

Resolution on Retirement of Professor Edward Hodgson

Professor Edward Shilling Hodgson was born in Wilmington, Delaware and raised on the Delmarva Peninsula, home of a courageous and fiercely independent breed of fishermen and farmers. Hodgson, as we shall see, possesses these qualities in good measure.

He early demonstrated an interest in both biology and music, studies which he pursued as an undergraduate at Allegheny College. He was a student of piano under Percy Grainger, a noted American musician and composer. Despite his success as a musician Hodgson elected to follow his interest in science and come to The Johns Hopkins University to begin graduate studies under Benjamin Harrison Willier in experimental embryology.

At Hopkins, Hodgson fell under the tutelage of Mary Rawls, Willier's formidable laboratory associate who is alleged to have told him that since he wanted to do chorioallantoic grafts she'd order six dozen fertilized eggs for him to practice on. In fact, Hodgson then possessed and still has remarkable skill as a microsurgeon and his later work with insect sensory and neurosecretory systems has benefited greatly from this talent.

There are many good stories about Ned Hodgson as a graduate student. He was a handsome red-haired youth who looked even younger than his years and who was often involved in various pranks. Ned's blocking the attempt of the Department Chairman to attend a meeting of graduate students by fending him off with humor and a trash can cover and Ned's taking of a Rorschach test administered by a lady psychologist while both were stuck in an elevator certainly enhanced his notoriety.

Professor Vincent Dethier remembers Ned joining his graduate seminar at John Hopkins around 1948. At the time Dethier was exploring the difference between smell and taste in aquatic animals. This seminar seems to have been a turning point in Hodgson's career. From that time until now, Ned's primary scientific work has involved the sensory physiology of taste and smell.

Hodgson working under Dethier's supervision, invented an olfactometer for diving water beetles, a marvelous kind of maze of tubes, reservoirs and valves that allowed the beetles to be challenged at a sharp interface boundary with a soluble chemical. Using this apparatus and performing minute surgery on the beetles to remove suspected organs of taste and smell, Hodgson performed experiments to locate the sensory cells of these animals and to determine the threshold of their sensitivity to chemicals. His doctorate was awarded for this work in 1951.

It was while Hodgson was a graduate student at Johns Hopkins in 1949 that he married Valerie Simpson beginning a lifetime partnership in the pursuit and enjoyment of science. Valerie's Indian ancestry makes her "very warlike", according to Ned, so we presume he married her to have her on his side.

In 1951, they moved to New York as Ned took up a position as instructor in biology at Barnard. He soon joined the Columbia faculty as well and rose through the ranks to the level of full professor. He remained a member of that faculty until 1969. He ultimately supervised all of the laboratory teaching in biology at Columbia, introducing courses for non-science students that often brought them to more advanced study in science despite their original intentions.

During the Columbia years, Hodgson produced some of his most important scientific discoveries. On leave as an NIH post-doctoral fellow he spent the year 1954-55 in Kenneth Roeder's laboratory at Tufts, where he collaborated with Roeder and Jerry Lettvin of MIT. Their aim was to record the electrical signals from taste receptors. They chose the taste hairs on the labellum of the housefly. They soon found that the cells were too small to allow placement of an electrode inside the cell so they placed the cell inside the electrode instead. This brilliant if apparently simple solution brought physiologists the first single cell recordings of responses to chemical stimuli. The resultant paper, published in Science in 1955, has become a classic.

Another classic paper resulted when Hodgson, Morita, and Steinhardt explored the effect of a wide variety of alcohols, amines, and other organic compounds on the fly's taste receptors. Their finding led to the realization that the inhibition of firing of a receptor cell may be information of importance in determining an animal's behavior. At that time Morita had come to Columbia as a post-doctoral fellow to work with Hodgson and Steinhardt was Hodgson's graduate student. Both collaborators have since made other very significant contributions to neurophysiology.

It was also during the Columbia years that Hodgson began his work on coral reefs and on the sensory physiology of sharks. The coral reef work has continued to the present day and Valerie Hodgson and now the Hodgson's son Gregor are participants in it. This work became more important after the Hodgsons moved to Boston where Ned took the chairmanship of the Tufts Biology Department in 1969. He held this post until 1976.

In coming to Tufts, Ned took on the role of department chairman with a plan for reorganization and expansion of Biology that was frustrated almost immediately by a period of administrative caution and fiscal austerity. Nevertheless, the Biology Department flourished and improved in quality under his direction. He chaired the first ad hoc faculty committee on tenure and promotion, setting the foundation for our now elected committee and its procedures. He oversaw the transition from promotion by a secret administrative process to one in which peer evaluation holds the primary role at Tufts.

Ned continued his research on shark sensory processes, much of it in collaboration with Perry Gilbert and R.F. Mathewson in Florida. Increasingly his interests took him to Australia and other parts of the Pacific to study and photograph the reefs and their inhabitants, collaborating with Valerie Hodgson in this research. He also experimented with science teaching, especially the teaching of non-science majors and his courses became among the most popular of the science courses offered at Tufts.

Hodgson has served as science advisor to the College Entrance Examination Board, Editor in Zoology of Encyclopedia Americana, Editor in Biology of Appleton-Century-Crofts and a member of the editorial board of Columbia University Press. He is a science consultant for WGBH and the Office of Naval Research. He has written about coral reefs in the South Pacific, the Caribbean, the Red Sea and in Vermont where the oldest coral reef, now enfossilized, exists in a pasture-land. He has served as both a Phi Beta Kappa and a Sigma Xi National Lecturer and he is presently engaged in writing a volume on the history and status of neurobiology for Science As a Way of Knowing, a project of the American Society of Zoologists for their centennial in 1989, sponsored by the Carnegie Foundation.

The Biology Department will miss the Hodgsons sorely. However we know well their affinity for soft breezes, warm climes, and waving palm trees over white or black sands. We wish Val and Ned all of these pleasures and many more happy and productive years as scientists, teachers, and beach bums.

We move that this resolution be spread on the minutes of this faculty and that a copy be sent to Professor Hodgson.

Benjamin Dane
Nancy Milburn
George Sames

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