CHEMICAL HERITAGE FOUNDATION

MARTIN D. SNIDER

The Pew Scholars Program in the Biomedical Sciences

Transcript of an Interview Conducted by

Robert Kohler and Naomi Morrissette

at

Coral Gables, Florida

on

8 March 1990

(With Subsequent Corrections and Additions)

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.



This interview has been designated as **Semi Restricted Access**.

One may view the oral history.

However, the permission of the interviewee is required to quote from, cite, or reproduce the oral history.

Please contact CHF to request permission.



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



The Chemical Heritage Foundation (CHF) serves the community of the chemical and molecular sciences, and the wider public, by treasuring the past, educating the present, and inspiring the future. CHF maintains a world-class collection of materials that document the history and heritage of the chemical and molecular sciences, technologies, and industries; encourages research in CHF collections; and carries out a program of outreach and interpretation in order to advance an understanding of the role of the chemical and molecular sciences, technologies, and industries in shaping society

THE BECKMAN CENTER FOR THE HISTORY OF CHEMISTRY

Oral History Program

RELEASE FORM

This document contains my understanding and agreement with the ter for Eistory of Chemistry with respect to my participation in a e-recorded interview conducted by the Center and Naomi Morrissette on March 8, 1990 are read the transcript supplied by the Center and returned it with corrections and emendations.
The tapes and corrected transcript (collectively called the "Work") will be maintained by the Center and made available in accordance with general policies for research and other scholarly purposes.
I hereby grant, assign, and transfer to the Center all right, title, and interest in the Work, including the literary rights and the copyright, except that I shall retain the right to copy, use and publish the Work in part or in full until my death.
The manuscript may be read and the tape(s) heard by scholars approved by the Center subject to the restrictions listed below. The scholar pledges not to quote from, cite, or reproduce by any means this material except with the written permission of the Center.
I wish to place the following conditions that I have checked below upon the use of this interview. I understand that the Center will enforce my wishes until the time of my death, when any restrictions will be removed.
a No restrictions for access.
b My permission required to quote, cite, or reproduce.
c My permission required for access to the entire document and all tapes.
constitutes our entire and complete understanding.
(Signature) Mart D. Swill
Martin Snider

(Revised 24 February 1988)

MARTIN D. SNIDER

1952	Born in Chicago, Illinois on November 10
	<u>Education</u>
1973 1978	BS, Biology, Brown University PhD, Medical Sciences/Biological Chemistry, Harvard University
	Professional Experience
1978-1982	Massachusetts Institute of Technology, Cambridge, MA Post-Doctorate, Biology & Center for Cancer Research
1982-1986	Carnegie Institute of Washington, Baltimore, MD Staff Associate, Department of Embryology
1986-present	Case Western Reserve University, Cleveland, OH Assistant Professor, Department of Biochemistry
	<u>Honors</u>
1973-1976	National Science Foundation Graduate Fellowship
1978-1981	National Institutes of Health Postdoctoral Fellowship
1986	Pew Scholars in the Biomedical Sciences Award

ABSTRACT

Martin Snider grew up mostly on the south side of Chicago, Illinois, later moving to Milwaukee, Wisconsin, and then to Newton, Massachusetts. His father was an academic physician, and Snider and his two siblings all ended up in academics too. A National Science Foundation summer program at Brown University convinced him to matriculate there.

At Brown, Snider worked with Joseph Steim, a biophysical chemist interested in the functionality of membranes. Snider feels that Brown, with its emphasis on undergraduates, gave him an excellent education. Encouraged by Joan Lusk, Snider entered Eugene Kennedy's lab at Harvard University. Working with membrane proteins, as well as Kennedy, was difficult but he became Snider's most important influence. Because his wife was at Harvard Medical School, Snider chose to do postdoctoral work at MIT. There he began his research into glycoprotein synthesis in the lab of Phillips Robbins. Snider was glad to leave the high-stress competition to accept a staff associate position at Carnegie Institution for Science, which he says was the nicest place he has ever worked. Funding and lack of distractions allowed Snider to concentrate on new research into vesicular traffic, and he was very productive.

When it was time for Snider and his wife, who is a neuropharmacologist, to establish their own labs, they found job-hunting to be most productive in medical schools in small cities. Ultimately they settled on Case Western Reserve University for both of them. Snider has continued his vesicular traffic work, but he has also returned to glycoprotein synthesis, where he says he has new tools to address old problems. He talks about his colleagues with similar interests; the size and composition of his lab; oral tradition in labs; and his own distinctive lab management. He has the additional responsibilities of grant-writing, reviewing papers, and teaching, leaving him perhaps half time in his lab.

