HARRIETT EPHRUSSI-TAYLOR

April 10, 1918–March 30, 1968

The death of Harriett Ephrussi-Taylor, coming at the height of her scientific creativity, shocked and saddened her many colleagues, students and friends in France, the United States, and indeed throughout the world. Having returned several months earlier from a five-year leave in the United States as Professor of Biology in Case Western Reserve University, Harriett Ephrussi-Taylor was in the midst of reorganizing her laboratory at the Centre National de la Recherche Scientifique in Gif-sur-Yvette, France. Her brief but devastating illness prevented the fulfillment of these plans.

Harriett Taylor was born on April 10, 1918 in Belmar, New Jersey, completed her secondary school education in Washington, D.C., and then pursued her undergraduate studies in Radcliffe College, Cambridge, Massachusetts. The daughter of a distinguished scientist who had helped develop radar systems of detection, Harriett Taylor soon became interested in science herself. After receiving her A.B. from Radcliffe *cum laude* in 1938, she undertook graduate study in zoology, receiving the M.A. from the University of California in Los Angeles in 1942 and then the Ph.D. from Columbia University in 1945.

As a doctoral candidate, Harriett's interests focussed on a field of genetics which was about to blossom, that of the molecular genetics of microorganisms. A student of Professor Leslie C. Dunn, Harriett investigated the genetic and physiological basis of the lag period in the growth of yeast cultures. While engaged in her studies, she read the now classic paper of Avery, MacLeod and McCarty shortly after its publication in 1944. Realizing the immense importance of this paper to the future of genetics, and despite the cautious advice of her teachers that the phenomenon of bacterial transformation might prove to be an isolated case inapplicable to the mainstream of genetic research, Harriett Taylor went to see Oswald Avery, who agreed to accept her as a post-doctoral investigator in his laboratory at the then Rockefeller Institute for Medical Research. The period at Rockefeller from 1945 to 1947 proved to be extremely valuable, for she started at that time to sketch the outlines of her subsequent research on the fine structure of transforming DNA. She began to collect various mutants of pneumococcus deficient in their capacity to synthesize capsular polysaccharide. Subsequent investigations with them were to prove the allelism between factors in transforming DNA and factors in the genome of the recipient bacterium as well as the sub-divisibility of the transforming agent into independently mutable and recombinable sites.

Harriett Taylor met Boris Ephrussi in the summer of 1946 during the historically significant symposium on Heredity and Variation in Microorganisms held at Cold Spring Harbor. She left Rockefeller in 1947 to work in Ephrussi's laboratory on Rue Pierre Curie in Paris. They were married in 1949, and a daughter, Anne, was born to them some years later. In 1952 the Laboratoire de génétique physiologique was moved to Gif-sur-Yvette, where the Ephrussis lived and worked ever since, except for their sojurn in Cleveland from 1962 to 1967.

Dutiful and happy in her demanding roles as wife, mother and housekeeper, Harriett Ephrussi-Taylor organized her complex life in such a fashion that she could continue a vigorous, full-time program of research which included the training and supervision of a large number of students and collaborators who came from many countries to work with her. Together they perfected quantitative methods for the study of genetic transformation, revealed stages in the process of transformation and characterized them, exploited physical techniques for demonstrating the dependence of transformation on the size of transforming DNA and for partially separating genetically distinct fragments of DNA, and showed that mutations could be chemically induced in DNA *in vitro*.

She had embarked upon an analysis of the recombination stage of transformation at which donor material is inserted into the genome of the recipient bacterium, and the findings obtained in her laboratory led her to propose a model of the molecular mechanism of recombination which further studies were intended to test. She cannot complete the experiments she was planning, but the many whom she inspired through her teaching and publications will carry on to pursue the problems she formulated and to extend the field of research she helped to initiate.

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