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HERBERT S. ELEUTERIO

Transcript of an Interview  
Conducted by

James G. Traynham

at

Wilmington, Delaware

on

25 February 2000

(With Subsequent Corrections and Additions)

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*Herbert S. Eleuterio*  
Herbert S. Eleuterio

(Date) \_\_\_\_\_

*July 26, 2000*

## HERBERT S. ELEUTERIO

1927 Born in New Bedford, Massachusetts on November 23

### Education

1949 B.S., chemistry, Tufts University  
1953 Ph.D., chemistry, Michigan State University

### Professional Experience

E. I. du Pont de Nemours & Company  
1954-1959 Research Chemistry, Polychemicals Department  
1959-1963 Research Manager, Industrial and Biochemicals Department  
1963-1968 Division Head, Experimental Station, Explosives Department  
1972-1973 Director, Experimental Station, Explosives Department  
1973-1976 Assistant Research Director, Polymer Intermediates  
1976-1977 Production Manager, Nylon Intermediates, Petrochemicals Department  
1977-1985 Director, Research & Development Division, Petrochemicals Department  
1985-1989 Technical Director, Atomic Energy Division, Petrochemicals Department  
1989-1992 Director, New Technology Studies

National University of Singapore  
1993-present Visiting Professor

### Honors

1987 Chemical Pioneer Award, American Institute of Chemists  
1991 Technical Excellence Award, DuPont Fellows Pederson Award  
1995 Carothers Award, American Chemical Society  
1995 Lavoisier Medal for Technical Achievement  
1995 Singapore's NSTB Medal

## ABSTRACT

Herbert Eleuterio was born in 1927 in New Bedford, Massachusetts. His parents had emigrated from the Azores, and he spoke no English until he began first grade. His interest in science was sparked by a middle-school biology teacher, and he decided to pursue chemistry after a customer on his paper route gave him a book on organic chemistry. He attended Tufts University, where he was positively influenced by his calculus teacher. He nearly went to graduate school for math, but the dim employment prospects for mathematicians led him to choose chemistry instead. Eleuterio received his Ph.D. from Michigan State, and married shortly after. He spent a year as a post-doc at Ohio State, then took a job at DuPont in Wilmington, Delaware. He was assigned polymer work even though he had no formal polymer background, and he was immediately very successful. His work there included propylene polymerization, olefin catalysis, olefin metathesis, and fluoro polymers, especially high-performance lubricants such as hexafluoropropylene oxide [HFPO]. Eleuterio also became interested in the theory and practice of knowledge creation and knowledge management through his work in exploratory chemistry at DuPont. He spent much of his later career discussing his concept of “degrees of freedom” and its relationship to scientific creativity. He was also a major proponent of creative teamwork in the laboratory. During his tenure with the Atomic Energy Division, which functioned mostly in South Carolina, he helped to create the Ruth Patrick Science Education Center at the University of South Carolina in Aiken. Eleuterio’s final project at DuPont was globalizing corporate R&D. After his retirement from DuPont in 1992, he began teaching part of every year at the National University of Singapore in the engineering and business programs. He also started the Process Analysis and Optimization Enterprise, which evolved into the Center for Process Engineering, in order to build links between industry and academia in Singapore. Eleuterio concludes the interview with a discussion of his family.

## INTERVIEWER

James G. Traynham is a Professor of Chemistry at Louisiana State University, Baton Rouge. He holds a Ph.D. in organic chemistry from Northwestern University. He joined Louisiana State University in 1963 and served as chemistry department chairperson from 1968 to 1973. He was chairman of the American Chemical Society’s Division of the History of Chemistry in 1988 and is currently councilor of the Baton Rouge section of the American Chemical Society. He was a member of the American Chemical Society’s Joint-Board Council on Chemistry and Public Affairs, as well as a member of the Society’s Committees on Science, Chemical Education, and Organic Chemistry Nomenclature. He has written over ninety publications, including a book on organic nomenclature and a book on the history of organic chemistry.

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