O captain! My Captain! Our fearful trip is done,

The ship has weather'd every rack, the prize we sought is won,"

Walt Whitman
In the "The Greatest Generation", Tom Brokaw wrote, "it is, I believe, the greatest generation any society has ever produced." Thomas E. Starzl, MD, PhD belonged to that generation. His prodigious intelligence, his human warmth, his dedication to patient care, clinical research and education were unparalleled.

His fertile and transformative academic career has been recognized with more than 220 awards and honors. Dr. Starzl was one of the first recipients of the Medawar Prize in 1992, an award named after The Transplantation Society co-founder Sir Peter Medawar, which is recognized as the world's highest dedicated award for the most outstanding contributions in the field of transplantation. He also received the Presidential National Medal of Science in 2004; he was recognized in Biological Sciences "for his pioneering work in liver transplantation and his discoveries in immunosuppressive medication that advanced the field of organ transplantation". This Medal was presented by President George W. Bush in a White House East Room ceremony on February 13, 2006. More recently, in 2012 he was the recipient of the prestigious Lasker Award for Clinical Sciences.

Thomas Starzl was born on March 11, 1926 in Le Mars, Iowa, the son of Roman Frederick Starzl, newspaper editor, and Anna Laura Fitzgerald. He went to Westminster College in Fulton, Missouri. Subsequently, he went to Northwestern University Medical School and earned both a Ph.D. in neurophysiology and M.D. with distinction. During a conversation with Allan G. Redeker, a distinguished hepatologist from USC who was a schoolmate of Starzl’s in medical school, he said, “our class had 142 medical students and Tom Starzl”.

Dr. Starzl completed his surgical training at Johns Hopkins Hospital in Baltimore and Jackson Memorial Hospital in Miami. He subsequently pursued thoracic surgery training at Northwestern University. In 1959, he was awarded a Markle scholarship that allowed him to investigate the role of hepatotropic substances in portal blood. In 1961, Dr. Starzl was recruited to the University of Colorado School of Medicine as an Associate Professor of Surgery, and, in 1964, he was promoted to Professor of Surgery. During his stay at the University of Colorado, which lasted until 1980, he established human kidney and liver transplantation programs. He defined the principles of therapeutic immunosuppression, which has provided the foundation for our current immunosuppression protocols.

From the University of Colorado, Dr. Starzl then joined the University of Pittsburgh School of Medicine as Professor of Surgery. He served as Chief of Transplantation Services at Presbyterian University Hospital (now UPMC Presbyterian) until 1991. During his tenure in Pittsburgh, Dr. Starzl and his team established liver transplantation as a therapeutic modality in the management of patients with acute or chronic end-stage liver disease. In 1992, he reported a low level of donor leukocyte chimerism in patients who had received solid organ transplantation over 30 years prior. He postulated that the interaction of these cells with the recipient immunocytes may lead to immune tolerance. His program at UPMC became the largest transplant program in the world. He not only helped thousands of patients with end-stage liver disease with excellent graft and patient survival, he also trained over 1,000 medical and surgical transplant physicians from all over the world. His contribution to the development and establishment of transplant programs is unmatched. During clinical rounds, we had the opportunity to meet colleagues from around the world and converse in many languages without any form of restriction, all with one purpose, how to better serve patients with end stage liver disease. Those rounds were very lengthy, but nobody really cared about the time, as we all knew we were witnessing a master. Starzl would seamlessly move from clinical
nuances into intricate discussions of basic immunology all so we could improve and innovate the care of our patients. His generous use of his time and knowledge was an expression of the best of American academic tradition, or more simply said, the American tradition. He was an example and inspiration to us all who had the unique opportunity to know him, work with him, and be the recipient of his encouragement, and when deserved, his scolding.

Dr. Starzl’s pioneer work in liver transplantation led to the acceptance of liver transplantation as a therapeutic option during the NIH Consensus Development Conference Statement, June 20-23, 1983. The proceedings of this conference were subsequently published in Hepatology (Hepatology, Volume 4, Issue S1; January-February 1984); he contributed several papers, specifically the one entitled “Analysis of Liver Transplantation”.

