



MEDICAL LIBRARY ASSOCIATION

ORAL HISTORY COMMITTEE

INTERVIEW

WITH

SUSAN CRAWFORD

Interview conducted by Susan Bolda Marshall

September 12, 2001

Edited by

Brigit Sullivan

January 2006

CONSENT FORM FOR ORAL HISTORY INTERVIEW

This confirms my understanding and agreement with the Medical Library Association (MLA) concerning my participation in an oral history interview as a part of MLA's Oral History Program.

1. I agree to be interviewed by Susan Marshall on September 12, 2001. I understand that my interview will be recorded, and that a transcript and edited version of my interview will later be created. I understand that I will be given an opportunity to review and edit the edited transcript before its release.
2. I hereby grant and assign all right, title and interest to any and all recordings and transcripts of my interview including copyright [and all rights subsumed thereunder] to the MLA. I will be given a copy of the edited transcript for my personal use. I understand that the transfer of these rights to MLA confers no obligations on MLA to promote, market, or otherwise make publicly available copies of the interview.
3. One or more edited and/or condensed versions of the interview, approved by me, may be disseminated by MLA as it deems appropriate.
4. I understand that the original, unedited recording of my interview and the original unedited transcript will be maintained in the MLA Archives at the National Library of medicine, or at such other place as MLA may reasonably designate, and may be made available to researchers who have demonstrated that they have appropriate qualifications. I further understand that the original unedited recording and/or the original unedited transcript will be made available with the following restrictions (Check one):
 No restrictions
 The following specified portions of the interview will not be made available to anyone until _____.

Susan Crawford, PhD
Name of Interviewee

Susan Crawford
Signature

Date 11-09-01

Accepted by SYC
Carla Fush

Susan Bolda Marshall
Name of Interviewer

Susan Bolda Marshall
Signature

Date 9-12-01

Date 9/18/03



SUMMARY

A conversation with Susan Crawford, one of the Medical Library Association's "One Hundred Most Notables," was recorded by Susan Bolda Marshall on September 12, 2001. Dr. Crawford covers her educational preparation at the University of British Columbia, the University of Toronto, and the University of Chicago leading to undergraduate and advanced degrees in liberal arts, library science, and biological and social sciences. She discusses events related to her appointments at the American Medical Association, Columbia University School of Library Service, and Washington University. Dr. Crawford, a prodigious researcher and author in her own right, also served as the editor and on the editorial board for several journals. She reflects on these and other professional activities with the Medical Library Association and the American Society for Information Science and Technology. The interview includes reflections on the evolution of health sciences libraries (particularly medical society libraries), the impact of technology on information management, the rise of the Regional Medical Library Program, and the experience of securing funds for a new library building.

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Tape 1, Side A

Susan Bolda Marshall: This is an MLA oral history interview with Susan Crawford. Today is Wednesday, September 12th, 2001. We are in Evanston, Illinois. The interviewer is Susan Bolda Marshall.

Susan Crawford: How did I get into medical librarianship? I had the luxury of pursuing my curiosity without any thoughts of a career and began undergraduate school at the University of British Columbia with a double major in history and English. However, I did need to work and my parents used to say, "Why are you taking a liberal arts degree? You will never get a job." So I finished a library degree at the University of Toronto to be practical, then I found that I really enjoyed working in a library. And I did take four degrees because I have an innate curiosity about things. Two years later, I began a master's degree at the University of Chicago in biological and social sciences, still trying to decide what I would ultimately do. About five years after that, I completed a doctorate in library and information science at the University of Chicago. The timing was good, as the computer was just propelling a technological revolution in information processing.

In 1959, the American Medical Association (AMA) appointed me to analyze and to summarize its governing legislation from its founding in 1848 through 1958. On completion of the 779-page book, I was appointed director of the AMA Library which, when I took over, had a staff of about fifty people. I was only twenty-nine years of age.

The AMA Library, at the time, produced the *Quarterly Cumulative Index Medicus*, the index to world medical literature. But because of problems in acquiring foreign journals during World War II and manual (non-mechanized) production, the index was several years in arrears. In 1960, the National Library of Medicine (NLM) proposed that a new *Index Medicus*, first series, be jointly published with the AMA, using IBM punched cards and sorter. I negotiated discontinuation of the *QCIM*. I oversaw the downsizing of my staff to fourteen persons and began developing new programs for the library.

