

CHEMICAL HERITAGE FOUNDATION

PENELOPE A. FENNER-CRISP

Transcript of an Interview
Conducted by

Sarah L. Hunter-Lascoskie and Jody A. Roberts

at

Fenner-Crisp's Home
North Garden, Virginia

on

3 and 4 April 2012

(With Subsequent Corrections and Additions)

CHEMICAL HERITAGE FOUNDATION
Center for Oral History
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 Sarah Hunter-Lascoskie and Jody Roberts on 4 and 5 April 2012. 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 unless restrictions are placed on the transcript as listed below.

This constitutes my entire and complete under

(Signature) _____

Penelope A. Fenner-Crisp

PENELOPE FENNER-CRISP

(Date) March 28, 2014

OPTIONAL: I wish to place the following restrictions on the use of this interview:

None

Regardless of any restrictions that may be 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 wish to post to the Internet the content of 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 above. Should the Chemical Heritage Foundation wish to post to the Internet the entire oral history interview during my lifetime, I will have the opportunity to permit or deny this posting.

I understand that the Chemical Heritage Foundation will enforce my wishes until the time of my death, when any restrictions will be removed.

This oral history is designated **Free Access**.

Please note: Users citing this interview for purposes of publication are obliged under the terms of the Chemical Heritage Foundation (CHF) Center for Oral History to credit CHF using the format below:

Penelope Fenner-Crisp, interview by Sarah L. Hunter-Lascoskie and Jody A. Roberts at Fenner-Crisp's home, North Garden, Virginia, 3 and 4 April 2012 (Philadelphia: Chemical Heritage Foundation, Oral History Transcript #0712).



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.

PENELOPE A. FENNER-CRISP

1939 Born in Milwaukee, Wisconsin, on 18 April

Education

1962 BS, University of Wisconsin-Milwaukee, Zoology

1964 MA, University of Texas Medical Branch, Pharmacology

1968 PhD, University of Texas Medical Branch, Pharmacology

Professional Experience

1959-1961 Marquette University School of Medicine, Milwaukee, Wisconsin
Research Technician, Department of Pharmacology

1959, 1961-1962 Research Technician and Assistant, Department of Pathology

1961-1962 University of Wisconsin-Milwaukee, Milwaukee, Wisconsin
Undergraduate Teaching Assistant, Department of Zoology

1962-1966 University of Texas Medical Branch, Galveston, Texas
Graduate Teaching Assistant, Department of Pharmacology

1974-1975 University of Birmingham Medical School, Birmingham, U.K.
Visiting Scientist, Department of Physiology

1971-1976 Georgetown University Schools of Medicine and Dentistry, Washington
Adjunct Instructor, Postdoctoral Fellow, Research Associate,
Department of Anatomy

1976-1978 Research Associate, Department of Pharmacology

1978-1987 United States Environmental Protection Agency, Washington, DC
Senior Toxicologist, Health Effects Branch, Office of Drinking
Water

1987 Special Assistant to the Director, Office of Pollution Prevention
and Toxic Substances

1987 Acting Director, Health and Environmental Review Division,
Office of Pollution Prevention and Toxic Substances

1987-1989 Director, Health and Environmental Review Division, Office of
Pollution Prevention and Toxic Substances

1989-1994 Director, Health Effects Division, Office of Pesticide Programs

1994-1995 Acting Deputy Director, Office of Pesticide Programs

1995-1997 Deputy Director, Office of Pesticide Programs

1997-1998 Special Assistant to the Assistant Administrator, Office of
Prevention, Pesticides and Toxic Substances

1998-2000	Senior Science Advisor to the Director, Office of Pesticide Programs
2000-2004	International Life Sciences Institute, Washington, DC Executive Director, Risk Science Institute
2004-present	Independent Consultant

