

MEMORIAL RESOLUTION

JAMES ROLLIN SLONAKER (1866 – 1954)

The death of James Rollin Slonaker in Palo Alto on January 3, 1954, at the age of 87 marks the end of a long career as a teacher and researcher which added to the renown of Stanford University.

Professor Slonaker's interest in biology, which led him finally to a professorship in Physiology, arose early. He was born in Farmland., Indiana, June 17, 1866, and as a young boy studied the nesting habits of birds. He earned his way through school and taught all grades in a one-room house, making the fires himself and trudging four miles each way from home. Later (1889), he graduated from the Indiana State Normal School and became Principal of the High School and Superintendent of Schools in Elroy, Wisconsin. After two years he entered the University of Wisconsin and in 1893 was awarded the B.S. degree; a fellowship in biology then enabled him to go to Clark University, where he received the Ph.D. degree in 1896.

On March 24, 1897, he married Marion Estey Stratton in Worcester, Massachusetts. Mrs. Slonaker survives him and still lives in their fine home, built in 1904, at 334 Kingsley Avenue in Palo Alto. There they raised their family of one boy and two girls:

Clifton Stratton Slonaker, 1444 Hamilton Avenue, Palo Alto;

Emily Holman Slonaker Allen, wife of a physiologist., Shannon Allen (Ph.D. Stanford), now at the State Research Hospital, Galesburg, Illinois;

Marion Elizabeth Slonaker Warren, wife of W. T. Warren (both Stanford graduates), Route 2, Box 661, Reno, Nevada.

At Clark University, Dr. Slonaker studied with Professor Clifton H. Hodge, a noted naturalist and authority on the structure of the eye. Clifton S. Slonaker is named after him. Dr. Slonaker spent the first five years after the doctorate as Assistant Professor of Zoology at Indiana University. One of his most promising students there was George Daniel Shafer, who later joined him on the Stanford Physiology faculty where they were always the closest of friends. Dr. Shafer became Emeritus Professor in 1940.

The first paper published by Dr. Slonaker was entitled "A Comparative Study of the Point of Acute Vision in the Vertebrate," (Amer. Nat., Jan. 1, 1896); this paper was typical of a series of eleven papers on the comparative anatomy and physiology of the eye which he published before 1921. About half of these were written while he was on the faculty of Indiana University. As a result of this interest in the vision of birds, a great friendship developed between Dr. Casey Albert Wood, a specialist in the subject., and Dr. Slonaker. Dr. Wood often visited him at Stanford.

Between Indiana and Stanford, two years were spent by him at the University of Chicago as Research Assistant and Associate in Neurology. In 1903 he came to Stanford as Assistant Professor of Physiology. He was promoted to Associate Professor in 1925 and to Professor in 1930.

A later major interest of Dr. Slonaker was that which brought him much renown: the relation of diet to the activity of the albino rat. The forty-five articles on this subject cover the period 1907 to 1939 at Stanford. One of the principal measurements of activity that Professor Slonaker made was the distance run by the animals. He developed a cylindrical wire cage that revolved on a central horizontal axle on which the food and nesting boxes were swung. The rat could run at will, causing the cage to rotate and operate a counting device. When tired the rat could retire to the food or nesting boxes. Astonishing distances were run by the animals (e.g., as much as 38 miles in 24 hours). The greatest activity occurred at night and was modified by the sex of the animal, oestrous cycles, age, diet, etc. These observations led to a tremendous research program involving about fifty rotating cages and a very large colony of inbred albino rats under a carefully controlled nutritional regimen. The work was well supported by research grants, and a series of studies of the effects of high protein diet was made. As the importance of this study to an understanding of sexual phenomena became apparent, the National Research Council's Committee for Research on Sex Problems gave its support to the investigation and a series of papers on "The effect of different amounts of sexual indulgence in the albino rat," as well as studies of the effect of high protein diet on longevity, gestation, fecundity, etc., were published in the American Journal of Physiology.

The "Slonaker activity cage" became a common tool, still used in physiological and psychological research. This piece of apparatus was in line with Dr. Slonaker's interest in the development of apparatus and the construction of it by his own hand. He spent many hours in the basement shop of the Physiology Department, building apparatus and printing laboratory syllabi with his own hand-press. It is interesting that his son, Clifton, later developed a successful printing business in Palo Alto.

Dr. Slonaker's interest in equipment led to the organization by him of the School of Biological Sciences' supply room and shop, which has been a great asset to the several departments involved.

The later years of Professor Slonaker's active career were devoted to the completion of his researches on the activities of the rat, and the working up of his accumulated data extended on for several years beyond his retirement in 1931. His last published scientific paper appeared in 1939, in the Stanford University Biological Sciences Series in the form of a sixty-seven page article on "The effect of different percentages of protein in the diet of six generations of rats."

Dr. Slonaker was a member of the Phi Rho Sigma, Sigma Xi, California Academy of Sciences, American Physiological Society, American Association for the Advancement of Science and Past President of the Western Society of Naturalists. Most of his slides on the nesting habits of birds and on the structure of the eye of birds, moles, etc., were given to the California Academy of Sciences.

Dr. Slonaker had several outside interests, e.g., a 30-acre apricot orchard in Los Altos and the collection of the records for "A History and Genealogy of the Slonaker Descendants in

America Since Early 1700." The Genealogy was a hobby of his for twenty-five years and finally, when printed in a 732-page book in 1941, included 1,500 relatives.

Each afternoon, promptly at four o'clock, Dr. Slonaker went to the Faculty Club where for many years he was Treasurer. There he engaged in a round of tennis or a game of cards. He thus became acquainted with most of the faculty and was well liked by all for his sense of humor and his quiet dignity. Dr. Slonaker was a tall, slim, aquiline-featured man who retained to an advanced age much of his strength and all of his faculties, and even worked in his garden to the day of his death.

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