# CHEMICAL HERITAGE FOUNDATION

# **MADELEINE JACOBS**

Transcript of an Interview Conducted by

Hilary Domush

at

American Chemical Society Washington, D.C.

on

28 May 2009

(With Subsequent Corrections and Additions)

#### CHEMICAL HERITAGE FOUNDATION Oral History Program FINAL RELEASE FORM

This document contains my understanding and agreement with the Chemical Heritage Foundation with respect to my participation in the audio- and/or video-recorded interview conducted by Hilary Domush on 28 May 2009. I have read the transcript supplied by the Chemical Heritage Foundation.

- 1. The recordings, transcripts, photographs, research materials, and memorabilia (collectively called the "Work") will be maintained by the Chemical Heritage Foundation and made available in accordance with general policies for research and other scholarly purposes.
- 2. I hereby grant, assign, and transfer to the Chemical Heritage Foundation 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.
- 3. The manuscript may be read and the recording(s) heard/viewed by scholars approved by the Chemical Heritage Foundation 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 Chemical Heritage Foundation. Regardless of the restrictions placed on the transcript of the interview, the Chemical Heritage Foundation retains the rights to all materials generated about my oral history interview, including the title page, abstract, table of contents, chronology, index, et cetera (collectively called the "Front Matter and Index"), all of which will be made available on the Chemical Heritage Foundation's website. Should the Chemical Heritage Foundation subject to the oral history interview, that is, direct quotations, audio clips, video clips, or other material from the oral history recordings or the transcription of the recordings, the Chemical heritage Foundation will be bound by the restrictions for use placed on the Work as detailed below.
- 4. I wish to place the conditions that I have checked below upon the use of this interview. I understand that the Chemical Heritage Foundation will enforce my wishes until the time of my death, when any restrictions will be removed.

#### Please check one:

 a. \_\_\_\_\_\_\_ No restrictions for access. 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. \_\_\_\_\_\_\_ Semi-restricted access. (May view the Work. My permission required to quote, cite, or reproduce.)
 c. \_\_\_\_\_\_\_ Restricted access. (My permission required to view the Work, quote, cite, or reproduce.)

This constitutes my entire and complete understanding.

(Signature) Madeleine Jacobs (Date) July 26, 2010

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 Oral History Program 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.

# **MADELEINE JACOBS**

1946	Born in Washington, D.C., on 11 November
	Education
1968 2003	B.S., Chemistry, George Washington University D.Sc. ( <i>Honoris causa</i> ), George Washington University
	Professional Experience
1060 1072	Chemical & Engineering News, American Chemical Society Assistant Editor
1969-1973 1993-1995	
1995-2003	Managing Editor Editor-in-Chief
1775 2005	
	Public Information Office, National Institute of Allergy and Infectious
1972-1974	Diseases Writer, Editor
1)/2-1)/+	which, Editor
	National Bureau of Standards
1974-1979	Writer, Editor
1978-1979	Chief, Media Liaison & General Publications
	Office of Public Affairs, Smithsonian Institution
1979-1986	Assistant Director and Chief Science Writer
1986-1987	Acting Director
1987-1993	Director
2001 magant	American Chemical Society Executive Director & Chief Executive Officer
2004-present	Executive Director & Chief Executive Officer
	<u>Honors</u>
1993	Smithsonian Institution Gold Medal for Exceptional Service
1999	Abbott Laboratories Distinguished Scientists Speaker, Abbott Park, Illinois
2001	Ruth Evelyn Sanders Distinguished Lectureship, Texas Christian

University

2001	16 <sup>th</sup> Annual William S. Johnson Symposium in Organic Chemistry
	Keynote Speaker, Stanford University
2002	New York Academy of Sciences Women's History Month Award
2002	75 <sup>th</sup> Canadian Society for Chemistry Lecturer, Edmonton, Alberta
2002	UOP Invitational Lectureship, Des Plaines, Illinois
2003	Samuel R. Scholes Jr. Lecturer, Alfred University, Alfred, New York
2003	Jack A. Gerster Memorial Lecturer, University of Delaware, Newark
2003	ADVANCE Lecturer, University of Michigan, Ann Arbor
2003	ACS Award for Encouraging Women into Careers in the Chemical Sciences
2004	George M. Braude Memorial Lecturer, ACS Maryland Section
2004	Award for Executive Excellence, sponsored by Commercial Development and Marketing Association and the Chemical Heritage Foundation
2004	American Crystallographic Association Public Service Award
2005	William E. Mahoney Annual Lecture in Chemistry, University of Massachusetts, Amherst
2006	Pittsburgh Chemical Day Keynote Speaker
2006	Distinguished Laboratory for Molecular Sciences Lectureship on Science and Education, California Institute for Technology
2007	Trustees Council of Penn Women Lecturer, University of Pennsylvania, Philadelphia
2007	Sylvia M. Stoesser Lecture in Chemistry, University of Illinois at Urbana- Champaign
2008	Moses Passer Lecturer, Cornell University, Ithaca, New York
2009	Invited Panelist, Innovation Economy Conference, Washington, D.C.
2011	Edith Kreeger Wolf Visiting Professor, Northwestern University, Evanston, Illinois

