CHEMICAL HERITAGE FOUNDATION

KENNETH H. BRITTEN

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview
Conducted by

Helene L. Cohen

at

University of California, Davis
Davis, California

on

24-26 January 2001

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

Kenneth H. Britten

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.

This oral history was completed under the auspices of the Oral History Project, University of California, Los Angeles (Copyright © 2002 The Regents of the University of California) and is made possible through the generosity of

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The following oral history, originally processed at the UCLA Center for Oral History Research, has been reformatted by the Chemical Heritage Foundation. The process involved reformatting the front matter, adding a new abstract, replacing the table of contents, and replacing the index. The paragraph spacing and font of the body of the transcript were altered to conform to the standards of the Oral History Program at the Chemical Heritage Foundation. The text of the oral history remains unaltered; any inadvertent spelling or factual errors in the original manuscript have not been modified. The reformatted version and digital copies of the interview recordings are housed at the Othmer Library, Chemical Heritage Foundation. The original version and research materials remain at the Darling Library, University of California, Los Angeles and at the Bancroft Library, University of California, Berkeley.

REFORMATTING:

Laurent Delavaux, Program Intern, Biomedical Sciences and Technologies, Chemical Heritage Foundation. B.S Molecular Biology, Lehigh University.

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

UNIVERSITY OF CALIFORNIA, LOS ANGELES

Oral History Interview Agreement No. 5020701A

This Interview Agreement is made and entered into this 7th day of February, 2001 by and between THE REGENTS OF THE UNIVERSITY OF CALIFORNIA, a California corporation, on behalf of the Oral History Program at the UCLA campus, hereinafter called "University," and KENNETH H. BRITTEN, having an address at Center for Neuroscience, University of California, Davis, 1544 Newton Court, Davis, California 95616, hereinafter called "Interviewee."

Interviewee agrees to participate in a series of University-conducted tape-recorded interviews, commencing on or about January 24, 2001, and tentatively entitled "Interview with Kenneth H. Britten". This Agreement relates to any and all materials originating from the interviews, namely the tape recordings of the interviews and a written manuscript prepared from the tapes, hereinafter collectively called "the Work."

In consideration of the mutual covenants, conditions, and terms set forth below, the parties hereto hereby agree as follows:

1. Interviewee irrevocably assigns to University all his copyright, title and interest in and to the Work. This assignment applies to University, its successors, and assigns, for and during the existence of the copyright and all renewals and extensions thereof.

2. By virtue of this assignment, University will have the right to use the Work for any research, educational, or other purpose, including electronic reproduction, that University may deem appropriate.

3. Interviewee acknowledges that he will receive no remuneration or compensation for his participation in the interviews or for the rights assigned hereunder.

4. Interviewee will receive from University, free of charge, one bound copy of the typewritten manuscript of the interviews.

5. To insure against substantive error or misquotation, Interviewee will have the right to review the manuscript before it is put into final form. University therefore will send Interviewee a copy of the edited transcript for review and comment. Interviewee will return transcript and comments to University within 30 days of receipt of the transcript. In the event that Interviewee does not respond within 30 days, University will assume that Interviewee has given full approval of the transcript.

All notices and other official correspondence concerning this Agreement will be sent to the following:

If to University: Department of Special Collections
University of California, Los Angeles
Box 951575
Los Angeles, California 90095-1575

Attention: Victoria Steele, Ph.D.

If to Interviewee: Kenneth H. Britten
Center for Neuroscience
University of California, Davis
1544 Newton Court
Davis, California 95616

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

INTERVIEWEE	THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
(Signature)	(Signature)
Kenneth H. Britten (Typed Name)	Victoria Steele (Typed Name)
University of California, Davis (Address)	Head, Department of Special Collections (Title)
Center for Neuroscience	
1544 Newton Court	
Davis, California, 95616	
Date 1/24/01	Date Feb. 7, 2001

Pew Scholars in the Biomedical Sciences

Chemical Heritage Foundation Internet Posting Release Form

I, Kenneth H. Britten, Ph.D., hereby request that my wishes be followed as per the checked selection below with regards to posting portions of the digital copy of the audio-taped interview of me and the related written transcript on the internet for non-commercial, educational use only.

Please check one:

a. _____ **No restrictions for Internet Posting.**
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This constitutes my entire and complete understanding.

Kenneth H. Britten, Ph.D.

2/4/2008
Date

Chemical Heritage Foundation
Oral History Program
315 Chestnut Street
Philadelphia, Pennsylvania 19106

KENNETH H. BRITTEN

1958 Born in Washington, D.C. on 2 July

Education

1980 B.S., California Institute of Technology
1987 Ph.D., State University of New York, Stony Brook

Professional Experience

State University of New York, Stony Brook
1987-1993 Postdoctoral Fellow

Stanford University
1987-1993 Postdoctoral Fellow

University of California, Davis
1993-1999 Assistant Professor, Center for Neuroscience and Section of Neurobiology, Physiology, and Behavior
1999-present Associate Professor, Center for Neuroscience and Section of Neurobiology, Physiology, and Behavior

Honors

1981-1984 Graduate Council Fellowship, State University of New York, Stony Brook
1994-1998 Pew Scholar in the Biomedical Sciences

Selected Publications

Newsome, W.T. et al., 1989. Neuronal correlates of a perceptual decision. *Nature* 341:52-54.

Salzman, C.D. et al., 1990. Cortical microstimulation influences perceptual judgements of motion direction. *Nature* 346:174-77.

Britten, K.H. et al., 1991. Effects of inferotemporal cortex lesion on form-from-motion discrimination in monkeys. *Experimental Brain Research* 88:292-302.

