

LIBRARY RESOURCES & TECHNICAL SERVICES

Vol. 28, No. 3

July/September 1984

CONTENTS

	<i>Page</i>
Technical Services in 1983. <i>Joe A. Hewitt</i>	205
Developments in Micrographics, Video Technology, and "Fair Use," 1983. <i>Karen Nadeski and Jack Pontius</i>	219
Headings for Corporate Names: International Standardization under AACR2. <i>C. Donald Cook</i>	239
A Use Study of the Card Catalogs in the University of Illinois Music Library. <i>Jeanette M. Drone</i>	253
Popular versus Technical works in the Medical Library: A Use Study. <i>Walter W. Morton</i>	263
Is Cataloging a Passé Skill in Today's Technological Society? <i>Carol Truett</i>	268
In Memoriam: Bella E. Shachtman	276
Index to Advertisers	262

EDITORIAL BOARD

Editor, and Chairperson of the Editorial Board ELIZABETH L. TATE

Assistant Editors:

ELAINE SVENONIUSfor Cataloging and Classification Section
EDWARD SWANSON
CAROLYN C. MORROWfor Preservation of Library Materials Section
FRANCIS F. SPREITZERfor Reproduction of Library Materials Section
MARTIN J. FAIGELfor Resources Section
LINDA SAPPfor Serials Section

Editorial Adviser:

DORIS H. CLACK (for Regional Groups)

Liaison with RTSD Newsletter:

ARNOLD HIRSHON, *RTSD Newsletter* Editor

Library Resources & Technical Services (ISSN 0024-2527), the quarterly official publication of the Resources and Technical Services Division of the American Library Association, is published at ALA Headquarters, 50 E. Huron St., Chicago, IL 60611. *Business Manager:* William Bunnell, Executive Director, Resources and Technical Services Division of the American Library Association. *Advertising Sales Manager:* Mary E. Swenson, ALA Headquarters. *Editorial Office:* 11415 Farmland Drive, Rockville, MD 20852. *Advertising Traffic Coordinator:* Leona Swiech, Central Production Unit/Journals, ALA Headquarters. *Subscription Price:* to members of the ALA Resources and Technical Services Division, \$10 per year, included in the membership dues; to nonmembers, \$20 per year; single copies \$5.

Second-class postage paid at Chicago, Illinois, and at additional mailing offices. POSTMASTER: Send address changes to *Library Resources & Technical Services*, 50 E. Huron St., Chicago, IL 60611.

Library Resources & Technical Services is indexed in *Library Literature*, *Library & Information Science Abstracts*, *Current Index to Journals in Education*, *Science Citation Index*, and *Hospital Literature Index*. Contents are listed in *CALL (Current Awareness—Library Literature)*. Its reviews are included in *Book Review Digest*, *Book Review Index*, and *Review of Reviews*.

Instructions for authors appear on p. 91-92 of the January/March 1984 issue of *Library Resources & Technical Services*. Copies of books for review should be addressed to Arnold Hirshon, Editor, *RTSD Newsletter*, Cabell Library, Virginia Commonwealth University, 901 Park Ave., Richmond, VA 23284. Do not send journal issues or journal articles for review.

The contents of this journal, unless otherwise indicated, are copyrighted by the Association. All material in this journal copyrighted by the American Library Association may be photocopied for the noncommercial purpose of scientific or educational advancement.

© American Library Association 1984

Publication in *Library Resources & Technical Services* does not imply official endorsement by the Resources and Technical Services Division nor by ALA, and the assumption of editorial responsibility is not to be construed necessarily as endorsement of the opinions expressed by individual contributors.

Technical Services in 1983

Joe A. Hewitt

THIS PAPER represents a break in the venerable tradition of the *Library Resources & Technical Services* "Year's Work . . ." series and should be regarded as an experiment. The exhaustive review of the published literature in the various specialties of technical services is being replaced by a general review of events, issues, and trends in technical services, including the areas of bibliographic networks and online catalogs. So broad a scope requires that considerable selectivity be exercised. In so doing, it is necessary at the beginning to state the basis for selecting issues for treatment.

One can only be impressed by the persistence, if not the continuity, of certain issues in technical services. In a year in which the nation's largest bibliographic utility stood at odds with its members and constituent networks over copyright and contract negotiations, a year in which the transition to online catalogs continued its inevitable advance and the Council of Library Resources (CLR), through the Bibliographic Services Development Program (BSDP), continued its vigorous strategic attack on fundamental problems of bibliographic control, technical services librarians also gave their attention to perennial problems such as the availability of copy for cataloging, staff productivity, the deployment of professional and support staff in various technical services functions, the growth of arrearages, gift policies, commercial binders, serials prices, etc., etc. Regardless of the issues that receive the major portion of overt professional attention during a given year, the public issues always overlay a set of persistent concerns which, one suspects, represent the more crucial day-to-day preoccupations of many technical services librarians in the field.

There is a natural tendency in a review of the year's work in any field to focus on high-profile issues. Examples of high-profile issues in technical services in 1983 include online catalogs, subject access, copyright of databases, minimal level cataloging, the RLG conspectus, authority control, optical disc technology. However important issues of this kind may be, they are not always at the forefront of concerns among working

Joe A. Hewitt, Associate University Librarian for Technical Services, Davis Library, University of North Carolina at Chapel Hill, kindly agreed to participate in this experiment by preparing a review that highlights the few most important developments of the year. To provide contrast, the authors of the second paper were asked to follow the traditional annual review pattern. The editor will welcome expressions of preference and comments from readers.

technical service librarians. The approach to this year's review will be to develop a context based on conditions in the working world of technical services and, when appropriate, to view the higher level issues from that perspective. In selecting issues for treatment, those which seem to represent general trends and which have reached the point of being transformed into day-to-day working problems are accorded the greatest attention. This is necessarily a subjective selection, based in part on the author's presence at a number of the hangouts of technical services junkies, particularly several of the twenty RTSD discussion groups. Of these, the Technical Services Directors of Large Research Libraries Discussion Group, popularly known as the "Bigheads," is an especially useful forum at the national level for uncovering the nagging concerns of technical services librarians. Basing one's review on sources of this sort, however, does not lend itself to the format of the tightly documented review based on published sources, constituting a systematic inventory of the year's work, but rather to the statement of a more personal view of "where we were in 1983." Such is the nature of this paper.

OCLC AND THE NETWORKS

As in every year in at least the past decade, technical services librarians in 1983 found themselves in the midst of a technological transition. The early part of the transition was highlighted by the emergence of on-line cataloging services provided by the networks. Such services have become a rather ordinary fact-of-life for most libraries, although one still colored by discomfort related to the high degree of operational dependence on an outside agency which, at times, may seem poorly attuned to the needs and concerns of libraries. OCLC, Inc. (OCLC), the de facto "undifferentiated" national network, improved its performance considerably in 1983 over difficult years in 1981 and 1982, an accomplishment not fully appreciated by librarians removed from the technical complexity of operating a computer and telecommunications system on the scale of OCLC. At the policy level, on the other hand, 1983 saw stress between OCLC and its membership reach a level sufficient to cause speculation that the strategic perspectives of the network and some of its membership were so divergent as to be unbridgeable.

