THE FACULTY OF MEDICINE
Harvard University

H. Richard Tyler

Photograph courtesy of Kenneth Tyler

H. Richard ("Rick") Tyler passed away suddenly at his home of more than fifty years in Brookline, Massachusetts on May 8, 2016. Rick was born in New York City on October 16th, 1927. He attended Syracuse University where he trained in chemistry, graduating phi beta kappa (1947), before being assigned, in lieu of military service, to the Atomic Energy Commission's Los Alamos Scientific Laboratory. It was at Los Alamos where a senior colleague asked him if he was interested in a medical career, a serendipitous query that led promptly to his acceptance at Washington University in St. Louis, with the *post hoc* completion of the necessary paperwork. It was at Washington University that his interest in Neurology was kindled, fostered by early participation in animal neurophysiology studies being performed by Robert L. Lam in the Department of Neuropsychiatry. The resulting paper was his only publication to use his first name (Herman), which was forever after always replaced with a lone "H". As a child he was known at Hank. A student presentation from that era, was entitled, *The Electroencephalogram in Rheumatic Chorea & Rheumatic Fever*, confirming his early neurological interest.

After graduation (1951) and induction into *alpha omega alpha*, he was accepted as a medical "house officer" at what he remembered was a, "small hospital with a very small staff but highly endowed with research"- the Peter Bent Brigham. The Brigham had a rule that single house officers couldn't change marital status after arrival, resulting in the happy decision, a few weeks before training started, to marry Joyce Colby, his wife of more 65 years. Upon leaving the Brigham in 1952, and assuming he would never return, he wrote the Chief of Medicine, George Thorn (1906-2004), telling him, "it was terrible that a hospital of the stature of the Brigham didn't have neurology and that they were unaware of the strength of neurology as part of medical training." He then "defected" to train with Derek Denny-Brown (1901-1981) at Harvard Medical School's Neurological Unit at the Boston City Hospital. In 1952 he then joined the

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****.*

newly formed (1948) American Academy of Neurology (AAN), with which he would remain closely affiliated for the next 65 years.

He would later recall that his return to the Brigham (1956) was due to Denny-Brown's "pushing." The arrangement was consummated with the agreement of George Thorn and Raymond Adams (1911-2008), who mapped out his future "over a game of tennis" It was agreed Rick would spend two years abroad at the National Hospital for Neurology and Neurosurgery in Queen Square and the Salpêtriere in Paris. A stay at Johns Hopkins in Pediatrics was added to enable him to credibly see neurological patients at Boston Children's Hospital. The training in England, under Sir Charles P. Symonds (1890-1978) and Sir FMR Walshe (1885-1973), also provided an opportunity for his newly ambulatory son, Kenneth L. Tyler, to trample Sir Gordon Holmes' (1876-1965) beautifully manicured garden. The time in England set Rick on the path to become a "neurologist's neurologist" and a master of the neurological examination. Rick was honored to join his old chief, Derek Denny Brown, as a co-author for the final edition (1982) of the *Handbook of Neurological Examination and Case Recording* - which Denny Brown first edited in 1944 - and served as a manual to generations of medical students and residents.

After returning to the Brigham and Harvard Medical School in 1956, Rick remained continuously affiliated with both institutions until his death. Rick became Professor of Neurology at Harvard Medical School in 1974, and emeritus in 1999. He was the inaugural Chief of the Brigham's Division of Neurology (1956-79), and the inaugural Chief of the Division of Neurology at the new Brigham and Women's Hospital (1980-88), before being succeeded by Martin A. Samuels, a faculty member who he had recruited in 1977, and who in turn oversaw the establishment of Neurology as a Brigham Department, independent of the Department of Medicine (1995). Rick continued his practice as a member of the Brigham Medical Group until 2015, noting, "I have a general practice in Neurology seeing about 250-440 patients per month" - typically including weekends.

Rick recalled that when he arrived, "The Peter Bent Brigham, Robert Breck Brigham, Boston Lying-in Hospital (consolidated together in 1980 as Brigham & Women's Hospital) and Boston Children's Hospital did not have a neurologist. I was the only one." He led the subsequent development of neurology at the Brigham and was immensely proud of the many Harvard Medical students, "Harvard Longwood Program" neurology residents and faculty he mentored over his career, often noting that these people, more than any of his own accomplishments, would be his legacy.

