CHEMICAL HERITAGE FOUNDATION

THOMAS F. SCHILLING

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview
Conducted by

Nicole C. Nelson

at

University of California, Irvine
Irvine, California

on

5 December 2008

(With Subsequent Corrections and Additions)

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THOMAS F. SCHILLING

1963 Born in Richmond, Virginia on 20 May

Education

1985 B.S., Biology, Davidson College
1987 M.S., Neurobiology, University of Michigan
1993 Ph.D., Developmental Biology, University of Oregon

Professional Experience

Imperial Cancer Research Fund, United Kingdom
1994-1998 Postdoctorate, Developmental Genetics under Philip W. Ingham

University College, London, United Kingdom
1998-1999 Wellcome Senior Research Fellow, Developmental Genetics

University of California, Irvine
1999-2005 Assistant Professor, Developmental and Cell Biology
2005-2008 Associate Professor, Developmental and Cell Biology
2008-present Professor, Developmental and Cell Biology

Honors

1987-1993 Neuroscience and Genetics Training Fellowships (NIH)
1994 EMBO Short Term Postdoctoral Fellowship
1994-1995 Imperial Cancer Research Fund (ICRF) Postdoctoral Fellowship
1995-1997 Human Frontiers Science Program (HFSP) Postdoctoral Fellowship
1998-2002 Medical Research Council (MRC) Career Development Fellowship
1998-2002 Wellcome Research Career Development Fellowship
2001-2007 March of Dimes 1-FY01-198 Research Grant
2001-2005 Pew Scholarship in the Biomedical Sciences
2001-present NIH R01 NS41353-01 Research Grant (renewed in 2006)
2001-present NIH R01 DE13828-01 Research Grant (renewed in 2006)

ABSTRACT

Thomas F. Schilling was born in Richmond, Virginia, the oldest of four children. His father was a forester turned Presbyterian minister, his mother a housewife. When Schilling was about five his family lived in New Haven, Connecticut, for two years while his father attended Yale Divinity School. While there, Schilling spent many days at the Peabody Museum of Natural History, giving latecomers tours of dinosaurs. In addition to dinosaurs, he loved reptiles and amphibians, but especially snakes. After Yale, the family moved to North Carolina, where they stayed until Schilling was in junior high school, at which time they moved to a small town in West Virginia. Schilling did not find his education compelling and did not apply himself until he entered college.

Because his parents wanted him to have a solid liberal arts foundation and thought a small college the best place to get it, Schilling matriculated into Presbyterian-affiliated Davidson College, majoring in biology. Halfway through he changed his career plan from medicine to academics. He developed an interest in the philosophy and sociology of science; undertook hospital work for class credit; and spent summers working and playing at Yellowstone National Park. Schilling found that a class in physiological psychology led to an interest in neuroscience and so he applied to neuroscience graduate programs.

Despite the lack of research lab experience at Davidson, Schilling gained acceptance into the PhD program in the University of Michigan biology department. Unpleasant faculty in the department and low morale caused the exit of nearly everyone in his entering class. Ultimately he joined the laboratory of R. Glenn Northcutt to study the neuroanatomy of the visual system. Northcutt left for the University of California, San Diego, and Schilling found a new interest in zebrafish. A chance discussion with Russell Fernald at a meeting led Schilling to apply to the PhD program at the University of Oregon and take a master's degree at Michigan. At that time, only two labs were working with zebrafish, Monte Westerfield's and Charles Kimmel's. Schilling chose Kimmel's lab because he wanted to work on neural crest, and neural crest lineages in zebrafish became his dissertation topic.

Schilling accepted a postdoc at Imperial Cancer Research Fund in London, England, where he entered Philip Ingham's lab to study *Drosophila* and to help set up a zebrafish lab. Soon after his arrival in London, Christiane Nüsslein-Volhard called Schilling and asked him to work at the Max Planck Institute in Tübingen, Germany, on craniofacial anomalies in zebrafish. After some time in Germany, he returned to London, where he spent several years in Ingham's lab. Schilling rediscovered his interest in neural crest, but he also discovered a mutation in the enzyme that synthesizes retinoic acid (RA), and RA became the second major focus of his lab. After an initial refusal, Schilling received a Wellcome Foundation grant, with Nigel Holder as his sponsor. During this time, however, Schilling also accepted an assistant professorship at University of California, Irvine. At that point he received two NIH grants, one for retinoic acid and one for his craniofacial work.

At the end of the interview, Schilling discusses funding in general, and the Pew Scholars Program in the Biomedical Sciences grant specifically; he also compares the Wellcome grant with National Institutes of Health and other American grants. He praises the Pew meetings; he compares his Pew talk with other talks he has given; and he talks more about funding generally and about the effects of the funding situation on collegiality and competitiveness in labs and departments. He discusses his love of traveling and of outdoor activities like hiking, climbing,

fishing, and biking. He goes on to reflect on benchwork, on his mentoring style, which he sees as engaged and helpful, and on the necessity of informing the public about scientific endeavors, which he believes is necessary but difficult. He talks a little more about publishing and study sections, recounting a story of encouragement for one of his students. He ends the interview with his thoughts about animal rights organizations and university oversight of animal research.

INTERVIEWER

Nicole C. Nelson graduated with a B.Sc. in Genetics and Social and Political Thought from the University of Western Ontario in 2004. She is currently a Ph.D. candidate in the Science and Technology studies program at Cornell University. Nicole is interested in the sociology of contemporary biomedicine, especially genetics and model organisms. Her dissertation project is an ethnographic study of the social processes involved in developing animal models (especially mouse models) for studying the genetics of complex human behaviors. In addition to her dissertation research, Nicole works as a research assistant conducting interviews for several projects, including the CHF's oral history project for Pew Scholars Program in the Biomedical Sciences.

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