The main points of contention were the copyrighting of the OCLC database, the OCLC/network contract, and a perceived inadequate participation by OCLC in cooperative programs at the national level, such as the Linked Systems Project sponsored by the Council on Library Resources. The first two issues were of concern to OCLC membership generally, while the last held special interest for research libraries. The contract and copyright issues gave rise to a sizable unpublished literature emanating from OCLC and the networks, seventeen of which banded together to hire legal counsel to negotiate jointly with OCLC. The official distribution of this literature, which consisted of proposals and counterproposals, commentaries by counsel and network executive directors and boards, was confined for the most part to OCLC and network staffs, board members, and User Council delegates. In the fall of 1983, OCLC President Rowland Brown stated OCLC's case to the membership in

two lengthy memoranda which have become known as the "Dear Colleague" letters.¹ Coverage in the professional press for much of the year tended to be simplistic, one-sided, and slightly inflammatory, but a badly needed sense of moderation and perspective was brought to the public side of the debate by Ron Diener in an article in *Ohionetwork*,² later partially reprinted by *American Libraries*.³

At year's end the issues dividing OCLC and its membership seemed far from resolution, although progress had been made in terms of the tone and focus of the negotiations. Librarians who were not a close party to these proceedings should be aware that the issues are extremely complex, that all parties have the best interests of libraries at heart, and that the perspectives from which they view the issues are defensible on some rational grounds, although they differ fundamentally. There is no reason that the process of arriving at resolution cannot be a rational enterprise, albeit a long and painful one which could occupy the better part of 1984.

The most likely foreseeable outcome at this writing (February 1984) is that OCLC and the networks will arrive at a workable, grudgingly acceptable resolution of contract and copyright issues without resolving fundamental differences. The events of 1983 should at least serve to underscore the need to begin looking at possible governance and/or management mechanisms for improving the level of understanding between OCLC and its membership. A general review of OCLC's governance structure has not been performed since the A. D. Little study of 1978.⁴ As Rowland Brown points out in his "Dear Colleague" letter of November 10, 1983,⁵ certain objectionable or misunderstood provisions in OCLC's proposed contract result from a technological upheaval that OCLC did not contemplate when the present contracts were signed. The same might be said for OCLC's present governing structure. Regardless of where one stands on various copyright and contract issues, it must be clear that so severe a misunderstanding between the members and leadership of an organization indicates a possible flaw in organizational structure.

A number of libraries in 1983 prepared to commit substantial amounts of funding to automation, resulting in a desire on the part of many OCLC members for a stable, cost-effective, and supportive network environment in which to pursue local automation projects. Nineteen eighty-three was not a propitious time for changing the ground rules, which OCLC's application for copyright appeared to do rather drastically. The focus had shifted to the local arena, and there seemed to be a desire for OCLC and similar networks to play a predictable, institutional role, concentrating on those programs and services requiring national level cooperation and participation, a role approximating that of the "Nationwide-Specialized" model recommended for OCLC by the A. D. Little report.⁶

ONLINE SYSTEMS AT THE LOCAL LEVEL

A number of libraries in 1983 announced their adoption of various turnkey systems. For example, New York University selected the Geac

system, followed by MIT, the Smithsonian Institution, University of Tennessee, SUNY at Buffalo, and others.⁷ The University of British Columbia, Johns Hopkins University, Columbia University (on a trial basis), and the University of California at San Diego were among those choosing BLIS, a turnkey version of the Washington Library Network system marketed by Biblio-Techniques, Inc.⁸ Library-developed systems, particularly Northwestern's NOTIS, Virginia Polytechnic Institute's VTLS, and Pennsylvania State University's LIAS, also gained adherents. OCLC unveiled the LS2000, based on the ILS developed by the National Library of Medicine's (NLM) Lister Hill Center, for which the Five Colleges consortium in Massachusetts served as a test site and the University of Kentucky became the first contract customer. OCLC also acquired Avatar, Inc., an ILS vendor, along with Avatar's existing customer base.

In 1983 there were few libraries of appreciable size that were not in some stage of planning for online systems. Some were simply building their databases anticipating an eventual move to online circulation and/or an online catalog; others planned strategies for justifying funding, others actively evaluated systems or were in the process of installing them. Many libraries already with online circulation systems planned for upgraded systems. This activity at the local level represents the second stage of the technological transition referred to above and its implications for technical services librarians are now beginning to become more clearly evident.

Although the majority of libraries are adopting systems developed by vendors, other libraries, or networks, technical services librarians are finding that the amount of systems-related work at the local level is by no means trivial. The analysis of cataloging practice in preparation for building tables and selecting options available in most turnkey systems is likely to reveal an unsuspected maze of idiosyncratic local practices and a level of complexity and inconsistency which make even the most hospitable turnkey systems resemble a straitjacket. The process of resolving questions of bibliographic practice raised by the installation of a local system, particularly one with capabilities approaching those of an online catalog, may also result in the painful exercise of reexamining issues of standardization among scattered specialized collections in a local library system. These problems are sometimes aggravated by the overly ambitious implementation schedules apparently favored by some vendors, which sometimes create an atmosphere which is not optimal for considering the far-reaching decisions which must be made at the time of installing a system. In short, the simplicity the term *turnkey* has come to imply to buyers of systems is being revealed as misleading, if not a myth, although this is still the best means of acquiring a local system for most libraries.

As technical services librarians face the difficult immediate tasks associated with selecting and installing a local library system, they are also beginning to face the intermediate and long-range issues raised by this transition. First among these is the organization, staffing, and procedural design of an effective database maintenance effort. The conve-

nience of maintaining machine-readable records as compared to those in manual formats is frequently advanced as one of the major advantages of automated systems. Although this is in fact the case, particularly with respect to "global" changes, it should not obscure the fact that the maintenance of large bibliographic and holdings databases still requires a substantial staff effort. Computer systems with stringent validation components for incoming records are less forgiving than card catalogs with respect to initial entry into the file. At the same time, inaccurate records, once admitted into an online file, may be less likely to be identified and corrected and thus have long-term detrimental effects on the database. For these reasons technical services librarians are giving great attention to the database maintenance facilities of local systems and the staff required to operate them properly, once again flirting with the possibility of disappointing administrators with respect to the scale of staff savings possible through automation.

