Denton Arthur Cooley, MD, a pioneering heart surgeon, died November 18, 2016, at age 96. He was born in Houston, TX, on August 22, 1920, to Ralph Clarkson Cooley and Mary Fraley Cooley.

From the beginning, Cooley’s career in medicine and his contributions to humanity seem to have been fore-shadowed. His father was a prominent Houston dentist, and the attending obstetrician at his birth was Dr Ernst William Bertner. Bertner would be part of the team that developed the renowned Texas Medical Center where Denton Cooley later established the now world-acclaimed Texas Heart Institute (THI). In the early 1890s, Cooley’s paternal grandfather, Daniel Denton Cooley, helped found the Houston Heights, a major suburb of the growing city of Houston.

Denton A. Cooley’s pioneering career spanned the history of modern cardiovascular surgery. Beginning in the late 1940s, he developed many of today’s commonly used cardiovascular procedures and devices. Nevertheless, he is probably best known for performing the first successful human heart transplant in the United States (1968) and the world’s first human implantation of an artificial heart (1969).

Many of Cooley’s other contributions, however, are equally important: the first repair of an aortic aneurysm (1949); the first repair of a ruptured abdominal aortic aneurysm (1954); the first repair of a ventricular septal defect that developed after a heart attack (1956); the first successful carotid endarterectomy (1956); new techniques for repairing diseased heart valves and congenital heart defects…the list goes on to include >30 such firsts.

In some way, Cooley participated in every major development in cardiovascular surgery. With characteristic humility, he always said, “My good fortune professionally came from the fact that I began my career when heart surgery was in its infancy, when surgeons were free to discover and innovate. I’ve been a participant in so many breakthroughs primarily because I was there when they occurred. With the advent of the heart–lung machine, for example, we surgeons had the key to a door that had previously been locked. Once we had the key, then we could venture out into unexplored territory.”

In the early days of open heart surgery, when few heart surgeons operated on >2 patients per day, Cooley routinely operated on 12 patients each day. He used a sugar solution rather than blood to prime the heart–lung machine, so patients were spared unnecessary exposure to blood products. More operations could be performed because less blood was needed. Cooley popularized this bloodless surgery technique, proving that open heart surgery could be done efficiently and for large numbers of patients, including Jehovah Witnesses. He felt this technique might have been his most important contribution to open heart surgery. He and his team performed over 120,000 open heart operations—more than any other surgical group in the world.

Cooley’s innovations were not limited to the operating room or the laboratory. For example, he founded a managed healthcare plan that was the first to bundle cardiovascular service billing into a fixed fee. It saved millions of healthcare dollars and convinced others, including the Center for Medicare & Medicaid Services, to adopt this approach.

Cooley believed his most important contribution to the field of cardiac care was his founding, in 1962, of THI, in the Texas Medical Center. Under his leadership, the nonprofit Institute quickly became a world leader in research, education, and patient care. It is now recognized nationally and internationally for its many significant contributions to the prevention and treatment of heart disease.

Equally important to Cooley’s professional legacy is his school of surgery: the program he established at THI to train young surgeons. He was exceptionally proud to have trained so many of the next generation’s leaders in cardiac surgery. He felt through them and their trainees, his surgical legacy would always endure. He was a master at simplifying the most complex surgical procedures with a smoothness that made them look easy. Watching him operate, Dr Christiaan
Barnard stated, “It was the most beautiful surgery I had ever seen in my life…No one in the world, I knew, could equal it… Dr Cooley’s skill was matched by his grace and kindness…” Aptly, Cooley’s motto, and that of the surgical society his trainees founded to honor him, was modify, simplify, apply. In the operating room, he was exceptionally calm, even under the most difficult circumstances. His composed and kind demeanor set the tone for THI. He did not tolerate prima donnas, and he firmly believed in teamwork.

Cooley always said he learned the importance of working together for the greater good in his youthful athletic activities. At San Jacinto High School, he overcame severe shyness and developed self-confidence by participating in tennis and basketball, at which he excelled. He was also an avid golfer. After enrolling at The University of Texas (UT) in 1937, he became a star of the Longhorn basketball team which won the Southwest Conference Championship in 1939. He was also a member of the Texas Cowboys, an honorary service organization.

Cooley graduated with the highest honors from UT in 1941. He had originally enrolled there in the predental program, planning to enter his father’s dental practice on graduation. However, a fortuitous trip to San Antonio altered his career plans. There, Cooley visited a friend who was interning in the emergency room at Santa Rosa Hospital. Many of the patients had been badly cut in knife fights and automobile accidents. Because of the large number of patients with cuts that night, Cooley’s friend handed him a needle and thread and asked if he could sew. He could, and he liked it. Enthusiased by this experience, Cooley changed his major to premedical immediately on his return to Austin.

After 2 years at The UT Medical Branch in Galveston, Cooley transferred to Johns Hopkins University School of Medicine. In 1944, he graduated at the head of his medical school class. Also in 1944, as an intern under noted surgeon Dr Alfred Blalock, Cooley assisted in the first blue baby operation class that day, but “Blalock perhaps thought that I had good sense to take advantage of such a beautiful day; probably he would have done the same thing.”

Also at Johns Hopkins, Cooley met the love of his life, Louise Goldsborough Thomas, a registered nurse in the famed Halsted Surgical Clinic. In 1949, after 2 years of serving in the US Medical Corps as chief of surgery at the 124th Station Hospital in Linz, Austria, Cooley walked Louise down the aisle.

