CHEMICAL HERITAGE FOUNDATION

STEPHANIE L. KWOLEK

Transcript of an Interview
Conducted by

Bernadette Bensaude-Vincent

at

Wilmington, Delaware

on

21 March 1998

(With Subsequent Corrections and Additions)

ACKNOWLEDGMENT

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Oral History Program

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(Signature) Stephanie L. Kwolek

Dr. Stephanie L. Kwolek

(Date) 3/21/98

(Revised 25 March 1997)

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Oral History Program
315 Chestnut Street
Philadelphia, Pennsylvania 19106

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STEPHANIE L. KWOLEK

1923 Born in New Kensington, Pennsylvania on 31 November

Education

1946 B.S., chemistry, Carnegie-Mellon University

Professional Experience

E. I. du Pont de Nemours & Co., Inc.

1946-1959	Chemist
1959-1967	Research Chemist
1967-1974	Senior Research Chemist
1974-1986	Research Associate
1986-	Consultant

National Academy of Sciences, Research Council

1986-	Consultant

Honors

1959	Publication Award, Delaware Section, American Chemical Society
1976	Howard N. Potts Medal, Franklin Institute of Philadelphia
1978	Award for Contributions to “Kevlar” (du Pont trademark for aramid fiber), American Society for Metals
1980	Chemical Pioneer Award, American Institute of Chemists
1980	Award for Creative Invention, American Chemical Society
1981	Honorary Doctor of Science degree, Worcester Polytechnic Institute
1983	Alumni Association Merit Award, Carnegie-Mellon University
1985	Engineering/Technology Award, Society of Plastics Engineers
1985	Polymer Processing Hall of Fame, University of Akron
1988	Harold DeWitt Smith Memorial Award, American Society of Testing Materials
1990	du Pont Honoree at the Bicentennial Celebration of the United States Patent and Copyright Laws
1995	Inducted member of the Inventor’s Hall of Fame
1997	Perkin Medal, Society of Chemical Industry (American Section)

ABSTRACT

Stephanie Kwolek begins the interview with a discussion of her early career at DuPont. She joined DuPont in 1946, the same year she earned her B.S. in chemistry at Carnegie-Mellon University. Kwolek spent much of her time working on polymers, including aliphatic and aromatic polyamides. She discusses her level of independence in the laboratory, as well as her relationship with her supervisors. Kwolek began work with 1,4-B, and was able to get a high molecular weight polymer. It was eventually discovered that the polymer spun beautifully, and was quite strong. This polymer became Kevlar. Kwolek discusses industry competition, the testing and scale-up of Kevlar, and the problems of confidentiality. She further discusses the relationship between Kevlar and Paul Flory's theory of liquid polymer crystals. Kwolek concludes the interview with comments on her love of writing, her decision to leave DuPont, and the future of polymer research.

INTERVIEWER

Bernadette Bensaude-Vincent is a professor in the Department of Philosophy at Université Paris X. She holds a doctorate in philosophy from the Sorbonne, and is currently a fellow at the Dibner Institute of the Massachusetts Institute of Technology. Bensaude-Vincent is the author of numerous articles and books on the history of chemistry and physics, including *Eloge du mixte: matériaux nouveaux et philosophie ancienne*. In 1997, she received the Dexter Award for outstanding achievement in the history of chemistry.

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NOTES

1. Paul W. Morgan, *Condensation Polymers: By Interfacial and Solution Methods* (New York: Interscience Publishers, 1965).

2. Paul J. Flory, *Principles of Polymer Chemistry* (Ithaca: Cornell University Press, 1953).

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