

MEMORIAL RESOLUTION
DONALD PUTNAM ABBOTT
1920-1986

Donald Putnam Abbott, one of Stanford's great teachers, died in Honolulu on January 18, 1986. He had been treated for cancer for several years. He was a native of Chicago (where his father was a physician and professor of medicine in the University of Chicago who died very young). After Don graduated from University High School, he headed west to Hawaii where he worked for a year or two, then attended the University of Hawaii from which he graduated in 1941. Pearl Harbor exploded, and he enlisted in the Army, serving in the Chemical Warfare Service through the war.

In the University he majored in Zoology and met his future wife, Isabella Aiona, who was in Botany. Between the two of them they enrolled in all the biology courses offered. In 1946 they moved to Berkeley, where both earned Ph.D.s (in Zoology and Botany respectively) in 1950. Don was a teaching assistant in Zoology at the course offered by the University of California, Berkeley, at Pacific Grove in the summers of 1948 and 1949. About that time, Professor Tage Skogsberg took early retirement from Stanford; we failed in an attempt to recruit C. M. Yonge to succeed him, but Yonge suggested an "able young zoologist who knew the animals of Pacific Grove"; we contacted Don and liked what we saw. We offered him an instructorship (also proffered by Yale and Columbia). He came to Pacific Grove and because he liked the shore and the sea, he accepted. After 1950 his whole career was at the Hopkins Marine Station (with excursions to the Pacific and Indian Oceans). He retired in 1982, going back to Hawaii, (where his widow has been Wilder Professor of Botany since 1978).

From the beginning, Don's teaching was conscientious and thorough. His summer course in invertebrates soon became the most popular course at the Hopkins Marine Station, and the classroom was always full of students. Don attracted students from all over the country and the world. He was not primarily a taxonomist, but he taught the structure and function, as well as the embryology and phylogeny of the invertebrates. This wealth of material was laid before the students, who were so motivated by their professor and the animals that they were always to be found in the labs into the night and on alternate non-class days, hard at work. Their notebooks, submitted to Abbott for their grades, were fully corrected and annotated by Don. Since he retired the course has withered and died on the vine. What has happened? One has to conclude that the teacher was the message. Don's tremendous enthusiasm, his desire to know everything about each species of invertebrates, fired the students to do the same.

For ten years Abbott also offered a field course on the invertebrates on campus. Jasper Ridge was well combed for snails, insects, worms, pill-bugs, slugs, spiders, etc.

In 1963, however, a new course was installed in a new building at the Hopkins Marine Station — the Spring Course. Designed and inspired by Abbott, it occupied students (mostly juniors and seniors) full time — morning, noon, and night. With an exposure to the rocks, tide pools (and rains) the class learned the real thing: the plants and animals in place, and how they withstood the waves, spray, and the drying sun at low tide. From field observation grew questions — about adaptations, structure, physiology, behavior and reproduction, and about predation by crabs, starfish, birds, fish, and so forth. The students were asked to design their own research for the next eight weeks — and most did. Only a few relied on suggestions from the

professor. In the first year, eighteen publications resulted and were published in "Veliger". The results of the studies were organized by Donald Abbott, and were presented at the final session by the students, as at a meeting of a scientific society. Many students have said that the Spring Course was the most useful they ever had at Stanford, one that greatly influenced their future careers, and one that showed how science itself advanced.

For twenty years this spring course flourished, with 20 to 30 students enrolled each year. One spring, ocean pollution was studied, and the results were influential in banning the use of DDT in California agriculture.

Abbott was equally successful in guiding graduate students: 25 Ph.D.'s were given under his supervision. He had a special facility in suggesting research problems—sometimes simple, sometimes more complicated, but always just within the reach of candidates; they could be accomplished, but only by a great deal of hard work. Many of his students now occupy professorships in California, Florida, Hawaii, Alaska, the West Indies, Colombia, Canada and probably elsewhere. An Abbott Society could well hold annual meetings. Don had a great influence that spread from this modest beginning. For Don was certainly a modest man - and a great teacher. It is not surprising that he (and his wife) received the Dean's Award for teaching in 1978 and that at the 1982 Commencement, he received the Dinkelspiel Award for Outstanding Service to Undergraduate Education.

