



Robert W. Doty (1920–2011)

Professor Robert W. Doty, PhD, an eminent neuroscientist who markedly increased our understanding of various brain functions and greatly influenced progress of neuroscience in the second half of the 20th century, died on January 14, 2011 at his home in Rush (NY) at the age of 91. He was one of the key people who helped create the Society for Neuroscience in 1969, now the world's largest organization of neuroscientists. He served as its President in 1976. *Acta Neurobiologiae Experimentalis* were honored to have him on the Board for 43 years (from 1968 till his death), longer than any editor of ANE. Doty published six of his papers in ANE and to the very end was helping us to edit manuscripts.

In his autobiography Doty claimed that his life and character were molded by two women, his mother who died when he was seven, and his beloved wife of Lithuanian origin, with whom he lived for 58 years. His high intelligence, immense curiosity, spirit of adventure, together with a caring and reflective character and early experience of great loss made him a special individual, who walked his own way and felt “not one of a crowd”, as he wrote in his autobiography. Early multifaceted life experiences, army service during the Second World War as well as the exceptional bond with his wife and family gave him good perspective on the hierarchy of values in human life. He stood out in the “crowd” of neuroscientists because of his caring, open personality, the need to share his life and thoughts with many friends from all over the world and willingness to acknowledge scientific contributions of people from distant cultures and times made him outstanding.

Doty's multidirectional adventures in neuroscience began at the University of Chicago, Department of Physiology, where he earned his BS, MS and PhD in 1948, 1949 and 1950, respectively. In 1950–1956 he was employed as Assistant Professor in the Department of Physiology at the University of Utah and from 1956 to 1960 as Associate Professor in the Department of Physiology at the University of Michigan. In 1961 Prof. Doty moved to the University of Rochester, serving there as Professor in Departments of Physiology and Psychology for the rest of his scientific career. He was a central figure in the team of neurophysiologists and neuroanatomists that has made the University an internationally recognized neuroscience center. Prof. Doty helped to found two important research units at the University, the Center for Brain Research and the Center for Visual Science. During his 50 years at Rochester Doty was also a dedicated teacher and mentor, training more than 50 graduate students and post-doctoral researchers.

Prof. Doty was the author or co-author of 138 articles that have been cited more than 3000 times. His scientific interests were very diverse, ranging from activity-induced changes in the frog nerve metabolism through electrophysiological specification of input and output of the swallowing center, conditioned reflexes and memory consolidation, organization of visual system and its postnatal plasticity up to unification of decisions in the split

brain of macaques. His team discovered very unusual brain neurons, known as luxotonic cells that are sensitive to a wide range of light levels, from near darkness to extreme brightness. Recently, scientists have taken a renewed interest in these cells and a previously unknown brain circuit has been discovered that is involved in regulating the eye's pupil size and the body's circadian rhythm. Long-time collaboration of Prof. Doty with Prof. Żernicki from the Nencki Institute concerned investigation of the interplay of midbrain and cortex in maintaining the state of consciousness (1970) and of the interhemispheric transfer of information required for habituation (1997). Later, Nencki post-docs had the great opportunity to expand their knowledge and skills in his laboratory.

Prof. Doty was one of the key people in the team that in 1969 created the Society for Neuroscience that now has more than 40,000 members and in 1975-1976 he served as its president. He participated in almost all yearly Meetings of the Society, always driving there by car. Prof. Doty was also a fellow of the American Physiological Association, the American Psychological Association, the American Association for the Advancement of Science, International Brain Research Organization, American Society of Primatologists, the American Society for Advancement of Science and the Japan Society for Promotion of Science. He served also as a visiting professor at the University of Mexico and Osaka University in Japan.

In 1996 Doty retired, continuing as part-time Professor Emeritus in the Department of Neurobiology and Anatomy, University of Rochester Medical Center. He was very devoted to his research and kept his laboratory going long after retirement, frequently buying equipment and supplies with his own money. He also donated funds and guidance to create an annual lectureship on "Consciousness from neurons" in the name of his wife, Elizabeth Jusewich-Doty, who died in 1999. To honor her memory and their marriage, he also compiled, wrote and self-published a book "Man and woman, war and peace, 1941-1951: A dual autobiography verbatim from their letters and diary" based on letters they had exchanged during his World War II Army service and Elizabeth's detailed diary which she kept throughout their married life.

Throughout his career Prof Doty frequently acknowledged contributions of thinkers and scientists that were first to propose various scientific ideas, like Alkmaion, who first put forward the idea that our thoughts are a functioning of the brain, and of neuroscientists from Eastern Europe, like Pavlov, Bekhterev, Beritashvili or Konorski whose contributions are frequently overlooked. With accumulating scientific experience, Doty was also reflecting on the inadequacy of our ideas describing immensely complex brain phenomena. Results of his experiments of conditioning with paired electrical stimulation of different parts of the cerebral cortex, which drew on Pavlov's and his pupil Pyotr Kupalov's ideas and were conducted with another Pavlov's pupil, Cornel Giurgea, led him to formulate broader ideas about reality of our cognition of the world and internal production of brain images ("butterflies in the brain"). Results of Doty's experiments are helping now in building prostheses of the visual system and his reflections on these results help bridge neuroscience and philosophy.

In spite of his own and his family's health problems in the last years, Prof. Doty maintained curiosity, thoughtfulness and a positive attitude to the very end of his life. He is survived by his four children and two great-grandchildren and predeceased by his wife and granddaughter. His body was donated to the Anatomical Gift Program at the University of Rochester Medical Center. Thus, there was no funeral service in January 2011, but a memorial service was held on June 26, 2011. Many people all over the world will remember him and are going to miss the yearly "Doty Doings", fascinating accounts of his experiences and thinking that he had been sending faithfully to friends all over the world.

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