For most libraries, the transition to a local online system also creates the need to convert a large number of existing catalog records into machine-readable form. The desirability of converting as many records as possible is underscored by the results of the online public access catalog inquiry which found that a major criticism of existing online catalogs is the lack of a comprehensive machine-readable file. In 1983, conversion assistance of a number of types continued to be offered both by the profit and nonprofit sectors. Notable among these programs was that offered by Carrollton Press' REMARC as well as other services offered by commercial vendors such as Autographics and Blackwell North America. OCLC continued as a popular means of converting records, both through its conversion service and as a resource database for in-house conversion projects. Several networks either offered or planned to offer conversion programs in 1983. SOLINET offered an attractive service through its LAMBDA system, which is directly competitive with OCLC and represents a type of service at issue in the OCLC/network contract negotiation. Conversion through OCLC, however, continues to have the unique advantage of recording holdings in a national database for purposes of resource sharing.

AUTOMATED SYSTEMS AND ORGANIZATIONAL PATTERNS

Beyond the immediate tasks associated with installing automated systems, technical services librarians must also begin dealing with longer term issues. Prominent among these are the organizational realignments which automating technical services makes practicable and possibly desirable. An automated serials check-in system, for example, makes it necessary to consider the trade-offs of decentralized check-in, just as the online catalog raises the possibility of decentralizing some aspects of cataloging. Tentative steps in this direction have been taken at the University of Illinois at Urbana/Champaign and no doubt in other libraries where administrators have taken a less visible position of advocacy.⁹

Traditionally, the organizational impact of technology in libraries has

lagged markedly behind the introduction of the new technology itself. Indeed, organizational change may never come in any explicit form to organizations especially resistant to change, which is the nature of some libraries. In the past, organizational realignment resulting from the introduction of technology tended to be motivated by concerns for capitalizing on automation to conserve staff resources. In the future, organizational change will more likely spring from the need to maximize the service benefits of automated systems oriented towards public use and to align library automated services within the "wired campus" environment. In 1983 these issues were touched on in the 102d meeting of the Association of Research Libraries (ARL) held at Banff, Alberta as part of the theme "Research Libraries in the Online Environment."¹⁰

ONLINE PUBLIC ACCESS CATALOG USERS SURVEY

Four reports were issued in late 1982 which presented the findings of the online public access studies funded by the Council on Library Resources through its Bibliographic Services Development Program.¹¹ Nineteen-eighty-three saw the beginning of the reviews, secondary analyses, interpretations, and attempts to synthesize these important studies.¹² More work of this type, including replication of the studies in different settings, is required before the specific findings can be accepted with confidence, but several general themes are beginning to emerge which may serve to define the agenda for systems and technical services staff working on online catalogs for the next several years. First among these is the highly positive reception of online catalogs by users. Although this reception may represent less of a critical judgment of the performance of existing online catalogs than a negative reaction to the limitations of the card catalog, it does indicate a predisposition on the part of users to view online catalogs in a favorable light. These positive inclinations should not only be a comfort to systems designers approaching an intense period of trial and error in the development of online systems for public use, but also constitute an emphatic confirmation of decisions to move ahead with the commitment of resources to online catalog development.

A second major finding was a level of use of subject access functions considerably higher than expected from earlier card catalog use studies. The high interest in subject access was coupled with some dissatisfaction with the subject access facilities of the online catalogs evaluated, although they were still preferred over the card catalog. This combination of findings points to a need to concentrate on refinement of online subject search techniques in the near-term future.

The general situation revealed by this first broad-scale assessment of public access online catalogs can be expressed in optimistic terms. Online catalogs, while no longer in their infancy, are by no means mature, and they must yet undergo considerable refinement before they reach the ultimate potential of this coupling of bibliographic and computing technologies. Librarians and systems designers can expect to undertake this work on behalf of an accepting, appreciative, and not overly critical

audience of users more than willing to offer constructive advice and assistance. The signs point to an opportunity for a period of intense creative development of online systems for public use.

Progress was made in 1983 in the automation of other technical services functions as well. Blackwell Library Systems, for example, introduced its automated local serials management system, PERLINE, into the marketplace to compete with systems such as Faxon's LINX, EBSCO's EBSCONET, Innovative Interfaces, and OCLC's serials check-in system. The evidence is growing that the best application-specific technical services support systems are those created by organizations which specialize in specific services—acquisitions, serials, circulation—while the library setting, with its direct, unmediated contact with end users, is perhaps the best environment for developing systems for public use. This situation, coupled with a growing interest in the use of microcomputers in technical services for a number of specialized tasks, is resulting in a degree of disenchantment with the idea of a monolithic, fully integrated automated library system except as a very distant possibility. Instead, technical services librarians are moving ahead with a strategy sometimes referred to disparagingly as "piece-meal," but with a sharp eye to systems interfaces and the possibility of sharing of files.

In summary, automation activities in technical services in 1983 continued to add a number of new dimensions to the work of technical services administrators and managers. These include the concern for an attempt to influence events and trends in the networks and bibliographic utilities which provide critical support services for libraries as they pursue local automation projects. They include the demanding immediate tasks of evaluating and installing online systems, as well as designing procedures and organizational structures for accomplishing new tasks associated with the ongoing operation of online systems. Technical services librarians must also prepare themselves and their organizations for an extended period of evaluation, fine-tuning, and perhaps even replacement of online systems with progressively more refined versions of those systems. And finally, planning must begin for the long-term organizational adjustments required to integrate systems and staff into effective service delivery organizations.

TECHNICAL SERVICES STAFF IN THE NEW ENVIRONMENT

These new dimensions of technical services work have, for the most part, been superimposed on the traditional work of technical services. Technical services divisions must still order and receive library materials and prepare them physically for the collections, operate approval and gifts and exchange programs, search for books on the out-of-print market, check in serials, account for the expenditure of funds, and yes, perform original cataloging. All of these activities, which in most cases are still heavily staff dependent, must continue to be managed, supervised, and coordinated as they have been in the past. The result of the superimposition of planning and implementing online systems in technical ser-

vices may result in several outcomes: management staffs in technical services can become overburdened as they attempt to give their customary attention to activities as yet unaffected by automation while simultaneously taking on new assignments; certain functions in technical services may be neglected, taking a back seat to those which become the focal point of planning for automation; management staff may be increased by the addition of administrative assistants and/or additional levels of management in technical services division offices and departments; vital technical services functions related to automation, such as writing functional specifications, preparing profiles, preparing machine-readable files for loading, even retrospective conversion, may be assigned to other administrative units such as Systems, where they probably do not belong; a greater delegation can occur allowing more and more staff to participate in supervisory, management, planning, and policy formulation activities. Impressionistic evidence suggests that most libraries experience a combination of these reactions but with the dominant one being that of greater delegation. Although an undeniably positive trend, it raises problems of its own, centering for the most part on the need for improved programs of staff development.

