

CHEMICAL HERITAGE FOUNDATION

GARY KARPEN

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview
Conducted by

Helene L. Cohen

at

Salk Institute for Biological Sciences
La Jolla, California

on

15-17 August 2000

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

ACKNOWLEDGEMENT

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Interviewee agrees to participate in a series of University-conducted tape-recorded interviews, commencing on or about August 15, 2000, and tentatively entitled "Interview with Gary H. Karpen". 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."

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Attention: Director

If to Interviewee: Gary H. Karpen
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University and Interviewee have executed this Agreement on the date first written above.

INTERVIEWEE

X *Gary Karpen*
(Signature)

Gary H. Karpen
(Typed Name)

The Salk Institute for
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10010 North Torrey Pines Road

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Date 8/16/00

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GARY KARPEN

1956 Born in New York City, New York on 5 November

Education

1978 B.S., Brandeis University
1987 Ph.D., University of Washington

Professional Experience

1987-1991 Carnegie Institution of Washington, Department of Embryology
Postdoctoral Fellow

1997-present Salk Institute in the Biological Sciences, Department of Genetics
Associate Professor

Honors

1993-1997 Pew Scholar in the Biomedical Sciences

Selected Publications

- Karpen, G.H. and G. Schubiger, 1981. Extensive regulatory capabilities of a *Drosophila* imaginal disk blastema. *Nature* 294:794-47.
- McKee, B.M. and G.H. Karpen, 1990. *Drosophila* ribosomal RNA genes function as an X-Y pairing site during meiosis. *Cell* 61:61-72.
- Karpen, G.H. and A.C. Spradling, 1992. Analysis of subtelomeric heterochromatin in the *Drosophila* minichromosome Dp1 187 by single P-elements insertional mutagenesis. *Genetics* 132:737-53.
- Tower, L.T. et al., 1993. Preferential transposition of *Drosophila* P elements to nearby chromosomal sites. *Genetics* 133:347-59.
- Le, M.-H. et al., 1995. Islands of complex DNA are widespread in *Drosophila melanogaster* centric heterochromatin. *Genetics* 141:283-303.
- Murphy, T. and G.H. Karpen, 1995a. Interactions between the nod-plus kinesin-like gene and extra-centromeric sequences are required for transmission of a *Drosophila* minichromosome. *Cell* 81:139-48.
- Murphy, T. and G.H. Karpen, 1995b. Localization of centromere function in a *Drosophila* minichromosome. *Cell* 82:599-609.

- Karpen, G.H. et al., 1996. Centric heterochromatic and the efficiency of achiasmate meiotic disjunction in *Drosophila* females. *Science* 273, 118-22.
- Sun, X. et al., 1997. Molecular structure of a functional *Drosophila* centromere. *Cell* 91:1007-19.
- Adams, M.D. et al., 2000. The genome sequence of *Drosophila melanogaster*. *Science* 287: 2185-95.

ABSTRACT

Gary Karpen was born in New York City but grew up in Norwood, New Jersey. His older sister became an astrophysicist and his younger brother an MD/PhD who does both research and clinical work. His father joined the army at the age of 17 to fight in World War II, coming home severely wounded. Forgoing the GI Bill, Gary's father did not go to college but went into his father's construction business. When he was in his 50's Mr. Karpen sold his business, got an education degree, and became a teacher of high-school shop. Karpen's mother was a college graduate and eventually got a PhD in library science. Karpen's grandparents were Orthodox Jews, so his family was observant, though tending more toward Conservative Judaism, and being Jewish was very important in Karpen's youth.

In junior high school Karpen had an excellent biology teacher who fired his interest in that subject. In high school Karpen also liked French and English, particularly enjoying reading classical science fiction. He says he procrastinated and did not work especially hard, but he was nevertheless assigned to the honors track. Because Brandeis was strong in pre-med and because Karpen loved biology, he decided to apply for early acceptance, successfully, as it turned out. There he discovered that the "tinkering" he and his father had done together over the years resolved into a love of solving puzzles, of figuring out how things worked or fit together, and he knew he did not want to practice medicine but to be a researcher.

From Brandeis he went to the University of Washington to be a technician in Gerold Schubiger's lab. He spent three years in this position before crossing the bridge to the genetics department for graduate school, where he worked in Larry Sandler's and Charles Laird's labs, transforming ribosomal genes into flies. He also met and married Monica Medina, and they had their first child during these years.

From Seattle the Karpens went to Washington, D.C., where Karpen had accepted a postdoc at the Carnegie Institution of Washington, working on centromeres in Allan Spradling's lab. Another child, a daughter, made her appearance during this time.

After his postdoc, Karpen took a position at the Salk Institute for Biological Studies in La Jolla, California. There he established his own lab, and he teaches the occasional course. He continues quite happily to work on heterochromatin chromosome inheritance and centromere identity; to explore his Jewish heritage; to seek funding; to publish his work; to mentor the people in his lab; and to hang out with his children.

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: Karpen's office, at the Salk Institute for Biological Studies, La Jolla, California

Dates, length of sessions: August 15, 2000 (118 minutes); August 16, 2000 (108); August 17, 2000 (118).

Total number of recorded hours: 5.7

Persons present during interview: Karpen 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'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, Cohen held a telephone preinterview conversation with Karpen 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 Karpen'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 Karpen's childhood in New York City and continuing through his undergraduate work at Brandeis University, his graduate work at University of Washington, his postdoc at Carnegie Institution of Washington, and the establishment of his own lab at Salk Institute in the Biological Sciences [sic], La Jolla, California. Major topics discussed include his early schooling, his project in the Laird lab of transforming ribosomal genes into flies, and his current research on heterochromatin, chromosome inheritance, and centromere identity.

ORIINAL EDITING:

Stephen Wilson and Deborah Truitt, editorial assistants, edited the interview. They 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 editors have been bracketed.

Karpen did not review the transcript and therefore some names have not been verified.

William Van Benschoten, senior writer, prepared the table of contents. Deborah Truitt, editorial assistant, assembled the biographical summary and interview history. Gail Ostergren, editor, compiled the index.

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