It Was the Most Uncertain of Times:

Academic Reference Librarianship at the End of the Twentieth Century

by *Joline R. Ezzell*

Uncertainty pervades today's world. For too many questions there is no clear answer or obvious best alternative. Will Social Security be bankrupt in 20 years? 30 years? Which course of treatment is most likely to cure a disease in a particular individual? What impact will El Nino have on the weather? Citing another example, Virginia Abernethy, editor of *Population and Environment,* notes that "the greenhouse effect is the late twentieth century's poster child for uncertainty."[1] Most of this uncertainty stems from the plethora of choices available and the rapid pace of change in nearly every aspect of life, including reference librarianship.

Thirty years ago a typical reference transaction consisted of determining what information a patron wanted, identifying the appropriate printed source to meet this need, and instructing the patron in its use, if necessary. Most journal and newspaper indexes could be searched by subject, author, or title. The subject headings usually were determined by the publisher of the work and thus could differ from publisher to publisher. Other reference works, such as directories, dictionaries, and encyclopedias, were arranged alphabetically. A few publications had their own unique arrangements, generally explained in the works' prefaces. Keyword searching was unheard of and Boolean searching was an unknown concept. In this respect, technology has facilitated the research process greatly. Moreover, although serial reference works occasionaily were cumulated into five- or ten-year volumes, researchers more often were forced to comb through dozens of individual volumes.

Gradually other formats came into use — most notably microfilm and microfiche. Some extensive reference works, such as the *British Biographical Archive,* were issued this way. Aside from learning how to load microforms for viewing, however, reference librarians faced few new challenges in using them.

Requirements for reterence positions at this time were minimal and job postings in the *ALA Bulletin* brief:

> Reference librarian. Professional degree required, some experience desirable. Salary open, depending on background. Faculty rank and privileges. State teachers retirement, social security group insurance. Month vacation. New building, rapidly growing collection reclassifying to LC. In heart of recreational areas. Position open now ... State University Bozeman, MT 59715.[2]

A report on a pre-conference institute held in Dallas in June 1971 stated that computer-based reference service was then a decade-and-a-half old.[3] Such service must have been extremely limited, or at least not widely publicized; *Library Literature* for 1967-1969 includes only five entries for "Automation of Library Processes — Reference Services." An article written three years later proclaimed computer reference service at MIT, where Lockheed and Medline databases were launched in December 1973, a success.[4] With the creation of these and similar automated databases, reference librarianship began a continuing transformation that has accelerated each year. This change is reflected in the job advertisements in *Americarn Libraries.* A typical 1975 ad for a reference librarian for an academic library includes just a few basic requirements.

> Michigan ... General reference librarian. Responsibilities include assisting with interlibrary loan, developing bibliographic guides, serving at reference desk, and providing research assistance and library instruction in a centralized reference department ... MLS from an accredited library school is required; a subject master's in business or social sciences is preferred ... Excellent working conditions in modern building. In addition to 9-month year some opportunity for summer employment. Full faculty privileges, rank depending on academic qualifications. Excellent fringe benefits including TIAA-CREF ... Central Michigan University Library[5]

By 1985, a typical ad for an academic reference librarian had grown considerably in size, with a corresponding increase in the number of skills and capabilities expected. In addition to the MLS, experience in online database searching and familiarity with microcomputer applications often were requested. Moreover, specific individual qualities and personal characteristics often were sought; flexibility, human relations skills. and the ability to work

as part of a team frequently were listed as required qualifications.[6] The *American Libraries* classifieds of 1998, in addition to the requirements listed in the 1975 ads, include knowledge of HTML; experience using the Internet, CD-ROMS, computer hardware, and software; experience working in a networked environment; demonstrated teaching ability; and experience with library instruction. A stated desire for flexibility as one of the applicants' qualities, often seen in ads during the 1980s, is less prevalent in 1998 — a strange omission in view of the greater need for flexibility and tolerance for ambiguity occasioned by rapid change in the field.

Though the number of electronic reference services grows exponentially each year, printed reference sources have not stopped being published. Hundreds of new printed reference works appear yearly. Nor have microfilm and microfiche disappeared. Journals and newspapers continue to be distributed in microform as well as electronically.

