

Denis Llewellyn Fox Biography

Denis Llewellyn Fox was born December 22, 1901 in Udimore (Sussex) England, the son of Florence Maude Fox and John James Fox. He moved to California with his family in 1905 and became an American citizen. Fox received a B.A. in chemistry from the University of California, Berkeley in 1925 and worked as a chemist for the Standard Oil Company at Point Richmond from 1925 to 1929. He studied chemistry as a Royall Victor Fellow at Stanford with J. Murray Luck and Charles V. Taylor and was awarded a doctorate in biochemistry in 1931 for his dissertation on the physical and chemical effects of carbon dioxide as a narcotic and lethal agent upon the alga *Nitella*. His first wife Rosemary died after a long illness in 1931, four years after their marriage.

In August, 1931, Fox accepted an appointment as Instructor in Physiology at the Scripps Institution of Oceanography in La Jolla, California. During his early years at Scripps, Fox continued his studies of carbon dioxide narcosis and investigated pigments in fishes with Francis Bertody Sumner. In his autobiography *Again the Scene*, Fox notes that Sumner had a great influence on his professional growth during those early years. In addition to their professional collaboration, Fox and Sumner were active members of a town and gown discussion group founded by Harald Sverdrup in 1937 and named the Sumner Club in his honor after Sumner's death in 1945.

Fox's lifelong research in fouling began in 1932 in collaboration with Scripps Director Thomas Wayland Vaughan and chemist Erik Gustaf Moberg. This work attracted federal support and grants from the Southern California Edison Company, the Los Angeles Water and Power Company and the engineering firm of Stone and Webster. His applied research on anti-fouling techniques was particularly valued during the second world-war.



Fouling experiment, 1944

Fox became associated with the San Diego Zoological Society shortly after his arrival in La Jolla through his interest in the comparative biochemistry of carotenoids, a group of yellow, orange, and red pigments found in plants and animals. He served as a scientific advisor to the Zoo and its director, Charles Schroeder, its curator of birds, K.C. Lint, and its director of research, Kurt Benirschke, concentrating his research on problems of nutrition in the flamingo. Fox served as a member of the Research Committee of the Zoological Society from 1940 to 1979. He chaired the Research Committee in 1963 and 1968

Fox received a National Research Council Grant-in-Aid in 1935 and a fellowship from the Rockefeller Foundation for a year of study at Cambridge University in England during the academic year 1938-1939. There he studied carotenoids, the anemone *Metridium senile* and the fungus *Allomyces*, working with professors Carl Pantin, Ralph Emerson

and J.F. Danielli. The Rockefeller Foundation continued to support his research with grants from 1947-1949 and 1953-1954. Fox received a Guggenheim Fellowship to continue his research in 1945.