#### ABSTRACT

**Madeleine Jacobs** grew up in Washington, D.C., the younger of two children. Her father was a musician, her mother a secretary. The television program *Watch Mr. Wizard* convinced her she wanted to be a scientist, in particular a chemist. Jacobs went to school in the wake of Sputnik, during which time there was much more support and better resources for education generally, and science education specifically. Jacobs feels that she had very good teachers and classes throughout junior and senior high school. Her parents were supportive of her ambition to pursue science, and she always earned top grades in all her subjects.

Jacobs submitted a limited number of college applications, largely because the cost of applying to colleges put a strain on her middle class family. She matriculated into George Washington University with a full scholarship. She found the professors involved and engaging and loved her experiences there; her summer work to earn money at a government agency involved studying lipid transport in cockroaches. She married after college, planning to enter Stanford University's PhD program in chemistry, but her husband had been drafted, and they had to spend two years in Washington, D.C. Jacobs began a master's program at the University of Maryland, but she quit after a year. She had always loved writing and wrote extremely well, so she applied for a job with *Chemical & Engineering News* (*C&EN*). At *C&EN*, she became interested in gender equality of chemists, in particular the disparity between the salaries of women and men chemists. This interest in gender equality has lasted her entire life.

Initially, Jacobs worked in Washington, D.C., and continued working for *C&EN* when she moved to California with her husband. After six months in California, she left to return to D.C., where she worked for *C&EN* for two more years. After a short stint as a writer at National Institutes of Health, she spent five years as a science writer, and then became head of media relations and publications at the National Bureau of Standards. From that position, Jacobs' career took her to the Smithsonian Institution's Office of Public Affairs, beginning as science writer and ending as its Director. At this job, she became interested in attracting diverse audiences to the museums. During her time at the Smithsonian, the slogan, "The Smithsonian is for everyone" was coined. When she left there, she was awarded the Secretary's Gold Medal for her efforts in outreach, especially to underrepresented peoples.

After fourteen years at the Smithsonian, Jacobs returned to *C&EN* to become managing editor. After one and a half years, she became editor-in-chief, a title she held for eight and a half additional years. At *C&EN*, she reawakened her interest in women in chemistry. She initiated "The Scorecard" to document the progress of women on chemistry faculties. Finding this scorecard effective in making faculties sit up and take notice on the disparity between the number of male and female professors, she began a scorecard for industry.

After ten years at *C&EN*, Jacobs became the first woman and first person without a PhD to become Chief Executive Officer of the American Chemical Society (ACS), the position she holds today. Her responsibilities include running a staff of two thousand people, including the ACS scientific publishing operations, Chemical Abstracts Service and ACS Publications; serving on the ACS Board of Directors; fundraising; and outreach to universities, government, industry, and the nonprofit world. She continues her interest in promoting gender equality and minority representation. She sees science education and literacy as a path to improvement of everyone's life.

Throughout the interview, Jacobs discusses the need for self-confidence, especially among women. She firmly believes that a science education provides an important analytical way of thinking, one that is useful for everyone. She discusses the change in her perspective of life due to her breast cancer and extols her second marriage and husband.

#### INTERVIEWER

**Hilary Domush** completed a B.S. in chemistry at Bates College before earning an M.S. in organic chemistry and an M.A. in the history of science at the University of Wisconsin. As a graduate student, her research focused on 19th-century chemistry in Edinburgh. As program associate for the oral history program, Domush helps manage the program and conducts oral histories for the Women in Chemistry project.

