CHEMICAL HERITAGE FOUNDATION

ALISON E. M. ADAMS

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview
Conducted by

Steven J. Novak

at

University of Arizona
Tucson, Arizona

on

12-14 February, 1996

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 Pew Biomedical Scholar Advisory Committee members.

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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:

Hilary Domush, Program Assistant, Biomedical Sciences and Technologies, Chemical Heritage Foundation. B.S. Chemistry, Bates College, M.S. Chemistry, University of Wisconsin, M.A. History of Science, University of Wisconsin.

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. R960212

This Interview Agreement is made and entered into this 19th day of March, 1996 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 ALISON E.M. ADAMS having an address at Department of Molecular and Cellular Biology, University of Arizona, Life Sciences South, Tucson, Arizona, 85721, hereinafter called "Interviewee."

Interviewee agrees to participate in a series of University-conducted tape-recorded interviews, commencing on or about February 12, 1996, and tentatively entitled "Interview with Alison E.M. Adams". 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 her 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 she will receive no remuneration or compensation for her 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 Research Administration
University of California, Los Angeles
P.O. Box 951406
Los Angeles, California 90095-1406

Attention: Ms. Carli V. Rogers
Copyright Officer

If to Interviewee:

Alison E.M. Adams
Department of Molecular and Cellular Biology
University of Arizona
Life Sciences South
Tucson, Arizona 85721

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

INTERVIEWEE

(Signature)

Alison E.M. Adams
(Typed Name)

University of Arizona
(Address)

Life Sciecnes South

Tucson, AZ 85721

Date 2/12/96

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

(Signature)

Carli V. Rogers
(Typed Name)

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(Title)

Date March 9, 1996

Pew Scholars in the Biomedical Sciences

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Alison E.M. Adams, Ph.D.

1/17/08

Date

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

ALISON E. M. ADAMS

1955 Born in Penang, Malaysia on 19 November

Education

1978 B.A., University of Dublin, Trinity College
1984 Ph.D., University of Michigan

Professional Experience

University of Edinburgh
1985 Postdoctoral Fellow

Massachusetts Institute of Technology
1986-1989 Postdoctoral Fellow

University of Arizona, Department of Molecular and Cellular Biology
1990-1996 Assistant Professor
1996-present Associate Professor

Honors

1980-1984 Literature, Science, and Arts Award, University of Michigan
1982-1983 Horace H. Rackham School of Graduate Studies Predoctoral Fellowship, University of Michigan
1982-1983 Edwin H. Edwards Award, University of Michigan
1983-1984 Cancer Research Institute Predoctoral Fellowship, University of Michigan
1986-1989 Life Sciences Research Foundation Award
1991 Junior Career Recognition Award, Women in Cell Biology
1991-1995 Pew Scholar in the Biomedical Sciences

Selected Publications

Sloat, B.F. et al., 1981. Roles of the *CDC24* gene product in cellular morphogenesis during the *Saccharomyces cerevisiae* cell cycle. *Journal of Cell Biology*, 89:395-405.

Adams, A.E.M. and J.R. Pringle, 1984. Relationship of actin and tubulin distribution to bud growth in wild-type and morphogenetic-mutant *Saccharomyces cerevisiae*. *Journal of*

