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Claire K. Schultz, 1924-2015

by Robert V. Williams

EDITOR'S SUMMARY

A groundbreaker and important link between library science and computer-based information science, Claire Kelly Schultz passed away in May 2015. Though Schultz's original aim to become a doctor was derailed, her first job as a biology lab assistant and librarian launched her on a career path that ultimately provided important service to medicine, pharmacology and information science. With training in library studies, chemistry and medicine, Schultz became the librarian at the future Merck, Sharp and Dohme Research Labs and became aware of the technical challenges of literature retrieval in the field. She consulted with others at the forefront of indexing and retrieval systems to develop a successful card sorting method using Boolean logic. This success led to consulting positions and publications on information retrieval, vocabulary control, thesaurus construction and indexing. Schultz strongly advocated applying documentation practices to the developing field and to the history of the American Documentation Institute (ADI), forerunner of the Association for Information Science and Technology, and she created the first thesaurus of information science. Active in several professional societies, Schultz became the ADI's first woman president and earned its 1980 Award of Merit.

KEYWORDS

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Claire Kelly Schultz, first woman president of the American Documentation Institute (ADI; predecessor of ASIS&T) and recipient of the 1980 Award of Merit, died May 28 in her hometown of Line Lexington, Pennsylvania. The cause of death was Alzheimer's disease, which she had had for a number of years. Claire was an active member of ADI, the Special Libraries Association (SLA), the Medical Library Association (MLA) and the American Chemical Society (ACS). She was the first ADI member to take a serious interest in the history of ADI, publishing an historical sketch of it in 1969 followed by a series of biographical articles on early ADI pioneers [1]. Her edited volume on Hans Peter Luhn, the developer of keyword-in-context (KWIC) indexing and many other innovations in the field, was a significant contribution to the history of information science [2].

Claire was born in Etters in central Pennsylvania, and her parents were part-time farmers and merchants with limited formal education. She completed her B.S. degree in 1944, majoring in chemistry and pre-med, at Juniata College. From an early age Claire wanted to be a medical doctor and through

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various family trials and monetary tribulations managed, at age 16, to be admitted to the Woman's Medical College of Pennsylvania. Her stay there, however, would be short: she became pregnant (she had married Wallace L. Schultz in June 1945) and was dismissed from the school for that reason. Her first job was at the Wistar Institute of Anatomy and Biology in Philadelphia as lab assistant and librarian, where she worked from 1946 to 1948. Looking for a better paying job she began taking library science courses at Drexel Institute, graduating with an M.S. in 1952. Because she was taking these library science courses and because of her chemistry background and medical training, she was hired at Sharp and Dohme Research Labs (soon to be Merck, Sharp and Dohme) in 1949 as librarian.

One of the significant problems of library services at the time was the inability of staff and users to located needed literature, particularly in chemistry and pharmacy. Claire began to study this problem and invited Calvin Mooers to come for a visit and consultation regarding the Zator indexing and retrieval system he had developed and was attempting to sell. This solution worked fairly well for her, but the mechanics of vocabulary control and searching were too complex. She formed a partnership with Robert Ford in the pharmacology lab, who had similar problems with vocabulary control of compounds, and they discovered that the Remington Rand punched card sorter had a "logic bridge" that utilized Boolean logic for sorting and retrieval. This approach worked very well, but since it was a mechanical system it was always breaking down. This problem in turn led to exploring the use of the IBM 101 card sorter. However, it did not have logic capability so Ford had to fix up special wiring (a dial-up control board) for it to do sorting using Boolean logic. This system was very successful, and Claire made many presentations and demonstrations at her library and at SLA, ADI and other meetings. She completed her M.S. in 1952 and submitted as her thesis a paper on the system [3] and later published a paper in Casey and Perry's 1958 book on punched cards [4].

Publicity about her system led John Mauchly, developer of the ENIAC computer, to visit for a demonstration. He was surprised at the use of Boolean logic in her system and offered her a job with his company, Sperry-Rand Univac, in Philadelphia, to do more work on her searching system and on vocabulary control. She declined this offer, fearing that if she left Merck, Sharpe and Dohme her work on the retrieval system would be lost. However, three years later, in 1958, she became a systems analyst for Sperry-Rand. Her work there mostly involved working with and consulting on various information retrieval problems relating to federal government contracts (or possible contracts), most notably, the Armed Services Technical Information Agency (ASTIA), the National Library of Medicine's (NLM) MEDLARS project and others. The early 1950s was a time of great interest in building vocabulary control systems, and many of these contracts were related to this issue, a particular interest and specialty of Claire's. She was also involved in the decision-making process for the best computer to use for a contract, which meant she had to know the technical details about each machine and how well it could handle the work to be done.

