

Roger Sperry

1913-1994

Roger W. Sperry, 1981 Nobel laureate in physiology or medicine and the Institute's Board of Trustees Professor of Psychobiology, Emeritus, died on April 17, 1994, of a heart attack and of complications associated with a neuromuscular degenerative disease from which he had suffered for many years. He was 80.

A native of Hartford, Connecticut, Sperry earned his bachelor's degree in English literature from Oberlin College in 1935, then focused his attention on psychology, earning his master's in that



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field in 1937, also from Oberlin. For his doctorate, he studied zoology, earning his degree from the University of Chicago in 1941.

Sperry's academic career was as diverse as his educational background. After graduating from Chicago, he held fellowships at Harvard from 1941 to 1946, where he worked in the Yerkes Laboratories of Primate Biology, and he performed military service from 1942 to 1945 by taking part in the federal government's Medical Research Project on Nerve Injuries. After the war he taught as an assistant professor in the University of Chicago's department of anatomy until 1952. During 1952 and 1953, he served as associate professor of psychology at the same institution while simultaneously serving as the section chief for neurological diseases and blindness at the National Institutes of Health. In 1954 he became the Hixon Professor of Psychobiology at Caltech, where he remained for the next forty years. He retired from teaching as professor emeritus in 1984.

Among Sperry's many accomplishments is research he carried out in the early 1950s showing the nervous system to be characterized by a very high

specificity of neural reconnection—that is, by the ability of neurons, when severed, to regenerate connections to their original targets. This work led in the early 1960s to a new theory explaining how neurons grow, assemble, and organize themselves in the brain by means of amazingly intricate, genetically determined chemical codes.

Sperry is best known for his "left-brain/right-brain" research, work that has had an incalculable impact on fields ranging from neurophysiology to psychology to education. Working in the 1950s and early 1960s with patients who had had their corpus callosum—the bundle of fibers connecting the left and right cerebral hemispheres—surgically cut in an effort to control epileptic seizures, he demonstrated how the two hemispheres function, independently and in concert. The most striking of his discoveries and the one with which his name continues to be most widely associated is the finding that under certain conditions, each hemisphere has the seeming capacity to behave like a separate consciousness, with the left side of the brain generally more specialized for verbal and analytical thinking, and the right side for spatial and visual thought.

In later years, Sperry's own ever-active brain turned increasingly to philosophy, particularly to issues associated with the mind-brain question—that is, the relationship between the observable physiological structure of the brain and the quality of subjective, conscious thought that characterizes the mind. In pondering these questions, Sperry broke with the behaviorist school, which then dominated psychology and the behavioral sciences, and advocated a new approach that placed far greater emphasis on the role of mental states and experiences in influencing the physiological functioning of the brain. He first set out these ideas in 1965 in what the January 1994 issue of *Humankind Advancing*, which was dedicated to Sperry, described as "a remarkable series of philosophical papers"; and he continued to write and publish provocative and influential writings on the nature of consciousness up until the time of his death. It was for this work, more than for his studies of vision, neuronal growth, or split-brain patients, that Sperry wished most to be remembered.

For his work on hemispheric specialization, Sperry was awarded the 1981 Nobel Prize in physiology or medicine, along with David H. Hubel and Torsten N. Wiesel. He also received the National Medal of Science in 1989 from President Bush, the Wolf Prize in Medicine and the Albert Lasker Medical Research Award in 1979, and the California Scientist of the Year Award in 1972, among many other honors.

In addition to his talents as a researcher, Sperry was "the most artistic person I've ever known," said long-time laboratory assistant Lois MacBird in a

1981 interview. "He sculpted phenomenally. The Sperrys' home is filled with his work." Sperry was also an avid paleontologist, with an extensive collection of prehistoric mollusks.

"He was one of the premier experimental neurobiologists of his time," said Norman Davidson, the Norman Chandler Professor of Chemical Biology, Emeritus, and executive officer for biology at Caltech. "Those of us who have known him since those early years will always remember the courage and tenacity with which he continued to carry on his work in later years in spite of a debilitating degenerative disease. It was an inspiration to all who knew him."

The late Caltech professor is survived by his wife of 45 years, Norma Deupree Sperry, of Pasadena; his brother, Russell L. Sperry, of Bend, Oregon; his son, Glenn Tad Sperry, of Philadelphia; his daughter, Janeth Hope Sperry, of Cleveland; and two grandchildren.

The family asks that donations in Sperry's memory be made to the Muscular Dystrophy Association, or to the Children's Lung Fund, Cleveland, Ohio.