

MEMORIAL RESOLUTION ROSE O. PAYNE, PH.D

(1909-1999)

When Rose Payne passed away in Cupertino on April 19, 1999, the international transplantation community and Stanford lost one of our most colorful colleagues. Armed initially with only glass slides, eyedroppers, and a keen intellect, Rose was a pioneer in the discovery and development of the human major histocompatibility complex (HLA), a system now understood at the level of molecular biology and gene function. Enjoying a well-deserved reputation for demanding from even the most senior of her colleagues a clear and concise examination of all data, Rose was equally appreciated for nurturing the HLA field through generous sharing, with junior and senior investigators alike, of her broad knowledge and rare, precious HLA typing reagents. These qualities, along with the fact that she was the only woman among the handful of HLA pioneers, led her many colleagues and friends to commonly refer to her as “The Mother of HLA”.

Born August 5, 1909 in Lake Bay, Washington, Rose Ostroff (Payne) early on absorbed from her Russian émigré parents an abiding sense of social justice and concern for minorities and the disadvantaged. She developed her interest in science while an undergraduate at the University of Washington, earning from that institution her BS (1932), MS (1933), and PhD (1937), all in bacteriology. Unfortunately, obtaining a doctoral degree during the Great Depression was no guarantee of steady work and a succession of short-term appointments ensued: Assistant Professor of Bacteriology at Oklahoma A & M (1937-1938); Research Fellow at the University of Washington (1938-1939); and Lecturer in Bacteriology at Seattle College (1939-1943). A five-year furlough from academia then followed, with Rose working as a social worker and moving to the San Francisco Bay area. She returned to science at an entry level in 1948 when she was hired as a Research Assistant by Dr. Robert Evans to work in his laboratory at Stanford Hospital, then still located in San Francisco. In that setting, Rose began her involvement with human immunohematology, the field on which her career would ultimately focus.

It was not until 1957, already in her mid-40s and two years after she had been promoted to Research Associate in the Department of Medicine, that she published her first observation of the leukoagglutinins (white blood cell antibodies) that would turn out to be the linchpin of HLA discovery and research. These antibodies were formed in patients as an immunologic reaction to their blood transfusions and were also made in pregnant women as a reaction to the paternal HLA antigens carried by the fetus. This latter phenomenon, in fact, accounts for the outstanding contribution that Stanford faculty fecundity made to Rose’s research since many of her strongest antibodies came from the distaff side of Stanford couples. Ultimately, recognition and understanding of the HLA system required the early collection, testing and genetic analysis of a great number of such antibodies, and here Rose was the system’s curator and analyst par excellence. Over the next decade, she

established an extensive library of these rare reagents and defined their clinical relevance in over a dozen publications.

In 1964, Rose was promoted to Senior Scientist in the Department of Medicine, Division of Hematology and when the Medical School moved down to Palo Alto, Rose brought her valuable collection of sera to her new lab there. Shortly thereafter, she met (Sir) Walter Bodmer, then a Stanford Department of Genetics postdoctoral student adept at using newly emerging computer programs to analyze complex genetic relationships. This led to a long and fruitful collaboration that began with their report describing the first three alleles of the HLA system. At about this same time, the small number of investigators scattered throughout the world who were interested in this field initiated a regular series of International Histocompatibility Workshops that continue to be a remarkable program of ongoing collaboration with open exchange of techniques, rare reagents, and data. The era of human kidney transplantation was also just beginning in the 1960's and it was soon appreciated that the rapidly expanding set of HLA antigens being defined by Rose and her workshop colleagues were indeed the critical factors in determining compatibility for organ transplantation in man. The next two decades saw a virtual explosion of interest in the HLA system, as it became clear that not only were HLA antigens of enormous importance in clinical transplantation, but HLA genes were major determinants of human immune responses and of susceptibility to a wide range of diseases. For all of these studies, accurate definition of the many HLA antigens was a crucial common element that was owed in large measure to the gold standard of typing reagents and analysis established by Rose and the International Workshops.

In 1972, she was promoted to the position of Professor of Medicine, and in 1975 became Professor Emerita, with recall to active duty for the next 15 years. Up until her full retirement in September of 1990, whether working in her laboratory, with her many scientific collaborators, or in the International Workshops, Rose was a dynamic and crucial part of the burgeoning HLA knowledge base. Ever the hands-on scientist, Rose carefully cultivated relations with her study subjects, painstakingly performed experiments, and meticulously scrutinized data. Then, with her hallmark pencil and paper spreadsheet, almost intuitively arrived at clear and logical conclusions while most of her colleagues were still running their computer analysis programs. Her scores of collaborators never failed to be impressed by her acute analytical skills and ability to extract clear and meaningful results from complex data; and HLA investigators and laboratories throughout the world are indebted to her for her generosity in sharing her many HLA antibodies, a number of which are still in use today.

The high esteem in which Rose was held by scientific and clinical colleagues alike was indicated by the many awards bestowed upon her. In 1964, she received the John Elliot Memorial Award from the American Association of Blood Banks and in 1977 that organization also presented her with the Karl Landsteiner Memorial Award. In 1980, she presented the Katherine D. McCormick Distinguished Lecture at Stanford, and she received the 1984 Woman of Achievement Award. In 1985, the American Society for Histocompatibility and Immunogenetics established the Rose Payne Distinguished Scientist Award in her honor. For many years, she was a member of the World Health Organization Committee on HLA Nomenclature, served on the Editorial Boards of several scientific journals, was a Councilor of the International Histocompatibility Workshops, and

held membership in numerous professional societies. Although she is no longer with us, the rich inventory of antibodies she left will continue to serve as the HLA typer's gold standard while many fond memories of her keen and incisive mind will continue to serve as the critical thinkers Rose standard!

Committee:

F. Carl Grumet, M.D.