

CHEMICAL HERITAGE FOUNDATION

ARTHUR I. MENDOLIA

Transcript of an Interview
Conducted by

James J. Bohning

at

Titusville, New Jersey

on

12 November 1998

(With Subsequent Corrections and Additions)

Arthur I. Mendolia

CHEMICAL HERITAGE FOUNDATION
Oral History Program
FINAL RELEASE FORM

This document contains my understanding and agreement with Chemical Heritage Foundation with respect to my participation in a tape-recorded interview conducted by James J. Bohning on 12 November 1998.

I have read the transcript supplied by Chemical Heritage Foundation.

1. The tapes, corrected transcript, photographs, and memorabilia (collectively called the "Work") will be maintained by 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 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 tape(s) heard by scholars approved by 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 Chemical Heritage Foundation.
4. I wish to place the conditions that I have checked below upon the use of this interview. I understand that 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, PA.

b. _____

Semi-restricted access. (May view manuscript. My permission required to quote, cite, or reproduce.)

c. _____

Restricted access. (My permission required to view manuscript, quote, cite, or reproduce.)

This constitutes my entire and complete understanding.

(Signature) Arthur I. Mendolia

(Date) 8/20/99

This interview has been designated as **Free Access**.

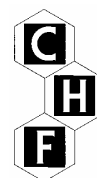
One may view, quote from, cite, or reproduce the oral history with the permission of CHF.

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

Arthur I. Mendolia, interview by James J. Bohning at Titusville, New Jersey, 12 November 1998 (Philadelphia: Chemical Heritage Foundation, Oral History Transcript # 0174).



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.

ARTHUR I. MENDOLIA

1917 Born in Brooklyn, New York on 6 May

Education

1941 B.S., Chemical Engineering, Case Institute of Technology

Professional Experience

E.I. DuPont de Nemours and Company, Inc.

1941-1954 Research Engineer, Electrochemicals Department
1954-1956 Assistant Director of Research, Electrochemicals Department
1956-1958 Assistant Director of Sales, Electrochemicals Department
1958-1966 Assistant General Manager, Electrochemicals Department
1966-1970 Assistant General Manager, Explosives Department
1970-1973 Vice President and General Manager, Explosives Department

U.S. Government

1973-1975 Assistant Secretary of Defense for Installation and Logistics

Halcon International

1975-1978 President
1978-1980 Chairman, Oxirane International

CasChem, Inc. (later, Cambrex Corporation)

1981-1987 Co-founder, Chairman of the Board, Chief Executive Officer,
Chairman of the Executive Committee.
1987-1995 Director of the Board, Cambrex Corporation

Honors

1979 Case Alumni Association Gold Medal Award as Outstanding Alumnus
1990 Winthrop-Sears Award for Entrepreneurship (with C.C. Baldwin)

ABSTRACT

Arthur Mendolia begins the interview with a discussion of his family and childhood. After graduating from high school in Youngstown, Ohio, Mendolia entered Case Western Reserve University in 1934, majoring in chemical engineering. Financing education during the Depression was difficult, and Mendolia worked at Youngstown Steel Door Company to make money. He received his B.S. in 1941 and began to work at DuPont as a research engineer. Mendolia spent thirteen years in DuPont's adiponitrile plant in Niagara Falls, occasionally commuting to a plant Charleston, West Virginia. In 1954, Mendolia was named Assistant Director of Research of DuPont's Electrochemicals Department, a position he held for two years before moving into sales as the Assistant General Manager. In 1966, Mendolia became the Assistant General Manager of the Explosives Department. There he sold DuPont's chemical process for making acrylonitrile to Amoco Chemical Company. DuPont recognized Mendolia's exemplary management skills and promoted him to Vice President of Explosives in 1970. In 1972, Mendolia met Ralph Landau while negotiating a purchase of ethylene glycol for DuPont. Later that year, DuPont recommended Mendolia for a position in the U.S. Department of Defense [DOD]. There, Mendolia learned more about management, organization, finances, and worked personally with President Gerald Ford. After two years with the DOD, Mendolia became president of Ralph Landau's company, Halcon International. Later, he became Chairman of Oxirane, a Halcon and Arco joint venture. With Oxirane, Mendolia set up branch offices in Eton, England, and Houston, Texas, and set up Oxirane's R&D department. He worked to establish uniformity and standards within the company. In 1981, Mendolia and Cy Baldwin bought their own chemical company, CasChem, Inc., a castor oil and polyurethane production company. Then Baldwin and Mendolia purchased Cosan, a biocide company, in 1985. In 1987, these companies officially had their names changed to Cambrex Corporation. Mendolia concludes the interview with a discussion of purchasing chemical companies, management issues, his family, and hobbies.

