CHEMICAL HERITAGE FOUNDATION

KAI ZINN

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview
Conducted by

Steven J. Novak

at

The California Institute of Technology
Pasadena, California

on

14, 21, 27 September and 4 October 1994

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

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 the Pew Scholars Program in the Biomedical Sciences Advisory Committee members.

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REFORMATTING:

Marnie Berkowitz, Consultant to the Chemical Heritage Foundation. B.A., Classical Languages and Literatures, University of Minnesota; Ford Foundation Fellowship, Classical Languages and Literatures, University of Chicago.

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.

UNIVERSITY OF CALIFORNIA, LOS ANGELES

Oral History Interview Agreement No. R941003

This Interview Agreement is made and entered into this 4th day of October, 1994, 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 KAI ZINN having an address at Division of Biology, California Institute of Technology, Pasadena, California, 91125, hereinafter called "Interviewee."

Interviewee agrees to participate in a series of University-conducted tape-recorded interviews, commencing on or about September 14, 1994, and tentatively entitled "Interview with Kai Zinn". 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.

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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.

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

If to University: Office of Intellectual Property Administration
University of California, Los Angeles
405 Hilgard Avenue
Los Angeles, California 90024-1406

Attention: Ms. Carli V. Rogers
Copyright Officer

If to Interviewee: Kai Zinn
Division of Biology
California Institute of Technology
Pasadena, California 91125

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

INTERVIEWEE

× _____
(Signature)

Kai Zinn
(Typed Name)

California Institue of Technology

Division of Biology

Pasadena, California 91125
(Address)

× Date 9/21/94

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

_____
(Signature)

Carli V. Rogers
(Typed Name)

Copyright Officer
(Title)

Date October 4, 1994

Pew Scholars in the Biomedical Sciences

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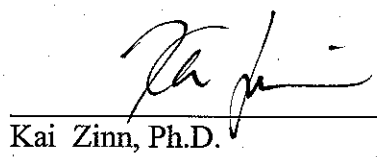

Kai Zinn, Ph.D.

Date

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KAI ZINN

1955 Born in Berkeley, California on 24 July

Education

1977 B.A., University of California, San Diego
1984 Ph.D., Harvard University

Professional Experience

Harvard University
1984-1985 Postdoctoral Fellow

Stanford University and University of California, Berkeley
1985-1989 Postdoctoral Fellow

California Institute of Technology
1989-1995 Assistant Professor
1995-present Associate Professor

Honors

1978-1981 Predoctoral Fellowship, National Science Foundation
1985-1988 Postdoctoral Fellowship, Helen Hay Whitney Foundation
1990-1992 Alfred P. Sloan Research Fellowship in Neuroscience
1990-1992 Basil O'Connor Starter Scholars Award, March of Dimes Foundation
1990-1993 McKnight Foundation Scholars Award
1990-1994 Pew Scholar in the Biomedical Sciences
1994-1997 McKnight Foundation Investigator Award

Selected Publications

Zinn, K. et al., 1983. Identification of two distinct regulatory regions adjacent to the human β-interferon gene. *Cell*, 34:865-79.

Zinn, K. and T. Maniatis, 1986. Detection of factors that interact with the human β-interferon regulatory region *in vivo* by DNAase I footprinting. *Cell*, 45:611-18.

Zinn, K. et al., 1988. 2-aminopurine selectively inhibits the induction of β-interferon,

c-fos, and c-myc gene expression. *Science,* 240:210-13.
Zinn, K. et al., 1988. Sequence analysis and neuronal expression of fasciclin I in grasshopper and *Drosophila. Cell,* 53:577-87.
Elkins, T. et al., 1990. Genetic analysis of a *Drosophila* neural cell adhesion molecule: Interaction of fasciclin I and Abelson tyrosine kinase mutations. *Cell,* 60:565-75.
Tian, S.S. et al., 1991. Three receptor-linked protein-tyrosine phosphatases are selectively expressed on central nervous system axons in the *Drosophila* embryo. *Cell,* 67:675-85.
Bradley, J. et al., 1994. Heteromeric olfactory cyclic nucleotide-gated channels: A subunit that confers increased sensitivity to cAMP. *Proceedings of the National Academy of Sciences USA,* 91:8890-94.
Condron, B.G. et al., 1994. *Engrailed* controls glial/neuronal cell fate decisions at the midline of the central nervous system. *Neuron,* 13:541-54.
Condron, B.G. and K. Zinn, 1995. Activation of cAMP-dependent protein kinase triggers a glial-to-neuronal cell fate switch in an insect neuroblast lineage. *Current Biology,* 5:51-61.
Desai, C.J. et al., 1996. Receptor tyrosine phosphatases are required for motor axon guidance in the *Drosophila* embryo. *Cell,* 84:599-609.