Added to these more traditional formats are the many electronic databases now available, often through multiple vendors. The majority of available databases are indexes/abstracts of journal literature, with most devoted to a specific discipline. Examples are *MLA,* an index to articles about language, literature, and folklore; *ERIC,* a database that provides citations and abstracts of journal and report literature in all aspects of educational research and resources; and *Sociofile,* an index with abstracts to journals, books, and dissertations about sociology, social welfare, planning and policy, and development. *ERIC,* in fact, exemplifies the many vendor choices reference librarians have. It is available through SilverPlatter, FirstSearch, Dialog, Ovid, and EbscoHost.

Unfortunately, standardization in search software does not exist; each vendor has its own method for designating truncation, proximity, and database fields, as well as its own tags for searchable fields. If the library purchases databases from more than one vendor, reference librarians must become proficient with several kinds of search software in order to assist patrons successfully.

Several databases now provide the full text of journal and newspaper articles. Major services of this type are *Lexis-Nexis,* which contains the full text of hundreds of newspapers worldwide, as well as company information and newsletters; IAC's *Expanded Academic Index,* a general database covering the sciences, social sciences, and humanities which contains the text of many journal articles, as well as abstracts and citations of those unavailable in full text; and UMI's *ProQuest Direct,* a database similar to *Expanded Academic Index,* but with page images of many of the articles that are available in full text. Each year the amount of electronic full text grows, as vendors obtain permission from more publishers to provide this service.

Some databases contain statistical information or other numerical data. Examples are the *National Trade Data Bank;* the 1990 *Census;* and numerous other documents in electronic form issued by the federal government. These reference sources provide additional challenges to librarians, who must learn their unique structures and search software.

Traditional reference works are now increasingly offered in electronic as well as printed form. Examples are *Biography Index, Monarch Notes, Books in Print, Britannica Online, Walker's Mammals of the World,* and *Contemporary Authors.* Though the information contained within each of these works is nearly always identical to that of the paper edition, the electronic version frequently contains additional access points and electronic links. Not to be forgotten as an electronic product, of course, is the library's online catalog, with its own searching protocols and periodic upgrades. Most recently, NC LIVE has brought many new databases to libraries across the state.

Just as reference librarians were trying to keep up with all of these products and their recurrent new versions, the Internet and the World Wide Web burst onto the scene. Suddenly they faced sources emanating from outside the library and totally out of their control. Although reference librarians may at first have been reluctant to use the Web for answering questions, they are adopting it into their repertoire of reference tools quickly. Though the Web contains many pages of dubious value, it can, nonetheless, provide valuable information for which there is often no other source. Yet the sheer size of the Internet can be daunting, and evaluating the quality of the information found there can be difficult and time-consuming.

Unfortunately, those brave individuals who ventured to create Web search engines made the same mistakes that database vendors had made — without the same excuse. Whereas vendors, hoping to capture the market, tried to make their search software unique and better than their competitors' products, search engine developers could easily have used a single protocol. Each search engine, however, differs in both the sources it indexes (Web pages, listservs, news groups) and the amount of content it searches. It also differs from others in the way it handles (or does not handle, in some cases) proximity, truncation, and phrase searching. So in addition to learning to search numerous databases, reference librarians must also learn the idiosyncrasies of the various Web search engines.

Exacerbating this confusion are the frequent changes in search software, search engines, and Web sites, which sometimes come without warning. One may show a patron how to use AltaVista during a morning desk shift, only to be faced with a different version during the afternoon shift. It is quite a different scenario than the organized process of reviewing a publisher's announcement of a new edition of a reference publication, ordering it, and perhaps reviewing it once it is received. A recent article concluded, "Often librarians hesitate to answer questions using the Web because they are frustrated by its unexpected nature. A helpful site we so confidently directed a patron to yesterday may not be there today."[7] Even in 1994, when there were nowhere near the present 350 million Web pages, Don Lanier and Walter Wilkins realized, "Having access to virtually limitless but highly volatile resources through the Internet is likely to strain the human resources of many reference departments."[8]

In this complex milieu, determining which reference source may best

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meet a patron's needs can be perplexing. Librarians must know the content, coverage, and currency of print and electronic sources, the ease or difficulty of using them, and the estimated time required to retrieve the information the patron wants. Another factor that may determine which electronic source is recommended to a patron is the time of day (Internet access is notably slower in the afternoons) and whether a particular database or Web site is operational at the time.