INTERVIEWER

James J. Bohning is currently Visiting Research Scientist at Lehigh University. He has served as Professor of Chemistry Emeritus at Wilkes University, where he was a faculty member from 1959 to 1990. He served there as chemistry department chair from 1970 to 1986 and environmental science department chair from 1987 to 1990. He was chair of the American Chemical Society's Division of the History of Chemistry in 1986, received the Division's outstanding paper award in 1989, and presented more than twenty-five papers before the Division at national meetings of the Society. He has written for the American Chemical Society News Service, and he has been on the advisory committee of the Society's National Historic Chemical Landmarks committee since its inception in 1992. He developed the oral history program of the Chemical Heritage Foundation beginning in 1985, and was the Foundation's Director of Oral History from 1990 to 1995.

TABLE OF CONTENTS

- 1 Early Years
Living in Brooklyn and Cleveland. Parents. Attending junior high school in Youngstown, Ohio. Decision to attend Case Western Reserve University. Working at Youngstown Steel Door Company. Majoring in chemical engineering. Carl S. Prutton. Case environment in 1930s. Financing college.
- 6 Career Beginnings
Working for DuPont in electrochemicals. Niagara Falls plant. Polyvinyl chloride research. Working in production department. Missing World War II draft. Bedaux System at DuPont. Successful communication. Effect of WWII on DuPont and career. Crawford H. Greenewalt. Adiponitrile.
- 16 Moving up in DuPont
Becoming Assistant Director of Research. Paul Austin. Learning experiences. Moving into sales. Annual reports. Chestnut Run Laboratory. Becoming Assistant General Manager. Don Notman. Gaining responsibility. Moving into Explosives Department. Finding a buyer for DuPont's acrylonitrile process. Becoming Vice President. Changing name from Explosives Department to Polymer Intermediates Department. Dan Flood.
- 27 Career Change
Meeting Ralph Landau. Resigning from DuPont. Accepting appointment with U.S. Department of Defense at Pentagon. Head of oil and energy. Bill Clements. Changing management style. Organization, management, and finances within the DOD. Energy crisis. President Nixon. Working with President Ford. Leaving the DOD.
- 38 Later Career
Offer from Ralph Landau. Becoming President of Halcon International. Adapting to working for small company. Oxirane. Bob Bent. Setting up Oxirane's R&D department. Uniformity. CasChem. Castor oil. Cosan. ETD Technologies. Cray Computer Company. Origin of Cambrex.
- 50 Final Thoughts
Chemical engineers as managers. Large companies vs. small companies. Family. Computer hobbies.
- 54 Notes
- 55 Index

NOTES

1. Lisa Boffa, "Everything You Always Wanted to Know About Industry but Were Afraid to Ask," American Chemical Society Section Meeting. Trenton, NJ, 10 November 1998.
2. Arthur I. Mendolia, "Large and Small Organizations," Stanford University, 21 February 1990. Typescript copy in Arthur I. Mendolia research file, Oral History Interview #174, Chemical Heritage Foundation, Philadelphia, PA.
3. John Howard Perry, *Chemical Engineers' Handbook*, 3rd edition (New York: McGraw-Hill, 1950).
4. Samuel Ichiyé Hayakawa, *Language in Action, A Guide to Accurate Thinking, Reading and Writing* (New York: Harcourt, Brace, 1946).
5. M. McCoy, "Biocides succeed despite regulations," *C&E News* 76, no. 45 (November 9 1998): 21.
6. Crawford H. Greenewalt, *The Uncommon Man, the Individual in the Organization* (New York: McGraw-Hill, 1959).

INDEX

A

Acetylene, 8, 21
Acrylonitrile, 8, 21-23, 32
Adams, Ray, 43
Adionitrile, 15
Adipic acid, 14-15
Adiponitrile [ADN], 13-16, 18
Akzo Nobel, 49
American Chemical Society [ACS], 4, 50
American Cynamid Company, 22
Ameritech, 43
Ammonium nitrate, 32
Ammonium Nitrate Fuel Oil [ANFO], 20, 32
Amoco Chemical Company, 21, 23
Arco Chemical Company, 39, 42
Armed Services Committee, 30, 33
Ashtabula, Ohio, 13
AT&T, 43
Atlantic Refining Company. *See* Atlantic Richfield Company
Atlantic Richfield Company, 27, 39, 41-42
Austin, Paul, 16-17

B

Badger Construction, 21
Baldwin, Cy, 26, 43, 45-49
Batchelder, Joseph, III, 38
Baton Rouge, Louisiana, 11
Bayonne, New Jersey, 43-44, 46
Bayport, Texas, 39-40
Belle, West Virginia, 15
Bent, Bob, 39
Bethlehem, Pennsylvania, 3
Biocides, 45
Bio-Whittaker. *See* Whittaker Corporation
Boffa, Lisa Saunders, 4, 24
Boise, Idaho, 47
Borge, Victor, 20
Boston, Massachusetts, 34
Brooklyn, New York, 1-2
Butyl rubber, 10
Buzhardt, Fred, 36

