CHEMICAL HERITAGE FOUNDATION

CHARLES E. CONNOR

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview
Conducted by

William Van Benschoten

at

Johns Hopkins University
Baltimore, Maryland

on

19 and 20 April 2004

Charles E. Connor

ACKNOWLEDGEMENT

This oral history is part of a series supported by a grant from the Pew Charitable Trusts based on the Pew Scholars Program in the Biomedical Sciences. This collection is an important resource for the history of biomedicine, recording the life and careers of young, distinguished biomedical scientists and of Pew Biomedical Scholar Advisory Committee members.

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REFORMATTING:

Kim Phan, Program Intern, Oral History, Chemical Heritage Foundation. B.A. expected 2011, Anthropology, Cornell University.

David J. Caruso, Program Manager, Oral History, Chemical Heritage Foundation. B.A., History of Science, Medicine, and Technology, Johns Hopkins University; PhD., Science and Technology Studies, Cornell University.

Agreement # 50725044

I, Charles F. Connor, do hereby give to the Regents of the University of California the series of interviews the UCLA Oral History Program recorded with me beginning on or about July 19, 2004, to be used for any research, educational, or other purpose that the University may deem appropriate. I give these as an unrestricted gift and I transfer to the Regents of the University of California all rights, including the copyright. I understand that I may still use the information in the recordings myself without seeking permission from the University.

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(Signature)

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The Regents of the University of California hereby acknowledge this deed of gift

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CHARLES E. CONNOR

1955 Born in Baltimore, Maryland

Education

1978 B.S., Biology, Loyola College of Maryland
1982 M.S., Pharmacology, Vanderbilt University School of Medicine
1989 Ph.D., Neuroscience, Johns Hopkins School of Medicine

Professional Experience

Washington University School of Medicine, St. Louis, Missouri
1992-1996 Postdoctorate, Neuroscience, with Dr. David C. Van Essen

Johns Hopkins University, Baltimore, Maryland
1996-2003 Assistant Professor
2003-present Associate Professor, Department of Psychological and Brain Sciences

Johns Hopkins University School of Medicine, Baltimore, Maryland
2003-present Associate Professor, Department of Neuroscience

Honors

198-2002 Pew Scholarship in the Biomedical Sciences

Selected Publications

Brincat, S.L. & Connor, C.E. (2004) Underlying principles of visual shape selectivity in posterior inferotemporal cortex. Nature Neuroscience (in press).

Hinkle, D.A. & Connor, C.E. (2004) Quantitative characterization of disparity tuning in ventral pathway area V4 (submitted).

Pasupathy, A. & Connor, C.E. (2002) Population coding of shape in area V4. Nature Neuroscience 5: 1332-1338.

Hinkle, D.A. & Connor, C.E. (2002) Three-dimensional orientation tuning in macaque area V4. Nature Neuroscience 5: 665-670.

Pasupathy, A. & Connor, C.E. (2001) Shape representation in area V4: Position-specific tuning for boundary conformation. Journal of Neurophysiology 86: 2505-25 19.

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Connor, C.E. & Kuczenski, R. (1986) Evidence that amphetamine and Na + gradient reversal increase striatal synaptosomal dopamine synthesis through carrier-mediated efflux of dopamine. Biochemical Pharmacology 35: 3123-3130. Invited Reviews, Editorials:
Connor, C.E. (2003) Active vision and visual activation in area V4. Neuron 40: 1056-1058.
Connor, C.E. (2003) Perceptual Learning. Quarterly Review of Biology 78: 259- 260.
Connor, C.E. (2002) Reconstructing a 3D world. Science 297: 376-377.
Connor, C.E. (2002) Representing whole objects: temporal neurons learn to play their parts. Nature Neuroscience 5: 1105-1106.
Connor, C.E. (2001) Visual perception: sunny side up. Current Biology 11: R776- R778.
Connor, C.E. (2001) Shifting receptive fields. Neuron 29: 548-549.
Connor, C.E. (2001) Multiple cues for object perception. Trends in Neuroscience 24: 64-65.
Connor, C.E. (2000) Visual perception: monkeys see things our way. Current Biology 10: R836-R838.
Connor, C.E. (2003) Shape dimensions and object primitives. In: The Visual Neurosciences, Chalupa, L. & Werner, J.S., eds., MIT Press, Cambridge MA (in press).

ABSTRACT

Charles E. Connor was born and raised in Baltimore, Maryland, spending the first few years of his life in Parkville, but then moving with his family to Towson, a suburb nestled in a wooded area through which Connor used to love to run. He grew up with some relatives who had a science background; religion also played an important role in Connor's upbringing (as well as later in life). Throughout his early education, Connor had an inkling that he wanted to be a scientist, despite a bevy of other talents and interests; with his junior high and high school science classes that feeling solidified.

He attended Loyola College in Maryland and, after some time in various labs, chose Vanderbilt University for his master's degree in pharmacology. He attended the University of Maryland to pursue a degree in law, but after finishing law school, he realized that the career was not for him. Connor then entered the neuroscience program at Johns Hopkins University began his work with Kenneth Johnson. In the lab, Connor focused his studies on neural signaling for texture. He stayed at Hopkins for a postdoctoral fellowship with Gian F. Poggi and Michael Steinmetz, and then continued to another postdoc at Washington University in St. Louis with David C. Van Essen. Ultimately, Connor returned to Hopkins for a faculty position in the neuroscience department, where his research has focused on his long-term research goal: an understanding of the neural code for object shape in the brain.

The availability of both funding and of students, topics Connor discusses at length, has shaped—and, he believes, will continue to shape—his research. While there is currently no industrial application for his research, he and some of his students have explored possible future applications, including a visual prosthesis and machine vision. His work in the lab, which historically included managing students, designing and overseeing production of new equipment, and benchwork, has evolved with the lab's growing reputation and Connor's added responsibilities, including teaching, writing grants, and administrative tasks. The interview concludes with Connor's reflections on another task that occupies some of his professional time, writing journal articles, and on the effect these publications have on his lab and his science. He talks about the role of creativity, serendipity, and technology in his research, and broader issues such as the national scientific agenda, ethics, and the public's view of science. Finally, the interview ends with his comments on the Pew Scholars Program in the Biomedical Science and his happiness with being a principal investigator.

UCLA INTERVIEW HISTORY

INTERVIEWER:

William Van Benschoten, Interviewer, UCLA Oral History Program; B.A., History, University of California, Riverside, 1990; M.A., History, University of California, Riverside, 1991; C.Phil., History, University of California, Los Angeles, 1995.

TIME AND SETTING OF INTERVIEW:

Place: Connor's office at Johns Hopkins University.

Dates of sessions: July 19 and 20, 2004.

Total number of recorded hours: 6.

Persons present during interview: Connor and Van Benschoten.

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 since 1988.

To provide an overall framework for project interviews, the director of the UCLA Oral History Program and three UCLA faculty project consultants developed a topic outline. In preparing for this interview, Van Benschoten held a telephone preinterview conversation with Connor to obtain written background information (curriculum vitae, copies of published articles, etc.) and agree on an interviewing schedule. He also reviewed documentation in Connor's file at the Pew Scholars Program office in San Francisco, including Connor's proposal application, letters of recommendation, and reviews by Pew Scholars Program national advisory committee members.

ORIGINAL EDITING:

Carol Squires 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.

Connor did not review the transcript. Consequently some names remain unverified.

Carol Squires prepared the table of contents and TechniType Transcripts compiled the guide to proper names.

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