SCIENCE HISTORY INSTITUTE

JEAN KANE

Transcript of an Interview
Conducted by

Benjamin Gross

at

Culpeper County Library
Culpeper, Virginia

on

27 and 28 February 2012

(With Subsequent Corrections and Additions)

CHEMICAL HERITAGE FOUNDATION
Oral History Program
FINAL RELEASE FORM

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(Signature) Jean S. Kane
Jean S. Kane

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JEAN S. KANE

1940	Born in Poughkeepsie, New York on September 29

Education

1962	BA, Keuka College, Chemistry
1964	MS, Mount Holyoke College, Chemistry with Thomas O. Zajicek at the University of Massachusetts

Professional Experience

	Douglas Freeman High School, Henrico County, Virginia
1964	Math Teacher
	RCA Laboratories, Princeton, New Jersey
1964-1967	Research Chemist
	Freehold, New Jersey, and Fairfax County, Virginia
1973-1976	Degree Substitute Teacher
	United States Geological Survey, Reston, Virginia
1976-1988	Research Chemist, Geochemical Analysis and Method Development
1988-1990	Research Chemist, Coordinator USGS Geochemical Reference Sample Program
	National Institute of Standards and Technology
1990-1995	Research Chemist, Project Manager in the Standard Reference Materials Program
1988-present	Member of the Editorial Board of *Geostandards Newsletter*, later renamed *Geostandards and Geoanalytical Research*
1997-present	Member of the International Association of Geoanalysts, and at various times a member of Governing Council, the Proficiency Testing Program's organizing committee, and chair of the Certification Committee

Honors

1960, 1961	Research Experience for Undergraduates, National Science Foundation
1992	Invited speaker at Open University meeting titled *Geoanalytical Techniques: Current Capabilities, Future Potential*
	Guest editor for Geoanalysis Conference Proceedings
1997	*The Analyst* (v. 22, # 11) following Geoanalysis 1997
2004	*Geostandards and Geoanalytical Research* (v. 28, #1) following Geoanalysis 2003
2004	Guest lecturer at the National Research Center for Geoanalysis in Beijing, China, for three days; invited as IAG Certification Committee chair; spoke not only at the NRCG but also at the Chinese Bureau of Standards, Metrology, and Inspection
2009	Special Commemorative Session organized at Geoanalysis 2009 in South Africa to honor work in the IAG since its formation

ABSTRACT

Jean S. Kane grew up mostly in Tenafly, New Jersey. Although her father was an accountant, Jean was the first in her family to attend college. She began at Keuka College, intending to get a nursing degree, but she discovered chemistry and changed her major. By her senior year she had finished all Keuka's science and math courses and, with Margaret Cushman's help, entered Mount Holyoke College and obtained a master's degree in chemistry. Kane wrote her thesis with Thomas Zajicek at the University of Massachusetts; there she also met Robert Kane, a chemical engineering graduate student whom she married.

Moving to New Jersey, Kane got a job at RCA, working on potassium tantalum niobate under John van Raalte, and solid-state crystals under David Kleitman. She left RCA before the birth of her second child and volunteered with the public schools while her children were young. The family moved to Vienna, Virginia, for her husband's next job, and Kane found employment at the United States Geological Survey (USGS) in the Branch of Analytical Chemistry, working mostly on atomic absorption spectrometry and publishing about method development research. Inductively conducted plasma optical emission spectrometry (ICP-OES) replaced atomic absorption spectrometry (AAS), as it greatly increased the efficiency of sample testing. Kane took over the Geochemical Reference Sample Program at USGS, which attempted to categorize and standardize geological samples according to their chemical composition, using analyses from labs all over the world.

Kane was recruited to the Standard Reference Materials Program at National Institute of Standards and Testing (NIST). There she was manager of about ninety reference materials; her customers included laboratories from all over the world, labs seeking a wide range of materials. She managed the certification of forty or so reference materials while at NIST and standardized the certified values, as required by the International Organization for Standardization (ISO). Retiring from NIST, Kane remained on the editorial board of *Geostandards and Geoanalytical Research*, and took an active role in the leadership of the International Association of Geoanalysts (IAG).

Kane discusses her feeling that the concept of materials standards is esoteric and theoretical and error-prone. She explains some of the difficulties controlling ultimate standards and data collection. International Association of Geoanalysts (IAG) requirements strengthened the data's reliability. Kane's contribution of greater precision in analysis and standardization of methods is widely acknowledged. Finally, Kane advises women interested in pursuing chemistry to follow their inclination. She says the subject is fascinating; women have become accepted in upper echelons of the workplace; affordable child care and workplace flexibility are more available than they were during her early career years.

INTERVIEWER

Benjamin Gross studies the history of corporate science and the American consumer electronics industry. During his postdoctoral fellowship at the Chemical Heritage Foundation's Institute for Research, he oversaw a variety of projects related to material innovation. He also served as curator of the Sarnoff Collection at The College of New Jersey and oversaw the development of *Innovations That Changed the World*, an exhibition on RCA's contributions to

the history of electronics. Dr. Gross earned a PhD in the history of science from Princeton University and in 2018 published *The TVs of Tomorrow: How RCA's Flat-Screen Dreams Led to the First LCDs*. He is currently Vice President for Research and Scholarship at the Linda Hall Library of Science, Engineering and Technology.

ABOUT THIS TRANSCRIPT

The Center for Oral History, Science History Institute, is committed both to preserving the recording of each oral history interview in our collection and to enhancing research use of the interviews by preparing carefully edited transcripts of those recordings. The preparation of interview transcripts begins with the creation of a verbatim typescript of the recording and proceeds through review and editing by staff of the Center; interviewees also review the typescript and can request additions, deletions, or that sections be sealed for specified periods of time. We have established guidelines to help us maintain fidelity to the language and meaning of each recorded interview while making minor editorial adjustments for clarity and readability. Wherever possible, we supply the full names of people, organizations, or geographical locations mentioned during the interview. We add footnotes to the transcript to provide full citations for any publications that are discussed, to point to extant oral history interviews, and to clear up misstatements or provide context for ambiguous references in the transcript. We use brackets to indicate the addition of material that was not in the audio, and bracketed ellipses to indicate the deletion of recorded material. The transcript also includes time stamps at five-minute intervals. We omit without noting most instances of verbal crutches and all instances of nonlexical utterances. We also make small grammatical corrections where necessary to communicate interview participants' meaning. Finally, staff of the Center create the abstract, chronology, table of contents and index.

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