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Memorial Resolution: Colin S. Pittendrigh

(1919-1996)

Colin S. Pittendrigh, the Harold A. Miller Professor, emeritus, of Biology and former Director of the Hopkins Marine Station died at his home in Bozeman, Montana on March 19 of last year, of cancer. His many legacies to Stanford include an extraordinary record of scholarship, a vital and growing academic program in marine biology, a legendary reputation as a teacher, and a set of policies that still shape the membership and rights of the Stanford professoriate.

Pitt was a Tynesider, born in Whatley Bay, England and educated at the University of Durham. During World War II, his scientific career was launched in an unexpected way. The British Government assigned him to duty in Trinidad, to explore ways of protecting troops from malarial infection. As an employee of the Rockefeller Foundation there, he launched investigations that eventually came to embrace the distribution and evolution of Bromeliads, their ecological relationships with the Anopheline mosquitoes that serve as malaria vectors, their rhythmic diurnal activity - a forerunner of his lifelong interest in biological clocks - and the epidemiology of the disease itself. These studies resulted in a series of papers published after the war, when Pittendrigh had come to the United States and begun Ph.D. studies at Columbia under the great evolutionary geneticist Theodosius Dobzhansky. Much later, the Trinidad years came back to life in a series of Human Biology lectures that some four thousand Stanford students heard, and an astonishing proportion actually remember.

When he had finished at Columbia in 1947, Pittendrigh accepted a faculty appointment at Princeton. There he began a remarkable series of experiments on the nature of biological time-keeping - first establishing that in a variety of organisms, activity and other periodicities of about 24 hours were innate and not, as had been thought by many scientists, driven by some environmental signal.

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His research combined innovative theory with ingenious experiment, and the thread of his work continued despite conflicting demands and several moves. He explored in beautiful detail the properties of the internal pacemaker, and its entrainment by the diurnal cycle of light and darkness, developing an oscillator model which he used to generate and test further hypotheses. A self-described Darwinian clock-watcher, he is universally acknowledged as the founder of "circadian" biology. He viewed these rhythms as a basic adaptation that enabled organisms on a 24-hour planet to program their activities effectively, and his findings have proved basic to our present understanding of human sleep and wakefulness, hibernation and celestial navigation in animals, and a host of other phenomena not excluding the jet-lag from which he himself occasionally complained. His work won him election to the National Academy of Sciences and to fellowship in the American Academy of Arts and Sciences.

His scientific interests were not confined to biological rhythms. The basic biology course he developed at Princeton painted on a broad evolutionary canvas, and with the great paleontologist George Gaylord Simpson he wrote a remarkable introductory textbook whose title - appropriately - was simply: "Life." At Stanford he provided the keystone for the development of the Human Biology program: even before moving, he was one of the "Founding Fathers" who planned the major, and other volunteers joined up in part because he was so much fun to be around. The course he developed to introduce the core was enlivened by Pitt's ability as a raconteur, but its scope and rigor asked a great deal of its freshman audience.

Though born in Britain, Pitt was quintessentially American in his entrepreneurial spirit and his larger-than-life persona. President Richard Lyman once called him, without much exaggeration, Churchillian. He became a United States citizen in 1950; by the time he was joining the Stanford faculty in 1968, his Department chair-to-be was able to write, in response to the question on the Advisory Board forms that asks about the ability of foreign-born candidates to command English: "Dr. Pittendrigh was born a few miles below the Scottish border....(but) his brogue has been reduced to a point at which it is entirely inoffensive to the average American audience." To the members of this committee it was charming as well.

Pittendrigh's fondness for fly fishing brought him to

establish a cabin on the Clark Fork of the Yellowstone, in Wyoming, while he was still at Princeton. Its relative propinquity to the West Coast made it much easier to recruit to the Department of Biological Sciences at Stanford, and he soon collected a cadre of stream companions - including several members of this faculty. This group soon metamorphosed into an organization known as the Mr. Flood Society, devoted to the pursuit of trout as well as wines of no particular distinction. His wife Mikey not only tolerated these pursuits but abetted them with unfailing cheerfulness and was loved by all. His children, Robin and Colin Jr. (Sandy), became friends with the other Floods, and Sandy sometimes fished with them. The two Pittendrigh grandchildren - referred to sometimes by their grandfather as "the F2" - are growing up in the Rocky Mountains, just as he would have wished for himself.

Pitt was not only a scholar and teacher of the very first rank; he practiced good academic citizenship wherever he was. At Princeton he served as Dean of the Graduate School; at Stanford he helped found the Program in Human Biology - in which connection he held the Bing Professorship. Later he agreed to lead the first Committee on the Professoriate, a long (and, some would say, thankless) task that established the basic road-map for faculty status at Stanford. Later still he changed chairs, relinquishing Bing for Miller and becoming the Director of the Hopkins Marine Station. In that role he served for eight years, during which the Station added new faculty appointments, new facilities, and a much enhanced reputation.

At Hopkins, Pittendrigh had a powerful impact on the development of Monterey Bay as an important marine science community. Arriving in the wake of a critical visiting committee report, he set eagerly to the work of rejuvenation. He helped to fan the interest of David and Lucille Packard and their family in the development of the Monterey Bay Aquarium, and shepherded the transfer of the Stanford-owned Hovden Cannery to help make that venture possible. He later added his enthusiasm and advice to the Aquarium as a Trustee. And the warmth of his ties to the Monterey Peninsula survives him in the Friends of the Hopkins Marine Station, the group he founded that continues to provide vital support to the Station today.

The collateral activities of a rich academic career absorbed a great deal of the life Pittendrigh spent outside the laboratory and the lecture hall. He had an outstanding

list of doctoral students and post-doctoral fellows - several of whom now comprise a second leadership generation in the field he founded. Much earlier, he chaired a National Academy committee on Mars exploration, and then served as a science advisor to the Administrator of the National Aeronautics and Space Administration. He was a winner of the Alexander von Humboldt Prize and a Guggenheim Fellowship, a President of the American Society of Naturalists, and Vice-president of the American Association for the Advancement of Science.

A whole series of inspiring and meaningful relationships with new colleagues and students unfolded as Pittendrigh moved his work-station from Princeton to Palo Alto to Pacific Grove and then, in quasi-retirement, in Sonoita, Arizona and Bozeman. At Princeton and at Stanford, Pitt attracted collaborators and made new friends with stunning speed. And in each of the last-named locales he established an academic connection (with, respectively, the University of Arizona and Montana State.) His advice and his lecturing skills were exploited in both places, and in each he established a small working laboratory and relationships with new colleagues who came to admire him just as we had. He was still working on clocks, in Bozeman, when his own ran out.

Committee

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Albert Hastorf

David Epel

David Perkins

