

CHEMICAL HERITAGE FOUNDATION

HERBERT C. BROWN

Transcript of an Interview
Conducted by

James J. Bohning

at

Purdue University

on

11 November 1994

(With Subsequent Corrections and Additions)

ACKNOWLEDGMENT

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Brown, Herbert C. (#0117)

THE CHEMICAL HERITAGE FOUNDATION
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(Signature) Herbert C. Brown
Herbert C. Brown

(Date) April 20, 1996

HERBERT C. BROWN

1912 Born in London, England, on 22 May

Education

1933 Crane Junior College, Chicago (school closed, 1933)
1935 Assoc. Sci., Wright Junior College, Chicago
1936 B.S., University of Chicago
1938 Ph.D., inorganic chemistry, University of Chicago

Professional Experience

University of Chicago
1938-1939 Eli Lilly Post-Doctoral Fellow
1939-1943 Instructor of Chemistry
1941-1943 Instructor and Research Investigator

Wayne State University
1943-1946 Assistant Professor
1946-1947 Associate Professor

Purdue University
1947-1959 Professor of Chemistry
1959-1960 Wetherill Professor of Chemistry
1960-1978 Wetherill Research Professor of Chemistry
1978- Emeritus Wetherill Research Professor of Chemistry

Honors

1951 Sigma Xi Award, Purdue Section of Sigma Xi
1953 Harrison Howe Award, Rochester Section of the American Chemical Society
1955 Centenary Lectureship and Medal, The Chemical Society, London, England
1957 Elected to National Academy of Science
1959 William H. Nichols Medal, New York Section, American Chemical Society
1960 Award for Creative Research in Organic Chemistry, American Chemical Society

1960 S.O.C.M.A. Medal, Society of Organic Chemistry Manufacturing Association

1961 Phi Lambda Upsilon Key for Honorary Membership, Phi Lambda Upsilon

1962 Honorary Member, Phi Lambda Upsilon

1962 Elected to American Academy of Arts and Sciences

1968 Linus Pauling Medal, Oregon and Puget Sound Sections, American Chemical Society

1968 Doctor of Science, University of Chicago

1969 National Medal of Science, Government of the United States

1971 Roger Adams Medal, Organic Division, American Chemical Society

1972 Phi Beta Kappa

1973 Charles Frederick Chandler Medal, Department of Chemistry, Columbia University

1974 Chemical Pioneer Award, American Institute of Chemists

1975 Madison Marshall Award

1976 City College Chemistry Alumni Award and Medal for Scientific Achievement, State University of New York, NYC

1977 Elected Fellow, Indian National Science Academy

1977 Honorary Fellow, Royal Society of Chemistry

1978 C. K. Ingold Lecture and Medal, The Chemical Society, London

1978 Elliot Cresson Medal, The Franklin Institute, Philadelphia, PA

1979 The Nobel Award and Medal, The Nobel Foundation, Stockholm, Sweden

1980 Medal of Culture, Ministry of Education, Taiwan, ROC

1980 Nobel Hall of Science, Museum of Science and Industry, Chicago, IL

1980 Honorary Member, Chinese Chemical Society

1980 Honorary Old Master, Purdue University

1980 Doctor of Science, Wayne State University

1980 Doctor of Science, Lebanon Valley College

1980 Doctor of Science, Honoris Causa, Long Island University

1980 Doctor Philosophiae Honoris Causa, The Hebrew University of Jerusalem

1980 Grado Academico Honorifico de Doctor Scientiae Honoris Causa, Pontificia Universidad Catolica de Chile

1981 Priestley Medal, American Chemical Society

1981 Doctor of Science, Purdue University

1981 Doctor in Scientiae Honoris Causa, University of Wales

1982 Perkin Medal, American Section, Society of Chemical Industry

1982 Elected Honorary Member, The Indiana Academy

1982 Honorary Member, Pharmaceutical Society of Japan

1982 Honorary Member, Chemical Society of Japan

1982 Corresponding Member, Academy of Arts and Sciences of Puerto Rico

1982 Doctor of Science, Butler University

1982 Docteur Honoris Causa, Universite de Paris-Sud

- 1983 A. J. Beckman Memorial Medal, Colorado School of Mines
1983 Honorary Member, Gold Key National Honor Society
1985 A.I.C. Gold Medal, American Institute of Chemists
1985 Doctor of Science, Ball State University
1986 Sixtieth Anniversary Commemorative Medal, Jewish Academy of Arts
and Sciences
1986 Sesquicentennial Commemorative Medal, National Library of Medicine
1987 National Academy of Sciences Award and Medal in Chemical
Sciences, National Academy of Sciences
1987 G. M. Kosolapoff Award and Medal, Auburn Section, American
Chemical Society
1987 Dedication of the H. C. Brown Laboratories of Chemistry
1989 Medal of the Government of Japan: Order of the Rising Sun, Gold
and Silver Star Emperor, Government of Japan
1990 Oesper Award, Cincinnati Section, American Chemical Society

1991 Honorary Member of the Academy of Natural Sciences of the Russian
Federal Republic
1991 Corresponding Member, Academia Mexicana de la Investigacion
Cientifica
1994 Honorary Scholar, University of Wales, Swansea, Wales
1994 Honorary Professor, Laboratory of Organometallic Chemistry,
Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences
1995 University Medal of Highest Honor, Kyung Hee University, Seoul, Korea
1995 Distinguished Scholar Award, Indiana Academy of Science
1996 Visitante Distinguido, BUSA V-MEX, Mexico
1996 Visitante Distinguido, La Universidad de Guanajuato, Mexico

ABSTRACT

Herbert C. Brown begins this interview by describing his high school education and the death of his father, which forced him to follow a practical path in seeking work and eventually a college education. Brown next discusses his coursework and studies at Crane Junior College, where he became fascinated by chemistry and its history; when Crane closed down, Brown was among the students invited to work in Nicholas D. Cheronis' Synthetical Laboratories, where he earned enough to enroll in a University of Chicago correspondence course on qualitative analysis and supplemented his education by working with Fales's Quantitative Analysis. Brown continues the interview by recalling the details of his studies and lab work at Wright Junior College and the University of Chicago. He also describes his relationships with his fiancée, Sarah Baylen; his mentors, Julius Stieglitz and Morris Kharasch, who influenced the direction of his inorganic research and the path of this career; and Neil Gordon, who offered Brown a position at Wayne State University and supported his research efforts there. Brown recalls the course of his career decisions and research at Chicago, Wayne State, and later Purdue University, including details of studies on steric effects, boranes, and borohydride synthesis. In the second part of the interview, Brown discusses his WWII work for the National Defense Research Committee, which included research on the volatile compounds of uranium, uranium borohydride production and testing, sodium trimethoxyborohydride production, and sodium borohydride development. He concludes the interview with an overview of his post-war research at Purdue, which focused on reduction studies comparing sodium borohydride and lithium aluminum hydride, hydroboration discovery, explorations into organoborane chemistry, and the development of a general asymmetric synthesis program.

INTERVIEWER

James J. Bohning is 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 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. He currently writes for the American Chemical Society News Service.

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