C

Chemical & Engineering News, 45
Cambrex, 48-50, 52
Carlstadt, New Jersey, 45-46
Carnegie Mellon University, 2
Carothers, Wallace H., 23-24
Carpenter, Sam, 18
Carpenter, Walter S., 18
CasChem, 43, 45-46, 48
Case Western Reserve University, 1-5, 7, 12
 Board of Governors, 7
 Chemical Engineering Department, 5
 School of Engineering, 7
Cass, Oliver, 9
Castor oil, 43-45
Centerville, Delaware, 28
Central Intelligence Agency [CIA], 29-30
Chambers Works, 11
Channelview, Texas, 39-40, 42
Charleston, West Virginia, 15
Chemical Bank, 40
Chemical Warfare Service, 8-9
Chevron Corporation, 37
Clark Equipment Company, 19
Clark, Jack, 19-20
Clements, William, 28, 30-31, 36
Cleveland, Ohio, 1-3, 5
Clifford, Donald, 42
Coca-Cola Company, 50
Colorado Springs, Colorado, 20
Columbia University, 51
Copeland, Lamot du Pont, 20
Cornell University, 19-20
Cosan, 45-46
Crawford, Dudley, 2-3
Cray Computer Company, 47

D

Dartmouth College, 7
Dean, John, III, 28
Denison University, 6
Department of Defense [DOD], 28-30, 32-34, 36-37
Depression, The, 2, 4
Dichlorobutane, 14-15
Diethyl fumarate, 8

Dimethyl terephthalate, 21, 23
Dorough, Gus, 24
Dow Chemical Company, 5, 7
Dow, Herbert H., 7
DuPont, E.I. de Nemours and Co., Inc., 5-6, 8-11, 13-18, 21-30, 32, 35-42, 46-48, 50-52
 Bedaux System, 11
 Chestnut Run Laboratories, 18, 42
 Electrochemicals Department, 5, 7, 16-18, 20-23, 32, 42, 52
 Nylon Interdepartmental Quality Committee, 15
 Polymer Chemistry Department, 16
 Polymer Intermediates Department (formerly Explosives), 25
 Explosives Department, 20-21
 Research Department, 17
 Textile Fibers Department, 23, 42
du Pont, Pierre, 47

E

Edgemoor, Delaware, 15
Elk Hills Petroleum Reserve, 37
Environmental Protection Agency [EPA], 45
Esso. *See* Exxon Chemical Company
ETD Technologies, 46-47
Ethylene glycol, 27, 39, 41-42
Eton, England, 40
Exxon Chemical Company, 4, 24, 30, 40-41, 52

F

Flood, Dan, 26, 31
FMC Corporation, 5
Ford, President Gerald, 35, 37
Fort Belvoir, Virginia, 32
Fort Ord, California, 34
Furfural, 13-14

G

Geneva, Switzerland, 24
Glenn, John, 37
Goizuetta, Robert, 50-51
Gounod, --, 2
Greenewalt, Crawford H., 14-15, 51
Grosse Isle Naval Air Station, 10
Gulf Oil Corporation, 41

H

Halcon International, 13, 24, 27-28, 38-39, 42, 49, 51
Hanford Engineering Works, 8
Harvard University, 33, 49
Haveg equipment, 15
Hayakawa, Samuel I., 11
Hebert, F. Edward, 34
Heckert, Richard E., 20
Heinz, Senator John, 26
Hewlett-Packard Company, 32, 47
Hexachloroethane, 9
Hexamethylenediamine, 15
Hexcel Chemical Company, 48
Hightstown, New Jersey, 46
Hill, Julian, 24
Hooker Chemical Company, 9
Houston, Texas, 40
Hulse, Bob, 13
Hulse, Doug, 13
Hydrochloric acid [HCl], 10, 14
Hydrocyanic acid [HCN], 8, 14, 22

I

ICI Americas, Inc., 13, 21-22
Illinois, University of 16
Industrial College of the Armed Forces, 32
Internal Revenue Service [IRS], 5

J

J. P. Morgan, 30
Jefferson, Edward G., 42
Johnson, President Lyndon Baines, 36

K

Kane, Ed, 25
Kemp, Jack, 33
Kennedy, President John Fitzgerald, 36

L

Landau, Ralph, 21-22, 24, 27, 38-39, 47, 52
Language in Action, 11
Lehigh University, 4, 12, 18, 43
London, England, 40
Longwood Gardens, 47
Lubrizol Corporation, 5

