

CHEMICAL HERITAGE FOUNDATION

DOUGLAS J. EPSTEIN

The Pew Scholars Program in the Biomedical Sciences

Transcript of Interviews
Conducted by

David Caruso, Hilary Domush, and Leah Webb-Halpern

at

University of Pennsylvania
Philadelphia, Pennsylvania

on

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(With Subsequent Corrections and Additions)

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DOUGLAS J. EPSTEIN

1964 Born in St. John's, Newfoundland, Canada on 5 March

Education

1986 B.Sc., McGill University
1989 M.Sc., McGill University
1993 Ph.D., McGill University

Professional Experience

1993-1995 Harvard University
Postdoctoral Fellow, Developmental Genetics

1995-1998 Skirball Institute of Biomolecular Medicine, New York University
School of Medicine
Postdoctoral Fellow, Developmental Genetics

1998-2006 University of Pennsylvania School of Medicine
Assistant Professor of Genetics
2006-present Associate Professor of Genetics

Honors

1987-1988 Graduate Studentship; McGill Center for the Study of Reproduction
1990-1991 Predoctoral Studentship, Fonds de la recherche en sante du Québec
(FRSQ)
1991-1992 Predoctoral Studentship, Fonds pour la formation de chercheurs et
l'aide a la recherche (FCAR)
1992-1993 Predoctoral Studentship, David Stewart Memorial Fellowship Faculty
of Graduate Studies and Research, McGill University
1993-1996 Postdoctoral Fellowship, MRC of Canada
1996-1998 Centennial Fellowship, MRC of Canada
1998-2000 Penn-Hughes Fellow
1999-2000 McCabe Research Fellow
2000-2002 Basil O'Connor Research Scholar (March of Dimes)
2001-2005 Pew Scholar in the Biomedical Sciences

ABSTRACT

Douglas J. Epstein was born in St. John's, Newfoundland, Canada, where he lived for about five years. At that time his parents divorced, and he and his mother and three older siblings went to live in Montreal, Québec, Canada; his father remained in St. John's, so the two did not see each other much. Epstein's best childhood memories are of summers spent at camp, with a week-long canoe trip at one of the nearby national or provincial wildernesses. School he found uninspiring, though he thought his education was relatively good. Because of the Separatist movement 70-80% of his classes in junior high were in French; in high school only about 40%. He did like his high-school science classes, taking as many as he could. He liked the order and logic of science. He spent his CÉGEP (Collège d'enseignement général et professionnel) year fascinated by tapeworms and the logic of their design.

Because his friends were all going to McGill University, Epstein thought he would go there too. Accepted into the arts division, he decided to matriculate instead at Concordia University, which had a good science program. There he discovered genetics. He believes that the small classes and the access he had to good teachers at Concordia were very beneficial to him, allowing him to transfer to McGill after a year. There he did very well and received an excellent education. He had expected to go to medical school, but spending several summers as an orderly at the Sir Mortimer B. Davis Jewish General Hospital, where his mother worked, convinced him otherwise. He had found Michel Vekemans' lectures about Down syndrome embryos fascinating, and he decided to pursue a PhD.

It was customary then to get a master's degree, so Epstein joined Vekemans' lab, where Epstein used his Down syndrome lab work as his master's thesis. He did not think, though, that he could go further with this research subject, so he decided to investigate the genetic basis of neural tube defects using Daphne Trasler's mice, hoping to identify the mutation. Since Vekemans was moving to France, Epstein worked in Philippe Gros' lab, and Trasler became Epstein's *de facto* advisor. During his graduate school career Epstein published eight papers, five as first author. He also met his future wife.

By this time the neural development field was booming. Andrew McMahon moved from Roche Institute of Molecular Biology to Harvard University and offered Epstein a postdoc in his (McMahon's) lab. Epstein then decided to move to Alexandra Joyner's lab at Skirball Institute of Biomolecular Medicine at New York University School of Medicine to work on *sonic hedgehog* gene expression in the nervous system.

After this postdoc Epstein accepted an assistant professorship of genetics at the University of Pennsylvania, where his research continues to find new ways in which *hedgehog* is crucial to neurogenesis; he believes that this work will provide a clearer understanding of diseases caused by alteration in gene function and expression. In addition to running his own lab, Epstein continues to publish, to write grants, and to attempt to balance life with his wife and two children with his life at the lab. He has won numerous awards, including the Pew Scholars in the Biomedical Sciences Award.

INTERVIEWERS

David J. Caruso earned a B.A. in the History of Science, Medicine, and Technology from the Johns Hopkins University in 2001 and a Ph.D. in Science and Technology Studies from Cornell University in 2008. His graduate work focused on the interaction of American military and medical personnel from the Spanish-American War through World War I and the institutional transformations that resulted in the development of American military medicine as a unique form of knowledge and practice. David is currently the Program Manager for Oral History at CHF. His current research interest focuses on the discipline formation of biomedical science in 20th-century America and the organizational structures that have contributed to such formation.

Hilary Domush earned a B.S. in chemistry from Bates College in Lewiston, Maine in 2003. Since then she has completed a M.S. in chemistry and a M.A. in history of science both from the University of Wisconsin. Her graduate work in the history of science focused on early nineteenth-century chemistry in the city of Edinburgh, while her work in the chemistry was in a total synthesis laboratory. Hilary is currently Program Associate for Oral History at CHF, where she combines these two divergent academic paths. Her current work focuses on the Women in Chemistry oral history project. She also contributes to the podcast Distillations and the magazine Chemical Heritage.

Leah Webb-Halpern graduated from Smith College with a major in history and a minor in Latin American studies. Prior to joining Chemical Heritage Foundation as the oral history program assistant, she was a research assistant at the McNeil Center for Early American Studies. Leah has moved on from the CHF and is currently a Ph.D. student in the Department of History at the University of Wisconsin, Madison.

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<p>Matriculated at Concordia University. Transferred to McGill University after first year. Loved science, especially genetics. Summers as orderly at Sir Mortimer B. Davis Jewish General Hospital discouraged him from becoming doctor. Michel Vekemans' lab.</p>	
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