Cell Biology, 98:934-45.
Kilmartin, J.V. and A.E.M. Adams, 1984. Structural rearrangements of tubulin and actin during the cell cycle of the yeast *Saccharomyces. Journal of Cell Biology,* 98: 922-33.
Jacobs, C.W. et al., 1988. Functions of microtubules in the *Saccharomyces cerevisiae* cell cycle. *Journal of Cell Biology,* 107:1409-26.
Adams, A.E.M. and D. Botstein, 1989. Dominant suppressors of yeast actin mutations that are reciprocally suppressed. *Genetics,* 121:675-83.
Adams, A.E.M. et al., 1989. A yeast actin-binding protein is encoded by *SAC6,* a gene found by suppression of an actin mutation. *Science,* 243:231-33.
Adams, A.E.M. et al., 1990. *CDC42* and *CDC43,* two additional genes involved in budding and the establishment of cell polarity in the yeast *Saccharomyces cerevisiae. Journal of Cell Biology,* 111:131-42.
Haarer, B.K. et al., 1990. Purification of profilin from *Saccharomyces cerevisiae* and analysis of profilin-deficient cells. *Journal of Cell Biology,* 110:105-14.
Pringle, J.R. et al., 1991. Immunofluorescence methods for yeast. *Methods in Enzymology,* 194:565-601.
Adams, A.E.M. and J.R. Pringle, 1991. Staining of actin with fluorochrome-conjugated phalloidin. *Methods in Enzymology,* 194:729-31.
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Adams, A.E.M. et al., 1993. Unexpected combinations of null mutations in genes encoding the actin cytoskeleton are lethal in yeast. *Molecular Biology of the Cell,* 4:459-68.
Honts, J.E. et al., 1994. Actin mutations that show suppression with fimbrin mutations identify a likely fimbrin-binding site on actin. *Journal of Cell Biology,* 126:413-22.
Adams, A.E.M. et al., 1995. Isoform-specific complementation of the yeast *sac6* null mutation by human fimbrin. *Molecular and Cellular Biology,* 15:69-75.
Brower, S.M. et al., 1995. Genetic analysis of the fimbrin-actin binding interaction in *Saccharomyces cerevisiae. Genetics,*140:91-101.

ABSTRACT

Alison E. M. Adams was born in Penang, Malaysia, the third of six children. Her parents were British citizens: Her father, a British citizen, had worked for the British government for many years; her mother, also a British citizen, went from England to Malaysia after World War II; there she met and married Bill Adams. When Alison was four, the family moved to a small town, Sherborne, in England; they continued to move among small towns around the area. Although she went to smallish schools that in retrospect she thinks were not very good, Alison liked school, especially the sciences. She played field hockey, continuing into her college years. She also played other sports and took violin and piano lessons.

Her family took several trips to Ireland, which Adams loved so much she decided she wanted to attend college there. She matriculated into Trinity College, Dublin, where she began in chemistry but soon switched to genetics. She spent an undergraduate semester in John Pringle's lab at the University of Michigan. After finishing at Trinity she came back to the United States, where she again went to Pringle's lab at the University of Michigan, researching *Saccharomyces cerevisiae*. After finishing her PhD she went to the University of Edinburgh to do a postdoc, but it did not work out, and she arranged for a postdoc position in David Botstein's lab at Massachusetts Institutes of Technology; from there she went to Genentech with Botstein. While working in Botstein's lab, Adams identified the protein Sac6 by means of genetic techniques versus biochemical methods, and discovered that fimbrim isoforms can compensate for Sac 6. Adams's work on the protein Sac6 would be the basis for future research at the University of Arizona, where she established her own lab. While she was teaching at the University of Arizona, Adams's work shifted toward biochemistry through her collaboration with William R. Montfort on the crystal structure of Sac6 and her interest in applying yeast studies to human beings. Adams plans soon to take a sabbatical to pursue research for the Imperial Cancer Research Fund and possibly to teach in India. Adams concludes the interview by illuminating her thoughts about her role in science, her perspective on the future of mankind, and her desire for cooperation among scientists.

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: Adams's office, University of Arizona.

Dates, length of sessions: February 12, 1996 (89 minutes); February 13, 1996 (99); February 14, 1996 (48).

Total number of recorded hours: 3.95

Persons present during interview: Adams 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' 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 consultants developed a topic outline. In preparing for this interview, Novak held a telephone preinterview conversation with Adams 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 Adams's file at the Pew Scholars Program office in San Francisco, including her 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. 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 Adams's childhood in England and continuing through her education at University of Dublin and University of Michigan, her postdoc with David Botstein, and the establishment of her laboratory at the University of Arizona. Major topics discussed include Adams's innovations in immunofluorescence techniques, identification of Sac6 and its use in fimbrin studies, the future directions of actin research, managing a career as an investigator, and problems facing the biomedical research community.

ORIGINAL EDITING:

Gregory M. Beyrer, editorial assistant, edited the interview. He 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.

Adams reviewed the transcript. She verified proper names and made minor corrections and additions.

Kristian London, editor, prepared the table of contents. Beyrer assembled the biographical summary and interview history. Novak compiled the index.

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