Dr. Starzl influenced many areas of organ transplantation. In 1962-1963, he published the world’s first series of successful renal allotransplantation. In 1967, he published the first successful human liver transplantation, abdominal multivisceral (1987), pancreatic islet transplantations (1990), and xenotransplantation in 1992. He was an innovator in drug immunosuppression. He standardized the use of azathioprine and prednisone in addition to the use of anti-lymphocyte globulin. This triple drug regimen led to the first successful liver transplantation. He was a pioneer in the use of cyclosporine in lieu of azathioprine, and the subsequent substitution of tacrolimus for cyclosporine. Every innovation was accompanied by an improvement of graft and patient survival.

He also characterized a novel growth regulatory gene called “augmenter of liver regeneration” (ALR) that was found in the mouse, rat, and human liver. His most recent contribution in this field is published in this issue of Hepatology: “Augmenter of Liver Regeneration: A Fundamental Life Protein” authored by Michael A. Nalesnik, Chandrashekhar R. Gandhi, and Thomas E. Starzl.

After 1991, Dr. Starzl no longer performed surgery or was directly involved with patient care; however, he continued his weekly evening research seminar that was attended by many of us. What a privilege! Dr. Starzl would bring distinguished surgeons, clinicians, and basic scientists to present their work. Everyone was received warmly but was quickly taken to task by Dr. Starzl. His inquisitive nature meant even those in attendance were not excluded from his questioning and curiosity. He had a wonderful sense of humor; he would approach you with a smile and premonitory glance, calling you by your first name, better be ready and think carefully about your answers to his questions.

Dr. Starzl’s move to the University of Pittsburgh Medical School allowed him to crystallize his vision of what a Transplant Center should be with the creation of the Transplant Institute, subsequently named the Thomas E. Starzl Transplantation Institute. He integrated transplant surgeons, transplant hepatologists, transplant pathologists and radiologists into one well-coordinated team. He also conceived the concept that any profits from the medical practice should be reinvested in basic and clinical research. This vision facilitated many seminal discoveries and publications.

In spite of his many accomplishments, accolades, and awards, Dr. Starzl remained unchanged along the years; he was austere, almost frugal, and always accessible. He did have a weakness for fountain pens though, and he had several of them. He would use these pens to handwritten his manuscripts in black ink. These manuscripts were always competently transcribed by Terry Mangan, his dedicated and loyal assistant of many years. He enjoyed distributing his manuscripts among us
and requested our comments and criticisms. He did not tolerate light, superficial, or endearing comments; these could be an almost fatal mistake!

There were many times, when one would encounter Dr. Starzl in front of the Falk Clinic on Fifth Avenue in Pittsburgh. Often he would invite you to discuss a recent publication or a complex clinical situation, the location, situation, or time of the day did not matter, Dr. Starzl never refrained from a good conversation, whether it involved a medical or surgical issue, or current events. He always had time for every one of us; his generosity was limitless. His affability was also noticeable when local Pittsburghers would walk by, recognize him, say hello to him. Through his 35 year career in Pittsburgh, he had become an icon. Thus the outpouring of love and respect at his Memorial Service, held on his 91st birthday at the Heinz Chapel on his beloved University of Pittsburgh campus, was not surprising, as reflected in the many personal and professional tributes given that day.

Nowadays, the memory of Tom Starzl will live on amongst us. His example demands the best out of us in our daily work, caring for our patients and advancing the science of transplantation. He belonged to the “greatest generation” and Tom Starzl will continue to be our inspiration.

“May the road rise up to meet you, may the wind be ever at your back. May the sun shine warm upon your face and the rain fall softly on your fields. And until we meet again, may God hold you in the hollow of his hand” (Irish Blessing read during his Memorial Service)

Jorge Rakela, MD, MACP, FAASLD
Transplantation Center
Mayo Clinic College of Medicine and Science
rakela.jorge@mayo.edu

John J. Fung, MD, PhD
Transplantation Institute
The University of Chicago Medicine
jfung@surgery.bsd.uchicago.edu