I finished my doctorate while working for the AMA and I always wanted to be in academia. The School of Library Service at Columbia University offered me an associate professorship. The problem was, I lived in Chicago and would have to fly to New York City every week. I did this for three years and was in charge of the Science and Medical Program. Then, in the middle of all of this, there was President Carter's oil embargo which caused the fare to New York to hike from \$118.00 to \$315.00, a large chunk of my salary, not including a place to stay. So I gave up my professorship and returned to Chicago.

I was still the director of the AMA Division of Library and Archival Services, having held two positions at the same time. One day, the Dean of Washington University School of Medicine called me and said someone had nominated me to succeed Dr. Estelle Brodman as director of the library. I said that I was not interested, as I didn't want to commute anymore. He said, "Well, would you come down and talk to us about the direction the library should go." I went to St. Louis and ended up leaving the AMA and

taking the position of Professor and Director of the Biomedical Communications Center. I stayed for ten years and drove between Evanston and St. Louis weekly. It was 321 miles each way for 642 miles a week and I figured that, in the 10 years, I had traveled halfway to the moon. However, during that time I did a tremendous amount of research and published over 100 papers.

M: When were you in library school?

C: I got my Ph.D. in 1974. It was the background I needed: research methodology, mathematics, information technology, and socioeconomics. I had good mentors – both at the university and at the AMA. I reported to the AMA Executive Vice President (EVP) for several years and he taught me to “read between the lines – and find what is really being communicated.” After I finished the “Official Actions...” book, I had such good rapport with the EVP office that, short of murdering someone in the library stacks, I felt I would never be fired.

M: What was the name of the Director that you reported to?

C: That was Dr. Ernest B. Howard. Once, I had a very difficult person to whom I reported at the AMA. He was so problematic that I went to the EVP to ask for advice and he said, “Whom would you like to work for? I’ll just move the library.” (Laugh) And he moved the library to another part of the administrative structure. Within the profession I had other great friends and mentors, among them, Thomas Fleming (Columbia University), Gertrude Annan (New York Academy of Medicine), and Mildred Langner (University of Miami).

M: How did the size of the AMA, when you were there, compare with what it is now?

C: If I recall correctly, the membership when I first came included some 80% of physicians in the United States. Now, I think the membership hovers around 40%. There were about 1,000 staff members, but I know it is less now. I will talk about the role of the library later.

M: Sure, okay.

C: Very quickly, how did I come to work for the AMA? I was asked to come, recommended by Magdalene Freyder Hodgson, the librarian and Thomas Fleming, who did a study of the AMA Library and its program. What is unique about the AMA Library? Well, it is a national society library with a long tradition of service. The appointment propelled me to the national scene. For example, I was appointed to the NLM Board of Regents, review panel of the National Science Foundation, fellowship status in the American Association for the Advancement of Science, and the staff of the *Journal of the American Medical Association*.

M: So the AMA, at that time, provided service to its membership?

C: Looking back on the whole library situation in the United States, the medical society libraries were very, very important probably from about the turn-of-the-century until the 1950s. State and local medical societies formed a network of libraries to provide service for their members. They had generous budgets, did literature searches, and mailed packets of journal articles. Then after World War II, everything changed. The era of Big Science and large federal budgets began. Hospital libraries grew stronger and NLM developed MEDLINE and the Regional Medical Library System. Doctors were now able to go to their own hospital libraries to get what they wanted and didn't have to depend on medical society libraries for service delivered by mail. Today, with the Internet, reorganization is playing out again.

M: It seems like there are some who have remained strong, College of Physicians in Philadelphia, I think, New York Academy of Medicine.

C: When I was at the AMA, Dr. Estelle Brodman said to me, "Well, you know the only society library that will be left is the New York Academy of Medicine Library." I surveyed medical society libraries in the United States in 1969 and in 1973. By 1973, many distinguished state and local medical society libraries, among them, Boston Medical Library and Cleveland Medical Society Library had merged with universities or large hospital libraries. At the AMA Library, we took a serious look at our program and developed a strategic plan for survival. We evolved from providing clinical research and document delivery for members to serving the needs of the association and its component societies. We indexed all AMA publications (ten specialty journals, *JAMA*, books and pamphlets); produced an index to world medical socioeconomic literature; maintained the archives of AMA history and official actions; and merged all departmental libraries with the main library. For example, if the AMA House of Delegates wanted to take action on animal experimentation or service-connected disabilities, the library would be asked to document previous actions. As a society library, tell me about your program.

M: Well, the American Academy of Pediatrics, has always been much more staff and leadership oriented, as opposed to serving the whole membership. We have never been the size of some of these other ones. So I think what you're saying is important; working for the Academy doesn't mean just keeping books on the shelves and doing the day-to-day searches, but how we enable people to get the information and to keep the information. We do the archives also.

