officers over and over and over and over again if they cannot understand plain god damned English, I am sorry. Please communicate to me what language is acceptable and I will find a translator and communicate in that language." In typical fashion, he closed the letter, "With warmest personal regards, I remain, yours sincerely." That was Charlie.

He also corresponded with many surgeons in his efforts to promote perfusion, and his files contain letters that are complimentary and

supportive and others expressing strong disapproval of AmSECT and American Board initiatives in the 1970s.

On a lighter note, once, when Charlie was out of town, it was Dr. Cooley's birthday. Charlie sent him a telegram with birthday wishes. In it, Charlie said, "In case you had not noticed my absence, I'm not there." Dr. Cooley sent a return telegram that said, "Things have never gone so well. Take two weeks."

Another revealing letter was from Calvin Scott, one of the finest men our profession has ever seen. He had the unfortunate distinction of being AmSECT's president during the early days of the Academy, but to this day, so far as I know, he has never said an ill word about Charlie. His brief note reads as follows, "There are those occasions when after talking with a friend you have or get a good feeling. I had just such a feeling after having talked with you this afternoon, Charlie, and I wanted you to know. Cheers! Scotty." Calvin's note captures one of the admirable characteristics of Charlie. Calvin certainly could have taken a different stance two years later after dodging an attack by Charlie during the board exams at the Shamrock Hilton Hotel in Houston. The hotel was demolished shortly thereafter, but Charlie began the demolition when he took out a chandelier instead of Calvin.



"Safety and Techniques in Perfusion" (1988)

I must tell you what it was like to co-write a textbook with Charlie. He was a man possessed—overbearing and relentless in pushing us to complete the project as quickly as possible. He, Earl and I actually wrote the green book in just 14 weeks. I thought it should have

had more extensive referencing, but Charlie believed we had to just write down our thoughts and experiences for the various chapters. I made several trips to Pickle's Gap to compose my assigned chapters because it was easier there to get into a "Charlie mindset" when writing. When all the chapters were finished and had been typeset, Charlie made an off-hand remark that, "Oh, by the way, the book needs an index," and that task fell to me. When I complained about this to Trudi Stafford, she recounted that Charlie had done exactly the same to her when they were completing "Cardiopulmonary Bypass, Second Edition." That was Charlie, and is but one more example of how he was a master at getting people to do some of the things he knew had to be done.

Despite Charlie's benevolent appearance, he could be outrageous, and three incidents come to mind. In 1981, when he was editor of the Academy's *Proceedings*, Charlie dealt with presenters who failed to turn in a manuscript by publishing only their name and the title of their paper on an otherwise blank page. I think he was trying to shame them into never doing that again. In 1983, he organized an entirely fake perfusion meeting to be held in Jackson Hole, Wyoming and mailed out a program flier. Several of us showed up, but Charlie did not. He was in love at the time, so those of us who did show up ended up renting a couple of vans and touring around Yellowstone Park. Very little about perfusion was discussed, as I remember. Another time, after he had been on a trip to China, he presented me with a small chunk of stone carefully mounted on a varnished oak base. The inscription read, "Chipped from the Great Wall of China." It was more than outrageous—it was a criminal act that could have landed him in a Chinese prison for defacing a World Heritage site, and he told me that when proudly presenting it. That was Charlie.

Charlie had a saying framed in his office at the Texas Heart Institute. It read, "Lead, follow or get the hell out of the way." It comes close to Charlie's motto. He was charismatic, passionate, forthright and focused, and absolutely uncompromising in his pursuit of excellence. He expected perfusionists to act as professionals, and he succeeded by leading like two of his

heroes, Field Marshal Erwin Rommel and General George Patton.

He had a disarming way of motivating people one-on-one, or in a large group setting. Charlie was a master motivator, or some might say, a master manipulator—even Machiavellian. One often thought Charlie had things figured out, and he usually did. He always seemed to be planning the next move to coerce or demand others to accomplish his goals. He was more often right than wrong, which was not his main concern: you always knew where Charlie stood on the issues.