TABLE OF CONTENTS

Early Years Grows up on south side of Chicago, Illinois, one of three children. Father	1
academic physician; siblings also academics. Attends University of Chicago Laboratory School until high school; then two years in Milwaukee, Wisconsin, and a year in Newton, Massachusetts. Uncle early biochemist. Attended National Science Foundation (NSF) summer program at Brown University.	
College Years Enters Brown to work with Joseph Steim. Excellent education at Brown. Confirmation of old membrane models. Political events; closing of Brown. Vietnam War and Watergate.	3
Graduate School Years Eugene Kennedy's lab at Harvard University. Membrane function; lacY. Other possible graduate schools. Biochemistry of membrane proteins difficult, purifying laborious and tedious. Kennedy not warm, but Snider's most important influence. Changing from prokaryotic to eukaryotic work. Chris Raetz and William Wickner.	7
Postdoctoral Years Wife at Harvard Medical School. Phillips Robbins' lab at MIT. Glycoprotein synthesis; Robbins' approach enzymological approach, Snider's cell biological. Combining biochemistry and cell biology. Relationship with Robbins. Harvey Lodish's lab. MIT labs high-pressure, competitive.	12
Carnegie Institution for Science Staff Associate position. Nicest place he's ever worked. Generous funding Director Donald Brown's preference for molecular. Able to concentrate on benchwork; very productive time. Begins work on vesicular traffic.	15
First Independent Lab Snider and wife job searching. Medical schools in smaller cities best places to look. Case Western Reserve University. Cleveland a nice city, convenient, close to families. Good start-up offers for both. Less high-stress; medical school teaching done by committees; science boundaries less rigid. Cell biology new area; more hands-on oversight. Size, composition of lab. New tools and new perspectives. Cloning. Molecular biology all in kits now. Snider's approach. General thoughts. Reviewing and teaching. Less time in lab. Grants and funding.	18