# **TABLE OF CONTENTS**

<ul> <li>Early Years</li> <li>Raised in Washington, D.C. Father musician; mother secretary. Musical brother. <i>Watch Mr. Wizard</i>. Always loved science, especially chemistry. Sputnik. Increase in government support for science education. Good science classes throughout junior high school and high school. National Science Foundation program at Walter Reed Army Institute of Research. Always got good grades. Parents supportive.</li> </ul>	1
George Washington University Enough money to apply to four colleges only. Offered full-tuition scholarship to George Washington University. Older brother studying computer science at University of Maryland. Summer jobs: camp counselor; biology assistant; studying lipid transport in female cockroaches. Naval Research Laboratory. Did extremely well in all subjects. Loved writing.	6
Life after College Engaged to physics student from high school class. Married after college. Accepted to Stanford University. Husband drafted; return to D.C. for two years. Began master's degree at University of Maryland, working in Bruce Jarvis's lab. Quit after only one year. Renewed interest in helping women. Project Seed.	15
Chemical & Engineering News and Other Work Looking for one-year job, accepted editorial assistant position at Chemical & Engineering News. Continued working for C&EN when she returned to Stanford with her husband. After six months left husband to return to D.C. After three years left C&EN for National Institutes of Health; then Bureau of Standards. Head of media relations and publications.	22
<ul> <li>Smithsonian Institution</li> <li>Becomes science writer, then assistant director, in Office of Public Affairs.</li> <li>Discusses responsibilities. Museum of the American Indian. Heye Foundation.</li> <li>"The Smithsonian is for everyone." Secretary's Gold Medal for her accomplishments. Promoted to Acting Director, then Director of Smithsonian.</li> </ul>	29
<ul> <li>Back to C&amp;EN</li> <li>Returns as managing editor of C&amp;EN. Revives interest in women in chemistry. Invents "The Scorecard" first for academia and then for industry. Discusses importance of life outside work; promotion of women scientists with such programs as National Science Foundation's Advance grant; her struggle with breast cancer; loss and regaining of self-confidence. Becomes editor-in-chief.</li> </ul>	34
American Chemical Society	47

First woman and first person without PhD to become Chief Executive Officer.

Discusses accomplishments and challenges of job; president's functions vis-à-vis CEO; testifying before the U.S. Congress; fundraising; meetings; overseeing publications.

# General Thoughts

51

Science trains certain style of thinking, effective in most walks of life. Wants to improve science education and literacy in order to improve living for all. Describes some of her favorite things from her travels. Extols her second marriage.

Index

54

#### INDEX

#### A

Abbott Laboratories, 39 ACS. *See* American Chemical Society Adams, Robert McCormick, Jr., 28, 29 American Chemical Society, 1, 6, 19, 22, 25, 33, 34, 42, 43, 44, 46, 47, 49 Green Chemical Institute, 46 Project Seed, 6, 21, 22 Scholars Program, 22, 23 Women Chemists Committee, 46 Ann Arbor, Michigan, 38

### B

Bader, Alfred, 22
Bader, Isabel, 22
Baltimore, Maryland, 46
Baum, Rudy M., 31, 42
Bayer Corporation, 19
Beilstein, 11
Beltsville Area Agricultural Research Service, 7
Beltsville, Maryland, 7, 8
Bethesda-Chevy Chase High School, 6
Bronx, New York, 23, 45
Brown University, 5, 21
Burns, Stephanie A., 35

### С

C&EN. See Chemical & Engineering News
California, 18, 31
California Institute of Technology, 13, 21
Caltech. See California Institute of Technology
Capitol Hill, 22, 45
Catholic University of America, 14
Chemical & Engineering News, 15, 16, 17, 18, 19, 24, 27, 30, 31, 35, 39, 41, 42, 43, 44, 47, 50, 51
Chemical Abstracts Service, 46
Chemical Heritage Foundation, 43 *Chemistry & Industry*, 51 Chesapeake Bay, 51 China, 34 Chu, Steven, 48 Columbus, Ohio, 44 Columbus, Robert, 10 Corcoran Gallery of Art, 28 Cornell University, 5, 13, 21, 45 CSI. *See* Society of Chemical Industry

## D

Darwin, Charles R., 51 Djerassi, Carl, 13 DNA, 3 *Door in The Dream, The*, 34 Dow Corning, 35

#### Е

England, 8 Erlenmeyer flask, 2 ethnicity, 22, 27, 28 African-American, 22, 27, 28 Asian-American, 27 Hispanic, 27, 28 Indian see Native American, 13, 28 Latino, 27, 28 Native American, 27, 28

## F

Fallwell, William F., 30
Forces for Good The Six Practices of High-Impact Nonprofits], 49
Ford Foundation, 47
Free, Alfred, 19
Free, Helen M., 19
Freer Gallery, 12