In his research, he was originally concerned with budding in an ascidian, on which he worked for his Ph.D., and to this group (the tunicates) he remained devoted throughout his career, inspiring several graduate students to do research on these animals also. One of these former students worked on the Hawaiian tunicates. Don's last paper (to be finished by the student) was discussed with Don the day before he died in January. Another student (a MacArthur fellow) has taken over the completion of the review paper Don had nearly finished on the phylogeny of the tunicates.

A considerable part of Don's research was done at sea, or on tropical islands. One study was conducted at Ifaluk in the Caroline Islands, where he studied the "holoecology" (including native humans) on an atoll in 1953. This resulted in a book, "Coral Island", written jointly with Marston Bates, who predeceased Abbott by many years. It also had an unplanned result: Don came down with a high fever on returning from Ifaluk, was hospitalized in Hawaii, and retained the trace of poliomyelitis the rest of his life -- a slight limp. But it left him with great energy, like Franklin D. Roosevelt and many other victims of that now almost extinct disease.

An expedition to the Philippines followed, then one on the Golden Bear to the Galapagos in 1964. This latter was one of the first modern scientific expeditions since Darwin's famous visit, and set in action a series of studies, including the founding of a laboratory, Loren Wiggins' book on the flora of the Galapagos, and a visit by Stanford's Te Vega in 1968.

Abbott's teaching extended to "Stanford at Sea", established in 1963 by the gift of Harold Miller's yacht, Te Vega, which was refitted as a marine biology facility and operated by Hopkins Marine Station from 1963 to 1970. Don was on many of these cruises: to the Indian Ocean (Mombasa to Singapore in 1964), to Hawaii in 1967, the Eastern Pacific in 1968, and on Proteus to British Columbia in 1970. They were intended to give Stanford and other graduate students (funded by NSF) an exposure to the ocean. The trips were organized around theme subjects, but

sometimes consisted of engine breakdowns off Sumatra and other convenient coasts like Sulu. But as might be expected from what has been said already, Abbott's cruises were a model of learning efficiency. The Food Web of the Indian Ocean was the theme on that cruise; reports assure that the subject was well taught by Don and his associates.

Besides "Coral Island," another book, "Intertidal Invertebrates of California," was published under the aegis of Donald Abbott in 1980 by the Stanford University Press. color photographs taken by Robert Morris were accompanied by notes written by Eugene Haderlie, Abbott and others, making it much more than a picture book: it is the definitive manual for the next 50 years or longer, and has already sold over 5000 copies.

Another manual, so far unpublished, is being prepared by another of Don's students as a posthumous publication. It might well be called "Inside Invertebrates". Drawn by Abbott on plain yellow paper, it was never intended to be more than his own ideas of the various systems of invertebrates - circulatory, digestive, reproductive, locomotive, etc. It is to be hoped that a publisher can bring this out to keep biologists aware of the many research opportunities afforded by these fascinating animals.

Don was a warm friend to those with whom he shared common interests and whose company he enjoyed. In these exchanges he was always modest, appreciative, willing to learn and to help others. Don had a happy home life with his daughter Ann and wife "Izzie", who at times lent him her extensive knowledge of algae in joint projects. He will be sorely missed.

It is impossible to estimate the wide influence of Donald Abbott upon undergraduates, graduates, and colleagues over his career at the Hopkins Marine Station. Advanced through the academic ladder from instructor to Professor (in 1963), he was later Assistant Director and Associate Director. He would have been a superb director had he been willing, and was Mr. Invertebrates in America. His like will not be soon seen.

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