C: Do you do indexing also?

M: No, we don't do much indexing. We do verification for everything they publish, which turns into an onerous task, but a very necessary one. Working with publications is very important. If you just stay off there and do your tiny little world and your books are all nice and straight on the shelf, you are out of there.

C: Besides it got to the point where maintaining a comprehensive library was awfully expensive, especially space-wise. The AMA also got much more interested in the politics and economics of medicine and downgraded the scientific. The library became

quite important, for a time. When Dr. James Sammons was EVP, I became one of the top executives at AMA - one of six. I remember one New Year's Eve, the six of us were called down to his office to celebrate and of course, being the only woman, I had to pour the champagne.

M: The only one capable. (Small laugh) I actually interviewed for a job at the AMA in the early to mid-eighties, not when you were there. At the same time, I interviewed with the AHA. And I went there. On your research...

C: My research activities focused on communication among scientists, biomedical communication, and statistical surveys. Until the late 1960s, no one knew how many health sciences libraries there were in the United States, so I developed the first comprehensive surveys in 1969 and in 1973. The surveys provided baseline data for demographic, organizational, educational, resource, and service variables. For this work, continued funding was received from NLM and the Eliot Award was received.

Contributions to communication theory have included sociometric studies of scientists in psychophysiological study of sleep and cocitation analyses of the mental health field. Research and development in online selective dissemination of information and integrated information systems have been supported by NIH and the Institute for Scientific Information.

M: What were the conclusions that you drew from this research?

C: Well, in the mental health study, we were able to identify active areas of scientific activity. Interestingly, the study showed that psychiatry was moving away from the psychological to the pharmacological and the physical. And now, it is moving into the genetic area. So we showed the direction the psychiatric profession was entering. The methodology can be applied to other disciplines and professions. In the sleep study, we identified a communication network among a core group of scientists who had greater productivity, higher citation record, and wider readership.

M: How did you get involved with MLA?

C: My first national meeting was in Montreal. I didn't know anybody and I was very junior and lunched by myself. But members gradually invited me in. Many meetings later, I became very involved and gave a lot of my life to MLA. Major contributions to MLA included the surveys of health sciences libraries, which I previously mentioned. The surveys were published as a supplement to *BMLA* and as two directories, both MLA monographs. I served on many committees and was editor of *BMLA* for eight years (2.5 terms).

M: It's hard to talk about your own awards, but just for the record...

C: Well, for contributions to MLA, I was named Janet Doe Lecturer; received the Eliot Award, McGovern Foundation Award to the Editor of *BMLA*, MLA Special Award to the

Editor, Noyes Award, and MLA President's Award. I was elected Fellow of the Medical Library Association and Distinguished Member of the Academy of Health Information Professionals.

M: And other professional organizations and activities?

C: Outside MLA, I served on the Board of SLA's Biological Sciences Division; reviewed grants for the National Science Foundation; served on the Board of Overseers of Tufts University and on the International Steering Committee for Scientific Publications in Vancouver and in Montreal. The Faculty of Library and Information Science of the University of Toronto nominated me to inaugurate their Visiting Scholar Program and gave me the Distinguished Alumnus Award. The University of Toronto later awarded me their Distinguished Graduate Medal.

I was also appointed to the editorial boards of nine journals: *Index to Medical Socioeconomic Research Sources*; *Bulletin of the Medical Library Association* (also editor); *Bulletin of the American Society for Information Science*; *Index to Scientific Reviews*; *Medical Library Association News*; *Medical Information Systems*; *Journal of the American Society for Information Science* (associate editor); *Health Information and Libraries Journal* (London); *Health Information and Libraries* (Budapest).

M: You have an extensive list of them. ASIST, yes. What are the differences between ASIST and MLA.

C: In contrast with MLA, which is pragmatic and service oriented, ASIST tends to be more theoretical, with emphasis on research.

M: Did ASIST appeal to the part of you that wanted to be a scientist?

C: In part, yes. I served on many committees, chaired symposia, and gave at least ten scientific papers at the society's annual meetings. I was elected chair of Medical Information Systems which won the Outstanding Specialty Group Awards in 1988 and 1989. I was associate editor of the *Journal of the American Society of Information Science* (*JASIS*) and started the *Perspectives* series. I invited specialists (including a Nobelist) to address areas of current interest to the readership; for example, "Cognition: Human Information Processing." In 1983, I resigned from *JASIS* to become editor of the *BMLA* (*Bulletin of the Medical Library Association*).