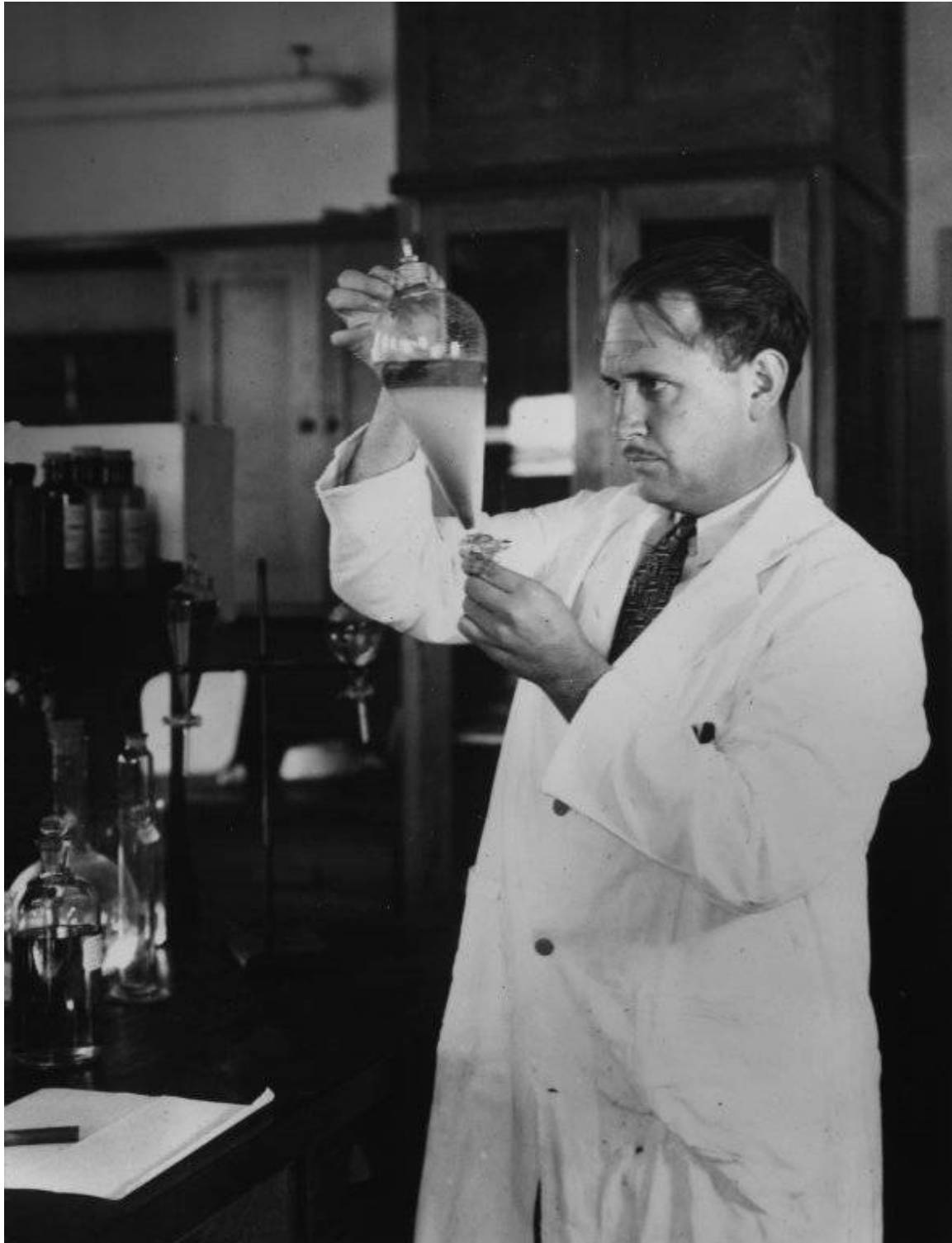


1938

Most of Fox's time at Scripps was devoted to research, but he long taught courses in marine and comparative biochemistry and 'received an appointment as assistant professor in 1936. The following year, his title was changed to Assistant Professor of Marine Biochemistry. He became an associate professor in 1942 and was promoted to full professor in 1948. He became emeritus professor in 1969, but continued his research until his death.

Fox was active in academic and administrative affairs at Scripps throughout his life and at the University of California, San Diego after its establishment in 1960. He was vice chairman of Marine Biology from 1965-1968 and chair of the Division from 1968-1969. He was chairman of

the Editorial Board of the SIO Bulletin from 1960-1962, a member of the Editorial Board of the University of California publications in Zoology in 1940, and a member of the Editorial Committee of the University of California Press from 1961-1969. Fox served as Secretary for the UCSD Academic Senate from 1964 to 1966 and served as Marshall for Academic Processions at UCSD during its first decade.



Fish carotenoids, August 22, 1934

Fox published over 150 papers and three books. He is perhaps" best known for his *Animal Biochromes* (1953) and *Biochromy: Natural Coloration of Living Things* (1979).

Fox became a member of the American Association for the Advancement of Science in 1930 and was elected a fellow in 1933. He was a fellow of the San Diego Society of Natural History and served as its president in 1936. He was long a member of the San Diego Zoological Society, the American Society of Zoologists, the American Society of Naturalists, the Society of General Physiologists, the International Congress for Physiological Sciences, the Sigma Xi Club and the American Association of University Professors. Fox served as secretary-treasurer of the Western Society of Naturalists from 1939-1943 and served as its president in 1948.

After his retirement from Scripps, Fox was a Distinguished Scholar at the Cranbrooke Institute of Science during 1970-1971. Fox was elected a Fellow of the Institute of Biology, London in 1977. He traveled widely with his wife, Miriam Perdew Fox, whom he married in 1932. Fox died in La Jolla on September 4, 1983.

Written by Deborah Day, Scripps Archives