



J. Wayne Streilein



J. Wayne Streilein once quoted a Zen proverb: “A garden is never complete until there is nothing left to remove.” In that statement, one can appreciate Wayne’s view of his own life’s work. His career was dedicated to spirited inquiry, and driven by novel insights. Wayne’s impact on science extends far beyond the discipline of immunology, a field that he represented, in that he was also a seminal figure in the fields of dermatology and vision research as well. Wayne Streilein died on March 15, 2004. At the time of his death, Wayne was the Charles L. Schepens Professor of Ophthalmology and Professor of Dermatology at Harvard Medical

School, and president of The Schepens Eye Research Institute.

Wayne’s thirty-year career in immunological science spanned several institutions, and has influenced the way scientists think in three distinct areas of inquiry: transplantation immunology, ophthalmology, and dermatology. Throughout his career, Wayne demonstrated an extraordinary ability to draw ideas from several disciplines together into a coherent whole. He brought to each area of interest a distinct way of thinking and a unique combination of imagination, humor, discipline, and energy. By analogy to gut-associated lymphoid tissue, he proposed that skin possesses a special relationship to the remainder of the immune apparatus, establishing the concept of “Skin Associated Lymphoid Tissues,” or SALT. He also coined the term “Anterior Chamber Associated Immune Deviation,” or ACAID. His dermatological research opened new perspectives on the roles of Langerhans cells in the pathobiology of UV injury and inflammatory skin diseases. His ocular research focused on defining the factors that make the components of the eye immunologically privileged and the elements that mediate ACAID induction and maintenance. During his career, he published over 600 articles, reviews, and book chapters. But beyond his outstanding scientific creativity, productivity, and scholarship, Wayne will be remembered for his equal brilliance as a teacher/mentor and for an awe-inspiring capacity to build excellent institutions from essentially rough materials.

*In tribute to their dedicated efforts to science and medicine, deceased members of the Harvard Faculty of Medicine (those at the rank of full or emeritus professor) receive a review of their life and contributions with a complete reflection, a **Memorial Minute**.*

Wayne was born and raised in Johnstown, Pennsylvania, and spent the first part of his career in Pennsylvania. It was during his first week of attending Gettysburg College that Wayne met Joan Stein, who was destined to be his intellectual and emotional soul mate for the next 52 years. They were both chemistry majors. They shared most of their classes and study hours, and together were campus leaders. The combination of their talents to create an even greater whole was the mark of their enduring relationship. This was evident early on when Wayne was editor of the newspaper and Joan was the managing editor; together they shared the journalism award. They received their B.A. degrees in 1956 and would return to Gettysburg in 1995 to accept and share an Outstanding Alumni Award. In 1957, they were married. In those early years, Wayne attended medical school at the University of Pennsylvania and Joan stayed at home, as three children (Laura Anne, William Wayne, and Robert Dietrich) joined the family. Later, Joan returned to work and school, completed her Ph.D. in Microbiology and Immunology, and resumed her role as Wayne's partner in his scientific and professional life. The focus of their research merged, and they collaborated on many important and fruitful research endeavors.

Wayne received his M.D. from the University of Pennsylvania Medical School in 1960. It was during medical school that Wayne first developed an interest in immunology. After an internship and two-year residency in internal medicine, he accepted a one-year Fellowship in Allergy at the Hospital of the University of Pennsylvania. During this time, Wayne met one of his most influential pole stars, "Pat" Eugene A. Hildreth, M.D., Chief of Allergy and Immunology. Pat taught Wayne the art of mentoring, a tool that would become an integral part of Wayne's ethos. Pat told Wayne, "Don't thank me for what I give to you; instead, pass it on to your students". Wayne took this advice to heart and embodied this message throughout his career.

After his fellowship in Allergy was completed, Wayne pursued his interest in basic research and started a two-year postdoctoral fellowship in Dr. Rupert Billingham's laboratory (at that time at the Wistar Institute), where he studied transplantation immunology in Syrian hamsters. Wayne continued to collaborate with Dr. Billingham long after his fellowship, and they worked together for over 15 years until Dr. Billingham retired. His association with Billingham and presentations of his work at international meetings brought him into frequent contact with leading immunologists such as Billingham's mentor, Sir Peter Medawar, and others of his school. Wayne always acknowledged the importance of this entry into the inner circle of elite transplant biologists, particularly those of the British school, of which he was considered a member from an early age. Indeed, in 2002, he accepted the award of Honorary Professor at the University College of London, a distinction for which he was proud to acknowledge his lineage among the British transplant immunologists.

Following his fellowship training, Wayne rapidly moved from Assistant to Associate Professor at

the University of Pennsylvania. In 1971, at the age of 36, he moved to the University of Texas (UT) Southwestern Medical School in Dallas where he was appointed Full Professor in the Department of Cell Biology; he was one of the youngest Full Professors at UT Southwestern. There he created and administered the cross-departmental Immunology Graduate Program, which established a precedent for collaborations across the institution. In 1984, Wayne moved to the University of Miami School of Medicine and became Chairman of the Department of Microbiology and Immunology. Under his direction, the Department was completely rebuilt and rejuvenated, resulting in spectacular successes in scientific productivity and grant support for which it is still recognized today. In 1993, Wayne joined the faculty of Harvard Medical School as a Professor in the Departments of Ophthalmology and of Dermatology, and the Director of Research at the Schepens Eye Research Institute. He was appointed President of the Institute in 1995, and led the Institute into a new era as one of the premier ophthalmic research institutions in the country.