M: You mentioned being a Fellow of AAAS.

C: Yes, they have an information section.

M: Okay. I'm not sure what the procedure is to become a Fellow of AAAS. Is that something you applied for or you were nominated for?

C: Someone has to nominate you and a committee approves your credentials. I served

on a few committees and enjoyed their meetings. The scientific sessions give one a broad perspective and they have interesting speakers like Margaret Mead and Edward Teller.

M: How did you end up doing editorial work? Is it because you are such a prolific writer?

C: I enjoy writing and I am a compulsive organizer. When I became editor of *BMLA*, there was no style manual or procedure manual, just a little box of twelve 3x5 cards. In 1987 and 1988, I took time out to produce a 115-page *BMLA* Procedure Manual and a 77-page *BMLA* Style Manual. These have formed the basis for editorial policy and are still in use today, although revised and updated. I don't think I would have the energy to do that now.

M: You said you had done teaching.

C: When I was appointed to Columbia University School of Library Service (New York), I really enjoyed it. The problem was, it was so tiring to commute between New York and Chicago every week – leave on Monday and return on Thursday – to do five loads of wash! I developed syllabi for the Science and Medical Program and introduced one of the first online searching courses in library schools.

Tape 1, Side B

M: This is side two of the tape of the interview with Susan Crawford on September 12th. I know we just finished talking about your work at Columbia and how much you enjoyed teaching. And you were thinking about the future of libraries, and adaptation?

C: Adaptation to changing technology and the changing architecture of information. I would like to expand the framework to managing information, published and unpublished. We are moving into the areas of large-scale databases, complex systems, and many kinds of media. For example, if you were working in astronomy, what kinds of information would you be dealing with? Astronomers need digitized information that is being transferred from satellite to earth and sophisticated techniques for analyzing and for coordinating. They still need current awareness services online and access to large databanks, as well as books and journals. Where do libraries fit in such an environment?

M: How do you think that differentiates from the computer or IT department in your organization? You know in some organizations, they are owners of data.

C: Yes, I think you are talking about the library's relationship with other departments in your organization that manage and analyze specialized information. For example, a Bioinformatics Department handles a broad spectrum of biological information from genome sequencing to quantitative monitoring of cellular processes. This is information handling requiring sophisticated techniques and instrumentation and obviously beyond what librarians and information specialists are presently trained to do.

Presently, we have two sets of capabilities: (1) librarians trained mainly in information or document storage, retrieval and delivery; (2) specialists in computer science, statistics, and some disciplinary background, for example, functional genomics. A typical task might be development of mathematical and computational frameworks for analysis of data on a variety of organisms. But both groups are dealing with information processing. Administratively, they could be (1) separate departments that complement each other to address problems as they arise; or (2) merged into a division with separate departments under a single director.

The owning of data may or may not be a crucial issue. When the Integrated Academic Information Management System (IAIMS) was first conceptualized, there was much discussion on whether the data from various departments should be pooled together into a master database. Today, this is not necessary, as the departmental data can be accessed online. But this is a complex issue and there are many models, depending upon the institution.

I don't want to minimize the territoriality or the competition among departments. But there is also an opportunity to be creative. I always think that whenever I get something done and going and people like it, some man will come along and want the job. (Laugh)

On the status of librarians – I have always resented the stereotype. A new novel, *The Queen's Necklace*, (recently reviewed in the *New York Times*) depicts a librarian as one who had a small pad hanging on his side at all times so he could write notes. Recently, a woman wrote in the Op-Ed section of the *Times* that she could be seen in old clothes and Rockport shoes at library meetings, as she was low paid. Well, ten years ago, some librarians were making six-figure salaries.

M: We have a costume party at the Academy, and I have often said that some Halloween, I am coming as a librarian with my glasses on a chain and a little bun on the back of my head. You have alluded to the fact that you think your degrees gave you additional credibility.

C: Yes, the degrees gave me credibility politically, but more importantly, I learned how to think. But of course, after I got my four degrees, I couldn't sit through another class for a long time, even for CE courses.

M: You were on the Board of Regents of the National Library of Medicine. What were some of the things that went on when you did that?

C: First, I enjoyed the people very much. Secondly, it was such a learning experience; ideas came to mind on what to do when you came back to your own library and region. And there were some very interesting people like that head of Bell Laboratories and the Dean of Harvard Medical School (whom my husband studied under). It was also an exciting time, as they were just starting the RMLs.

M: So what was the original impetus in developing the RMLs?

