CHEMICAL HERITAGE FOUNDATION

PATRICK BRENNWALD

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview
Conducted by

Helene L. Cohen

at

Weill Medical College of Cornell University
New York, New York

on

22, 23, and 24 May 2000

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.

From the original collection at the Center for Oral History Research, UCLA Library, UCLA.

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:

Kim Phan, Program Intern, Oral History, Chemical Heritage Foundation. B.A. expected 2011, Anthropology, Cornell University.

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. T0602003

This Interview Agreement is made and entered into this 2nd day of June, 2000 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 PATRICK J. BRENNWALD, having an address at Department of Cell Biology and Anatomy, Cornell University Medical College, 1300 York Avenue, New York, New York 10021, hereinafter called "Interviewee."

Interviewee agrees to participate in a series of University-conducted tape-recorded interviews, commencing on or about May 22, 2000, and tentatively entitled "Interview with Patrick J. Brennwald". 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.

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

If to University:

Oral History Program
University of California, Los Angeles
Box 951575
Los Angeles, California 90095-1575

Attention: Director

If to Interviewee:

Patrick J. Brennwald
Department of Cell Biology and Anatomy
Cornell University Medical College
1300 York Avenue
New York, New York 10021

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

INTERVIEWEE

X _____
(Signature)

Patrick J. Brennwald
(Typed Name)

Cornell University Medical College
(Address)

1300 York Avenue

New York, New York 1002

Date 5/22/00

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

_____
(Signature)

Dale E. Treleven
(Typed Name)

Director, Oral History Program
(Title)

Date June 2, 2000

Pew Scholars in the Biomedical Sciences

Chemical Heritage Foundation Internet Posting Release Form

I, Patrick J. Brennwald, 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.**
NOTE: Users citing this interview for purposes of publication are obliged under the terms of the Chemical Heritage Foundation Oral History Program to obtain permission from Chemical Heritage Foundation, Philadelphia, Pennsylvania.

b. X **Semi-restricted Internet Postings** (My review of the material intended to post is required.)

c. _____ **Restricted access.** (Do not post.)

This constitutes my entire and complete understanding.

Patrick J. Brennwald, PhD.

2/07/05

Date

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

PATRICK BRENNWALD

1963 Born in Lake Forest, Illinois, on 22 May

Education

1985 B.A., Carleton College
1990 Ph.D., University of Illinois

Professional Experience

Yale University School of Medicine
1990-1994 Postdoctoral Fellow, Department of Cell Biology

Weill Medical College of Cornell University
1994-present Assistant Professor, Department of Cell Biology

Honors

1990-1993 Damon Runyon-Walter Winchell Postdoctoral Fellow
1995-1999 Pew Scholar in the Biomedical Sciences
2000-2005 Irma T. Hirschl/Monique Weill-Caulier Career Scientist Award

Selected Publications

Adamo, J. et al., 1999. The Rho GTPase, Rho3, has a Direct Role in Exocytosis Which is Distinct From its Role in Actin Polarity. *Mol.Biol. Cell.* 10:4121-33.

Lehman, K. et al., 1999. The Yeast Homologs of Tomosyn and *lethal giant larvae* Function in Exocytosis and Are Associated with the Plasma Membrane SNARE, Sec9. *J.Cell. Biol.* 146:125-40.

Rice, L. M. et al., 1997. The Formation of a Yeast SNARE Complex is Accompanied by Significant Structural Changes. *FEBSLett.* 415:49-55.

Collins, R. et al., 1997. Interactions of nucleotide release factor DSS4 with SEC4 in the post-Golgi secretory pathway of yeast. *J.Biol.Chem.* 272:18281-89.

Brennwald, P. et al., 1994. Sec9 is a SNAP-25-like Component of a Yeast SNARE Complex that may be the Effector of Sec4 Function in Exocytosis. *Cell* 79:245-58.

Brennwald, P. and P. Novick, 1993. Interaction of Three Domains that Distinguish the Function of Ypt1 from Sec4. *Nature* 362:560-63.

