Telecataloging: a consideration of present and future practices

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I. Historical development of cataloging technology

The concept of remote site cataloging or "telecataloging" (Hopkins 1994) follows more than three decades of technological developments in cataloging. These developments began in the 1960's when MARC (machine-readable cataloging) was established as the standard for coding bibliographic records to be read and interpreted by computers. The introduction of bibliographic databases, such as the OCLC Online Union Catalog (OLUC) in 1971, allowed catalogers to share their work electronically with other libraries and users throughout the world. The *Anglo-American Cataloging Rules*, 2nd edition, was published in 1978 (revised in 1988) in an effort to provide new standardization of the bibliographic description of an item, including computer files.

In the 1980's another revolutionary technological development was the introduction of computerized library catalogs. Online public access catalogs (OPACS), containing bibliographic data in MARC format, facilitated retrieval of information in new ways and eliminated traditional card catalog production. Software and hardware development advanced so that computers could communicate with each other. The cataloger could catalog materials on OCLC and then tape load or electronically transfer these records to an online catalog or vice versa. Many libraries began a card catalog conversion process to enlarge their database holdings of machine-readable records. OPAC vendors began to offer libraries other features such as authority files and database maintenance capabilities.

While the cataloger's office of the 1980's and 1990's typically has had a personal computer to access the bibliographic utility and the OPAC, there still exists much printed documentation and manual files. Catalogers are still consulting printed bibliographic tools such as foreign language and subject- oriented dictionaries, *Library of Congress Rule Interpretations*, manuals of Library of Congress (LC) cataloging practice, and "cheat sheets" lining their office walls. The library's shelflist may still be retained because conversion has not been completed or the library's OPAC does not have adequate shelflisting displays.

More recently, some new products and product developments are offering a change in the environment in which catalogers may work. The technology is either here, or in

development, to allow catalogers to access bibliographic records, the Internet, and the primary bibliographic tools from a personal computer at a remote site. This introduces an exciting new concept for catalogers, that of "telecataloging", as evidenced by postings on the Listserv list "Autocat" and the recent article by Black and Hyslop (1995).

The remainder of this article will include an overview of the library literature published since 1993 which describes telecataloging practices, in hopes of synthesizing the current interest in and implementation of remote site cataloging as it has occurred primarily in academic libraries. Catalogers' postings to "Autocat" are the primary references throughout this review. In addition, factors such as employee attitudes and personal needs, the technology required for successful telecataloging, library administrative concerns, and the future of telecataloging will be discussed.

II. Who can telecatalog?

A very important part of the telecataloging equation is selection of the person who will be able to catalog from a remote site. A variety of factors must be considered in making a decision about whether a person could engage successfully in this activity.

The most obvious factor is the necessity for a well-trained, knowledgeable cataloger. If efficiency is paramount, the remote cataloger must be well versed in the traditional cataloging rules, subject area(s) desired to be cataloged remotely, local policies and procedures. The characteristics of on-site cataloging as being a self-driven, decision-laden activity are only enhanced at the remote site where collegial consultation is likely to be minimal.

Secondly, this well trained cataloger must have sufficient technical skills with computer equipment. S/he must be comfortable with or at least have the confidence that s/he will be able to work through technical problems in a reasonable amount of time. A person who panics when the connection to the OPAC or bibliographic utility breaks down and runs for the local computer specialist is probably not well suited to this activity. A survey of the literature showed that librarians engaged in telecataloging most frequently owned and used their own personal equipment, implying a fairly high degree of computer knowledge.

Finally, the well-trained, technically-proficient cataloger and his/her supervisor should assess, honestly, whether the necessary personality characteristics are present for telecataloging. This person needs to be a self manager with the ability to set priorities and to meet deadlines. "The worker who adapts best to at-home or work center telecommuting ... is probably already working successfully in an occupation that requires independent organized operating methods and extended periods of concentrated effort. Such people are usually more achievement oriented, plan well, are persistent in their endeavors and self-directed. In addition they balance their time and can say "no" to intrusion. They are often among an organization's highly motivated, disciplined, reliable staff" (Cross 1986).