Index 32

INDEX

В	L
Baltimore, David, 14, 17	Lederberg, Joshua, 26
Baltimore, Maryland, 15	Lemmon, Sandra K., 20
Boston, Massachusetts, 2, 11	Lipmann, Fritz A., 12
Brandeis University, 8	Lodish, Harvey F., 14
Bronson, Vincent, 2	Lusk, Joan E., 7
Brown University, 3, 4, 6, 7	
Brown, Donald D., 16	M
C California, 8	Massachusetts Institute of Technology, 8, 11, 14, 19 membrane traffic. <i>See</i> vesicle/vesicular traffic Merck, 11
Carnegie Institution for Science, 15, 16	Milwaukee, Wisconsin, 2
Case Western Reserve University, 17, 19, 24	MIT. See Massachusetts Institute of Technology
Chicago, Illinois, 1, 2 Cleveland, Ohio, 18	N
collaboration, 14, 17, 20	National Institutes of Health, 30
Colorado, 3	National Science Foundation, 3
Crick, Francis H.C., 1	Newton, Massachusetts, 2
D	Nobel Prize, 1
DNA, 27	P
DNA, 27 Docherty, Pamela A., 25	
	Pagano, Richard E., 15, 17
	Pagano, Richard E., 15, 17 Payne, Gregory S., 20
Docherty, Pamela A., 25	Pagano, Richard E., 15, 17
Docherty, Pamela A., 25	Pagano, Richard E., 15, 17 Payne, Gregory S., 20 Pew Scholars Program in the Biomedical Sciences,
Docherty, Pamela A., 25 G glycoprotein synthesis, 12, 17, 24, 26	Pagano, Richard E., 15, 17 Payne, Gregory S., 20 Pew Scholars Program in the Biomedical Sciences, 20, 21
Docherty, Pamela A., 25 G glycoprotein synthesis, 12, 17, 24, 26	Pagano, Richard E., 15, 17 Payne, Gregory S., 20 Pew Scholars Program in the Biomedical Sciences, 20, 21 Princeton University, 9 Purdue University, 18
G glycoprotein synthesis, 12, 17, 24, 26 grants/funding, 15, 16, 30 H	Pagano, Richard E., 15, 17 Payne, Gregory S., 20 Pew Scholars Program in the Biomedical Sciences, 20, 21 Princeton University, 9
G glycoprotein synthesis, 12, 17, 24, 26 grants/funding, 15, 16, 30 H Harvard Medical School, 11	Pagano, Richard E., 15, 17 Payne, Gregory S., 20 Pew Scholars Program in the Biomedical Sciences, 20, 21 Princeton University, 9 Purdue University, 18
G glycoprotein synthesis, 12, 17, 24, 26 grants/funding, 15, 16, 30 H	Pagano, Richard E., 15, 17 Payne, Gregory S., 20 Pew Scholars Program in the Biomedical Sciences, 20, 21 Princeton University, 9 Purdue University, 18
G glycoprotein synthesis, 12, 17, 24, 26 grants/funding, 15, 16, 30 H Harvard Medical School, 11 Harvard University, 2, 7, 8, 15	Pagano, Richard E., 15, 17 Payne, Gregory S., 20 Pew Scholars Program in the Biomedical Sciences, 20, 21 Princeton University, 9 Purdue University, 18 R Raetz, Christian R.H., 11
G glycoprotein synthesis, 12, 17, 24, 26 grants/funding, 15, 16, 30 H Harvard Medical School, 11 Harvard University, 2, 7, 8, 15 Hawrot, Edward, 9	Pagano, Richard E., 15, 17 Payne, Gregory S., 20 Pew Scholars Program in the Biomedical Sciences, 20, 21 Princeton University, 9 Purdue University, 18 R Raetz, Christian R.H., 11 religion, 1
G glycoprotein synthesis, 12, 17, 24, 26 grants/funding, 15, 16, 30 H Harvard Medical School, 11 Harvard University, 2, 7, 8, 15 Hawrot, Edward, 9	Pagano, Richard E., 15, 17 Payne, Gregory S., 20 Pew Scholars Program in the Biomedical Sciences, 20, 21 Princeton University, 9 Purdue University, 18 R Raetz, Christian R.H., 11 religion, 1 Rhode Island, 3
G glycoprotein synthesis, 12, 17, 24, 26 grants/funding, 15, 16, 30 H Harvard Medical School, 11 Harvard University, 2, 7, 8, 15 Hawrot, Edward, 9 Howard Hughes Medical Institute, 16	Pagano, Richard E., 15, 17 Payne, Gregory S., 20 Pew Scholars Program in the Biomedical Sciences, 20, 21 Princeton University, 9 Purdue University, 18 R Raetz, Christian R.H., 11 religion, 1 Rhode Island, 3 Robbins, Phillips W., 8, 12, 14, 15, 17, 24, 28
G glycoprotein synthesis, 12, 17, 24, 26 grants/funding, 15, 16, 30 H Harvard Medical School, 11 Harvard University, 2, 7, 8, 15 Hawrot, Edward, 9 Howard Hughes Medical Institute, 16	Pagano, Richard E., 15, 17 Payne, Gregory S., 20 Pew Scholars Program in the Biomedical Sciences, 20, 21 Princeton University, 9 Purdue University, 18 R Raetz, Christian R.H., 11 religion, 1 Rhode Island, 3 Robbins, Phillips W., 8, 12, 14, 15, 17, 24, 28 Rothman, James E., 9
G glycoprotein synthesis, 12, 17, 24, 26 grants/funding, 15, 16, 30 H Harvard Medical School, 11 Harvard University, 2, 7, 8, 15 Hawrot, Edward, 9 Howard Hughes Medical Institute, 16 J Journal of Biological Chemistry, 29 K	Pagano, Richard E., 15, 17 Payne, Gregory S., 20 Pew Scholars Program in the Biomedical Sciences, 20, 21 Princeton University, 9 Purdue University, 18 R Raetz, Christian R.H., 11 religion, 1 Rhode Island, 3 Robbins, Phillips W., 8, 12, 14, 15, 17, 24, 28 Rothman, James E., 9 Rudney, Harry (uncle), 3
G glycoprotein synthesis, 12, 17, 24, 26 grants/funding, 15, 16, 30 H Harvard Medical School, 11 Harvard University, 2, 7, 8, 15 Hawrot, Edward, 9 Howard Hughes Medical Institute, 16 J Journal of Biological Chemistry, 29	Pagano, Richard E., 15, 17 Payne, Gregory S., 20 Pew Scholars Program in the Biomedical Sciences, 20, 21 Princeton University, 9 Purdue University, 18 R Raetz, Christian R.H., 11 religion, 1 Rhode Island, 3 Robbins, Phillips W., 8, 12, 14, 15, 17, 24, 28 Rothman, James E., 9 Rudney, Harry (uncle), 3

Steim, Joseph M., 4, 5

T

Tartakoff, Alan M., 20, 21 Tonegawa, Susumu, 14

 \mathbf{U}

UCLA. *See* University of California, Los Angeles United States of America, 21 University of California, Los Angeles, 11, 18 University of Rochester, 18 V

vesicle/vesicular traffic, 17, 20, 24, 25, 26 Vietnam, 6

W

Ward, Samuel, 15 Watergate, 6 Watson, James D., 1, 11 Weinberg, Robert A., 14 Wickner, William T., 11

 \mathbf{Z}

Zilberstein, Asher, 14