

CHEMICAL HERITAGE FOUNDATION

MARK WINEY

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview
Conducted by

Andrea R. Maestrejuan

at

University of Colorado
Boulder, Colorado

on

14-16 September 1998

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



Mark Winey

ACKNOWLEDGEMENT

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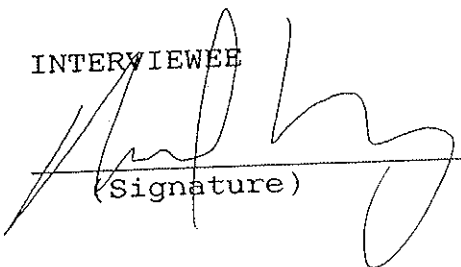
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University and Interviewee have executed this Agreement on the date first written above.

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THE REGENTS OF THE UNIVERSITY
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Director, Oral History Program

Date 1/27/99

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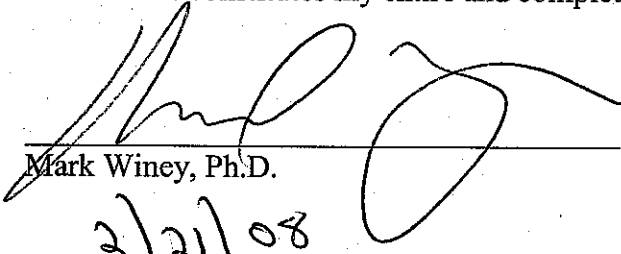
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MARK WINEY

1961 Born in Chicago, Illinois on 14 June

Education

1983 B.S., Syracuse University
1988 Ph.D., University of Wisconsin-Madison

Professional Experience

1988-1991 University of Washington, Department of Genetics
Postdoctoral Fellow

1991-1998 University of Colorado, Boulder, Department of Molecular, Cellular, and
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Assistant Professor

1998-present Associate Professor

Honors

1984-1987 National Institutes of Health Graduate Trainee in Molecular and
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1988-1991 National Institutes of Health Postdoctoral Fellowship

1993-1996 American Cancer Society Junior Faculty Research Award

1993-1997 Pew Scholar in the Biomedical Sciences

1993-1998 National Science Foundation Young Investigator Award

Selected Publications

Winey, M. and M.R. Culbertson, 1988. Mutations affecting the tRNA-splicing endonuclease activity of *Saccharomyces cerevisiae*. *Genetics* 118:609-17.

Winey, M. et al., 1991. *MPS1* and *MPS2*: Novel yeast genes defining distinct steps of spindle pole body duplication. *Journal of Cell Biology* 114:745-54.

Winey, M. et al., 1993. *NDC1*: A nuclear periphery component required for yeast spindle pole body duplication. *Journal of Cell Biology* 122:743-51.

Winey, M. et al., 1995. Three-dimensional ultrastructural analysis of the *Saccharomyces cerevisiae* mitotic spindle. *Journal of Cell Biology* 129:1601-16.

Weiss, E. and M. Winey, 1996. The *Saccharomyces cerevisiae* spindle pole body

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- Luca, F.C. and M. Winey, 1998. *MOB1*, an essential yeast gene required for completion of mitosis and maintenance of ploidy. *Molecular Biology of the Cell* 9:29-46.
- Chial, H.J. et al., 1998. *Saccharomyces cerevisiae* Ndc1p is a shared component of nuclear pore complexes and spindle pole bodies. *Journal of Cell Biology* 143:1789-1800.
- O'Toole, E.T. et al., 1999. High voltage electron tomography of spindle pole bodies and early mitotic spindles in the yeast *Saccharomyces cerevisiae*. *Molecular Biology of the Cell* 10:2017-31.
- Jones, M.H. et al., 1999. Yeast Dam1p is required to maintain spindle integrity during mitosis and interacts with the Mps1p kinase. *Molecular Biology of the Cell* 10:2377-91.

