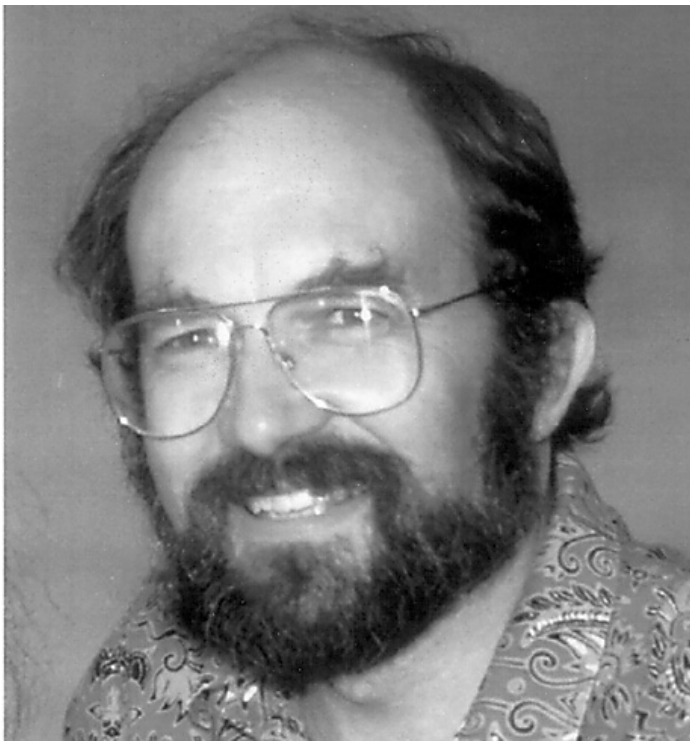
THE FACULTY OF MEDICINE
Harvard University

John B. Penney, Jr.



John B. ("Jack") Penney, Jr. died suddenly of a heart attack on January 31, 1999 at the age of fifty-one. Jack was Professor of Neurology at Harvard Medical School and a Neurologist at Massachusetts General Hospital. He leaves a legacy of clinical excellence, scientific discovery, and humanitarianism of the finest example.

Born in Winthrop, Massachusetts and raised in Massachusetts and New Hampshire, Jack received his undergraduate degree from Dartmouth College in 1969 and graduated from Johns Hopkins University School of Medicine in 1973. It was at Hopkins that Jack decided on the field of Neurology, fascinated by the workings of the human brain and the diseases that afflict it.

It was also at Hopkins that Jack met his future wife Anne Young, who is currently the Julieanne Dorn Professor of Neurology and Chief of the Neurology Service at the Massachusetts General Hospital. Together, they would forge a formidable scientific and life partnership, making seminal discoveries in the fields of basic neuropharmacology, movement disorders, neurology, and human experimental therapeutics. After completing their residencies in Neurology at the University of California, San Francisco, Anne and Jack took faculty positions at the University of Michigan. Although neither had previously received specialized training in movement disorders, they quickly became experts and gained worldwide recognition within the field. Jack and Anne came to Harvard as Professors of Neurology in 1991.

Jack and Anne performed pioneering work on the neurochemistry and neuroanatomy of the basal ganglia—that portion of the brain most closely associated with movement disorders. Jack and Anne ran a joint laboratory, a unique husband and wife arrangement that was stunningly successful. Their early work modeling the circuitry of the basal ganglia has today become the standard paradigm. More than a simple "wiring diagram," the scheme conceived and put forth by Jack and Anne showed neurologists and

neuroscientists that it was indeed possible to think mechanistically about what had been a mysterious class of human diseases. This functional model provided the first rational schema with the power to explain how both hyperkinetic (such as Huntington's disease) and hypokinetic (such as Parkinson's disease) disorders could arise from disruption of different components of the same circuitry. Jack and Anne also realized that in order to understand how these neural systems operate, it was not enough to know simply the connectional anatomy, but it was also necessary to understand which neurotransmitters were involved in each step of the relay, and what the effect of those neurotransmitters were. Their contribution was instrumental in the wide acceptance of the notion that anatomy and neurochemistry are inseparably intertwined. The original "Penney-Young" model of the basal ganglia is 20 years old, but it is still the predominant model for our understanding of the function of these important brain structures.

An integral ingredient in dissecting the functional anatomy of the mammalian basal ganglia lay in identifying the specific neurotransmitters involved. In this context, Jack was intimately involved in establishing that glutamate was an important neurotransmitter. Although glutamate is now known to be the most important excitatory neurotransmitter in the mammalian brain, Jack was among the first to show that glutamate was a neurotransmitter in relevant neural pathways: concentrations of glutamate were decreased in target areas following lesions of specific anatomic connections. Jack was also involved in the demonstration that there were multiple types of receptors in the brain for glutamate, and that these receptors had unique anatomical distributions and pharmacological properties. Glutamate receptor dysfunction has been hypothesized to underlie many neurologic conditions, including stroke, epilepsy, trauma, as well as neurodegenerative conditions such as Alzheimer's disease, Huntington's disease, and Parkinson's disease. Jack also made seminal contributions in further defining the essential role that the neurotransmitter GABA plays in the basal ganglia.

In addition to his scientific research, Jack was an outstanding clinician. He had an active clinical practice, and took personal responsibility for the care of a great many patients with Parkinson's disease and other disorders. He was a founding member in 1983 of the Parkinson Study Group (PSG), an organization dedicated to human experimental therapeutics. In 1993, he helped to co-found the Huntington Study Group and served as co-chair of the Executive Committee. In addition to designing and participating in a number of clinical studies conducted by both the PSG and HSG, Jack also served in numerous leadership roles. Jack was ever mindful of the devastating toll of neurodegenerative diseases, and was especially enthusiastic about those therapies that might slow the progression of some of these disorders.

For nearly 20 years, Jack was an indispensable member of the Venezuela-U.S. Collaborative Huntington's Disease Research Team, traveling every spring to Venezuela, where he examined and treated thousands of patients with Huntington's disease. In response to the suffering that they observed all around them, he and Anne founded the Venezuela Family Fund to pay for a physician, medicines and food for Venezuela family members.

In addition to his own work, an important part of Jack's legacy are the many scientists and physicians who benefited from his training and support over the years, who he and Anne often referred to as their scientific "children." Jack's guidance, always offered in quiet and subtle ways, has lead many of them to prominent positions in the worldwide community of neurology and neuroscience.

Jack was a true New Englander; a man of few words, not given to idle conversation. His quiet demeanor belied his deep humanity and humility. Despite his world-wide reputation for scientific and clinical achievements, his greatest source of pride was his family. If behind every great woman there is a great man, then such is the case with Jack's support of Anne Young. Anne's achievements—among them, being the first woman to chair a department at Massachusetts General Hospital, and the first woman to head an American Neurology department—were made possible in large part by Jack's unwavering support. His nurturing demeanor, renown among his patients, also shone brightly in his parenting of two brilliant and beautiful daughters, Jessica and Ellen.

One of Jack's motivating passions was to cure neurodegenerative diseases such as Parkinson's and Huntington's diseases. The John B. Penney Jr. Professorship of Neurology has been established at Harvard Medical School and Massachusetts General Hospital in testament to this goal and as a tribute to this fine and rare man.

Respectfully submitted,

John H. Growdon, *Chairperson*
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