C: I guess that was the time when libraries began to network. Rather than being entities unto themselves, they started to cooperate and to share resources. Organizing libraries within geographic regions was a very sound and logical development.

M: But one that medical libraries were able to organize in a different fashion than other types of libraries, it seems.

C: Yes, our goals were similar, we were quite advanced technologically, and we had the leadership of NLM. They brought Dr. Marjorie Wilson to NLM and charged her with getting Congressional approval for the development of RMLs. I always thought this was such a formidable assignment. But she was very effective and also very pretty and she accomplished the task

M: You talked about, in different contexts, of being involved in fund-raising activities. What kind of work did you do in fund-raising?

C: I had to raise funds for the new Library and Biomedical Communications Center. You had to do it because you had to get your own money. There was a threshold to be met before the school was willing to supplement funds.

M: Was that a difficult thing for you to do?

C: Yes and no. The Vice Chancellor and the Chair of the Library Committee (whose wife was from the Sears family) worked with me. We met many interesting people like Mr. and Mrs. Anheuser Busch and a member of the Pulitzer family. The people who liked me the most were elder ladies. (Laughter) Long after I left Washington University, some were still writing to me and one of them willed her estate to the library. But there was also competition. Once I was stopped in the hall by a member of the Executive Committee who demanded to know where the funds came from. I quietly responded, "I don't know." To which he replied, "I will find out." Another department chair told me, "You will get the library after you retire." The latter is in response to the dilemma of my predecessor who was promised a new library when she came. Some twenty-one years later, she was still in the obsolete building with one washroom for some fifty staff members.

M: Anything else you can think of that I haven't covered?

C: I don't think so. I think we didn't go exactly by the outline, but we included most of the elements.

M: I think so. In addition, you made it so easy for me – I have exactly what we want. We want to hear about you.

End of tape.

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Susan Crawford

Education

University of British Columbia	B.A. Liberal Arts
University of Toronto	M.A. Library Science
University of Chicago	M.A. Biological/Social Sciences
University of Chicago	Ph.D. Library and Information Science

Positions

American Medical Association: Research Associate, Office of the Executive Vice President; Director, Archive-Library Department, 1960-1974; Director, Division of Library and Archival Services, 1974-1981.
 Columbia University, New York: Associate Professor, School of Library Service, 1972-1975.
 Washington University School of Medicine, St. Louis: Professor and Director, Library and Biomedical Communications Center, 1981-1992.
 University of Illinois at Chicago, Adjunct Professor, School of Medicine, 1994 to date.

Honors and Awards

Pi Lambda Theta, hon. education
 University of Chicago, doctoral research award, 1967-1969
 Board of Regents, National Library of Medicine, National Institutes of Health 1971-1975. (U.S. Presidential Appointment).
 Certificate of Appreciation, U.S. Public Health Service, 1975.
 Medical Library Association. Eliot Award for scientific publications, 1976.
 Sigma Xi, hon. scientific research society, 1978.
 International Steering Committee, Universal Guide for Contributors of Scientific Publications (The Vancouver Group); Royal College of Physicians and Surgeons of Canada, Vancouver (1978) and Montreal (1979)
 American Society for Information Science, Certificate of Appreciation to founder and editor of JASIS Perspectives, 1981.
 Fellow, American Association for the Advancement of Science, 1982.
 Editor, Bulletin of the Medical Library Association, 1983-1988; 1991-1992.
 Medical Library Association honorary Janet Doe Lectureship, 1983.
 Special Award to Editor, Bulletin of the Medical Library Association, McGovern Foundation, Houston, TX, 1986.
 Distinguished Alumnus Award for 1987, Faculty of Library and Information Science, University of Toronto.
 Medical Library Association Special Award to Editor of the Bulletin of the Medical Library Association, 1988.
 American Society for Information Science. Outstanding Specialty Group Award, to Chair, Medical Information Systems, 1988 and 1989.
 Board of Overseers, Tufts University, Boston, Massachusetts, 1988-89.
 Distinguished Graduate Medal on Sixtieth Anniversary of the Faculty of Library and Information Science, University of Toronto, 1989.
 Distinguished member, Academy of Health Information Professionals, Medical Library Association, 1990.
 Noyes Award, Medical Library Association, 1992.
 President's Award, Medical Library Association, 1992.
 Fellow, Medical Library Association, 1993.
 Medical Library Association: 100 most notable, 1998

Who's Who in America
 American Men and Women of Science
 Who's Who Among American Women
 Who's Who in Medicine and Healthcare