ABSTRACT

Mark Winey was born in Chicago, Illinois, where his father was finishing a Master's degree in chemistry at the University of Chicago. Some months later the family moved back to the suburbs of Philadelphia, Pennsylvania, near where both parents had grown up. Mark was followed by two sisters. The elder Winey finished a PhD in chemistry at the University of Pennsylvania, and has worked on the bench at a research laboratory ever since. Mark's mother was at home with her children until they were established in school, at which time she began teaching English in the high school district where Mark and his sisters went to school. She also obtained a degree in counseling, and Mark likes to laugh that she practiced on the kids.

For the most part, the family had a good upper-middle-class life in Bucks County, attending the local public schools and being active in their Presbyterian church. Mark's initial interest in genetics, however, resulted from his younger sister's galactosemia; she was very ill as an infant, and she was eventually sent to the Children's Hospital of Philadelphia (CHOP), where the uncommon genetic trait was diagnosed. CHOP was one of few places where this diagnosis could have been made. When he was in high school Mark, who had always been determined to be a scientist, took many science classes, which he thinks were excellent, and a number of liberal arts classes that he liked as well. His ninth-grade biology teacher cemented his determination to go into biology. During high school he also began his enduring love of the outdoors, spending much time climbing, camping, and hiking; he even held a part-time job at an outdoor-equipment store.

These two interests combined in Syracuse University, where he could major in biology, but where SUNY Stony Brook also had its forestry school. Soon, though, he settled on just biology, working on blue-green algae in James Smith's laboratory. A class in microbiology taught by Ernest Hemphill convinced him that yeast was his research subject, and he maintains that love. Winey met his future wife at Syracuse and developed many friendships there as well.

Yeast took him to graduate school at the University of Wisconsin, where he worked with Michael Culbertson. His love for yeast he explains as having three reasons: it has good genetics; it is a good teaching medium; and it has applications to the study of human disease.

For his postdoctoral work he and his by-then wife, Mary Darlington, went to the University of Washington, where he worked in the Breck Byers laboratory, studying centrosomes, screening for mutations that affect spindle pole body duplications. From Byers' lab he accepted a faculty position at the University of Colorado, taking his work with him. There he continues to do research on MPS1, MPS2, and NDC1; to write grants; to recruit graduate students; teach; and to write papers. He also must balance his work with his wife and three children, and they continue their outdoor activities.

UCLA INTERVIEW HISTORY

INTERVIEWER:

Andrea R. Maestrejuan, Interviewer, UCLA Oral History Program; B.S., Biological Sciences, University of California, Irvine, 1986; M.A., History, University of California, Riverside, 1991; C.Phil., History, University of California, Riverside.

TIME AND SETTING OF INTERVIEW:

Place: Winey's office, University of Colorado.

Dates, length of sessions: September 14, 1998 (94 minutes); September 15, 1998 (105); September 16, 1998 (142).

Total number of recorded hours: 5.7

Persons present during interview: Winey and Maestrejuan.

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, Maestrejuan held a telephone preinterview conversation with Winey 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 his 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, Maestrejuan consulted J.D. Watson et al., *Molecular Biology of the Gene*. 4th ed. Menlo Park, CA: Benjamin/Cummings, 1987 and Bruce Alberts et al., *Molecular Biology of the Cell*. 3rd ed. New York: Garland, 1994.

The interview is organized chronologically, beginning with Winey's childhood in Philadelphia, Pennsylvania, and continuing through his undergraduate work at Syracuse University, his graduate work at University of Wisconsin-Madison, his postdoc at University of Washington, and the establishment of his own lab at University of Colorado. Major topics discussed include the impact of his sister's galactosemia on his career choice; his study of tRNA splicing in Michael R. Culbertson's lab; the use of brute force screening to identify unknown genes; Winey's research on *MPS1*, *MPS2*, and *NDC1*; and his use of computer technology in studying cell biology.

ORIGINAL EDITING:

Cecily Hurst, 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.

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

William Van Benschoten, editor, prepared the table of contents, biographical summary, and interview history. Hurst compiled the index.

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