ABSTRACT

Kai Zinn was born in Berkeley, California, but grew up in Los Alamos, New Mexico. His father, now retired, was a chemist working on weapons research; his mother, who came to the United States from Germany after World War II, teaches German. Zinn had two brothers, but one was killed when he was fourteen. During high school, Zinn became an Explorer Scout and began to engage in outdoor activities like rafting, climbing, skiing, hiking.

Zinn decided to attend the University of California at San Diego, where Paul Saltman inspired him to major in chemistry. During his last year in college Zinn worked on an independent study with Jack Kyte. After graduation Zinn had planned to travel, but he fell at Yosemite National Park and broke his leg, so he ended up back at Kyte's lab for a month or so during that summer. Then he spent a year just traveling, visiting Nepal, Thailand, and the Virgin Islands. During his travels he picked up giardia and was ill for several months.

Kyte helped persuade Zinn to go to Harvard for his PhD. There he worked on SV40 in Mark Ptashne's lab. While at Harvard, Zinn and Pamela J. Bjorkman, who was working on HLA (histocompatibility locus antigen) in Don Wiley's lab. met and married. Zinn next moved to Tom Maniatis's lab to work on interferon. After that, tired of interferon, Zinn moved to Corey Goodman's lab. Pamela stayed another year at Harvard, finally finishing the structure of HLA. After joining Zinn in California, Pamela discovered that she was pregnant with their son Leif. Zinn finished his postdocs at Stanford and Berkeley and then accepted a job at California Institute of Technology, where he is now an associate professor. He continues to publish, teach, read novels, work less then he would like on the bench, and spend time with his son, Leif, his daughter, Katya, and his wife.

UCLA INTERVIEW HISTORY

INTERVIEWER:

Steven J. Novak, Senior Editor, UCLA Oral History Program. B.A., History, University of Colorado; Ph.D., History, University of California, Berkeley; M.B.A., UCLA Graduate School of Management.

TIME AND SETTING OF INTERVIEW:

Place: Zinn's office, California Institute of Technology.

Dates, length of sessions: September 14, 1994 (118 minutes); September 21, 1994 (107); September 27, 1994 (107); October 4, 1994 (51)

Total number of recorded hours: 6.4

Persons present during interview: Zinn and Novak.

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, Novak held a preinterview conversation with Zinn to obtain written background information (curriculum vitae, copies of published articles, etc.) and to agree on an interviewing schedule. He also reviewed prior Pew scholars' interviews and the documentation in Zinn'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, Novak consulted J.D. Watson et al., *Molecular Biology of the Gene.* 4th ed. 2 vols. Menlo Park, CA: Benjamin/Cummings, 1987, and Bruce Alberts et al., *Molecular Biology of the Cell.* 3d ed. New York: Garland, 1994. The interview is organized chronologically, beginning with Zinn's childhood in Los Alamos, New Mexico, and continuing through his education at University of California, San Diego, his graduate work at Harvard University, his postdoc with Corey S. Goodman, and the establishment of his own lab at California Institute of Technology. Major topics discussed include cloning the interferon gene, cooperativity in gene regulation, footprinting interferon, the SP6 RNAase protection assay, sequencing fasciclin I in *Drosophila,* olfactory research, and the rewards and difficulties of a career in research.

ORIGINAL EDITING:

Betsy Ryan, editor, 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.

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

Kristian London, assistant editor, prepared the table of contents and the interview history.

Kathleen McAlister, editorial assistant, assembled the biographical summary. Derek J. DeNardo, editorial assistant, compiled the index.

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