Honors

1964	Johanna Blumel Award to female medical or graduate student with highest grade point average (GPA)
1982	USEPA Gold Medal for Exceptional Service (In recognition of the creative development and exceptional implementation of health advisories which were extremely useful to States and communities affected by contamination of drinking water supplies in the United States)
1986	USEPA Bronze Medal for Commendable Service (For outstanding service in the organization and review of Risk Reference Doses (Acceptable Daily Intakes) and the science from which they are derived)
1988	USEPA Bronze Medal for Commendable Service (For outstanding contributions in the development of the first 25 Toxicological Profiles in accordance with Section 110 of the Superfund Amendments and Reauthorization Act of 1986)
1988	USEPA Bronze Medal for Commendable Service (For exceptional achievement in the development and implementation of the Office of Drinking Water's Performance Improvement Project)
1989	USEPA Bronze Medal for Commendable Service (For exceptional achievement in the timely development of Health Advisories for the National Pesticide Survey)
1994	USDA Certificate of Appreciation (In recognition of significant contributions in developing the Codex Strategic Planning document)
1996	Society for Risk Analysis Risk Practitioner award
1999	USEPA Bronze Medal for Commendable Service (Recognition for scientific expertise and national leadership shown in developing the EPA policy for use of probabilistic analysis in risk assessment).
2000	USEPA Fitzhugh Green Award (the Agency's highest award for contributions on behalf of EPA to its international activities).
2003	Toxicology Forum Fellow

ABSTRACT

Penelope Fenner-Crisp grew up in the suburbs of Milwaukee, Wisconsin, one of two children. Her father changed jobs frequently; her mother was a housewife until Fenner-Crisp was nearly through high school. The family all read a great deal, and Fenner-Crisp loved science from third grade on. At the University of Wisconsin in Milwaukee, Fenner-Crisp majored in zoology and minored in chemistry. While in college Fenner-Crisp worked at Marquette University's Medical School, working first on mosquitos and malaria in Harry Beckman's lab. She later switched to work on blood pressure in James Hilton's lab and moved to Galveston, Texas, as a graduate student in his lab. In Galveston she married, had her first child, and finished her dissertation research. When her husband finished his PhD and accepted a position at Georgetown Schools of Medicine and Dentistry, the family moved to Northern Virginia. Four years after their second child was born, Fenner-Crisp began (and finished) a two-year postdoctoral fellowship in her husband's laboratory. When the family went to Birmingham, England, for her husband's sabbatical, Fenner-Crisp worked on cardiac function in John Coote's lab. Back at Georgetown University she worked in Frank Standaert's lab for eighteen months and spent a few months working on a toxicology report for the National Academy of Sciences (NAS). All this experience made her realize that she did not want to teach or to do research in a lab.

Finding another career option at the Environmental Protection Agency (EPA), Fenner-Crisp began by writing health advisories for neurotoxic pesticides in drinking water. She helped organize Women in Science and Engineering (WISE). Tired of the Office of Drinking Water and wanting to help make policy, she became deputy director and then director of the Health and Environmental Review Division of the Office of Pollution Prevention and Toxic Substances. From there Fenner-Crisp went to the Office of Pesticide Programs, where she had the most fun.

Next Fenner-Crisp began work on the Food Quality Protection Act (FQPA), dealing again with neurotoxins as well as other classes of pesticides. She found that she liked working in the data-rich environment of pesticide regulation. An NAS study on pesticides in the diets of infants and children in the twenty most commonly consumed foods concluded that no carcinogens should be approved. Congress mandated an almost-immediate establishment of EDSTAC (Endocrine Disruptor Screening and Testing Advisory Committee), so the EPA had to find scientists and design tests. Fenner-Crisp set up the office in which the Endocrine Disruptor Screening Program would reside, but refused to run it, instead going back to Pesticides for her last few years at the EPA; there she finished the FQPA-mandated science policy on the child-specific additional 10x safety factor, and, feeling a sense of "completion" and believing that the "fun stuff" was done, she retired.

After leaving the EPA Fenner-Crisp was director of the Risk Science Institute (RSI) at the International Life Sciences Institute (ILSI) for four years, working on many projects designed to improve general principles and practices of risk assessment.

Fenner-Crisp is skeptical about absolute claims on either side of a scientific argument; she talks about voluntary versus involuntary risk and personal responsibility. She explains animal welfare issues and their value in translating study results for their prediction of the impact on human health of exposure to chemicals. She talks about personalities, rivalries, and competition, within and between shifting departments, populations, and administrations. She

promotes government career choices for chemists and scientists in other disciplines. She discusses publishing, women in science, and professional societies. Regarding pesticides, she advises the public to “be aware but don’t be afraid.” Officially retired, she nevertheless continues to participate in the activities of several science-based non-profit organizations such as GreenBlue and Piedmont Master Gardeners.