Memberships

American Association for the Advancement of Science
American Association of University Professors
American Library Association
American Medical Informatics Association
American Society for Information Science
Medical Library Association
Sigma Xi (hon. sci.)
Society for Social Studies of Science
Special Libraries Association
Association of Academic Health Sciences Library Directors
Freedom to Read Foundation

Teaching Appointments, Seminars

University of Illinois, Graduate Library School, May 1970.
University of Michigan, Department of Mental Health, October 1970.
Stanford University, Center for Communication Research, May 1971.
Washington University, St. Louis, Biomedical Communication Training Program, March 1972.
Columbia University, New York, School of Library Service - Associate Professor, 1972-1975; Assembly Speaker, February 1977.
Medical Library Association, Workshop on Scientific Manuscripts, October 1980.
American Society for Information Science, developed JASIS Perspectives, a series of tutorials published in Journal of the American Society for Information Science, 1980-1981.
Washington University School of Medicine, St. Louis. Professor of Biomedical Communication, 1981-1992.
British Library Association, Seminar on Scientific and Technical Publishing, London, England, 1993.
University of Illinois at Chicago, Adjunct Professor, School of Medicine, 1994- to date.

Research Activities and Publications

Research activities have focused on communication among scientists, biomedical communication, and statistical surveys. Developed the first comprehensive surveys of health science libraries in the United States, which have provided baseline data for demographic, organizational, educational, resource and service variables. For this endeavor, continued funding has been received from the National Library of Medicine (1968-1981) and the Eliot Award was conferred. Contributions to communication theory have included sociometric studies of scientists in sleep research and co-citation analyses of the mental health field. Research and development in online selective dissemination of information have been supported by the Institute for Scientific Information (1985-1988).

Editorial appointments include terms on boards of nine journals: *Bulletin of the Medical Library Association*, *Index to Medical Socioeconomic Research Sources*, *Bulletin of American Society for Information Science*, *Index to Scientific Reviews*, *Journal of the American Society for Information Science (JASIS)*, *Medical Library Association News*, *Medical Information Systems*, *Health Libraries Review (London, England)*, *Health Information and Libraries (Budapest, Hungary)*. Initiated and served as editor of *Perspectives* series, a review of major areas of information science, published in *JASIS*. Appointed editor of the *Bulletin of the Medical Library Association* in 1983-85 and reappointed for successive terms in 1986-88 and in 1992. Appointed editor of *Medical Information Systems (ASIS)*, 1988-1990 and production editor in 1991.

Developed unified indexes to the Journal of the American Medical Association (AMA) and ten AMA specialty journals (1960-1981); and *Medical Socioeconomic Research Sources*, a computerized resource guide published by the AMA (1971-81), succeeded by *Socioeconomic Bibliographic Information Database (online)*

Publications

Crawford, S. Age differences in projection of body image. University of Chicago, M.A. thesis, 1955.

Crawford, S. Digest of official actions. American Medical Association, 1847-1958. Chicago: The Association, 1959. 779 p.

Crawford, S. Proceedings of the House of Delegates of the American Medical Association, Chicago, The Association, 1958, 1959, and 1960.

Crawford, S. "Introduction," in: Cumulated Index Medicus, 2d series, vol. 1, 1960.

Crawford, S. The Archive-Library Department of the American Medical Association. Bull. Med. Libr. Assn. 51: 507-511, October 1963.

Swanson, D.R.; Coggeshall, L.T.; Crawford, S.; Licklider, J.C.R.; and Longnecker, H.C. "Report of Committee on Data Collection, Evaluation and Retrieval," in: Report of the Commission on Drug Safety. Washington, D.C., The Commission, 1964, pp. 87-110.

Crawford, S.; Michel, C.; and Waligorski, C. The contemporary medical society library. Bull. Med. Libr. Assn. 53: 178-195, April 1965.

Crawford, S. Health sciences libraries of national, state and local medical organizations. Bull. Med. Libr. Assn. 55: 191-200, April 1967.

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Brantz, M.; Crawford, S. "Media: Integration and evolution in a medical center" in *High Performance Medical Libraries; Advances in Information Management for the Virtual Era*, ed. by Naomi C. Broering. Westport, CT, Meckler Publishing Corp., 1993, pp. 185-194.

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Crawford, S.; Stucki, L.; Halbrook, B. Managing information in biomedical research: the Human Genome Project. Proceedings of the American Society for Information Science, Pittsburgh, PA, October 27-31, 1992.

Crawford, S. Review and essay on "Libraries and Information Services in the Health Sciences" ed. by Prudence W. Dalrymple. *Bull. Med. Lib. Assoc.*, v.82, April 1994, p. 231.