Not only is the task of mastering this vast array of print and electronic resources intimidating, but the speed of technological change is alarming. Articles describing gopher sites, Archie and Veronica, written in 1995, now seem strangely outdated just three years later. Web browsers, search engines, and HTML are updated several times a year, leaving reference librarians constantly in a training mode and always feeling slightly behind the curve. Leslie Kong notes that the "literal explosion of the variety of electronic formats and avenues by which information comes to the library can be daunting to the beginning reference librarian."[9] Experienced librarians can be just as overwhelmed.

Is it any wonder, then, that reference librarians feel uncertain when assisting patrons? As they mentally deal with this uncertainty and try to determine which source is best for a patron, their hesitation may be interpreted as a lack of knowledge. Uri Merry attributes part of the increased complexity of today's world and the intensification of uncertainty to the explosion in the rate of development of information. "Social systems such as organizations and other institutions are reeling under the impact of the rate of change. Their knowledge bases and skills lose their relevance a short time after they are acquired."[10] How many reference librarians still search BRS, compose documents in WordStar, or design gopher sites? In two years will they still find useful the skills they have learned this year? Moreover, with so many reference sources, both Web and non-Web, available to patrons remotely, there is a nagging worry that reference librarians themselves may soon become obsolete.

The pace of change is not likely to decelerate in the foreseeable future, and thus the complexity and uncertainty of reference librarianship will increase. What, then, is the antidote for this uncertainty? First, reference librarians must be flexible. In today's world, those who are not able to bend will surely break. They must be able to adapt to constant and quick changes in reference sources. Virginia Abernethy provides some advice for strategists and policy-makers that is equally useful for reference librarians: they "might best stop demanding certainty. They would do better to address themselves to managing ambiguity."[11]

One strategy for managing ambiguity is to perfect the reference interview. The Maryland model of reference prescribes an interview in which the reference librarian listens, clarifies, probes, paraphrases, and verifies in order to determine as precisely as possible the patron's question. Completion of the reference transaction includes following up to ensure that the question has been answered completely. In addition to taking these steps, reference librarians should begin asking some additional information. How much information is needed? Must this be an exhaustive search for a dissertation, or does the patron need a few articles for a brief paper? How much effort is the patron willing to make? What is the patron's time frame; is the paper due at the end of the semester or two days hence or yesterday? Must a specific type of source be used? Is information obtained from Web sites acceptable, or must scholarly journals be consulted? The reference librarian should judge how experienced or comfortable with technology the patron is. The reference interview must become more sophisticated and lengthy.

Another way to help reduce uncertainty in the reference transaction is to set aside time for learning and practicing with new databases that the library acquires. Familiarity with the content of each database and its search protocols will enable reference librarians to guide patrons effectively in its use. Allotting time for surfing the Web is also essential. By locating and bookmarking (or cataloging) information-rich sites and learning how to use search directories and engines effectively, reference librarians will become confident in directing patrons to the Web for answers.

As Katie Clark and Sally Kalin note in their paper on methods of coping with technostress,

> Staff also have to make a commitment to learn new skills. Training must become an integral part of their work life, not an adjunct activity. An increasing number of libraries are finding it unrealistic and impractical to provide formal training for every occasion. Rather, they are encouraging and embracing informal, collaborative modes of training. [12]

Some reference departments have developed training sessions for their staffs and/or set aside time to train each other. Library staff at Dartmouth created a Web site *http://www.dartmouth.edu/~biomed/workshops/kcks/* to accompany a workshop on keeping current with biomedical information, rather than supplying handouts. The Web site, which is updated regularly, allows staff to proceed with self-training at their own rate.[13] 'Kim Buch suggests that libraries should provide appropriate rewards for librarians who display a willingness to change and who gain new skiils and cross-train others.[14]

Finally, to combat the effects of technostress, about which much has been written lately, reference librarians must try to maintain a positive attitude; remind themselves that technology is only a tool, and certainly not more important than people; set realistic goals for themselves; and celebrate the completion of projects and goals.[15] Good communication among colleagues is also essential to providing excellent reference service; no one reference librarian can have all the answers.

Margaret Goggin, the dean of the Graduate School of Librarianship at Denver in the 1970s, described her own era as "complex" and suggested that librarians would need "to find, learn, and use new means and new techniques"[16] in order to respond adequately. Her advice stands the test of time. Although our reference toolbox is much fuller than was hers, our mission as reference librarians remains unchanged: to provide the information sought by our patrons, in an effective and timely manner.

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