CHEMICAL HERITAGE FOUNDATION

WILLIAM BRAELL

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview
Conducted by

Arnold Thackray and Stephanie Morris

in

Ixtapa, Mexico

on

7 March 1989

(With Subsequent Corrections and Additions)

THE BECKMAN CENTER FOR THE HISTORY OF CHEMISTRY

Oral History Program

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ACKNOWLEDGEMENT

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WILLIAM BRAELL

1953	Born in Geneva, New York, on 23 September

Education

1975	B.S., Life Sciences, Massachusetts Institute of Technology
1981	Ph.D., Biochemistry, Massachusetts Institute of Technology

Professional Experience

	Stanford University
1981-1984	Postdoctoral, Department of Biochemistry
	Harvard Medical School
1984-present	Assistant Professor, Department of Biological Chemistry

Honors

1974	Phi Lambda Upsilon, Massachusetts Institute of Technology
1975	Phi Beta Kappa, Massachusetts Institute of Technology
1976	USPHS traineeship at Massachusetts Institute of Technology
1981	Fellow of the Jane Coffin Childs Memorial Fund for Medical Research

ABSTRACT

William Braell grew up in Palmyra, a small town in New York, the oldest of five children. His father was a general practitioner, his mother a housewife. He was always interested in science and always had chemistry sets. His physics and chemistry teacher was a good teacher and helped steer him to Massachusetts Institute of Technology instead of the local colleges his classmates mostly attended.

Braell settled on biochemistry halfway through college and worked in Philip Robbins' biochemistry lab his senior year. At the time, not much was known about membranes, so for his PhD, Braell chose to stay at MIT because of its good membrane program. There he worked on spectrin and band 3 membrane proteins of red cells, eventually losing interest in spectrin and concentrating on band 3 in Harvey Lodish's lab. Braell did his postdoctoral work at Stanford University, in the lab of James Rothman, who had an "idea a minute." Arthur Kornberg's management at Stanford produced an electric atmosphere and many famous scientists.

Braell goes on to detail some of the advances in sciences, particularly in membrane studies. He talks about the discovery of a signal on proteins; mannose-6-phosphate; Peter Walter and SRP; Randy Schekman and *sec;* and Stuart Kornfeld and lysosomal enzymes. Braell focuses on the biochemistry involved in the enzymology of membrane fusion. He explains some of the difficulties of the scientist: getting good students; isolating vesicles; competing with molecular biology and cloning. He likes having his small lab, as it is more efficient to supervise and easier to fund. He points out that his work has potential clinical implications: for the AIDS virus, for example, and for drug-protein interactions. He explains that since we don't know which proteins are involved or how they work, fusion could be temporary or contact cell-to-cell; thus understanding membrane fusion is very important. Braell hopes to emulate his ideal scientist, Eugene Kennedy, and be still on the bench many years from now.

INTERVIEWER

Arnold Thackray is president of the Chemical Heritage Foundation. He majored in the physical sciences before turning to the history of science, receiving a Ph.D. from Cambridge University in 1966. He has held appointments at Oxford, Cambridge, Harvard, the Institute for Advanced Study, the Center for Advanced Study in the Behavioral Sciences, and the Hebrew University of Jerusalem. In 1983 he received the Dexter Award from the American Chemical Society for outstanding contributions to the history of chemistry. He served on the faculty of the University of Pennsylvania for more than a quarter of a century. There, he was the founding chairman of the Department of History and Sociology of Science, where he is the Joseph Priestley Professor Emeritus.

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