



IN MEMORIAM

John Grissim Pierce
Professor of Biological Chemistry
UC Los Angeles
1920 - 2006

John Grissim Pierce was a native Californian who grew up in the San Jose area and did both his undergraduate and his graduate work at Stanford, where he earned his PhD in 1944. He served in the Navy during World War II, and then did post-doctoral work with Vincent du Vigneaud, who John always referred to as "V du V", at Cornell Medical College in New York. This was followed by a few years as Assistant Professor at Cornell Medical College. John met his wife Elizabeth (Betty) at Cornell, and they married in 1949. John was appointed to the position of Assistant Professor in what was then called the Department of Physiological Chemistry at the very young UCLA School of Medicine in 1952. Prior to arrival at UCLA he spent a year as an Arthritis and Rheumatism Foundation fellow at Cambridge University, and he remained a serious Anglophile thereafter.

John's work in New York was the beginning of an almost 40 year research career in the study of protein and peptide hormones. In New York John studied two small peptide hormones, oxytocin and vasopressin, which are made in a part of the pituitary gland in the brain. John studied these molecules as a chemist; purifying them, determining their structure, and investigating how they function when parts of the structures are changed. This turned out to be his approach to the study of hormones for the rest of his career. He was a superb scientist who combined a strong intellect, talent at the laboratory bench, and the tenacity that is necessary to solve difficult problems when the techniques to do so often have to be invented "on the fly."

At UCLA John's scientific interests centered on the structure and biology larger and more complicated glycopeptide and glycoprotein hormones of the pituitary gland, and in particular the thyroid-stimulating hormone (TSH) and the gonadotropins. TSH is made up of two different protein chains, and it is made more complex through its heterogeneous modification with sugar molecules. Because not all hormone molecules are modified to the same extent, it is especially difficult to study them from a chemical and structural viewpoint; different molecules may or may not behave identically under the same circumstances. Moreover, the amount of hormone in the pituitary is small. Nevertheless, this is the area he chose to study, and his success was significant. John's studies of TSH emphasized improved purification and characterization processes, determination of the structure of the protein chains and their sugar components, and modification of the hormone to determine the effects on biological activity.

One of his most important discoveries was that of a common subunit shared by thyroid-stimulating hormone, follicle-stimulating hormone, and luteinizing hormone. These three hormones are made in the pituitary, but they have different functions and act on different cells. John found that all three hormones had one identical protein chain, and one that was specific to each hormone. The unique portion determines which cells the hormone interacts with, while the common component serves as a molecular switch to turn on the activity of the hormone at the target cells. John's discovery was made well before such biochemical relationships were generally known.

John moved quickly up the academic ranks to reach the Professorship in 1961. His research prospered, and he was awarded Guggenheim fellowships twice, once each for sabbaticals at MIT and the NIH. He was also

recognized through the Eli Lilly Lectureship Award of the Endocrine Society and the Parke- Davis Lectureship Award of the American Thyroid Association. He held memberships in the Endocrine Society, the American Society for Biochemistry and Molecular Biology, The American Chemical Society, and the Harvey Society. He continued publishing in his research field even after his retirement, and joked about having an NIH grant with the same title for almost 30 years.

In addition to his research John was an able teacher of medical students at UCLA, and an accomplished mentor of graduate and postdoctoral students who came to his laboratory to learn to do research. He was to use his own term, "cursed with administrative abilities". He served as Vice- chair of the Department from 1963 until he was named Chair in 1979. John then was Department Chair for almost five years, until in 1984 he became Associate Dean for his final several months at UCLA. Along the way he served on many committees the Academic Senate where he was a font of reason and common sense in the academic beauracracy.

John retired from UCLA in 1984, and he and Betty moved to their new home in Cambria. Their interests had always included the "natural world" as well as the laboratory, with regular family skiing and backpacking trips in the Sierra during their years at UCLA. Once they were established in Cambria, both John and Betty became docents at the natural history museum in the Morro Bay State Park. John was a born naturalist and conservationist who found an outlet for his scientific talents through his personal interest in the wildlife exhibits at the museum. John was also a particularly skilled birder with an excellent eye, ear and memory for identification. He and Betty travelled widely during the years after moving to Cambria, including trips to Antarctica, Africa, and the Amazon as well as participation in several Massachusetts Audubon Society trips.

John is survived by his wife Betty, their four children and six grandchildren, and many colleagues and friends.

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