After working for a year with Lord Russell Brock in London, Cooley returned to his native Houston as a full-time faculty member at Baylor College of Medicine. He was there for 18 years as a professor of surgery. He resigned in 1969 to lead THI, where he was already surgeon-in-chief.

In addition, Cooley served as chief of cardiovascular surgery at St. Luke’s Episcopal Hospital, a consultant in cardiovascular surgery at Texas Children’s Hospital, a clinical professor of surgery at The UT Medical School at Houston, and, most recently, a distinguished emeritus professor at Baylor College of Medicine.

During his career, Cooley authored or coauthored >1400 scientific papers and 12 books, as well as 100,000 Hearts: A Surgeon’s Memoir (University of Texas Press, 2012). He was a member or honorary member of >70 professional societies, including the Denton A. Cooley Cardiovascular Surgical Society, founded by THI surgical trainees in his honor. He was also president of the Society of Thoracic Surgeons. Over his lifetime, he received >120 honors and awards. He was especially proud of being the first non-Russian to receive the Bakoulev Premium, Russia’s highest award for cardiovascular surgery, presented by the Russian Academy of Medical Science. He held honorary degrees from 8 universities and honorary fellowships in 5 Royal Colleges of Surgery—a nearly impossible feat. He also received various awards for his athletic activities, including the Theodore Roosevelt Award, given by the National Collegiate Athletic Association to a varsity athlete who has achieved national recognition in his profession.

Of all his awards, Cooley was probably most proud of his 2 presidential medals. In awarding him the Presidential Medal of Freedom (1984), the highest US civilian award, President Ronald Reagan acknowledged Cooley’s contributions by remarking that he had charted new territory in his search for ways to prolong and enrich human life.

In 1999, Cooley received his second presidential medal, the National Medal of Technology, from President William Bill Clinton for his inspirational skill, leadership, and technological accomplishments during 6 decades practicing cardiovascular surgery…and for having founded the THI, which has served more heart patients than any other institution in the world. Cooley’s contributions to technology include >100 surgical products that have helped save the lives of hundreds of thousands of people.

Cooley attributed much of his success to his family, who instilled in him a strong sense of family pride, respect for playing by the rules and dedication to hard work. He liked being called a workaholic. It is “a term to which I have no objection,” he said. “I enjoy my work and consider it a highly valued privilege.”

Novelist Arthur Hailey was a patient of Cooley’s and considered himself one of Cooley’s living monuments. In
writing the foreword to Cooley’s 1984 book of essays, Hailey set forth his impression of the surgeon: “What happens there (in Cooley’s surgical suite) and elsewhere in the Texas Heart Institute reflects not only the exceptional skills of Denton Cooley, which are world famous and acknowledged, but also his warm humanity and that rarest of human qualities—inspired leadership, which leaves its hallmark everywhere.”

Throughout his life, Cooley made generous charitable donations to support biomedical science programs, medical schools, museums, sports centers, and other civic and humanitarian causes. Facilities that bear his name include the Denton A. Cooley Student Center at Johns Hopkins; the Houston Zoo—Denton A. Cooley Animal Hospital; The UT (Austin) Alumni Center; the UT Denton A. Cooley Basketball Pavilion; the Denton A. Cooley, MD, and Ralph C. Cooley, DDS University Life Center, School of Dentistry, UT Health Science Center in Houston; and the Denton A. Cooley, M. D. Hall at the Texas Medical Center Library.

Cooley’s articles and the video library of his surgical procedures have been donated to the Texas Medical Center Library, where they are being archived and will be available for study by future generations of medical trainees and historians.

In 2002, the Denton A. Cooley Building was dedicated at THI. The building stands as testimony to Dr. Cooley’s many successes and to advances yet to come. Inside the front door is a poem called A Bag of Tools, written by R.L. Sharpe. The poem was his favorite and exemplifies his life:

Isn’t it strange

That princes and kings,

And clowns that caper

In sawdust rings,

And common people

Like you and me

Are builders for eternity?

Each is given a bag of tools,

A shapeless mass

A book of rules;

And each must make

Ere life has flown

A stumbling block

Or a stepping stone.

Denton Cooley was a founder, surgical innovator, mentor, leader, counselor, and teacher. He made stepping stones wherever he went—a true builder for eternity. He was also a family man: a husband, father, grandfather, and great-grandfather—and an avid sportsman, especially enjoying golf in his later years. He always said his family gave him the most joy, and his office was filled with their photos. He always proudly pointed out the newest great-grand to anyone who happened in. He loved spending time with his family at his ranch, Cool Acres, and at his Galveston beach home.

Denton Cooley lived life to the fullest. He will live on through his family, through THI, and through the work of his trainees and their trainees. He was a surgeon like no other. He will be missed by all who knew him and by all whose lives he touched.

Cooley was preceded in death by his wife of 67 years, Louise Thomas Cooley, and their daughter Florence Talbot Cooley. He is survived by 4 daughters, Mary Cooley Craddock (husband, John Craddock Jr, MD), Dr Susan M. Cooley, Louise Cooley Davis, MD (husband, Richard Davis), and Helen Cooley Fraser (husband, Charles D. Fraser Jr, MD); 16 grandchildren; and 17 great-grandchildren.

Acknowledgments

Dr Willerson wishes to acknowledge the help of Marianne Mallia, ELS, MWC, former manager of Scientific Publications at the Texas Heart Institute, in the preparation of this article.