The late 1950s and early 1960s were a very busy time for Claire. Not only was her fifth child born during this time, but also she was attending classes at Drexel and, later, teaching there. She was also doing a lot of consulting with federal agencies with weekly meetings in Washington, DC, as part of her job with Sperry-Rand. She also somehow found the time to publish over 20 articles from 1952 to 1963, most of them relating to information retrieval, vocabulary control, thesaurus construction and indexing [5]. And, for a brief six-month period in 1957, before she began with Sperry-Rand, she helped Eugene Garfield do some of the early publicity and related work for his new company, Eugene Garfield and Associates, later the Institute for Scientific Information. She had extensive contacts with the

pharmaceutical industry and members of the Special Libraries Association, which was a great help to the new company.

Claire's work as a consultant in information retrieval and thesaurus construction brought her in contact with many of the leaders of ADI and well as SLA, MLA and other professional associations. She served on several committees of ADI before being elected president-elect in 1961 and then president in 1962. In her inaugural address as incoming president in 1962 she stressed the importance of research to members and to the society itself, began a new project, "documentation of documentation," and urged members to collect literature of the field and build a modern indexing system for them. Despite the fact that the National Science Foundation (NSF) had just granted $16,000 to aid this project (and ADI overall) not much was done with it, much to Claire's dismay. However, a secretariat for ADI was established during her term as president, the first executive director was hired (John Kaiser) and membership soon doubled [6]. Shortly after her presidential year she prepared the first thesaurus for the field of information science [7]. (In her oral history, Claire tells an interesting story about a mysterious John Deere, who went all about the country recruiting for ADI and then disappeared – but no one ever knew where he came from or where he went.) [8, p. 52]

During the year of her presidency of ADI Claire joined the Institute for Advancement of Medical Communications (IAMC), which had been founded by Richard Orr, well known for his studies of medical libraries, indexing and methodology for measuring the effectiveness of libraries. She continued her consulting with various federal government agencies and teaching at Drexel. One large contract that IAMC had was to collect, analyze and index the papers of the Federation of the American Societies for Experimental Biology (FASEB), the largest scientific meeting in the United States. This project resulted in the production of a "back of the book" index that was computer generated, possibly the first of its kind in the United States. Claire worked at IAMC until 1970 when it was disbanded, Dr. Orr moved to Europe to do consulting and she became a freelance consultant in many of the same areas she had worked before.

The freelance consulting work ended in 1972 when she was enticed to become the director of libraries and professor of information science at the Medical College of Pennsylvania (MCP), the same school that had kicked her out of the M.D. program. She worked there until 1982 when she retired. However, during the 10 years she was at MCP she oversaw the building and equipping of a new library, taught the medical students how to use computers and managed a number of small contracts in the areas of vocabulary control and indexing.

Claire was the ideal bridge from library science to information science. She was well prepared in the basics of library science, had a strong science background and chose to do in-depth exploration of the new trends in scientific documentation, indexing and thesaurus construction. She was also a leader in developing and implementing computer-based approaches to library problems, particularly in helping to design large information systems for the federal government. As a bridge in the larger field, she was able to deal effectively with what was becoming a split between special librarians and the new "documentalists" of ADI and, later, ASIST.

After her retirement in 1982 Claire became deeply involved in the life of being a grandmother. She and her husband, Wally, built their own catamaran and began to sail it to many places on the East Coast. After several years of doing that in the summers they gave the boat to a children's center.

Claire was severely ill with Alzheimer's for a number of years before her death, living in an assisted living facility, but was always well cared for by her extensive family. ■

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Resources Mentioned in the Article

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[3] Schultz, C. K. (1952). *Coding literature on punched cards: A study….* (Master's thesis, Drexel University, School of Library Science.)

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[5] A complete bio-bibliography of her publications may be found in her oral history interview at the Chemical Heritage Foundation:
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