

Jean-Jacques Weigle

1901-1968

A tribute by Max Delbrück and Robert Edgar

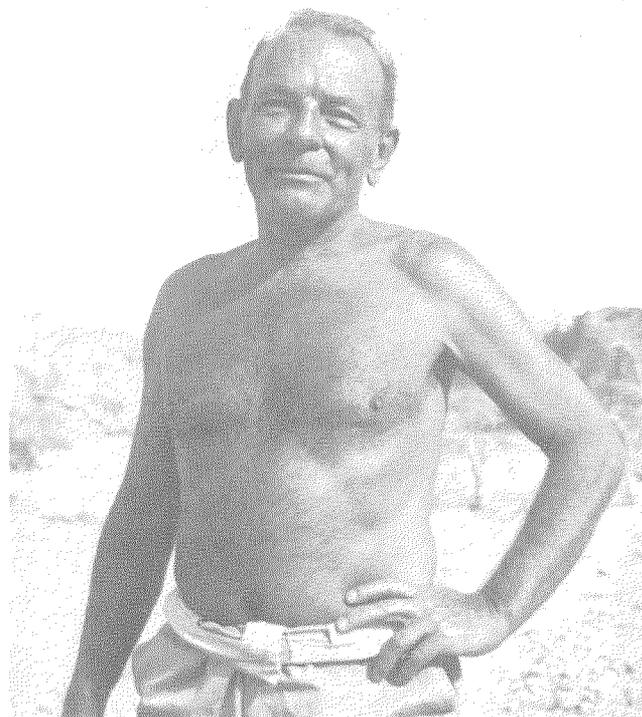
Jean Weigle, Caltech research associate in biology since 1949, died of a heart attack on December 28, 1968, at the age of 67.

Jean Weigle's scientific career consisted of two very distinct and distinguished halves—the first as a physicist and the second as a biologist. As a physicist he obtained his PhD at the University of Geneva, Switzerland, in 1923 at the age of 22. After a few years at Westinghouse and of teaching at the University of Pittsburgh, he returned to the University of Geneva as a professor and head of the physics department, where he remained for 17 years—from 1931 to 1948.

His physics was concerned with the solid state: refined applications of x-ray diffraction to the study of crystal structure; the effects of temperature on this diffraction; the diffraction of light by ultrasonics. The importance of this work was recognized by an honorary degree in science from the Case Institute of Applied Science in Cleveland in 1947 and by the award of the Prix des Trois Physiciens in 1962, given by the Académie des Sciences in Paris.

In 1946 Weigle had his first heart attack. In part because of this and in part because of a natural inclination to be free of obligations, he resigned his university positions in Geneva and became a research associate in biology at Caltech. He quickly learned the basic lore of working with bacteria viruses and focused his interest on a particular one called lambda, a virus that displays a tantalizing intimacy with its host bacterium. Weigle's early work concerned the interaction between viruses and host, and includes the discovery of a means by which the host specifically modifies the virus. In later years this phenomenon of specific host modification was proved to be a manifestation of a much more general mechanism, a cellular defense mechanism that operates at the level of the gene.

More significant was Weigle's role in uncovering the manner by which the lambda virus carries genes from one host to another. He was instrumental in revealing that special virus particles carry some bac-



Jean Weigle on a desert camping trip—a favorite retreat.

terial genes in place of viral genes. This discovery helped reveal the manner in which this virus is able to insert its DNA into the structural continuity of the host DNA. The intimate relationship of the lambda virus to the host cell has served as a model to account for the action of viruses that cause cancer.

The work for which Weigle is most noted is his demonstration, with Matt Meselson at Caltech and Grete Kellenberger in Geneva, that genetic recombination involves actual breakage and reunion of DNA molecules. This work has become a molecular biology classic—described in all texts, reprinted in all appropriate collections. Weigle displayed supreme craftsmanship in his experimental work. He cared about every step in his experiments. Most of his work was done in close and real collaboration, often with graduate students, whose development he aided in decisive ways.

A number of Weigle's friends are establishing the Jean Weigle Memorial Fund for the purpose of bringing to the biology division at Caltech scientists of outstanding talent. Through this they hope to preserve the nearly extinct species of the scientist who is indifferent to the organizational aspects of science and is wholly devoted to the beauty of the scientific endeavor as a way of life.

A memorial service for Dr. Weigle was held in Dabney Hall at Caltech on January 10, 1969. A transcript of the remarks made by some of his colleagues will be prepared for distribution to his numerous friends.