INTERVIEWERS

Sarah L. Hunter-Lascoskie earned a BA in history at the University of Pennsylvania and an MA in public history at Temple University. Her research has focused on the ways in which historical narratives are created, shaped, and presented to diverse groups. Before Sarah joined CHF, she was the Peregrine Arts Samuel S. Fels research intern and Hidden City project coordinator. Sarah worked both in the Center for Oral History and the Institute for Research at CHF and led projects that connected oral history and public history, producing a number of online exhibits that used oral histories, archival collections, and other materials. She also contributed to CHF’s *Periodic Tabloid* and *Distillations*.

Jody A. Roberts is the Director of the Institute for Research at the Chemical Heritage Foundation. He received his PhD and MS in Science and Technology Studies from Virginia Tech and holds a BS in Chemistry from Saint Vincent College. His research focuses on the intersections of regulation, innovation, environmental issues, and emerging technologies within the chemical sciences.

TABLE OF CONTENTS

Early Years	1
Family life in Milwaukee. Early interest in reading and science. Schooling.	
College Years	5
University of Wisconsin in Milwaukee, zoology major, chemistry and English minors. Tech in Harry Beckman's lab, working on mosquitos and malaria. Switches to James Hilton's lab; move to Galveston, Texas. Work on blood pressure. Publications.	
Graduate School Years	16
Continues in Hilton's lab. Lab size and composition. Marriage and birth of children. Dissertation research and defense. Working in husband's reproductive endocrinology lab. Husband's sabbatical in Birmingham, England. Teaching. Learning electron microscope. Working on cardiac function, similar to her graduate research, in John Coote's physiology lab. Frank Standaert's lab at Georgetown University for eighteen months. Few months working on toxicology report for National Academy of Sciences (NAS). Realized she did not want to teach or do lab research.	
Starting at Environmental Protection Agency (EPA)	34
Politics. Neurotoxins in pesticides; writing health advisories. Helps found Women in Science and Engineering (WISE). Preferred to synthesize others' data. Enjoys getting EPA started. Children's careers. Move to Charles Elkins' division to help make policy. Deputy director, then director of the Health and Environmental Review Division of the Office of Pollution Prevention and Toxic Substances. Move to Office of Pesticide Programs. Working on Russian-English dictionary of scientific terms in Moscow, Russia.	
Within the EPA	56
Alar and apples. Finishing at Pesticides. Working on Food Quality Protection Act (FQPA). Back to working with neurotoxins. Working in Health Effects Division and on exposures. Learning exposure assessment. Asbestos problem in different division. Updating Congress about children's health. NAS study on pesticides in diets of infants and children. Twenty most commonly consumed foods. EBDCs. FQPA Delaney Clause. Personalities and rivalries; competition. Shifting departments, populations, administrations. Endocrine disruption work complicated; no tests available at that time; had to find scientists and design tests. Endocrine Disruptor Screening and Testing Advisory Committee (EDSTAC), Wingspread Conference well-funded until present. Carol Henry. Lynn Goldman. Endocrine Disruptor Screening Program (EDSP). Back to Pesticides for last few years at EPA. Finishes science policy for FQPA.	

International Life Science Institute (ILSI)	82
<p>Alex Malaspina sets up nonprofit to study development of science topics important to food industry. Fenner-Crisp appointed director of Risk Science Institute (RSI), stayed four years. Now contractor, working on cancer guidelines for different branch of ILSI. Translating to non-cancer toxicity, results sent to World Health Organization (WHO). Interagency disagreements. Publications. Women in science. Government career alternatives for chemists. Professional societies. Important role in risk assessment guidelines across agencies. Drafts FQPA's 10x safety factor policy. POPS Treaty (Stockholm Convention).</p>	
International Work	93
<p>Working with WHO after Moscow trip. Alternate years with United Nations (UN). Organisation for Economic Co-operation and Development (OECD) work and endocrine disruption. Joint Meeting on Pesticides and Residues (JMPR): domestic agenda vs. international. Independence of science experts representing country, not agency. Tobacco industry's interference. Importance of mutual exchange. Delaney Clause removal. Finished FQPA, felt sense of "completion." Thought "fun stuff" all done, so retired. Some informal mentoring; new hires' qualifications. Carol Henry. Non-profit work since retirement: American Chemistry Council (ACC) and supporting LRI. General principles for assessment.</p>	
General Thoughts	104
<p>Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM): minimizing animal sacrifice; translation to human health. Need for alternate chemical testing; European Union push to end animal testing. Public's view of pesticides. Critic of Environmental Working Group (EWG's) assessment process in Dirty Dozen. "Be aware, but don't be afraid." Skeptical toward absolute claims on either side. Voluntary vs. involuntary risk. Personal responsibility. Challenge never to be completely certain but have to guide or regulate, for both humans and ecology. She and husband both from poor backgrounds but worked hard at what they liked. Husband's career: nickel studies for EPA. Endocrine Disruption purple book. EPA job and fear of writing and speaking. Still working on projects, though fewer, in retirement.</p>	
Index	120