The Autocat messages that were posted raised the issue of distraction. How this is perceived and dealt with has to be a major factor for success in remote site cataloging. Leslie (1993) comments that "whether one finds more distractions at home or at work might depend quite a bit on the person involved." Some librarians felt that distractions at

home were more manageable than at work (Levy 1993; Gonzolez 1993; Black 1995). However, another questioned "the advisability of telecommuting for the purpose of solving child-care problems" with the ensuing distractions (Padley 1994). Obviously, a person who is easily distracted by other activities at home will find difficulty in performing cataloging there.

Another psychological factor that needs to be considered is the possibility of the cataloger feeling isolated from the work site and colleagues (Urbanski 1994). According to Manley (1996), "the lack of personal contact may be telecommuting's biggest inhibitor." This factor may be difficult to assess before the actual activity of remote cataloging is attempted. Both the cataloger and the library administration need to understand that not everyone is suited to working alone and that adjustment may need to be made in the work schedule over time if a feeling of isolation develops.

III. Tools and resources necessary at the remote site

The traditional approach to cataloging in the technical services area of a library, with piece in hand and a multitude of print supporting tools close by, changes dramatically when one considers remote site cataloging. Internet or dial-up access to OCLC and the library's OPAC, cataloging software and CD-ROM or online cataloging tools provide the technical applications needed to achieve this goal. Necessary are a personal computer with cataloging software, a printer and a modem, with a separate modem line being desirable. One cataloger reported the need of a fax machine (Elrod 1995). The literature showed a variety of customization by catalogers using both Apple and IBM compatible PC's. Software reported in use included Apple Remote Access Protocol (ARAP) (Graham 1993), Cataloging Microenhancer Plus (CATME+) (Pennell 1994; Black 1995), OCLC Passport (Pennell 1994; Sherman 1995), Bibliofile (Pennell 1994) and Symantec's PC Anywhere (Urbanski 1994).

The catalogers surveyed, in general, appeared satisfied with the quality and speed of their telecommunications links. However, "As a library's cataloging tools are networked, access to them is a significant issue" (Morris 1996). For example, at Iowa State University, the Cataloger's Workstation is accessible through the library's NOVELL network. Access to any NOVELL network off the ISU campus is not possible at this time, and remains a University issue to be resolved.

Other support tools required by telecatalogers were the Library of Congress or Dewey Decimal classification schedules, Library of Congress (or other) subject headings, LC Name Authority File, US MARC formats and Anglo American Cataloging Rules. Traditionally available in print format, some of these tools are now available on CD-Rom or can be accessed remotely by Gopher or Telnet connections. The Cataloger's Workstation developed recently by LC using Folio software puts numerous printed tools online and in one location. Some of the tools included on this workstation are LC Rule Interpretations, US MARC codes lists and formats, and three parts of the LC Subject Cataloging Manual (subject headings, classification, and shelflisting). It also allows the cataloger to add notes, bookmarks, or hypertext references. Classification Plus, a Windows-based CD-ROM product combining the LC classification schedules and subject headings, made its debut at

the 1996 ALA Midwinter Meeting and is distributed by the LC Cataloging Distribution Service. Depending upon a cataloger's subject area, a variety of other tools such as encyclopedias, dictionaries, etc. may be necessary or at least useful. Other library OPACS, now available by remote access, are also proving to be valuable as a cataloging resource.

No overwhelming barriers to the physical transport of materials to be cataloged remotely were mentioned by the catalogers who posted Autocat messages. They reported cataloging books, music scores, microfilm/fiche and videotapes, and doing retrospective conversion activities. Temporary removal of items from the library site did not appear to be a problem. The library will need to identify a system for notifying the cataloger that an item in process is requested by a library user. The cataloger may also need e-mail capabilities for general communication back and forth with staff at the library.

Little description of the physical area where the cataloging took place at the remote site was given by the catalogers surveyed. Ideally, a separate room or space away from dust, children and pets that may pull or chew on cords is necessary. Space for the support tools and the items to be cataloged needs to be provided. Hopefully, the area would be quiet and with a minimum of distractions.