STAFF DEVELOPMENT

Several RTSD programs stand out among those designed to bring high-quality continuing education opportunities to librarians who do not ordinarily attend national conferences. In 1983, RTSD continued to sponsor its popular regional institutes on collection management and development, Library of Congress subject headings, and authorities and began a new series on preservation. Planning began also on a series of RTSD regional institutes on nonbook materials, a move designed to provide more programming for public and school librarians by a division traditionally dominated by academic libraries. RTSD's Council of Regional Groups continued to expand the number of its affiliates and to serve as a clearinghouse for a vast number of activities among regional technical services groups. A high mark of the year's work, however, came with the teleconference on rules and formats sponsored by RTSD CCS, telecast from Los Angeles on June 28, 1983.¹⁵ Covering AACR2 and the ISBDs, MARC formats, and search strategies, the teleconference featured expert commentators such as Peter Lewis, Lucia Rather, Henriette Avram, Alan Veaner, Nancy John, and Joseph Rosenthal. The teleconference reached a number of librarians who ordinarily do not attend ALA Annual Conferences and introduced them to various sides of the complex policy issues related to the tools they use daily in their work. The teleconference medium, with good programming such as that provided by CCS, shows promise of being a valuable tool to assist technical services managers in overcoming parochial and/or technique-bound views of staff being groomed for greater management participation in local libraries.

Staff development of a somewhat different nature continued under the auspices of the Association of Research Libraries. For the past several years, ARL programs at its semiannual meetings have tended to

focus on issues of bibliographic control and the application of technology in libraries, and 1983 was no exception. The theme of the spring meeting in Banff was "Research Libraries in the Online Environment,"¹⁴ while the theme of the October meeting in Chapel Hill was "The Sum of the Parts: Sharing the Responsibility for Bibliographic Control."¹⁵ The attention of library directors to matters of bibliographic control has been intensified in recent years due to the advent of networks and the controversy over AACR2, which drove home in blunt fashion the pragmatic consequences of bibliographic policy. Technical services librarians, although somewhat unaccustomed to this attention, seem to have taken the opportunity to raise the level of appreciation of the complexity of their work. One hears, less frequently, library directors expressing simplistic hopes of cost cutting through automation or astonishment at the cost of acquiring and cataloging library materials. Many administrators at the highest levels have come to acknowledge that the cost of technical services is due more to the inherent complexity of the task than to the commitment of technical services librarians to doing things in an arcane, perfectionistic fashion; quality and service trade-offs involved in cost reduction measures have come to be appreciated in a more informed way than they have been in the past.

MINIMAL LEVEL CATALOGING

One such issue which came to the forefront in 1983 is minimal level cataloging, for several years a matter of interest to ARL's Bibliographic Control Task Force. In December 1983, the Library of Congress (LC) announced the availability of a minimal level cataloging service (MLC), following the lead of NLM which has created minimal level cataloging records for some time. The availability of MLC records from LC placed OCLC and the other networks in the position of having to determine how and to what degree those records would be incorporated into their online databases. OCLC's Research Library Advisory Committee's (RLAC) Task Force on Standards for Less-Than-Full Cataloging worked throughout the year with OCLC staff to develop standards for level of description, fixed field requirements, and extent of authority verification required for MLC records. Also under consideration is a proposal to allow any OCLC member to upgrade minimal level records, which could be an interesting and potentially far-reaching development in its own right.

In 1983 minimal level cataloging was still being considered on a pragmatic and technical level. MLC, however, represents an issue which could escalate into a more radical questioning of the assumptions of American bibliographic practice. It has long been the ideal that whatever bibliographic units are represented permanently in mainstream systems of bibliographic control should be accorded full cataloging treatment, defined in recent years as standard AACR2 cataloging in the full MARC format. Priority systems, used in many libraries due to limits on resources, represent de facto discrimination with respect to what is and is not cataloged, but there appears to be less discrimination with respect to level and type of cataloging standards to be applied based on the "appro-

priateness" of various levels of cataloging to different types of materials. The widespread discussions of minimal level cataloging in 1983 seem to have increased awareness of the degree to which an "all or nothing" commitment to standards and completeness in cataloging represents a limitation on the coverage of bibliographic control. After the networks and local libraries have adopted standards for minimal level cataloging and the problems associated with the assimilation of LC's MLC records have been worked out, perhaps further attention will be given to the possibility of applying various levels of description and degrees of subject analysis to library materials based on the need for different levels and types of access.

PROGRAMMATIC DEVELOPMENTS

In speaking of networks and libraries, it is sometimes useful for the sake of clarity to distinguish between activities that are technical on the one hand and those that are programmatic on the other. *Technical* in this context refers to the development of new systems or the enhancements to existing systems which substantially extend their capability; *programmatic* developments are meant to refer to organized activities such as coordinated cataloging or cooperative collection development which make use of and capitalize on technical capabilities. The failure to make this distinction has been known to create confusion in network planning, particularly at the state level, and to confound issues by improperly mixing technical and political factors. At the national level, the absence of OCLC as an official participant in the Linked Systems Project with the Library of Congress, the Research Libraries Information Network (RLIN) and the Washington Library Network (WLN) may be due in part to this problem. The programmatic implications of a technical development may inhibit the development from taking place or at least limit the degree to which it is realized. (The issue of linked systems is particularly vulnerable to this type of problem.) In assessing the progress or value of a network or consortium, a lack of technical achievement may obscure accomplishments in programmatic areas; likewise, a strong technical performance may mask a failure to achieve anything of value in program areas. Lest such confusion be allowed to reign in this paper, it is emphasized that the shift of developmental focus to the local level, described earlier, refers principally to the technical arena. Nineteen eighty-three was in fact a year of important accomplishment at the national level in a number of program areas.

So much programmatic activity was in evidence in 1983 that only a selection of the most significant projects can be noted here. Planning for a National Inventory of Research Collections got under way under the administration of ARL's Office of Management Studies. The inventory will be based on the application of the RLG conspectus methodology to all ARL libraries willing to participate and will have the goal of supporting collective action in developing, cataloging, and preserving research collections. The ARL microform project survived, indeed appeared to flourish, adding preservation microfilming to its established interest in bibliographic control through a grant from the National Endowment for

the Humanities. OCLC's RLAC Task Force on Cataloging Microform Sets conducted a survey to determine interest in cataloging items on a list of the seventy most frequently owned microform sets. LC continued building the machine-readable name authority file with the assistance of twenty-eight NACO participants. The project reached a benchmark during the year when Harvard and the University of Chicago began searching, inputting, and updating authority records online with LC. The NACO product, the MARC Name Authority Service, will be delivered via capabilities developed by the CRL-funded Linked Systems Project. Although the Research Libraries Group (RLG) has long been the leader in innovative cooperative programs which take advantage of the technical capabilities of networks, OCLC has begun to move more vigorously in this area, mainly through the Research Libraries Advisory Committee. RLAC task forces active in 1983 included Cooperative Collection Development, Document Delivery, Cataloging Microform Sets, Standards for Less-Than-Full Cataloging, Retrospective Cataloging Projects, Impact of OCLC Europe, Electronic Mail, and Preservation Definition and Identification.