Crawford, S. Scientific and technical writing: a workshop for information professionals (Syllabus). London, England, 1994, Health Libraries Review and Blackwell Scientific Publications

Crawford, S. Gertrude L. Annan: a remembrance. *Bull. Med. Libr. Assoc.*, v.82, Oct. 1994, p. 461.

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Crawford, S. "Astronomy and astrophysics" in *Electronic Invisible Colleges: a Study of Three Scientific Disciplines*. Proceedings of the American Society for Information Science. Minneapolis, Minn., May 24-26, 1995.

Crawford, S. The International Congress on Medical Librarianship, 1953-1995: goals and achievements. Proceedings of 7th International Congress on Medical Librarianship, Washington, DC, May 10-13, 1995.

Crawford, S. President of the Medical Library Association, 1996-1997: Naomi C. Broering. Bull. Med. Libr. Assoc., v.84, July 1996, pp.441-43.

Crawford, S.; Hurd, J; Weller, A. From print to electronic: the transformation of scientific communication. Washington DC, American Society for Information Science, 1996.

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Crawford, S. Review of "Time to Heal; American Medical Education From the Turn of the Century to the Era of Managed Care," by Kenneth Ludmerer. Bull. Med. Libr. Assn., 87:293-294, October, 1999.

Crawford, S. Magee 1945, a class portrait; memoir of a homecoming (Special Report). The Vancouver Sun, September 18, 1999, D5-D6.

Crawford, S. Review of "Building Character and Culture," by Pat Duffy Duffy Hutcheon. Internet, Books – Home Page Pat Duffy Hutcheon, October 1999.

Crawford, S. Belver Griffith: scientist, mentor and friend. Festschrift in honor of Belver Callis Griffith, Compiled and published by Caitlin A. Griffith, Flagstaff, Arizona, January 1999.

Crawford, S. In memoriam: Philip E. Gunby, editor, Medical News and Perspectives, Journal of the American Association. Journal of the American Medical Association, 283:621-2, June 21, 2000.

Professional Activities

Education Committee, American Society for Information Science, 1968-1970.

Chairman, Committee on Surveys and Statistics, Medical Library Association, 1966-1975; Principal Investigator and Consultant, 1975-1980.

Principal Investigator to develop a continuing data collection and analysis program on health sciences libraries in the United States (PHS Grant LM 00641, 1968-1981).

Member, Selection Committee for Key Papers in Information Science. Washington, D.C., American Society for Information Science, 1971.

Member, Advisory Committee, Midwest Health Sciences Library Network, 1974-1976.

Member, New York/New Jersey Regional Medical Library Committee to Organize Continuing Education, 1973-75.

Member, Extramural Program Committee, Board of Regents, National Library of Medicine, 1973-75.

Chairman, Committee on Education, Special Libraries Association, 1974.

Chairman, Committee on Research, Columbia University, School of Library Service, 1974-1975.

Editorial Advisory Board, Index to Scientific Reviews, 1975 to date.

Chairman, Committee on Faculty Evaluation, Columbia University, School of Library Service, 1974-1975.

Member, Board of Biological Sciences Division, Special Libraries Association, 1975-1977.

Medical Library Association, Consulting Editors Panel, 1976-1982.

Member, National Science Foundation International Forum for Project: Knowledge 2000, 1976.

Consultant, Journal of the American Society for Information Science, Journal of the American Medical Association, Contemporary Sociology, Science (AAAS), and other professional journals (continuing).

Consultant for Grants Review, Division of Information Science and Technology, National Science Foundation, National Institutes of Health, (continuing).

Publication Panel, Medical Library Association, 1976-1980.

Member, American Association for the Advancement of Science, Committee for Selection of AAAS Newcomb Prize (for outstanding papers published in Science), 1977.

Chairman, Medical Society Libraries Group, Medical Library Association, 1977-1978; Chairman, Panel on the Medical Society Library: A Socio- Historical Perspective, held at Annual Meeting of Medical Library Association, 1979.

Co-Principal Investigator (with A. Rees), Third Survey of Health Sciences Libraries in the United States, 1978-1979. (PHS Grant LM 03135-01, 1978-1980.)

Chairman, Search Committee for Executive Director, Medical Library Association, 1978.

Consultant, Arthritis Information Clearinghouse, National Institute of Arthritis, Metabolism, and Digestive Diseases, 1979-1981.

Member, Advisory Board, Bulletin of the American Society for Information Science, 1979-1981.