In all institutions he served, Wayne's leadership ability was the key to his building outstanding academic units. Wayne's gift for words melded with an uncanny knowledge of group dynamics, thus yielding a seemingly natural capacity to lead strong personalities and egos with diverse agendas toward achievement of common goals. Wayne was also a natural communicator between the basic scientist and the clinician, because he understood both worlds. Even as a young man, he was a respected member of strategic policy-making committees at the University of Pennsylvania. At the University of Miami School of Medicine, he built the Department of Microbiology and Immunology into the leading basic science department and nurtured immunology research in the Departments of Dermatology and Ophthalmology, where he had secondary appointments. Using a style of leadership that built a consensus among faculty members within and outside the department, he created an atmosphere that formed seamless bridges between clinicians and basic scientists to promote translational research, while maintaining the autonomy necessary to ensure basic scientists were thriving and developing their own successful research programs. Within a decade of arriving in Miami, Wayne brought the Department of Microbiology and Immunology from the lowest rank within the Medical School to the top rank of the Basic Science Departments. Upon his appointment as Director of Research and then President of the Schepens Eye Institute, Wayne facilitated the affiliation of the Institute with Harvard Medical School, introduced an administrative and management infrastructure, reinvigorated the research programs, and oversaw the renovation of all the research space and the recruitments of several junior and a senior faculty members, as well as the new Director of Research.

As impressive as Wayne's research and leadership accomplishments were, his most lasting legacy will certainly be his mentorship of a generation of students who were lucky enough to train in his laboratory. Beginning early in his career and continuing to the time of his death, Wayne was a mentor to almost 100 pre-doctoral trainees, postdoctoral trainees, and clinical fellows. The ripple effect of Wayne's training activities has been tremendous. Dozens of his former trainees are now successful scientists who are

training students themselves. Wayne was first and foremost an outstanding teacher – it did not matter whether he was delivering a didactic lecture to medical students, presenting a research seminar, or working one-on-one with a trainee; his style of teaching combined an extraordinary ability to explain concepts in a clear manner, with an ability to ask the revealing or critical questions. This occurred in an atmosphere in which there was an unrelenting stream of ideas, curiosity, enthusiasm, encouragement, and patience. He also had a unique style of teaching scientists that entered his laboratory. Instead of trying to “transplant” his knowledge and approach to the student, he would develop an approach that was uniquely suited to the abilities of the trainee. In this way, he was able to work successfully with an enormous number of students with a wide range of abilities and personalities. He extracted their best, and took great pride in their accomplishments. As one of Wayne’s trainees commented, “The quote ‘A good life is a life with many beginnings’ describes Wayne. He was always finding something new in science, in literature, in technology, and in each of us.” But just as important as the scientific lessons, he also taught them how to lead, and particularly how to nurture and achieve consensus to reach a common goal. One trainee commented, “At any challenging moment, I need only think, ‘How would Wayne handle this?’”

In addition to his vast knowledge of science and medicine, Wayne had an unparalleled breadth of interests. He was gifted at the piano and had a profound knowledge of music and art. He also read widely, and was an avid sports fan; baseball was a passionate lifetime interest. He would drop every thought to engage in a conversation about baseball trivia. Still, he was just as much at home in an art museum. He saw beauty in small intricate patterns, and his collections reflected his appreciation in his choice of lichens, netsukes, and oriental rugs. He wove a life fabric that included all of these elements: science, art, music, sports and culture. The last but not the least of these elements was his humor. His sharp wit was typically delivered with a flare for drama, with nuances in body language and tone of voice that heightened the message. In any situation of disagreement, everyone in presence would enthusiastically await Wayne’s impending comment, perfectly timed to defuse the tension. Always effusive in response to a clever retort or a joke, his spirited guffaws evoked equally extreme pleasure from all in witness to his reaction. Though he was well organized in all endeavors, his zest and enthusiasm would make him appear perpetually spontaneous in living each day fully. Rarely one to utter a complaint, his passion and joy for life was infectious, extending to all that he touched. But, at the core to his capacity to give, he treasured time with his family most of all, especially his beloved Joan, his children and 11 grandchildren.

Wayne viewed life as a continual performance, with never a rehearsal. Those of us fortunate to have been a part of his performance are richer for having been touched by him, and are now blessed with life-long inspiration and cherished memories. One person who left a note on his condolence page summarized Wayne most eloquently when he said, “By his life he showed us all that one can be good as well as great at the same time.”

Respectfully submitted,

Robert Sackstein, *Chairperson*

Patricia D'Amore, *Co-chairperson*

Sally Atherton

Clyde Barker

Paul Bergstresser

Bruce Ksander

Eckhard Podack

Joan Stein-Streilein