Britten, K.H., et al., 1992. The analysis of visual motion: A comparison of neuronal and psychophysical performance. *Journal of Neuroscience* 12:4745-65.

Britten, K.H., et al.., 1993. The responses of MT neurons to variable strength stochastic

motion stimuli. *Visual Neuroscience* 10:1157-69.
Britten, K.H. et al., 1996. A relationship between behavioral choice and the visual responses of neurons in macaque MT. *Visual Neuroscience* 13:87-100.
Britten, K.H. and W.T. Newsome, 1998. Tuning bandwidths for near-threshold stimuli in area MT. *Journal of Neurophysiology* 80:762-70.
Britten, K.H., 1998. Clustering of response selectivity in the medial superior temporal area of extrastriate cortex in the macaque monkey. *Visual Neuroscience* 15:553-58.
Britten, K.H. and R.J.A. van Wezel, 1998. Electrical microstimulation of cortical area MST biases heading perception in monkeys. *Nature Neuroscience* 1:59-63.
Britten, K.H. and H.W. Heuer, 1999. Spatial summation in the receptive fields of MT neurons. *Journal of Neuroscience* 19:5074-84.
Britten, K.H. and R.J.A. van Wezel, 2002. Area MST and heading perception in macaque monkeys. *Cerebral Cortex* (in press).

ABSTRACT

Kenneth H. Britten was born in Washington, D.C. in 1958, the younger of two brothers. His father, Roy J. Britten, was a biophysicist who made notable achievements in the heyday of genetics, working at the Carnegie Institution of Washington and later at the California Institute of Technology. Kenneth Britten's mother, Barbara H. Britten, was primarily a homemaker, but who would later be involved in defending marine environmental causes in Washington, D.C. Due to his father's strong influence and his early appreciation for the outdoors, Britten knew from an early age that he wanted to study biology.

Britten received his B.S. in biology from the California Institute of Technology in 1980. Britten's interest in neuroscience increased greatly as a result of an integrative neuroscience course taught by Jack D. Pettigrew. Research in Mark Konishi's lab led Britten to neuroethology. He then took a year off to travel around the American continent before applying to graduate school. He matriculated into the Department of Neurobiology and Behavior at the State University of New York at Stony Brook, where he studied receptive visual fields in David H. Cohen's lab and received his Ph.D. in neurobiology in 1987.

Britten remained at the State University of New York, Stony Brook to pursue his postdoctoral research in William T. Newsome's lab and later moved with Newsome to his new lab at Stanford University. Britten and Newsome worked together very closely, using psychophysics to map and measure the neuromechanics of perceptive visual fields in primates. It was through these projects that Britten developed his current scientific focus and research. In 1993, Britten was appointed assistant professor in the Department of Neurobiology, Physiology, and Behavior at the University of California, Davis where he received academic tenure as an associate professor in 1999. Since his arrival at the University of California, Davis, Britten has focused on specific areas of extrastriate visual cortex in primates and how they respond to complex visual stimuli.

Throughout his oral history Britten emphasizes the need to remain enthusiastic about one's occupation and the importance of balancing professional responsibilities and free time. He has received several grants, including a fellowship, and most notably a Pew Scholars Program in the Biomedical Sciences grant, which he discusses in the oral history interview.

UCLA INTERVIEW HISTORY

INTERVIEWER:

Helene L. Cohen, Interviewer, UCLA Oral History Program. B.S, Nursing, UCLA; P.N.P., University of California, San Diego/UCLA; M.A., Theater, San Diego State University.

TIME AND SETTING OF INTERVIEW:

Place: Britten's office at the Center for Neuroscience at the University of California, Davis.

Dates, length of sessions: January 24, 2001 (128 minutes); January 25, 2001 (101); January 26, 2001 (111).

Total number of recorded hours: 5.7

Persons present during interview: Britten and Cohen.

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' 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, Cohen held a telephone preinterview conversation with Britten to obtain written background information (curriculum vitae, copies of published articles, etc.) and agree on an interviewing schedule. She also reviewed prior Pew scholars' interviews and the documentation in Britten's file at the Pew Scholars Program office in San Francisco, including his proposal application, letters of recommendation, and reviews by Pew Scholars Program national advisory committee members. For technical background, Cohen consulted J.D. Watson et al., *Molecular Biology of the Gene.* 4th ed. Menlo Park, California: Benjamin/Cummings, 1987; Bruce Alberts et al., *Molecular Biology of the Cell.* 3rd ed. New York: Garland, 1994, and Horace F. Judson, *The Eighth Day of Creation.* New York: Simon and Schuster, 1979; and recent issues of *Science* and *Nature.*

The interview is organized chronologically, beginning with Britten's childhood in McLean, Virginia, and continuing through his undergraduate work at California Institute of Technology (Caltech), his graduate work at State University of New York (SUNY) at Stony Brook, his postdoc at SUNY-Stony Brook and Stanford University, and the establishment of his own lab at University of California at Davis. Major topics discussed include his experiences at Caltech and the Jack Pettigrew lab, his decision to pursue a career in neuroscience, his research in the David H. Cohen lab to examine visual physiology in the dorsal thalamus of the pigeon,

and his current research on visual cortex of primates.

ORIGINAL EDITING:

Deborah Kolosova, editorial assistant, 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.

Britten reviewed the transcript. He verified proper names and made minor corrections and additions.

William Van Benschoten, editor, prepared the table of contents. Deborah Kolosova assembled the biographical summary and interview history. Romi Keerbs , editorial assistant, compiled the index.

SUPPORTING DOCUMENTS:

The original tape recordings of the interview are in the university archives and are available under the regulations governing the use of permanent noncurrent records of the university. Records relating to the interview are located in the office of the UCLA Oral History Program.

TABLE OF CONTENTS

INDEX