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Werner Schäfer (1912–2000)

Obituary

In Memoriam Werner Schäfer

Werner Schäfer, former Director of the Max-Planck-Institut für Virusforschung in Tübingen, Germany, died on April 25th this year at the age of 88. He was, and still remains, one of the most distinguished pioneers of animal virology. He was fascinated by the close relationship between the structures and functions of viruses, and has contributed in considerable measure to present day knowledge in this field. He adopted a research method that consisted of a series of consequent steps built around a basic concept and applied it to all the virus types he studied. The structural characterization of isolated virus particles and the components that play a part in their construction, as well as the resulting analysis of their functions, have enabled a deeper insight into the nature of viruses. He was highly regarded worldwide for his studies on fowl plague virus (FPV), *Newcastle disease virus*, and mouse encephalomyocarditis virus, as well as RNA tumor viruses. In particular, FPV proved to be an excellent paradigm for the study of structural and functional relationships in enveloped viruses and served as a useful model for following virus replication, especially of orthomyxoviruses. FPV became one of the first animal viruses that was thoroughly analyzed with respect to physical, chemical, architectural and biological properties. Of great epidemiological interest was his discovery that FPV is an influenza virus and that it might, perhaps through a process of recombination, take part in the evolution of new influenza viruses. He also showed that the hemagglutinin glycoprotein of influenza viruses induces the production of protective neutralizing antibodies in infected hosts. Schäfer's proposal to use only the immunogenic glycoprotein for vaccine production has been realized in the use of subunit vaccines for immunization against other virus infections. From 1963 onwards, Schäfer and his research colleagues concentrated solely on the study of RNA tumor viruses. Characterization of the different structural compounds of murine and chicken retroviruses was without doubt one of the highlights of the many studies performed in Tübingen. The fundamental insights obtained from this work also contributed considerably to the understanding of the structure of *Human immunodeficiency virus*. Another spinoff was the development of an immunological strategy that was used in the therapy of tumors caused in animals by RNA leukaemia viruses.

Werner Schäfer devoted his long life to the service of science. His outstanding scientific successes have been rewarded by numerous honours. He was an exemplary

academic teacher and, using his remarkable creative talent and enthusiasm, founded a School of Virology from which over 20 former pupils now hold leading positions at universities and other research institutes in several countries. For them and all other co-workers, colleagues, and friends, Werner Schäfer will remain unforgettable.

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Hans-Dieter Klenk, Marburg

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