Associate Editor, Journal of the American Society for Information Science and Editor of JASIS Perspectives, 1979-1982.

American Association for the Advancement of Science. Electorate Nominating Committee, 1980-1982; Chairman, 1982-1983.

Member, Committee to Investigate Income Structure of Medical Library Association, 1980-1981.

Member, Needs Sensing and Program Development Advisory Committee, Educational Communication Department of Far West Laboratory for Educational Research and Development, San Francisco, CA, 1980-1982.

Member, Task Force on Technology Assessment, American Medical Association, 1981.

Member, Task Force on Medical Information Network, American Medical Association, 1980-1981.

Representative and respondent, Panel on Information Seeking Habits of Physicians- Current Studies, Annual Meeting of Association of Academic Health Sciences Libraries Directors, 1981.

Advisory Committee, Midcontinental Regional Medical Library Program, 1981-1982.

Member, Committee on Information Control and Technology. Association of Academic Health Sciences Library Directors, 1981-85. Chairman 1984-1985.

Chairman, Bulletin of the Medical Library Association Consulting Editors Panel, 1982-88.

Editor-in-Chief, Bulletin of the Medical Library Association, 1982-1988, 1991-1992.

American Society for Information Science Committee on Best Student Paper Award, 1982-84.

Member, Committee on Janet Doe Lectureship, Medical Library Association, 1983-1987 and 1989-90.

Consultant, Editorial Committee, Medical Library Association News, 1982-1988, 1991-1992.

Member, Advisory Committee, Center for Bioethics, Joseph and Rose Kennedy Institute of Ethics Georgetown University, Washington, D.C., 1983.

Member, Coordinating Committee on History of Medicine and Biology, Washington University, 1983.

Member, Publication Planning Task Force, Medical Library Association, 1984.

Member, Journal of the American Society for Information Science Editorial Board, 1984-1987.

Principal Investigator, development of Current Contents Online and investigation of use by scientists and practitioners, 1985-1988.

Raised \$16 million for construction of a Medical Center-wide library and biomedical communications center at Washington University, St. Louis, 1986-1989.

Chairman, SIG/Medical Information Systems, American Society for Information Science, 1987-1988.

U.S. representative, First European Congress on Medical Librarianship, Brussels, Belgium, November 1986; Second conference, Bologna, Italy, November 1988.

Speaker, Lowry-Moore Scholar Society, Washington University School of Medicine, December 16, 1987.

Facilitator, Pioneers of Information Science program at 50th Anniversary Conference of American Society for Information Science, October 4-8, 1987.

Recipient, \$1000 grant from Majors Scientific Publications, Inc. for development of Medical Information Systems, published by American Society for Information Science, 1988 and 1989.

Book Review Editor, Bulletin of the Medical Library Association, 1987-88.

Member, Publications Committee, American Society for Information Science, 1988-1990; Chair, Proceedings Committee, 1989-1990.

Editor, Medical Information Systems (American Society for Information Science), 1988-90.

Organizer, symposium on "Evaluation of Scientific Information: Peer Review and the Impact of New Information Technology," annual meeting of American Society for Information Science, Atlanta, Georgia, 1988.

Keynote Speaker, Joint Conference of the Health Libraries of the New Zealand Library Association and Medical Libraries Group of the Library Association of Australia, November 1989.

Member, Editorial Board, Health Information and Libraries, National Institute for Medical Information, Budapest, Hungary, 1989-94.

Medical Library Association representative to American Association for the Advancement of Science, Section T: Information, Computer and Communication, 1989-94.

Member, Editorial Board, Health Libraries Review, London, England, 1989-to date.

Medical Library Association representative to European Association for Health and Information Libraries, 1989-1993.

Chair, symposium on "Computer-Based Imaging in the 90s; implications for Biomedicine," Annual Meeting, American Society for Information Science, Toronto, Ontario, September 1990.

Medical Information Systems, Cabinet representative, American Society for Information Science, 1989.

Keynote Speaker, Symposium on "The Genome Project," Annual Meeting, American Society for Information Science, Pittsburgh, Penn., October 27-31, 1992.

Coordinator and Session Leader, "Professional Communication: a workshop for Writers and Editors," sponsored by Health Libraries Review and the British Library Association, London, England, June 12, 1992.

Research Roundtable group leader, Medical Library Association, 1993.

International Representative, Health Libraries Review, to develop strategic plan for Europe-wide journal, 1993-to date.

Board of Directors and Program Chair, American Society for Information Science, Chicago Chapter, 1994-96.

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