IV. Cataloging activities that can be accomplished at a remote site

A variety of cataloging activities were described as being accomplished at a remote site. Authority work included corrections to the local authorities file (Levy 1993); creation of new series authority records and revision of records (Vastine 1993); authority verification connected to new acquisitions (Urbanski 1994). Padley (1994) described resolving serials title change problems in connection with barcoding, ensuring that items were attached to the correct title. Database cleanup in the local online catalog, revision, editing of others' cataloging and retrospective conversion are other reported activities that can be accomplished from a remote site (Levy 1993; Gonzolez 1993).

Original cataloging was accomplished in part by Black (Black & Hyslop 1995). She prepared draft cataloging records at home, assigning tentative subject headings and call numbers by accessing her library's online catalog. These records were uploaded into OCLC at the library. It is entirely possible today to complete original cataloging from a remote site if a library OPAC and shelflist, bibliographic utility, and classification schedules and subject headings are available online, thus eliminating a physical need to be at the library.

There is practical value in allowing catalogers to choose a work option that may be potentially more compatible with their life style. Telecataloging would make good use of the technological advances available to libraries today (Black & Hyslop 1995). Richard (1995) feels that technical services master plans of the 1990's should include this concept as an alternative to traditional cataloging practices.

V. Administrative concerns with telecataloging

The library administration needs to be involved with additional factors in developing a telecataloging program. Costs, improved efficiency, liability and security are all major concerns. Goals need to be established, explained to, and supported by the institution's

administration and library staff. Bowen (1993) reported that a model for any telecataloging program should be written and disseminated. Obtaining suggestions from other telecataloging libraries or seeking advice from consultants may be beneficial where an extensive telecommuting program is planned.

Little information on costs of telecataloging was presented in the Autocat messages surveyed. There were no estimates comparing costs of cataloging at home with cataloging at the library. If a portion of the cataloging work, such as shelflisting or use of more extensive reference tools, must be done at the library, this comparison may become more difficult to achieve. A library wishing to reduce its cost of cataloging may turn to other measures such as outsourcing before it might consider telecataloging. Others may see telecataloging as an opportunity to reduce space and its associated costs for cataloging activities at the library. Perhaps the telecatalogers might share a workspace on the days that they come into the library to work. Other staff may use the telecataloger's equipment on the days that they are away from the office. Catalogers who reported on Autocat that they telecataloged did so on a temporary or trial basis or no more than half of their normal work hours. Some libraries may see cataloging in non- prime time as an advantage gained in allowing catalogers to work at home. However, Stankowski (1994) mentions that the cost of connect time may take away from the benefits of being able to work on non-prime hours.

As stated earlier, the catalogers used their own computer and modem. The library would generally be responsible for the cost of access to a bibliographic utility, such as OCLC, whether through dial access or the Internet and to the local OPAC. Some additional costs may be incurred for adding security devices at the remote work site. Costs for the purchase of software such as Bibliofile, Cataloging Microenhancer Plus, and PC Anywhere by Symantec were mentioned as being the library's responsibility. Elrod (1994) cites \$1500 additionally for book tools, some of which are now in electronic form. If the library purchases the equipment, maintenance costs for that equipment or for technical support staff will need to be considered unless the cataloger is sufficiently technology savvy.

The advantages of telecommuting reported by supervisors of telecommuters in a recent survey of Fortune 1000 executives were higher morale, reduced costs/space needs, employee retention, reduced stress and absenteeism, and increased productivity (Hall 1995). Each library will want to decide whether improved efficiency is a goal of telecommuting. Support and mutual trust should be established between the telecataloger and his/her supervisor. Expectations need to be fair and clearly defined. Communications may be problematic because they do not fit into traditional established patterns. Padley (1994) expressed the view that work should be quantifiable with some measure of accountability. Traditional attitudes toward work and the work day may need to be changed. As Meglio (1991) stated, "if the corporate or library culture is too rigid or operates by the basic principle 'that an employee out of sight is an employee who is not working'", the program will be difficult to administer.