Although the National Inventory may face some opposition from collection development librarians who were not involved in the creation of the RLG conspectus, the Inventory stands as one of the most significant developments of 1983 because it could signal the beginning of program coordination between research libraries in OCLC and those that are members of RLIN. It would represent a massive duplication of effort if both national networks maintained programs of coordinated collection development, cataloging, and preservation. When one considers the complexity of programs of this type, and the large number of subject, geographic, and format categories for which they are conceivably appropriate, the possibility of two national organizations operating parallel programs on each front obviously represents a level of waste and inefficiency that research libraries cannot afford. An attempt to coordinate cooperative programs of this nature across network lines could lead eventually to an acknowledgment of the artificiality of the separation of research libraries into two different networks and organizations. Thus the National Inventory, like several programs in their incipient stages in 1983, could hold vastly more far-reaching implications than their progress in 1983 alone may indicate.

TELECOMMUNICATION COSTS

Perhaps the most disturbing development of 1983 involved the progressive revelation of the probable impact of AT&T divestiture on the costs of operating library networks. Not only is the economic impact potentially disastrous (OCLC's telecommunications bill, for example, could have increased by as much as 73.5 percent) but postdivestiture confusion at AT&T and the Bell Operating Companies could result in massive degradation of service with respect to the installation and maintenance of long-distance telecommunications facilities. The library community, however, was unified by this issue more than by any other in recent memory, as individual libraries, OCLC and its affiliated net-

works, RLG, LC, ALA, ARL, and other groups united to present the position of the library community on the pending cost increases of telecommunication. A round was won in January 1984 when the FCC supported a position stated by OCLC on the \$25 charge on "non-leaky" private lines, which had the effect of cutting OCLC's overall increase in telecommunications costs to 56 percent. Even so, the potential effects of the divestiture remained a heavy threat to cooperative library programs increasingly dependent on telecommunications.

OCLC, much maligned in 1983 on other counts, displayed an impressively constructive response to the divestiture situation, not only by serving as an effective advocate for libraries before the FCC, but also by initiating plans to redesign the OCLC communications network with an emphasis on flexibility, cost-effectiveness, linkages with other systems, and optimization of the latest technical developments in telecommunications. This response may provide an indication of the major direction of OCLC's technical development over the next several years.

THE INTERSECTION OF TECHNOLOGIES

To return to the comments that opened this paper, perhaps there is no more striking an example of the added dimensions of technical services work than the fact that an event such as the divestiture of AT&T must now be counted as a vital concern of technical services librarians. The point must again be emphasized that the developments noted in this paper—copyright of databases, network contract negotiations, online catalogs, management of automation, minimal level cataloging, the National Inventory—are issues superimposed on technical services librarians who for the most part in 1983 still performed or managed a wide range of traditional functions performed in traditional ways within an organizational context designed to support technical services as they existed in the 1950s. Needless to say, both the profession at large and many individual librarians have found it difficult to develop a coherent perspective on this broad sweep and varied mix of issues. A work published in 1982, Ronald Hagler and Peter Simmons' *Bibliographic Record and Information Technology*,¹⁶ expresses a perspective which last year's *Library Resources & Technical Services* reviewer of subject cataloging described as "interesting and unusual"¹⁷ but which may provide a useful way of looking at the technical services scene in 1983. Briefly stated, Hagler and Simmons' underlying perspective is that automation in libraries does not represent the *replacement* of one technology by another, but the *merger* of two equally complex and demanding technologies—the highly developed traditional technology of bibliography on the one hand, and the new technology of computers on the other. The unusual aspect of this perspective is that it gives equal regard to traditional technologies with their demonstrated value in serving users of libraries and to new technologies with their capacity for improving and expanding library services—the bibliographic and the systems components of library automation. An example of this perspective at work in 1983 was the interest in classification as a retrieval tool in the online environment, as demonstrated by Elaine Svenonius' analytical article in *Library Resources & Technical Ser-*

vices¹⁸ and the grant to Forest Press and OCLC to investigate the utility of Dewey decimal classification as a retrieval mechanism.

For the practicing technical services librarian, the focus of attention in 1983 was very much on this *intersection* of technologies, a focus which for some time has distinguished technical services librarians from systems staff working on new technological development and from administrators whose principal responsibility is to create an institutional environment in which the new technology can thrive. After all, it is the job of technical services to repackage the massive baggage of paper files, bibliographic practice, and library procedure and lug it into the new age. If working librarians in technical services are sometimes considered obstructionist, backward, or, at the very least, not energetic enough in promoting the new technology, it is no doubt due in part to their keenly realistic awareness of the size and complexity of the task at hand. If 1983 cannot be viewed as a year of landmark events on the scale, say, of the implementation of AACR2 by LC in 1981, it was at least a year in which a number of libraries were introduced to the realities of change through a more intimate involvement with automation at the local level. This greater experience will have the effect, one hopes, of broadening the professional understanding of the demands of assimilating revolutionary new technology into established systems of practice and organization.

REFERENCES

1. Rowland C. W. Brown, "Dear Colleague" Letter, 31 October 1983; *Ibid*, 10 November 1983.
2. Ronald E. Diener, "A New OCLC Contract. Part 4," *Ohionetwork* 5, no.10:1 (Oct. 5, 1983).
3. Editorial, *American Libraries* 14:690 (Dec. 1983).
4. Arthur D. Little, Inc., *A New Governance Structure for OCLC: Principles and Recommendations* (Metuchen, N.J.: Scarecrow, 1978).
5. Brown, "Dear Colleague."
6. Arthur D. Little, Inc., *A New Governance*, p.70.
7. "Geac's BOBCAT at NYU Taps into Six Libraries," *Library Journal* 108:2202 (Dec. 1, 1983); "Mass. Institute of Technology Chooses Geac for Automation," *Library Journal* 109:313 (Feb. 15, 1984); "Geac Systems for Faxon LINX, Smithsonian, & Army Libraries," *Library Journal* 108:2201-2 (Dec. 1, 1983); "University of Tennessee Goes Online with Geac," *Library Journal* 108:336 (Feb. 15, 1983); "SUNY at Buffalo Wins Funding for Geac Circulation System," *Library Journal* 108:538 (Mar. 15, 1983).
8. "Library Automation Mailbox: News of Systems Applications. BLIS," *Library Journal* 108:1836 (Oct. 1, 1983); "Biblio-Techniques Automation Chosen by Johns Hopkins Library," *Library Journal* 109:314 (Feb. 15, 1984); "Biblio-Techniques: San Diego, Columbia, British Columbia," *Library Journal* 108:2125 (Nov. 15, 1983).
9. Michael Gorman, "Reorganization at the University of Illinois-Urbana/Champaign Library: A Case Study," *Journal of Academic Librarianship* 9:223-25 (Sept. 1983).
10. Association of Research Libraries, *Research Libraries in the Online Environment. Minutes of the 102nd Meeting, May 4-6, 1983* (Washington, D.C.: ARL, 1983).
11. J. Matthews and Associates, Inc., *A Study of Six Online Public Access Catalogs: A Review of Findings* (Grass Valley, Calif.: The Associates, Nov. 1982); Library of Congress, *Library of Congress Online Public Access Catalog Users Survey* (Washington, D.C.: LC, Office of Planning and Development, Oct. 1982); Research Libraries Group, Inc.,