INDEX

A

ACC. *See* American Chemistry Council
Aidala, James V., 72, 82
Alar, 63, 65, 66, 67, 68, 72, 73, 76, 114, 116
American Chemistry Council, 88, 109, 110
Arnell, Ellen, 9
asbestos, 68, 69, 81
Auer, Charles M., 59, 99

B

Beckman, Harry, 17, 18
Bhussry, Raj, 37
Birmingham, England, 38
bisphenol A, 85, 92, 113
BPA. *See* bisphenol A
Browner, Carol, 70, 79
Burnam, William, 66
Bush, President George H.W., 70, 75, 76

C

Carter, President James E., Jr., 33, 42
Charlottesville, Virginia, 38
Clinton, President William J., 72, 75, 76, 118
Coote, John, 38
Cotruvo, Joseph, 33, 44, 56
Crisp, Cathy (daughter), 28, 38, 50, 52, 55
Crisp, Thomas M. (husband), 21, 23, 26, 27, 28, 29,
31, 32, 33, 37, 38, 49, 52, 93, 119, 120, 122, 124,
125

D

Delaney Clause, 70, 77, 78, 79, 104, 105
Denys, Frank, 31
Drew (grandson), 55

E

EDSP. *See* Endocrine Disruptor Screening Program
EDSTAC. *See* Endocrine Disruptor Screening and
Testing Advisory Committee
Elkins, Charles L., 45, 55, 56, 58, 59, 68, 98
Endocrine Disruptor Screening and Testing Advisory
Committee, 81, 82, 84, 85, 86
Endocrine Disruptor Screening Program, 81, 84, 111,
112, 122
England, 32, 38, 39
Environmental Working Group, 113, 114, 115
EPA. *See* U.S. Environmental Protection Agency
EWG. *See* Environmental Working Group

F

Farland, William H., 90
FDA. *See* U.S. Food and Drug Administration
Fenner, Sally (sister), 22
Fenner-Crisp, Andy (son), 21, 27, 28, 38, 49, 50, 52,
55
Fisher, Linda J., 75, 101
Food Quality Protection Act, 63, 67, 74, 76, 77, 78,
81, 88, 89, 96, 103, 105, 107, 112, 122
FQPA. *See* Food Quality Protection Act
Francis, Elaine Z., 121

G

Galveston, Texas, 8, 18, 21, 22, 23, 24, 26, 28, 30,
34, 93
George Washington University, 88
Georgetown University, 28, 33, 39, 46, 120, 121, 122
Goldman, Lynn R., 70, 79, 87, 122
Goldstein, Bernard D., 50
Gorsuch, Anne M., 41, 42, 48, 107
grants/funding, 17, 31, 40
Greenwood, Mark A., 106

H

Haga, Julie, 32, 33
Hancock, John, 25, 30
Hanmer, Rebecca, 45
Hays, Harry W., 40
Henry, Carol, 14, 87, 88, 90, 104, 109
Hilton, James G., 18, 20, 21, 22, 23, 25, 26, 29, 30
Houston, Texas, 21, 23, 54, 55, 119

I

ILSI. *See* International Life Sciences Institute
Interagency Coordinating Committee on the
Validation of Alternative Methods, 111
International Life Sciences Institute, 89, 90, 91, 92,
102, 104, 109, 110, 124
International Organization for Standardization, 61,
62
ISO. *See* International Organization for
Standardization

J

JMPR. *See* United Nations:Joint Food and
Agriculture Organization
Joint, 99, 100, 101, 102, 103

