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(Signature)  Rudolph A. Marcus

(Date)  Dec. 5, 1998

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RUDOLPH A. MARCUS

1923 Born in Montreal, Canada, on 21 July

Education

1943 B.Sc., chemistry, McGill University
1946 Ph.D., chemistry, McGill University

Professional Experience

1944-1946 Research Staff Member, RDX Project
1946-1949 Junior Research Officer in Photochemistry, National Research Council of Canada
1949-1951 Postdoctoral Research Associate in Theoretical Chemistry, University of North Carolina

Polytechnic Institute of New York
1951-1954 Assistant Professor of Physical Chemistry
1954-1958 Associate Professor of Physical Chemistry
1958-1964 Professor of Physical Chemistry

University of Illinois
1964-1978 Professor of Physical Chemistry

California Institute of Technology
1978-present Arthur Amos Noyes Professor of Chemistry

Honors

1943 Anne Molson Prize, McGill University
1972 Senior Fulbright-Hayes Scholar, Fulbright Program
1976 Senior U.S. Scientist Award, Alexander von Humboldt-Stiftung Foundation
1978 Irving Langmuir Award in Chemistry and Physics, American Chemical Society
1979 The Electrochemical Society Lecture Award
1982 Robinson Medal, Faraday Division of the Royal Society of Chemistry
1983 Chandler Medal, Columbia University
1983  D.Sc., honorary, University of Chicago
1985  Wolf Prize in Chemistry
1986  D.Sc., honorary, Polytechnic University
1987  D.Sc., honorary, University of Göteborg, Sweden
1988  Centenary Medal, Faraday Division of the Royal Society of Chemistry
1988  D.Sc., honorary, McGill University, Canada
1988  Peter Debye Award in Physical Chemistry, American Chemical Society
1988  Willard Gibbs Medal, Chicago Section, American Chemical Society
1989  National Medal of Science
1990  Evans Award, Ohio State University
1990  Theodore William Richards Medal, Northeastern Section, American Chemical Society
1991  Edgar Fahs Smith Award, Philadelphia Section, American Chemical Society
1991  Ira Remsen Memorial Award, Maryland Section, American Chemical Society
1991  Pauling Medal, Portland, Oregon and Puget Sound Section, American Chemical Society
1992  Nobel Prize in Chemistry
1993  Hirschfelder Prize in Theoretical Chemistry, University of Wisconsin
1993  D.Sc., honorary, University of New Brunswick, Canada
1993  D.Sc., honorary, Queen’s University, Canada
1993  American Academy of Achievement Gold Plate Award
1994  Lavoisier Medal, Société Française de Chimie
1995  D.Sc., honorary, University of Oxford, England
1996  D.Sc., honorary, University of North Carolina at Chapel Hill
1996  D.Sc., honorary, Yokohama National University, Japan
1996  Auburn-Kosolapoff Award, Auburn Section, American Chemical Society
1997  D.Sc., honorary, University of Illinois at Urbana-Champaign
1997  Award in Theoretical Chemistry, American Chemical Society
1997  Oesper Award, Cincinnati Section, American Chemical Society
1998  D.Sc., honorary, Technion-Israel Institute of Technology, Israel
1998  Top 75 Award, *Chemical and Engineering News*, American Chemical Society
Rudolph Marcus begins the interview with a discussion of his family background and early education. Though he spent some of his early years in Detroit, Michigan, he primarily grew up in a Jewish neighborhood in Montreal, Canada. Marcus was encouraged to continue his education by his parents and his uncles. He enrolled in the twelfth grade, the equivalent of the first year of college, to save money for the university. Marcus then attended McGill University, majoring in chemistry. He graduated with a B.Sc. in 1943; due to the war, he was able to take his fourth year in the course of a summer. Marcus went directly to graduate school, also at McGill, and studied physical chemistry with Carl Winkler. His research, RDX, was determined by war needs, and he received his Ph.D. in 1946. He spent an additional two and a half years on a National Research Council of Canada post-doc with Edward W. R. Steacie. In 1949, Marcus moved to the University of North Carolina, accepting a position with Oscar Rice, who had received an Office of Naval Research contract. It was there that Marcus began to focus on theory, particularly unimolecular and transition state theory. The result of this work was the development of the RRKM theory. In 1951, Marcus moved again, this time to Brooklyn Polytechnic University, where he became an assistant professor in the chemistry department. Marcus discusses his colleagues, including Herman Mark, Herbert Morawetz, and Charles Overberger, as well as the atmosphere of the institution. He became interested in electrostatics and polyelectrolytes. He also began some polymer research, and pursued work on electron transfer. In 1964, Marcus left Brooklyn Polytechnic for the University of Illinois. During his time there, he spent a few semesters at Oxford University as a visiting professor. In 1978, Marcus accepted a position at Caltech, where he began collaborating with Ahmed Zewail. His desire to pursue his research led him to decline administrative work. At Caltech, Marcus continued his electron transfer research. Marcus concludes with a discussion of his family, the challenges of research, and thoughts on his electron transfer work.
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