One of the more regrettable things he once said, and this is a direct quotation from Maddie Massengale-Beall, “I am going to destroy AmSECT.” That was a terrible thing to say about an organization he had worked so hard to build up in the early years. The politics and bickering became too much for him, and I believe this was one of the major motivations for him to co-found the Academy.



Bust of Charlie at Texas Heart Institute

There is a sculpture that can be found in Terry Crane’s office at the Texas Heart Institute. It captures a young Charlie Reed. In fact, he was so pleased with it that he had another body part

sculpted—it was used as a towel rack, according to Linda.



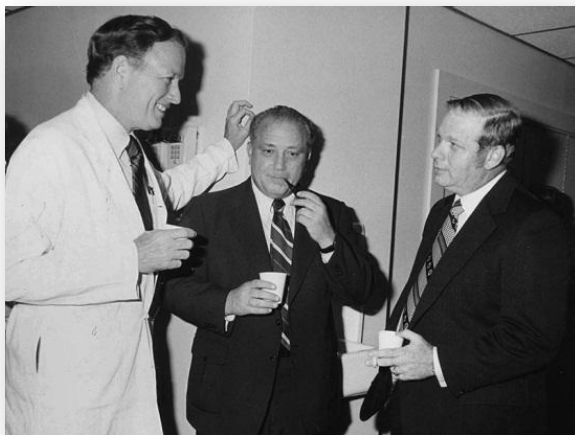
Tower of London (October 1988)

In October 1988, Charlie, Earl and I were in London attending the Third European Congress on Perfusion. I had been accustomed to taking the London Underground to get around, but Charlie always took cabs as we did some sightseeing. I would later come to understand why: he had severe peripheral vascular disease, which made going up and down stairs difficult for him. One month later, Charlie would never walk again, but become bed-ridden for the last 15 months of his life.

Charlie was a good friend, as many have attested over the years. On one memorable visit to his home in Pickle’s Gap, Charlie was a wonderful host. We stayed up late at night sipping whiskey and talking about a whole range of things, from the Kennedy assassination to perfusion politics. In Pickle’s Gap, he raised horses, miniature burros, sheep, and had a pond for ducks and swans. His wife, Linda, of course, was the one who had to get up early every morning to make sure they were watered and fed. That was Charlie.

What have others said about Charlie? Maddie Massengale worked closely with Charlie in the 1970s to achieve perfusionist recognition. In one note to him, she wrote, “Let me say quite seriously and in dead earnest that I think you did a terrific job as President. Even when you were exasperating as hell. It really was a pleasure and privilege to work with you. Plus right much fun

too!” Later, Maddie and Charlie would have a falling out, instigated by Charlie, of course, and to this day, Maddie deeply regrets that turn of events. Earl Lawrence remembers Charlie for his leadership qualities, Sherry Faulkner for his brilliance and courage, Kelly Hedlund for his blunt talk about the demands of being a perfusionist. Shannon Ballard found Charlie to be unpredictable, and Aaron Hill commented on his circuitous logic. Dennis Williams considered him a hero. Richard Chan had a long friendship with Charlie and remembers him many ways, but in one word, “great.” Steve Sutton remembers Charlie as a demanding but fair program director, a good communicator, and a good listener. Steve goes on to eloquently write that “Charlie’s footprints remain in time immortal.”



Drs. Cooley, Keats and Charlie (1974)

Drs. Cooley and Keats remembered Charlie this way: he had “an inquisitive and inventive mind,” but, “At various times [he] could be autocratic, abrasive, and a severe disciplinarian. At other times he was charming, witty, and charismatic...He was uncompromising on issues of safety, of professional responsibility, and of professional development. At the same time, he could be warm, generous, caring, a splendid companion, and a delightful master of ceremonies. No one could overlook Charlie.” It was the friendship and counsel from Dr. Arthur

Keats that helped shape early American Board policies.