- Public Online Catalogs and Research Libraries* (Stanford, Calif.: The Group, Sept. 1982); University of California Systemwide Administration. Division of Library Automation and Library Research and Analysis Group, *Users Look at Online Catalogs; Results of a National Survey of Users and Non-Users of Online Public Access Catalogs* (Berkeley, Calif.: The Group, Nov. 1982). All of these reports have been submitted to ERIC.
12. See for example: Joseph R. Matthews, Gary S. Lawrence, and Douglas K. Ferguson, eds., *Using Online Catalogs: A Nationwide Survey. A Report of a Study Sponsored by the Council on Library Resources* (New York: Neal-Schuman Publishers, 1983); Neal K. Kaske and others, *A Comprehensive Study of Online Public Access Catalogs: An Overview and Application of Findings* (Dublin, Ohio: OCLC, Inc., 1983); Robert N. Broadus, "Online Catalogs and Their Users," *College & Research Libraries* 44:458-67 (Nov. 1983).
 13. "Blood, Toil, Tears, and Sweat: Rules and Formats (Teleconference)," *RTSD Newsletter* 8:53-55 (Sept./Oct. 1983).
 14. Association of Research Libraries, *Research Libraries*.
 15. "October Program Looks at Bibliographic Control," *ARL Newsletter* 118:7-10 (Nov. 23, 1983).
 16. Ronald Hagler and Peter Simmons, *The Bibliographic Record and Information Technology* (Chicago: American Library Assn., 1982).
 17. Constance Rinehart, "Subject Cataloging in 1982," *Library Resources & Technical Services* 27:269 (July/Sept. 1983).
 18. Elaine Svenonius, "Use of Classification in Online Retrieval," *Library Resources & Technical Services* 27:76-80 (Jan./Mar. 1983).

Developments in Micrographics, Video Technology, and "Fair Use," 1983

Karen Nadeski and Jack Pontius

EVEN THOUGH PRACTICAL SYSTEMS were still not available, many articles in 1983 focused on the potential uses of video and optical disks. Numerous articles and position papers resulted from the report of the Register of Copyrights to Congress and from other attacks on the doctrine of "fair use." Telefacsimile was rediscovered by libraries, thanks to the appearance of improved systems on the market. Various preservation microfilming programs created a renewed interest in microforms in research libraries. Gains previously achieved in the area of bibliographic control of microforms were consolidated with the establishment of the Microform Cataloging Clearinghouse and the formation of an ALA Reproduction of Library Materials Section [RLMS] committee concerned with the bibliographic control of microforms. One large micropublisher went out of business while another issued the first sections of one of the largest microfilm collections ever to be attempted. New equipment for reading and printing microforms was introduced, and several works were published designed to help librarians with the selection and maintenance of microforms equipment. Business uses of micrographics tended more and more toward hybrid systems that use microforms to store and computers to access images. The micrographics industry's two major organizations settled into their new roles as managers of information handling systems.

MEETINGS AND ORGANIZATIONAL ACTIVITIES

In April, by almost a seven to one margin, the members of the National Micrographics Association [NMA] agreed to change the name of the organization to the Association for Information and Image Management [AIIM], effective July 1, 1983 (NMA Name). NMA's *Journal of Micrographics* also changed its name and direction on this date, becoming

Note: an asterisk (*) following a title or a surname in the text indicates the entry element under which that citation will be found in the "References." Entry elements for other citations are given in parentheses or indicated in the customary author-date style; however, date is included in the text reference only if it is other than 1983.

Karen Nadeski, Senior Assistant Librarian, and Jack Pontius, Associate Librarian, are members of the staff of the University Libraries at Pennsylvania State University.

the *Journal of Information and Image Management*; it will focus not only on micrographics but also on records administration and electronic information processing (*JM to Become*). The International Micrographic Congress had already become the International Information Management Congress (retaining the initialism, IMC) in December 1982, so as 1983 progressed, there was a proliferation of literature on the subject of these two name changes. Both the new chairman of IMC and the executive director of NMA wrote editorials stressing the new role of micrographics in the emerging information handling systems (Kohlmeyer; Banks), while other writers voiced the concern that the industry was losing its identity (What; Information). The secretary-general of the Microform Association of Great Britain [MAGB] questioned whether MAGB should not begin moving in the same direction. Besides increasing membership and broadening MAGB's focus, the change might also result in the merger or absorption of a number of smaller organizations, reuniting the industry somewhat (What's).

At the last annual NMA conference in Philadelphia, most of the sessions focused on integrated systems and the new technologies. Six concurrent sessions were devoted to various aspects of micrographics (e.g., computer-assisted retrieval [CAR], engineering micrographics systems) but they too competed with a day-long session on "Optical Data Disks in Office Information Systems" ('Final'). The same was true at the IMC conference in November. The sessions on optical disk technology attracted standing-room-only crowds, although the attendance at all CAR, CAR-related, and electronic filing systems sessions was described as "extremely good" (Interrelated).

At the ALA Los Angeles Conference in June, RLMS and the Information Science and Automation Section of the Library and Information Technology Association cosponsored a program entitled "Image Storage, Document Delivery and Electronic Publishing." Two new RLMS committees were formed: the Committee on Copying, which will study and disseminate information about the selection, administration, and use of reprographic methodologies and equipment in libraries, and the Bibliographic Control of Microforms Committee, which will study and disseminate information about the bibliographic control of microforms, present these issues to micropublishers, and monitor the products and services provided by micropublishers and other agencies. Francis Spreitzer and Martin Joachim are the respective chairs. The RLMS Publications Committee is working on a new edition of *Microforms: First Sources* and encouraging Meckler Publishing to issue a ninth edition of the *Directory of Library Reprographic Services*. At the urging of various library groups, including the RLMS Executive Committee, the Library of Congress [LC] conducted a second market survey on the need for a 1976-82 cumulation of the *National Register of Microform Masters*, either in book or microfiche format.

