

CHEMICAL HERITAGE FOUNDATION

CAROLYN E. MACHAMER

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview
Conducted by

Neil D. Hathaway

at

The Johns Hopkins University
Baltimore, Maryland

on

3, 4, 6, and 7 May 1994

From the Original Collection of the University of California, Los Angeles

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Baltimore, MD 21205

University and Interviewee have executed this Agreement on the date first written above.

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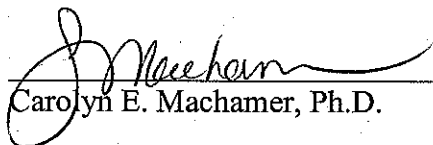
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CAROLYN E. MACHAMER

1953 Born in Detroit, Michigan on 21 May

Education

1975 B.S., Bucknell University
1983 Ph.D., Duke University

Research Appointments

1983 Research Associate, Division of Immunology, Duke University
Medical Center
1983-1986 Postdoctoral Fellow, Salk Institute for Biological Studies
1987-1988 Associate research scientist, Department of Pathology,
School of Medicine, Yale University

Professional Experience

Johns Hopkins University School of Medicine, Department of Cell
Biology and Anatomy
1988-1994 Assistant Professor
1994-present Associate Professor

Honors

1976 National Institutes of Health Special Achievement Award
1976-1981 National Institutes of Health Predoctoral Fellowship
1984-1986 National Institutes of Health Individual Postdoctoral National
Research Service Award
1990-1994 Pew Scholar in the Biomedical Sciences

Selected Publications

Machamer, C.E. et al., 1980. Antibodies against the measles virus matrix polypeptide after clinical infection and vaccination. *Infection and Immunity*, 27:817-25.
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ABSTRACT

Carolyn E. Machamer was born and grew up in a suburb of Detroit, Michigan, the oldest of three sisters. Her extended family, mother's in California and father's in Pennsylvania, remains close. Her father was a microbiologist who met Carolyn's mother in San Diego, California while he was "collecting soil samples" for an oil company. After they married they moved to Detroit, where Mr. Machamer took a position at Parke, Davis. Although the family had a division of labor typical for that time, all three sisters attended excellent colleges and are very successful.

Perhaps subconsciously inspired by her father, Carolyn evinced an early interest in science, particularly biology. She attended Bucknell University, taking all the science courses on offer and finishing with a major in biology. While at Bucknell, she worked on acrosomes in Sally Nyquist's lab. Later she worked on BUDR and virus replication at the Michigan Cancer Foundation and then on poliovirus at National Cancer Institute.

Machamer took a fellowship at Duke University and began work on SSPE virus. Her Ph.D. was delayed by insufficient technology at the time and by the leavetaking of Hans J. Zweerink, her lab boss. She moved to Peter Cresswell's lab, where she finished her thesis research on major histocompatibility complex antigens. From Duke she went to a postdoc at the Salk Institute for Biological Studies. There she worked in John K. Rose's lab, studying M glycoprotein and RNA viruses. Improved technology allowed a breakthrough in her coronavirus research, which she published after moving to Yale University, where she stayed for about a year.

From Yale Machamer went to the faculty of Johns Hopkins University, where she remains today. She enjoys teaching in the medical school and directing the journal club, and of course she loves being in the lab. Her current research involves sphingolipids and compartmentalization in the Golgi.

UCLA INTERVIEW HISTORY

INTERVIEWER:

Neil D. Hathaway, Interviewer, UCLA Oral History Program. B.A., English and History, Georgetown University; M.A. and C.Phil., History, UCLA.

TIME AND SETTING OF INTERVIEW:

Place: Tapes I, VI, and VII, Machamer's house, Baltimore, Maryland. Tapes II through V, Machamer's office, Johns Hopkins University School of Medicine.

Dates, length of sessions: May 3, 1994 (76 minutes); May 4, 1994 (78); May 6, 1994 (143); May 7, 1994 (99).

Total number of recorded hours: 6.6

Persons present during interview: Machamer and Hathaway.

CONDUCT OF INTERVIEW:

This interview is one in a series with Pew scholars in the biomedical sciences conducted by the UCLA Oral History Program in conjunction with the Pew Charitable Trusts's Pew Scholars in the Biomedical Sciences Oral History and Archives Project. The Project has been designed to document the backgrounds, education, and research of biomedical scientists awarded four-year Pew scholarships, from 1988 through 1992.

In preparing for this interview, Hathaway, in consultation with the director of the UCLA Oral History Program and three UCLA faculty project consultants, developed a topic outline to provide an overall interview framework. Hathaway then held a telephone preinterview conversation with Machamer to obtain extensive written background information (curriculum vitae, copies of published articles, etc.) and agree on a research and interviewing timetable. Hathaway further reviewed the documentation in Machamer's file at the Pew Scholars Program office in San Francisco, including her proposal application, letters of recommendation, and reviews by Pew Scholars Program national advisory committee members. For general background on the recent history of the biological sciences, Hathaway consulted such works as: J.D. Watson et al., *The Molecular Biology of the Gene*. 4th ed. 2 vols. Menlo Park, CA: Benjamin/Cummings, 1987; Lubert Stryer, *Biochemistry*. 3d ed. New York: W.H. Freeman, 1988; *The Journal of the History of Biology*; H.F. Judson, *The Eighth Day of Creation: Makers of the Revolution in Biology*. New York: Simon and Schuster, 1979; and recent issues of *Science*, *Nature*, and *Cell*.

The interview is organized chronologically, beginning with Machamer's childhood in Michigan and continuing through her education at Bucknell University and Duke University, her research at the Salk Institute for Biological Studies and Yale University, and the establishment of her own lab at Johns Hopkins University School of Medicine. Major topics discussed include her research on poliovirus, subacute sclerosing panencephalitis virus, and

infectious bronchitis virus, glycosylation, sphingolipids, and the rewards and difficulties of a career in research.

ORIGINAL EDITING:

Vimala Jayanti, editor, edited the interview. She checked the verbatim transcript of the interview against the original tape recordings, edited for punctuation, paragraphing, and spelling, and verified proper names. Words and phrases inserted by the editor have been bracketed.

Machamer reviewed the transcript. She verified proper names and made minor corrections.

Kristian London, assistant editor, prepared the table of contents and interview history. Betsy Ryan, editor, assembled the biographical summary, Gregory M. Beyrer, editorial assistant, compiled the index.

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