



## Charles F. Barlow



Charles Franklin Barlow was born in Mason City, Iowa on November 10, 1923 to Franklin R. (1887-1968) and Marie G. (McCabe; 1898-1968) Barlow, taking his name from his paternal grandfather Charles F Barlow (1848-1931) who emigrated in 1855 from England. He grew up in nearby Clear Lake where his father was in the amusement and other businesses and his grandfather was a farmer. Charles, widely known as Charlie by his colleagues, was a band musician and magician, raising funds to pay for college with his act “The Great Barloni.” He graduated from Clear Lake High School in 1943. He attended Coe College for two years, enlisted in a Navy accelerated education program, transferring to Williams College for 6 months and then graduated from the University of Chicago in 1945 (S.B) and 1947 (M.D., with honors). He spent a year each at Johns Hopkins and Boston Children’s hospitals in pediatric training, influenced by Frank Ford, David Clark, Bronson Crothers and Randolph Byers. He then fulfilled his commitment to the Navy, serving during the Korean War as a medical officer on Pacific transport ships and at US Naval Hospitals in Chelsea and Camp Pendleton.

In 1951 Dr. Barlow returned to the University of Chicago and launched a very productive career in neurology. His three years of neurology residency were mentored by Richard Biddle Richter and Douglas Buchanan. He became close to each of them, combining their distinctive styles in his own blend of profound and intuitive diagnostic skills. He joined the faculty in 1954 and was quickly publishing his innovative work which first introduced radiochemical methods to measure regional brain chemical processes. He developed radioautography for  $\beta$ -emitters. In a series of about 15 papers on the development, vascularity and permeability of the brain, he and collaborators proved that the brain had a very small extravascular space. A classic paper in Science with Lloyd Roth in 1971 enunciated principles about the blood-brain barrier, its role in the selective distribution of drugs and also its more porous state in immature animals. He also studied cerebrospinal fluid production, absorption and its pressure in hydrocephalus. At the time effective shunts were still being perfected and state hospitals were filled with

numerous intellectually disabled patients with massive heads from inadequately treated hydrocephalus; Dr. Barlow's work provided a scientific understanding of CSF production and a rationale for effective treatment of hydrocephalus.

His rapid emergence as an exceptional child neurologist led to his appointment as the Bronson Crothers Professor of Neurology at HMS and Chair of Neurology of Boston Children's Hospital at the young age of 39 years. When the first incumbent of the Bronson Crothers Chair, Dr. Lahut Uzman, died unexpectedly in November 1962 within months of his appointment the search committee quickly chose Dr. Barlow, a young rising star. Their conviction was that they might have somebody with potential for longer tenure. Since his tenure as Chair of Neurology extended for 27 years, the committee seemed to get an appropriate return for their boldness.

Dr. Barlow put together one of the seminal training programs in child neurology, and linked it with adult training programs, first at the Beth Israel Hospital, later to be joined by the neurology group at the Peter Bent Brigham Hospital. The Longwood Neurology training Program prospered under his leadership from 1967 until 2001. When separate residencies at Partners and the Beth Israel-Deaconess Medical Centers supplanted the Longwood program, the program in child neurology at Boston Children's Hospital continued with links to both adult neurology residency programs.

Dr. Barlow was instrumental in training a generation of leaders in child and adult neurology, and neuroscience research. He was, in his time, the most prolific sponsor of the Clinical Investigator Development Award grants from the NIH – not just in neurology, but in any field. The laboratories in neuroscience he established at Boston Children's Hospital, with the creation of the then-named Mental Retardation Research Center at the core, spawned the careers of many neuroscientists who made seminal contributions to their fields, including Drs. Richard Sidman and Pasko Rakic, and a host of other outstanding investigators especially in the field of developmental neurobiology.

The clinical programs at the Boston Children's Hospital saw the creation of multiple firsts – the first Children's Hospital based muscular dystrophy center, the discovery of the genetic basis for muscular dystrophy, the first pediatric sleep disorders center, and the first pediatric inpatient EEG telemetry unit. The clinical training program became the largest in the country, and scores of leaders of divisions and departments of child neurology were first trained at Boston Children's.

Dr. Barlow's clinical skills also drew upon the Great Barloni, for at the bedside he could see disguised clues and engage people with unique empathetic, entertaining and captivating methods. He was famous for his Chief's rounds, in which a resident would present a case that was puzzling or a diagnostic dilemma. He would listen, attentively – for a time. Then, when he began to twirl his famous reflex hammer (used for so long the triangular head had smoothed out into a sort of ovoid form), the resident presenting knew that she or he had about another 60 seconds to sum up. He would then go in, speak with the patient and family, tap a reflex or two, check one muscle group and a sensory system, perhaps examine the fundi, and then ask the child to get up and walk a few feet. He would then thank the family graciously, walk out into the hall, turn to the group, and announce the answer. It was invariably proved correct.

When this somewhat Zen-like style caused consternation among the residents in training, he would smile and say, "If you want the answer, ask me. If you want to know how to get it methodically, you better ask Dr. Bresnan", referring to the residency training director of the era. The Great Barloni still pulled

rabbits out of his hat.

He was also famous for his salty language and aphorisms, acquired in the Navy no doubt. One which might be considered here is his notion of leadership. “You know,” he would say, “in the Navy there are two kinds of ships: tight ships and happy ships. They are that way because of their captains. They both get the job done. But I always wanted to captain a happy ship.” And so for decades, he did indeed captain a happy vessel, graced by his leadership.

Respectfully submitted,

Scott L. Pomeroy, M.D., Ph.D., *Chairperson*

David K. Urion, M.D.

David A. Stumpf, M.D., Ph.D .