In August and then again in September, the newspaper *Legal Times* and Law & Business, Inc., a subsidiary of HBJ, cosponsored a two-day workshop on photocopying and other current issues for corporations and

institutions. Although the registration fee (\$435) may have been too steep for many librarians, the course book was published in September and is available for \$30 (Corporate Copyright). The theme of the combined Serials, Microforms and Government Documents Conference held in Arlington, Virginia, was "Standards: Development, Implementation, Impact on Libraries." The contribution of microimaging technology to improved microform storage, retrieval, and distribution was the main focus of the third International Business Graphics Symposium of the Society of Photographic Scientists and Engineers. In England, MAGB held a very successful seminar on the use of microforms as marketing tools (Moody); and the National Reprographic Centre for documentation again sponsored courses or seminars on CAR systems, developments in office and library copiers, advanced micrographics systems and "All You Need to Know about Microfilm" (an introductory course). Judging from Miriam Margoshes* report on the second annual Videodisc Conference, this may be an event librarians should consider attending. Several speakers spoke of museum applications of videodiscs and Richard Boss gave "an important talk" on the use and massive storage potential of the optical digital disk.

MICROFORMS IN LIBRARIES

The Association of Research Libraries [ARL] Microform Project continued to receive much publicity both here and abroad (e.g., Heynen 1983a) and libraries were urged to take advantage of its new Microform Cataloging Clearinghouse, which received funding from the Mellon Foundation through September 1984 (Heynen 1983b; Bednar). OCLC's Task Force on Microform Cataloging listed—in cataloging priority order—the seventy microform sets ARL identified as being most frequently owned by libraries (Laird). LC began to distribute its minimal level [ML] cataloging records for microforms as part of the MARC ML tapes. Monographs by Frost* and Rogers* discussed the cataloging of microforms and other nonbook materials under AACR2.

There was ever-increasing activity in the area of preservation microfilming. The New York Public Library issued a register of its master negatives (NYPL), and the Research Libraries Group [RLG] proposed a method of cooperative storage of member master negatives (RLG 1983c). A National Endowment for the Humanities [NEH] and Mellon Foundation grant which will help RLG to fund a cooperative preservation microfilming project was announced (RLG 1983a), as were enhancements to RLG's online system that will allow members to search for and identify master negatives easily, service copies, and even to record the intention to film in the record for the original item (RLG 1983b). Work on the preservation component of the ARL Microform Project continued. The project plans to survey preservation activities of American research libraries and to develop a plan to coordinate their preservation activities.

Zink* provided an overview of format-specific problems that depository libraries and documents librarians now face and recommended

measures to surmount them. Bekiares* and Watson* reviewed new microfiche publications being sent to depository libraries. The 1980 census block maps were distributed to depositories on microfiche for the first time last year. One set of maps included some thirteen thousand microfiche, with GPO producing some 8.6 million microfiche for the entire project (Eisenbeis). Historical census schedules on microfilm are now available on a rental basis from a commercial firm through a contract with the National Archives (Census). The Archives itself issued a well-illustrated guide to genealogical research using its collection (USNARS 1982) and a guide to immigrant and passenger lists that are available on microfilm (USNARS 1983).

Smith's* guide to Cornell's microform collection can serve as a model for any library contemplating such a publication. Whitmore* explored the relationship between a microform instructional program and user attitudes toward microforms, in this case, educational microforms. Saffady* provided a general introduction to library microforms for reference librarians. Microform use at the Loughborough University of Technology and at the University of Bath was described by Davies* and Lamble.* Gleaves* characterized the content of a micrographics course at Peabody College for Teachers. Treese* discussed methods of rephoto-

**And do you have
large print microform
books?**



Reprinted, by permission of Times Newspapers Limited, from Times Higher Education Supplement no. 536:26 (Feb. 11).

graphing microforms to produce slides and photographic prints for classroom use. Other articles described successful uses of microforms for such diverse library services as providing aeronautic maintenance manuals (Getting) and assisting part-time law students (Horrocks).

Several years ago, a number of libraries were designated depositories for the SCAN [Service Center for Aging Information] microfiche collection. Only one shipment was ever received, though, and the proposed indexes were never distributed. In October, it was announced that the American Association of Retired Persons would be responsible for the SCAN databases, but no further microfiche would be produced (AARP).

BUSINESS APPLICATIONS OF MICROFORMS

Most articles on business uses of micrographics stressed CAR systems that utilize microforms for storage and computers for access. One author emphasized that "about the only thing that hasn't changed in the filing and retrieval of documents on microfilm in the past decade is the image itself" (Astarita, 17). Another referred to microforms as the "unsung hero of our computer-based society" (Mass). During the year, most articles on CAR systems either explained how to choose a system (Barberini; Bogue 1983b) or gave examples of already existing systems, such as the one in Seattle which helps the city collect unpaid traffic fines (Pederson). The best description of the elements of a CAR system was written by Bogue (1983a).

Bauer* emphasized that the utility of any microform system depends on how well documents are arranged, sequenced, indexed, and filed before filming. Hill* described retention guidelines for business records in different formats (e.g., paper, microfilm). Several articles discussed small office microform [SOM] systems, which use self-contained camera-processors to give companies complete control over their operations (Bogue 1983c; Miles; Schaible). Other articles questioned whether the paperless office would ever become a reality (Hendley 1983b; Paperless).

MICROPUBLISHING

In spite of the reviewer who asked, "Is it possible that we are finally running out of significant archival material for microcopying?" (Muller, 42) micropublishers continued to publish worthwhile new collections. The American Society of Interior Designers issued office and residential furniture catalogs on color microfiche. Chadwyck-Healey released the Sanborn Fire Insurance Maps, which give the location of buildings, roads, etc., for nineteenth-century American towns. A new business collection, *Corporate and Industry Research Reports*, reproduces reports by leading brokerage and investment firms. Also issued in 1983 were the first sections of *The Eighteenth Century*, a microfilm collection that will contain selected eighteenth-century works that were either printed in the British Empire or written in English and printed anywhere in the world. Expected to be completed in fifteen years, the collection will in-

clude some two hundred thousand titles (Alston; Editorial). Journal articles from two hundred of the titles indexed in *Magazine Index* are now available from the publishers of the index. Stored on cassettes, they can be located quickly by using a code provided by the index, and then read or printed out on equipment supplied as part of the subscription (*Magazine*).

One major story relating to micropublishing was barely mentioned in the library press. A short article in the *New York Times* announced that University Microfilms International would take over the filming and indexing of the *New York Times* from the defunct Microfilming Corporation of America [MCA], a subsidiary of New York Times, Inc., and formerly an active micropublisher of other archival book and serial collections. The fate of other MCA collections, particularly the newspapers and their related indexes, was still unclear by year's end (*Times*).

