Behavioral Sciences Obituary

ROGER WOLCOTT SPERRY

BORN IN HARTFORD, Connecticut, Roger Sperry earned his bachelor's degree in English literature from Oberlin College in 1935, then concentrated in psychology, obtaining his master's degree in that subject at Oberlin in 1937. He received his Ph.D. in zoology under Dr. Paul Weiss in 1941. He held fellowships at Harvard from 1941 to 1946, working at the Yerkes Laboratories of Primate Biology. It is possible that we met then, since I was a Junior Fellow at Harvard during part of that time. He carried out his military service in 1942 to 1945 by taking part in the OSRD Medical Research Project on Nerve Injuries.

I probably first met Roger Sperry in 1948, when he was an Assistant Professor in the Department of Anatomy at the University of Chicago and I was Chairman of the Department of Psychology and Professor of Psychiatry there. Our friendship began about that time. Some time before 1950 he contracted tuberculosis. A common treatment was rest and fresh air so he went to Bimini to lie in the sun and also to Saranac Lake, N.Y. to breathe the cold, clear air. When he returned he learned that he would not be considered for tenure in the Department of Anatomy because, as the Chairman said, since he could easily not live as long as a person who had not had tuberculosis, the department could not take the risk of recommending him. Naturally Roger was upset. He actually lived 80 years and did not die of tuberculosis.

I had always been impressed by him, so I asked if he would consider joining the Department of Psychology as a tenured associate professor, since he definitely was interested in the field and had been working with Dewey Neff, who was in our Department. He said he would, so I met with our department and they agreed to offer him such an appointment. The Dean and President Hutchins also agreed and he joined us.

Roger was one of the original members of our Committee on the ***Behavioral*** Sciences which met once a week for three hours, trying to develop a general theory of behavior. He made the very first presentation. It was on "Neurology and the mind-brain problem," on October 13, 1952. This was one of his earliest experiences in such theory, to which he returned in somewhat different form in later years. In 1954 he left Chicago to become the Hixon Professor of Psychobiology at the California Institute of Technology, where he remained until his retirement in 1984.

Transcriptions of some of these theory sessions were reported in 1956 in Volume I of ***Behavioral Science***. [Incidentally, Andreas Papandreou, who served as Prime Minister of Greece from 1981 to 1989 and was reelected on October 10, 1993 was at the University of Chicago working with the economist in our Committee on the ***Behavioral*** Sciences, Jacob Marshak. He attended a few sessions of our group, including the one on April 13, 1954. (See page 76.)] Also in the January 1962 issue of ***Behavioral Science***, Volume 7, there was an abstract of Roger's article, Cerebral organization and behavior, in ***Science***, 1961, volume 133, pages 1749-1757. This article dealt with learning in cats and monkeys with split brains. One article in this issue by Winkler, Combs, and Daley (see pages 285-292) deals with brain laterality and two recent books on the split brain research are dealt with in the book reviews of this issue (see pages 326 to 328).

He made other significant contributions. One was in the early 1960s when he presented a new theory explaining how neurons grow, assemble, and organize themselves in the brain by using intricate, inherited chemical codes.

He was awarded the Nobel Prize in medicine/physiology in 1981, sharing it with David H. Hubel and Torsten N. Wiesel of Harvard. At the award ceremony Professor David Ottoson of the Karolinska Institutet in Sweden described Roger's work on left and right brain, as he understood it in 1981, as follows:

"The left brain half is, as Sperry was able to show, superior to the right in abstract thinking, interpretation of symbolic relationships and in carrying out detailed analysis. It can speak, write, carry out mathematical calculations and in its general function is rather reminiscent of a computer. Furthermore, it is the leading hemisphere in the control of the motor system, the executive and in some respects the aggressive brain half. It is with this brain half that we communicate. The right cerebral hemisphere on the other hand is mute and in essence lacks the possibility to reach the outside world. It cannot write and can only read and understand the meaning of simple words in noun form and does not grasp the meaning of adjective and verb. It almost entirely lacks the ability to count and can only carry out additions up to 20. It completely lacks the ability to subtract, multiply and divide. Because of its muteness, the right brain half gives the impression of being inferior to the left. However, Sperry in his investigations was able to reveal that the right hemisphere in many ways is clearly superior to the left. Foremost, this concerns the capacity for concrete thinking, the apprehension and processing of spatial patterns, relations and transformations. It is superior to the left hemisphere in the perception of nondescript patterns. It is with the right hemisphere we recognize the face of an acquaintance, the topography of a town or landscape earlier seen . . . .

"Today we know from Sperry's work that the left hemisphere is cool and logical in its thinking, while the right hemisphere is the imaginative, artistically creative half of the brain. Perhaps it is so that in thinkers the left hemisphere is dominant whereas in artists it is the right."

Roger also received the American Psychological Association's citation for an Outstanding Lifetime Contribution Award in 1992. The citation said:

"For over half a century, you have developed a superlative scientific research program second to none. You have questioned conventional wisdom through innovative and methodologically rigorous research. The extraordinary range of studies includes neural plasticity tested by nerve and muscle transplantation, selective patterning in growth of nerve connections, cytospecificity and chemoaffinity theory, neural mechanisms in perception and memory, split-brain approach to cerebral organization, and hemispheric specialization. For these latter accomplishments the Nobel Committee awarded the Medicine/ Physiology award in 1981 to you, the first individual to have been trained in psychology to whom they have given this prestigious award.

"As early as 1952 you showed prophetic insight into problems now being addressed in this era of cognitive revolution with your ideas on the mind-brain problem and consciousness. As the American Psychological Association begins its second century, you again bring forth original and revolutionary concepts that place psychology in a leadership role not only in ***science***, but in the world at large."

Roger was a quiet person but he was concerned and warm toward his friends. It was a pleasure to have worked with him during the early period of his scientific development.

Born August 20, 1913 -- Died April 17, 1994

By James Grier Miller, Editor

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