K

Kennedy, Senator Edward, 67
Kuzma, Joseph F., 17, 18, 35

L

Lawrence University, 16
Lay, Anne B., 16
Lay, Eleanor, 16

M

M.D. Anderson Cancer Center, 54
Malaspina, Alex, 89
Marcus, William, 33, 40, 44, 60
Marquette [University] Medical School, 17
Marquette University, 16, 17, 18, 19, 21, 35, 36
Medical College of Wisconsin, 17
Milwaukee, Wisconsin, 8, 10, 11, 12, 13, 14, 16, 17,
21, 22, 24
Milwaukee-Downer College, 16
Moore, John A., 50, 56, 58, 59, 63, 68
Moscow, Union of Soviet Socialist Republics, 60,
99, 100
Mulkey, Marcia E., 89

N

NAS. *See* National Academy of Sciences
National Academy of Sciences, 39, 40, 43, 50, 72,
73, 74, 76, 90, 104
Board of Toxicology, 40, 88
National Institutes of Health, 32, 110
Natural Resources Defense Council, 70, 92, 113
NIH. *See* National Institutes of Health
NRDC. *See* Natural Resources Defense Council

O

OECD. *See* Organisation for Economic Co-operation
and Development
Office of Personnel Management, 33, 95, 108
OPM. *See* Office of Personnel Management
Organisation for Economic Co-operation and
Development, 62, 99, 100, 112

P

publish/publication, 18, 43, 60, 74, 92, 97, 104, 123

R

Reagan, President Ronald W., 41
Reilly, William K., 70, 75
religion
Christianity

Roman Catholicism, 19

Rice University, 23
Ruckelshaus, William D., 45, 48, 50, 60, 70

S

Sandusky, Chad B., 40
SAP. *See* Scientific Advisory Panel
Schmidt, Richard, 66, 72
Scientific Advisory Panel, 88
Shorewood, Wisconsin, 9, 10, 11, 12, 21
Society of Toxicology, 95, 96
SOT. *See* Society of Toxicology
Standaert, Frank, 39, 40, 50
Steinberg, Marshall, 24, 25, 30
Synar, Representative Michael L., 58, 82

T

tenure, 42, 75, 94
Thomas, Lee M., 70
Toxic Substances Control Act, 63, 64, 81, 107, 117
TSCA. *See* Toxic Substances Control Act

U

U.S. Army, 30
U.S. Environmental Protection Agency, 33, 39, 40,
41, 45, 46, 47, 48, 49, 50, 55, 57, 62, 67, 68, 70,
76, 78, 81, 82, 83, 86, 87, 88, 90, 91, 92, 93, 95,
96, 99, 100, 101, 102, 105, 107, 108, 109, 110,
111, 113, 114, 117, 118, 120, 121, 122, 123, 124,
125
Office of Drinking Water, 34, 40, 42, 43, 45, 46,
56, 57, 60, 62, 63, 64, 71, 118
Office of Pesticide Programs, 113, 117
Office of Pesticide Programs, 58, 59, 60, 63, 64,
67, 70, 86, 87, 88, 96, 99, 100, 101, 108
Office of Pollution Prevention and Toxic
Substances, 65, 80, 81
Office of Pollution Prevention and Toxic
Substances, 50, 56, 58, 60, 62, 65
Office of Pollution Prevention and Toxic
Substances, 68
Office of Pollution Prevention and Toxic
Substances, 69
Office of Pollution Prevention and Toxic
Substances, 80
Office of Pollution Prevention and Toxic
Substances, 99
U.S. Food and Drug Administration, 89, 92, 93, 102,
108, 113, 114, 118
United Nations, 60, 100, 101
University of St. Thomas, 23
University of Texas, 54
University of Wisconsin, 12, 13, 16, 83

University of Wisconsin-Milwaukee, 13, 16, 17, 19,
21
UWM. *See* University of Wisconsin-Milwaukee

V

van Gemert, Marcia, 72
Verghese, Abraham, 25
Virginia, 8, 14, 21, 29, 30, 38, 52, 54, 55, 99

W

Washington, D.C., 28, 46, 103

Waukesha, Wisconsin, 21
WHO. *See* World Health Organization
Wiltse, Jeanette, 90
WISE. *See* Women in Science and Engineering
Women in Science and Engineering, 45, 48, 50, 92,
93, 95, 107, 121
World Health Organization, 62, 90, 91, 99, 100, 102,
103

Z

Zander-Principati, Gloria, 17, 35