A definition of what constitutes the work day and workplace will need to be detailed, especially at institutions where union contracts may be involved. This factor may limit telecataloging to certain types of staff, such as those not under union contract. Eligibility requirements for this kind of work arrangement should be clear to all staff to avoid

resentment by employees who may not be eligible or selected for this work arrangement. The cataloger's supervisee(s) will need to know when the cataloger will be working at the library and available for consultation and questions.

Security and liability issues need to be specified in any policy for telecataloging. Library property, both the elements of the cataloger's workstation and the materials to be cataloged, may need to be identified to satisfy requirements for insurance carriers. The cataloger may be required to monitor or log the time on the personal computer and to separate the time spent on work-related activities and those of a personal nature. That portion of the home which is considered the work site may also need to be defined and examined for liability.

VI. The future of telecataloging

The degree to which telecataloging is used in the future may be dependent upon the success of other alternatives. Outsourcing certain types of materials may be seen as a solution to reallocate staff to other areas of the library or to other responsibilities viewed as having more immediate priority. Cooperative arrangements between OCLC, vendors and libraries, such as the OCLC PromptCat service, are altering the way in which libraries organize workflows and staff in cataloging and acquisitions departments.

Perhaps another factor in a more wide-spread acceptance of telecataloging is the changing role of the cataloger, especially in academic libraries. The cataloger of the future may be balancing his/her cataloging time between print and electronic resources, or there may be a new division of labor in cataloging departments between those who catalog print and those who catalog electronic materials. As electronic resources proliferate, the prospects for telecataloging become enhanced. With the development of the core bibliographic record, enhancing records may receive more attention. We are already witnessing the addition of table of contents and subject headings for works of fiction. Catalogers are creating hooks to serial holdings from citation databases mounted on local systems and pointers to remote site resources. The OCLC Internet Cataloging Project and discussion of the project on the Listserv list INTERCAT are providing catalogers with the means to learn the issues and guidelines for cataloging electronic resources. As some catalogers may move farther away from cataloging books and toward electronic resources, telecataloging becomes more an alternative to traditional cataloging practice instead of primarily a means of addressing personnel issues.

The future of telecataloging may also be influenced by the appearance of more cataloging tools in machine-readable form. Earlier, we alluded to the recently developed Cataloger's Workstation, as being a single online source for numerous cataloging tools. In response to a request on Autocat for opinions on this product, Piepenburg (1995) writes, "I cannot imagine my life without cataloger's desktop. We have discontinued all of our printed materials ... I use it primarily for country and geographic codes, subject construction, and USMARC Bibliographic and Authority work." The "On the MARC" program being developed by the Cataloging Directorate staff at the Library of Congress allows for the capture of text in electronic form and the electronic conversion of that text into a MARC formatted record (Williamson 1995). Text can be captured from OPAC records retrieved through the Internet, electronic files or keyed in data. Indicators, subfield codes and

delimiters are supplied by the program with the cataloger inserting the ISBD punctuation. Although still in development and planned for use by LC, this product offers potential for use by other libraries. A machine-readable version of Anglo- American Cataloging Rules, 2nd edition revised, is currently in the beta testing stage. "Results of these tests have been and will be valuable in ensuring that the AACR2-E files will be compatible with a wide variety of software formats to facilitate their use by vendors and access by catalogers in diverse computing environments" (ALCTS Network News 1996).

VII. Conclusion

Telecataloging is being practiced as an alternative to traditional cataloging. A variety of cataloging activities, such as authority work, database clean-up, retrospective conversion, and original cataloging were described as being accomplished at a remote site using the tools and resources currently available. An examination of library administrative concerns with telecataloging, including costs, goals, equipment, personnel, security and liability issues shows that each library will need to assess its individual situation while also considering future technological developments. Growth of bibliographic databases such as OCLC, the role that the Library of Congress and American Library Association continue to play in providing leadership and standards for cataloging, the role of library vendors, and future nationwide trends will also influence a decision to adopt telecataloging. Sociological events such as illness, family care responsibilities or job satisfaction may remain compelling factors in some cases.

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