Lutece, 27

M

Maleic anhydride, 8
Martinsville, Tennessee, 15
Marvel, Carl S., 16
Massachusetts Institute of Technology [MIT], 14, 33, 49
Mather, Flora Stone, College, 5
McCoy, C. Brelsford, 18, 20, 28, 54
McGovern, Eddie, 18
McKinsey and Company, 42
Memorial Sloan-Kettering Cancer Center, 49
Memphis, Tennessee, 21
Mendolia, Arthur I.
 daughters, 52
 father, 1, 6
 grandchildren, 52
 mother, 1-2, 4, 6
 stepfather, 2, 6
 wife, 1, 5, 35, 52
Methyl chloride, 10
Methylene chloride, 10-11
Michigan, University of, 5
Midland, Michigan, 7
Milan, Italy, 49
Miller, Dayton, 5
Mobil Corporation, 43
Monsanto Company, 22, 41
Moundsville, West Virginia, 9

N

National Distillers Corporation, 13
National Lead Industries [NL], 24, 43, 46
New York City, New York, 1, 11, 13, 38
New York Times, 11
New York University [NYU], 36
Newcastle, England, 48
Newtown Square, Pennsylvania, 41
Niagara Falls, New York, 5-6, 8-9, 13-14, 19
Nitroglycerin [NG], 26
Nixon, President Richard M., 28, 35-36, 44
Notman, Don, 5, 19
Nylon, 13, 15, 23

O

Oberlin College, 6
Ohio State University, 5
Olin Corporation, 5
Oxirane, 39-43, 48, 51

P

Packard, David, 32
Para-xylene, 21
Pennsylvania, University of, 33, 39
Pentagon, 26-32, 34-36
Perchloroethylene, 9
Perry, John Howard, 11
Philadelphia, Pennsylvania, 34
Polyvinyl chloride, 8
Princeton Forrestal Center, 40
Princeton University, 11, 38, 43
Princeton, New Jersey, 13, 39-40
Prutton, Carl S., 5
Pytte, Agnar, 7

Q

Queens University, 19
Quonset Point, Rhode Island, 34

R

Rehnberg, Harry, 28
Rensselaer Polytechnic Institute, 27
Reuther, Walter, 6
Rhone-Poulenc, 26
Richardson, Eliot, 28-29, 34
Richfield Oil Corporation. *See* Atlantic Richfield Company
Rubin, Robert, 32
Rush, Kenneth, 30

S

Salomon Smith Barney, 36
San Francisco State University, 11
San Francisco, California, 11, 35
Savannah River Works, 28
Sawhill, John, 36
Schlesinger, James, 29-31, 36
Schlimme, Ben, 38
Science, 4
Scientific Design, 38

Seaford, Delaware, 15
Sedco Corporation, 28, 30
Senate Armed Services Committee, 29
Simon, William, 36
Sinclair Oil Corporation. *See* Atlantic Richfield Company
Sodium cyanide, 14-15
Sohio, 2, 21-23
Sonnenshein, Admiral --, 30
St. Paul, Minnesota, 46
Stanford University, 11, 41
Stockholm, Sweden, 49
Stouffer Chemical Company, 43
Sumitomo Chemical, 39
Sun Bowl, 5

T

Terephthalic acid, 21, 23
Tetrachloroethane, 9
Tetrahydrofuran, 14
Titanium oxide, 15
Titanium tetrachloride, 15
Trichlorethylene, 9
Troy, New York, 27
Tucson, Arizona, 19

U

U.S. Air Force, 33, 37
U.S. Army, 7, 25-26, 33, 35, 37
U.S. Department of Defense [DOD], 27
U.S. Department of Energy, 36
U.S. House of Representatives
 House Committee on Defense, 27
U.S. Marines, 32
Uncommon Man, The, 51
Union Camp, 40
Union Carbide Corporation, 25, 30
United Steelworkers, 6

V

Vining, Bill, 12
Vinyl chloride, 8

W

Wailai, Hawaii, 39
Wall St. Journal, 19, 41
Washington, DC, 19, 28-30, 32
Watergate, 28, 36
Westrex Corporation, 43
Wheeling, West Virginia, 9
White, Jeff, 28-29, 31, 49
Whittaker Corporation, 49
Wilkes Barre, Pennsylvania, 25-27
Wilmington, Delaware, 16, 20, 47
Winterthur Museum, 47
Wood, Don, 40
Woolsey, Jim, 30
World War I, 3, 23, 28, 37, 47
World War II, 9, 28

Y

Yale University, 33
Youngstown Sheet & Tube, 4
Youngstown Steel Door Company, 4
Youngstown, Ohio, 2-4

Z

Zarb, Frank, 36