### G

Gaithersburg, Maryland, 25, 29

Geico, 4
George Washington University, 5, 6, 9, 11, 14, 22
Georgetown University, 14
Gilbert Chemistry Set, 2
GW. See George Washington University

### Η

Hach Foundation, 22, 46
Hadar, Rodney, 17
Hart, Lorenz, 12
Harvard University, 5, 13
Henry Hill American Chemical Society Project Seed Scholar, 22
Herbert, Don, 2
Herschbach, Dudley R., 52
Heye Foundation, 28
Heylin, Michael, 30, 33
Hidary, Mrs., 3
Hill, Henry, 22
Holdren, John P., 48
Howard Hughes Medical Institute, 47

## I

India, 20, 34

## J

Jacobs, Joe (husband), 52 Jarvis, Bruce, 14, 15 Josephs, Melvin J., 17 Juilliard String Quartet, 26

### K

Kenyon, Richard, 15, 16 Korea, 34 Krieger, James H., 31 Kuck, Valerie J., 23, 34 Kullman, Ellen J., 35

### L

Lindau, Germany, 20 lipid transport, 7

#### Μ

Madeleine Reines Jacobs Undergraduate Fund in Chemistry, 22 Maryanoff, Cynthia A., 47 Massachusetts Institute of Technology, 13 McCurdy, Patrick P., 17 Molina, Mario J., 26 Moses Passer Lectures, 45 *My Fair Lady*, 12

### Ν

Naeser, Charles R., 10, 11 National Bureau of Standards, 7, 25, 29 National Gallery of Art, 12 National Institute of Standards and Technology, 25 National Institutes of Health, 15, 25 National Merit Scholarship, 5 National Museum of the American Indian, 28 National Science Board, 21 National Science Foundation, 4, 8, 38 Advance, 38 National Symphony Orchestra, 4, 12 *Nature*, 26 Naval Research Laboratory, 8 New York Academy of Sciences, 33 Women's History Month Award, 2002, 33 New York City, New York, 28, 31 New York Times, The, 21, 26 NIH. See National Institutes of Health Nobel Prize, 15, 18, 25, 26, 49, 52 Northwestern University, 5, 6 Norway, 39 NSF. See National Science Foundation

# 0

Obama, President Barack H., 2

# P

Panama, 51 Pembroke College, 5 Porter, Cole, 12, 50, 52 Presidential Mentoring Award, 21 Providence, Rhode Island, 5 Puerto Rico, 45

## R

Reines, Joseph (father), 4, 34 Richmond, Geraldine L., 46 Ripley, S. Dillon, 29 Rodgers, Richard, 12 Rosenthal, Al, 26, 27 Rowland, Frank Sherwood, 26 Rutgers, the State University of New Jersey, 36

## S

Salt Lake City, Utah, 46 Schwartz, Brian, 27 Science, 24, 34 Serrano, Representative José E., 45 Smithsonian Institution, 12, 26, 27, 28, 29, 30, 32, 45, 50, 51 Secretary's Gold Medal, 28 Smithsonian Natural History Museum, 28 Society of Chemical Industry, 51 Solinger, Janet, 28 Sommerville, Brendan F., 17 Sotomayor, Justice Sonia M., 23 Sputnik, 2, 4 Stanford University, 13, 14, 15, 17, 18, 21, 23, 49 Starbucks Corporation, 39 Stockton, Bernard, 2 Stradivari, Antonio, 26 Suitland, Maryland, 30 Sweden, 15

### Т

Thackeray, William M., 5

#### U

U.S. Congress, 28
U.S. Department of Agriculture Agricultural Research Center, 7
U.S. Navy Band Symphony Orchestra, 4
U.S. Supreme Court, 23
Union of Soviet Socialist Republics, 2
University of California, Berkeley, 13
University of California, Los Angeles, 13, 36
University of Kansas, 36
University of Manchester, 8
University of Maryland, 5, 14
University of Pennsylvania, 13, 21
University of Wisconsin, 13

## V

Vietnam War, 13

### W

Walter Reed Army Institute of Research, 4, 7
Washington, D.C., 1, 8, 12, 14, 19, 20, 27, 28, 29, 34, 44, 46
Wasserman, Elga, 34 *Watch Mr. Wizard*, 1
Women Chemists Committee. See American Chemical Society: Women Chemists Committee
World War II, 1

# Y

Yale University, 5, 12, 13, 23