After arriving at the Brigham, Rick initially performed basic research in neurochemistry, but soon realized that his skills were in clinical rather than basic research. Rick was a Howard Hughes Investigator (1956-65), and an early grantee of the newly established NIH. These institutions provided the support for his initial salary of $7500 per year. He recalls using Hughes' money to purchase the Brigham's first EEG machine - having convinced George Thorn, who was Howard Hughes' personnel physician and a pioneer endocrinologist, that EEG slowing was a feature of Addison's Disease and that its resolution could be used to monitor the efficacy of a new drug Thorn helped develop called

'cortisone'. Rick's time at the Brigham also coincided with the development of renal dialysis and transplantation, and he quickly became the pre-eminent expert on the central and peripheral nervous system complications of renal failure.

Clinical neurophysiology was in its infancy when Rick began his career, but he was an early advocate of its clinical utility. He recalled that during his residency, Denny Brown would, "secrete patients away to his lab on the 10th floor of the Medical Building at Boston City Hospital to perform EMG studies on them, but never told you what he found - it was always for research, never clinical." Rick's own interest in clinical neurophysiology led to the first description of the electrophysiological basis for asterixis (1964), showing that the "flap" corresponded on EMG to a loss of electrical activity in the contracting muscles. Rick also did a series of pioneering studies on the mechanism of action of Botulinum toxin at the neuromuscular junction and in the CNS, including a paper in *Science* (1963), and a "thesis" then required for membership in the American Neurological Association (ANA). He would later joke that he stopped working on the toxin because he was afraid that he would inadvertently bring it home on his clothing and poison his children, and so missed out on its remarkable commercial future in cosmetics and neurology.

Rick was a memorable, dramatic, charismatic and gifted teacher. Generations of Harvard medical students remember vividly his demonstrations of neurological conditions before packed amphitheaters. He could imitate chorea, athetosis, ballism and the like, skillfully eliciting the important neurological signs while maintaining his special relationship to his patients. And no one was more revered by his patients. After he stepped down from the leadership role he had an entire additional career, seeing patients in his busy office, literally until the time of his death. He saw the most complex and difficult cases, often referred to him when no other physician could help. His patients knew that he would never abandon them. No matter how difficult the problem, he always seemed to have another idea to try to reduce suffering. And remarkably often this is exactly what he did.

Looking back from an era in which Neurologists have become increasingly subspecialized, it is impressive to see the breath of Rick's clinical interests. In addition to his studies of neurological complications of renal and endocrine disorders, he conducted early therapeutic trials on the use of levodopa in Parkinson disease, and a series of randomized controlled double-blind trials of agents including isoprinosine, neurotoxins derived from snake venom, and gangliosides in amyotrophic lateral sclerosis. He examined abnormalities of higher order visual perception and performed some of the first trials of antiviral therapy for the treatment of *Herpes simplex* encephalitis.

In addition to his role as a clinician and teacher, Rick had a lifelong devotion to the history of neurology. He was one of the founders of the AAN's History Section. He was an obsessive collector of rare books and ephemera related to the history of neurology and would later donate his collection to the AAN Neurology Book Collection at Washington University. He owned copies of the earliest single channel EEG recordings made by Hans Berger (1873-1941), Harvey Cushing's (1869-1939) operative

headlamps and personal Brigham scrapbook, as well as the reprint cabinet Grace Revere Osler had gifted Cushing, and innumerable phrenology heads, and sculptures from around the world of upgoing toes. In an age before eBay, book collecting required a network of connections with book buyers, book dealers, and auction houses. Rick's 7000 volume plus book collection was likely the most significant private collection devoted to Neurology amassed since Cushing's, and he would frequently compare it (often favorably) to the collections at major university libraries. Among the jewels in his collection was one of the earliest known versions of the first edition of Andreas' Vesalius *De Humani Corporis Fabrica* (1543). His son, Ken, can acutely remember a discussion at the family dinner table about which expenditure was a higher priority, the purchase of this book or a Harvard College tuition, with the weight of evidence suggesting that the former rather than the latter was a "once in a lifetime opportunity"- although fortunately funds for both were ultimately located.

Rick's death left a void in the generation of neurologists that made Boston the epicenter of modern American neurology. He was part of the generation in Boston that followed Derek Denny-Brown (1901-1981), H. Houston Merritt (1902-1979), Raymond Adams (1911-2008), Joseph Foley, and C. Miller Fisher (1913-2012). His training spanned the modern era of neurology, beginning with his residency under a pupil of Sir Charles Sherrington, and paralleling the introduction of EEG, EMG, and modern neuroimaging into clinical practice. He left a legacy of trainees, many of whom became leaders in American Neurology. Upon his death he left his wife, Joyce, his four children (Kenneth, Karen (Kim), Douglas, and Lori), 12 grandchildren and 8 great grandchildren.

Respectfully submitted,

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