Jena, B.P. et al., 1992. Distinct and Specific GAP Activities in Rat Aancreas Act on the Yeast

GTP-binding Proteins Ypt1 and Sec4. *FEBSLett.* 309:5-9.
Liao, X. et al., 1989. Genetic analysis of *Schizosaccharomyces pombe* 7SL RNA: A Structural Motif that Includes a Conserved Tetranucleotide Loop is Important for Function. *Proc.Natl.A cad. Sci.* USA 86:4137-41.
Brennwald, P. et al., 1888. U2 Small Nuclear RNA is Remarkably Conserved between Fission Yeast and Mammals. *Mol. Cell.Biol.* 8:5575-80.
Brennwald, P. et al., 1988. Identification of an Essential *Schizosaccharomyces pombe* RNA Homologous to the 7SL Component of Signal Recognition Particle. *Mol. Cell.Biol.* 8:1580-90.

ABSTRACT

Patrick Brennwald is the youngest of three children, two boys and a girl. They lived first in Deerfield, Illinois, a suburb of Chicago; when Patrick was about ten, his parents divorced, and a few years later his mother remarried and the family moved to neighboring Northbrook, Illinois. He remembers a regular childhood, in which he and his siblings played usual games with other children in the area. He does not remember any particular scientific attraction, except that he and his brother used to help a friend catch snakes in a nearby field.

He attended Roman Catholic schools through junior high school, and then switched to the public high school. In sixth grade, in his Roman Catholic school, he was taught about evolution, perhaps where his interest in science began. In eighth grade he had a dynamic general science teacher who helped cement Brennwald's interest. As a sophomore he was in honors chemistry and honors biology classes; his biology teacher bred owls and was an inspiration to Brennwald. In high school he had to come up with a project of his own, so he studied the sex determination mechanism of swordtail fish. He also worked through high school and college, first as a bagger and then as the supervisor of baggers at his local grocery store. The supervisory work was good preparation for managing a lab, he says.

Brennwald chose Carleton College, an excellent liberal arts college in Minnesota, because he wanted a small school with a broad education. He began in biology, but switched to chemistry. He loved the bench and realized that to be a scientist he had to go to graduate school. In addition to taking science classes he also studied philosophy; he spent time arranging parties, hiring bluesmen from Chicago; and he played ultimate Frisbee and softball.

Brennwald entered the University of Illinois for graduate school, working in Jo Ann Wise's lab. Researching *Schizosaccharomyces pombe* he cloned four small RNA's and had two first-author papers. He then took on a project that never quite went where he had hoped, and he ended up finishing his thesis in three weeks so as to go off to a postdoc.

Brennwald accepted a postdoc in Peter Novick's lab at Yale University to research membrane transport. While at Yale he met the woman who is now his wife, Guendalina Rossi. At the time she was a student in another lab at Yale, studying another aspect of membrane transport. After his fourth year, Brennwald accepted an assistant professorship at Weill Medical College of Cornell University in New York City. In his first year there he won the Pew Scholars in the Biomedical Sciences award. He has just been promoted to associate professor. He teaches quite a lot, as he considers it important and he likes it. He sits on committees; he publishes; he writes grants, of course; he manages his lab; but he would like more time for the bench. He is continuing his work on gene family *Rho*.

As is usual with a busy person who loves his work, Brennwald feels that he could use a few more hours in the day, hours to spend with his family; hours to work at the bench; hours just to read and listen to music. All told, however, he believes he has so far met both his personal and his professional goals.

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: Brennwald's office, Weill Medical College of Cornell University.

Dates, length of sessions: May 22, 2000 (122 minutes); May 23, 2000 (125); May 24, 2000 (100).

Total number of recorded hours: 5.8

Persons present during interview: Brennwald 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 Brennwald 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 Brennwald'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; 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 Brennwald's childhood in Deerfield and Northbrook, Illinois, and continuing through his undergraduate work at Carleton College, his graduate work at University of Illinois, his postdoc at Yale University School of Medicine, and the establishment of his own laboratory at Weill Medical College of Cornell University. Major topics discussed include his interest in science in secondary school, his research in the Jo Ann Wise laboratory, his current research on cell polarity and the gene family *Rho*, and the impact of his family on his life and work.

ORIGINAL EDITING:

Ji Young Kwon, 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.

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

William Van Benschoten, senior writer, prepared the table of contents. Kwon assembled the biographical summary and interview history. Victoria Simmons, editorial assistant, compiled the index.

TABLE OF CONTENTS

INDEX