Heinz Fraenkel-Conrat Biography

Heinz Fraenkel-Conrat

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Biography

Born in the German city of Breslau (now Wroclaw, Poland), Heinz Fraenkel-Conrat studied medicine in his native country but left for Great Britain during Adolf Hitler's rise to power. After earning his Ph.D. in 1936 from the University of Edinburgh, he came to the United States and remained, becoming a citizen several years later.

Fraenkel-Conrat contributed much to the study of viruses, particles that attack and damage living cells. Viruses basically contain two parts: an inner core of nucleic acid, which allows them to pass on genetic material, and a protein coat. In 1955 Fraenkel-Conrat successfully separated the outer protein coat from the inner nucleic acid core of the tobacco mosaic virus or TMV. He then reassembled the two components to show that the viruses were still capable of infecting living cells. Continuing his work, Fraenkel-Conrat showed that the protein portion was relatively inert and that the nucleic acid was responsible for infecting bacteria. The nucleic acid in the tobacco mosaic virus is RNA, ribonucleic acid, and his discovery showed that RNA is capable of transmitting genetic information as is DNA, deoxyribonucleic acid, the nucleic acid found in some other viruses as well as in living things. Later Fraenkel-Conrat worked with Wendell Stanley to show the entire sequence of 158 amino acids that make up the tobacco mosaic virus protein.

Over his long career as a professor of virology and later molecular biology at the University of California at Berkeley, Fraenkel-Conrat has written a number of virology texts considered the most important in the field.