Finally, and this is the important part of this lecture, what did Charlie’s life mean? Why do we honor his memory? What should today’s perfusionists know about Charlie? Ultimately, this is a judgment of his legacy—something he was not overly concerned about. If you ask several people about Charlie, it is likely you will get many different opinions because he was a multi-faceted man. For one of the best ways to appreciate him, I believe we only need to look at some of his writings preserved in our Academy *Proceedings*.

Here are a few for your consideration. First and foremost, he believed in being true to yourself so you could look in the mirror the next day. In 1982, he wrote, “The question, my dear colleagues, is what will we do within that single heartbeat of time? Will we take and tear down or will we build and leave something behind? You might pause to wonder what a perfusionist can leave, what can a perfusionist actually contribute?...We each have a brain, the ability to use it, and combined with the ability to observe, it is not unrealistic to imagine that anyone or all can leave something during that heartbeat of time. However, do not build for acknowledgment or reward in your time. If you need justification for your efforts then consider it fair payment for the privilege of being in the most challenging and exciting specialty during its most important period in recorded history.”

Two years later, he wrote, “I sincerely believe that I would not have had the opportunity to associate with such an exemplary group of human beings, the perfusionists, had I been in any other profession...Looking back at my perfusion career I feel fortunate indeed to have met so many fine people. I feel privileged to have so many friends, and I want to acknowledge the honest adversaries and the closet critics. To the critics I would leave a thought and a Polish proverb: It is much easier to criticize than to create.”

In his last editorial published in 1985, Charlie wrote, “The greatest problem facing perfusionists today is that of cost containment. And the future offers the perfusionist the opportunity to become either the cannon or the

cannon fodder. If perfusionists do not act responsibly, they will have no responsibility.”

He closed with these thoughts: “We must be better than we are. And we must insist that those following after us are better than we were... This is a challenge and a tough one. I would say to you, broaden your horizons, redirect your energies. Meaningful continuing education is vital to our profession... I will be watching with a measure of interest and significant fondness and concern about how you solve these problems. And I leave the future in your capable hands, where it always has been.”

So, to summarize this year’s Reed Memorial Lecture, this has been a story of Charlie’s life and the good things he left behind. Charlie forced us to become better, probably sooner, than we would have been on our own. He was a visionary whose paternalistic demeanor, intellect, and decisiveness enabled us to achieve high standards on our own. He asked many questions, but usually left us to find the answers, which we have done with variable but mostly admirable success.

The last assessment I wish to share with you came from his wife, Linda. It is poignant and heartfelt. It was written late one night as Charlie lay in the ICU and is entitled, “Words from a Wife.”

Charlie has been described as a “special person,” a man of great courage and kindness. He was a giant in his field, a leader. Simply put, Charlie had, and will continue to have, a positive effect on all who came in contact with him. He inspired strong emotions and even stronger loyalty in those who knew him well. Multifaceted and complex himself, he would listen to your “impossible and most difficult” problems and have a simple and understandable solution as soon as you had run out of talk and hope. Charlie was always there to listen and offer help. Without pressure, Charlie challenged us all to be the best we could be and because of that we liked ourselves. So that was the “magic” of Charlie Reed. He cared about us and it showed. He helped us to care about ourselves and others. Charlie didn’t just pass through life—he used his life to make a difference. His influence will be felt for many years to come on both his profession and the people who loved him. Charlie once asked, “Did my passing make

no sound?” The answer is clear. The wisdom and gentle caring of Charlie’s words will live on in our hearts and minds forever. Your loving wife, Linda.

Thank you for the privilege of delivering this year’s Charles C. Reed Memorial Lecture.

Acknowledgements

While much of what is contained in this lecture was derived from publications, I am indebted to several people who willingly shared additional material and memories of Charlie. Their contributions were invaluable in telling his story. In particular, I wish to express thanks to Shannon Ballard, Richard Chan, Terry Crane, Sherry Faulkner, Bob Groom, Aaron Hill, Madeline Massengale-Beall, Linda Hawkins Reed (deceased), Calvin Scott, Steve Sutton, and Dennis Williams. If there are any shortcomings in this presentation, they are mine alone and should not reflect in any way on what others conveyed to me in preparation of this lecture.

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