CHEMICAL HERITAGE FOUNDATION

MARION C. THURNAUER

Transcript of an Interview
Conducted by

Hilary L. Domush

at

Boulder, Colorado

on

7 and 8 April 2010

(With Subsequent Corrections and Additions)

CHEMICAL HERITAGE FOUNDATION
Oral History Program
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MARION C. THURNAUER

1945 Born in Chattanooga, Tennessee, on 21 March

Education

1968 B.A., Chemistry, University of Chicago
1969 M.S., Chemistry, University of Chicago
1974 Ph.D., Chemistry, University of Chicago

Professional Experience

Argonne National Laboratory, Argonne, Illinois
1974-1977 Postdoctorate, Chemistry Division, under J.J. Katz and J. R. Norris
1977-1981 Assistant Chemist, Chemistry Division
1981-1991 Chemist, Chemistry Division, Argonne National Laboratory
1991-2004 Senior Chemist, Chemistry Division
1995-2003 Division Director, Chemistry Division
2003 Argonne Distinguished Fellow, Chemistry Division
2006-present Argonne Distinguished Fellow, Emeritus, Chemical Sciences and Engineering Division

Honors

1984 NATO Grant for International Collaborative Research with Professor K. Mobius and Dr. R. Furrer, Freie Universität Berlin, Berlin, West Germany
1989 Argonne National Laboratory Pacesetter Award for Outstanding Contribution to the Organization of the Conference, "Science Careers in Search of Women"
1990 ANL Director's Award for Extraordinary Effort involved in Organizing "Science Careers in Search of Women" Conference
1990 Award of Merit of Chicago Association of Technological Societies
1991 University of Chicago Award for Distinguished Performance at Argonne
1996 YWCA Outstanding Women Leaders of DuPage County Award
1997 Fellow of the American Association for the Advancement of Science
1997 Agnes Fay Morgan Research Award by Iota Sigma Pi, National Honor Society for Women in Chemistry
2002 Francis P. Garvan-John M. Olin Medal Award, National American Chemical Society

2007	Science Careers in Search of Women Conference, Founders Award
2007	University of Chicago-Argonne Pinnacle of Education Award
2010	Council for Chemical Research Diversity Award

ABSTRACT

Marion C. Thurnauer was born in Chattanooga, Tennessee and moved with her family to Minnesota when she was still young. Her father, a ceramic engineer, introduced her to rocks and minerals and encouraged her to follow her curiosity. Her maternal aunt, an astrophysicist, inspired her to look up at the stars and planets. Thurnauer credits her mother, who died when Marion was only fourteen, with supporting her interests in all things natural. Thurnauer attended the University of Chicago for her undergraduate and graduate degrees in chemistry, working with Gerhard Closs, her doctoral thesis advisor. She completed the final experiments for her thesis at Argonne National Laboratory (ANL) because the required electron paramagnetic resonance (EPR) spectrometer at the University of Chicago was severely damaged by a chemical explosion that occurred in the University's chemistry building. Working at ANL, she believes, was probably a factor for her to secure a postdoctoral position in the ANL Chemistry Division (CHM) with James R. Norris and Joseph J. Katz, studying, primarily by EPR spectroscopy, photochemical energy conversion in natural photosynthesis. She was promoted to Assistant Chemist, a staff position, and was, for a few years, the only female staff scientist in CHM and rose to become the first woman CHM Director. Along the way she established "Science Careers in Search of Women," a conference currently held annually for high school students. The second conference led to discussions between ANL leadership and a grass-roots group of female scientists. The outcome of these meetings was the formulation and launching of the ANL Women in Science and Technology (WIST) program. Thurnauer served a term (two years, 30% effort) as the WIST Program Initiator and for several years as a member of the WIST Steering Committee. When WIST was first established she believed that by now (more than twenty years later) WIST would have put itself out of business; but each generation has been faced with variations of the same issues of underrepresentation, promotion, bias, et cetera. According to Thurnauer, under sponsorship of the ANL Director's office, WIST continues to hold outreach activities and works to recruit, retain, and promote women at ANL in an effort to ensure equity for all staff and to diversify and strengthen the scientific workforce.

As division director, Thurnauer once again was the only woman among her peers, i.e., division directors and ANL leadership. She had to choose frequently among competing goals and priorities and she had to maintain CHM's shrinking core funding while working with scientists to secure additional funding. The latter was a new challenge, as historically CHM's budget was based primarily on core funding; and going after 'outside funding' not only involved writing proposals but also finding the 'DOE-Lab appropriate' funding sources. She analogizes the situation to her brief experience with skydiving. During her tenure as director, CHM was involved with the ANL Materials Science Division (MSD) both at the new Advanced Photon Source and with efforts to secure funding for ANL's Center for Nanoscale Materials (CNM). Thurnauer felt that she was often defending chemistry (and CHM) with respect to materials science (and MSD). She worked to ensure that the initial proposals for the CNM included chemical sciences, in addition to materials sciences, in order to foster scientific excellence at the CNM. Nevertheless, in addition to all her administrative work, Thurnauer was able to continue to be involved with science mainly because her co-workers kept her informed and up to date on their results.

As she reminisces, Thurnauer discusses the general state of women in science, but particularly at ANL. She stresses the importance of mentoring, reinforcing, and building networks for women; she talks about having her husband in her division; she explains e-

mentoring and recommends it; and she names and describes the work of some of the women who have served as her role models. At the end of the interview, Thurnauer discusses how she finds some satisfaction with the increase in the number of women in the sciences while at the same time warning about reality versus mere perception, also noting the visible differences in same gender versus mixed gender interactions. Thurnauer concludes with the reminder that there is "joy [in] doing science," and that keeps women 'going,' in spite of issues that are extraneous to science.

INTERVIEWER

Hilary Domush completed a B.S. in chemistry at Bates College before earning an M.S. in organic chemistry and an M.A. in the history of science at the University of Wisconsin. As a graduate student, her research focused on 19th-century chemistry in Edinburgh. As program associate for the oral history program, Domush helps manage the program and conducts oral histories for the Women in Chemistry project.

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