Articles on commercial micropublishing provided important insights into developments in the industry. The supervisor of quality control at University Microfilms International characterized the company's standards for microfilming and packaging its serial publications (Mottice). Gray* covered China's entry into micropublishing and its incipient list of titles. A representative of a British micropublisher related its attempts to provide a history of Great Britain through the microfilming of important documents (Everitt), while Macfarlane* reviewed what has been filmed of British historical records and made suggestions about yet unfiled collections that would further historical research. Calkins* described the ability of various microformats to reproduce medieval illuminated manuscripts. The use of color microfiche as part of a histological atlas was covered by O'Shea* and Williams.

Rayward* provided a bit of microform history with his article on a demonstration of microfilm copying equipment at the 1937 International Exposition in Paris. Morris* described developments in the micrographics industry from the early 1960s to the present day from a British point of view. Pontius* emphasized American developments in his review of micrographics in 1982. An interview with Alan Meckler, publisher of *Microform Review*, revealed his views on the future of micropublishing (Deitch). Teague (1983) discussed the importance of electronics in the publishing field in general and predicted the continued growth of micropublishing.

Several titles relating to noncommercial micropublishing were of interest. Wisdom* described the National Newspaper Project in detail, and Schieber* provided an excellent overview of the newspaper collections of the six institutions participating in the first phase of the project. Sung's* book presented a comprehensive study of all aspects of reprographics and archives. Gibb* and Phillips provided a description of the British Library's microfilming operations, and Teague (1982), a British library micrographics specialist on a busman's holiday in Utah, described the microfilming program of the Church of Jesus Christ of the Latter-day Saints, emphasizing its coverage of British materials. Opposition to this filming program was again expressed by religious leaders,

this time in New Zealand (Opposition). Dupont* reported on a noncommercial project by the Law Library Consortium to produce high-quality copies of low-demand legal materials.

STANDARDS

Kidd* provided a good introduction to NMA/AIIM standards activities. He stressed that in the United States standards development follows rather than precedes technological developments, a fact that librarians should keep in mind as they strive to understand the role that telefacsimile and optical disk technology will have in libraries of the future. Even though most adherence to standards is voluntary, the Securities and Exchanges Commission has decided to require the use of 8¹/₂-by-11-inch paper for reports because the legal-size paper previously allowed did not fit into microfiche frames when filmed (Microfiche). The first steps to establish an accreditation laboratory program to test microforms was taken by AIIM (Accreditation). Minker* and Thomas demonstrated a practical use of standards in their discussion of the use of the standard for alphanumeric COM to assure COM quality. A review of current British and international standards was provided in two articles by Robinson* (1983a, 1983b).

Changes in standards development and procedures were mandated by the American National Standards Institute [ANSI] last year. AIIM has decided to seek ANSI accreditation as a standards developer. The Standards Developing Committee PH5 on Micrographic Reproduction, which will probably be renamed, will become a technical advisory committee, assuring due process and participation in standards formation of organizations and individuals outside of the micrographics industry (ANSI). Another result of the ANSI procedural change was the renaming of the American National Standards Committee Z39 to the National Information Standards Organization (Proposed). (Z39 is responsible for the development of voluntary technical standards for libraries, publishers, indexing and abstracting services, and other information providers.)

AIIM published the sixth edition of its useful *Basic U.S. Government Micrographics Standards and Specifications** and reissued four out-of-print LC pamphlets detailing the filming specifications for card catalogs and book, manuscript, and newspaper materials (Library of Congress). A new edition of *Micrographic Film Technology,** a basic primer on microform production, was also published, while the *Micrographics Index*, the best index to the literature on micrographics, changed its name to *Resource Center Index.**

EQUIPMENT

Several items were published by prominent microform librarians to help in the selection and maintenance of microform reading equipment. McIntosh* reviewed factors to be considered when selecting microform reading equipment. AIIM issued a useful guide to the selection of microform readers and reader/printers by Francis Spreitzer,* who was given a



Reprinted, by permission of Times Newspapers Limited, from R. N. Broadhurst, "Trends in Equipment," Times Higher Education Supplement no. 536:24 (Feb. 11).

distinguished service citation by that organization last year. A new guide by the library staff at Texas A&M provides detailed suggestions and diagrams for most of the reading and printing equipment currently on the market. Based mostly on actual experience with the equipment, it will be useful in most libraries, particularly if it is frequently updated (Michaels). Broadhurst* reviewed recent micrographic equipment developments.

The latest edition of *Micrographics Equipment Review** contains a survey of new micrographics equipment; a description of microfilm jacket systems; a discussion of twenty-seven reader/printers designed for office use; a look at equipment manufactured by Realist and Microdesign; and an update on an earlier article about library COM equipment. *Library Technology Reports* provided in-depth reviews of COM and source document microfiche readers for libraries (White 1982, 1983). Another source of reviews of new micrographic and photocopying equipment is *Reprographics Quarterly*. * (A list of reviews from the past year will be found in the bibliography under the name of this journal.)

While the scope of NMA/AIIM has changed to include other reprographic technologies, the organization's meetings remain the best place

to see micrographic equipment. The exhibition at the Philadelphia annual meeting saw the introduction of a number of new machines that will be of interest to libraries. These included MicroMate, a new portable microfiche reader from DatagraphiX; Dukane's MDP, a manual direct projection microfilm reader; Canon NP580, a plain paper reader-printer; and the Fuji FMRP 30 AU dry process electrostatic reader-printer (New Products; NMA '83).

Several technical developments that will affect library microforms were discussed during the year. A commercial firm announced a process of "tonal microphotography" designed to retain the gray scale in the production of high-resolution microfilm (Tonal). A hybrid information and storage system, the Mnemos 6000, received a lot of attention, since it combines elements of optical disks, ultrafiche, and online computerized systems (Mnemos). Xerox announced a prototype of a silverless updatable electrophotographic dry microfilm (XDM). Predictions that silver halide technology will soon be obsolete were denied by both Englemann,* who believes that in the future it won't be a case of silver halide vs. electronics, but of silver halide with electronics, and William Sherman, a Kodak vice president, who stated that electronic sensors don't have the "information packing density" to compare with film-originated images (Silver, 4). Howrdajian* reviewed developments in color micrographics including cost factors, image stability, and film types, as they relate to micropublishing. Poli* described current research and methods of preserving photographs, while two other articles revealed that the National Aeronautics and Space Administration and at least one stock-photo agency have already transferred their photo archives to videodiscs (Purcell; Space). LC is now using a 105mm cartographic camera to film maps. Previously, large maps had to be filmed at unsatisfactorily high reduction ratios, or in segments, because of the limitations of the 35mm frame (Photoduplication). Cruse* and Warren's book on microcartography provides case studies of various map micro-filming operations.

Unintentional damage is often done to library materials by user (and frequently staff) photocopying. The best overview of this problem was provided by Amodeo.* A grant from NEH to *Library Technology Reports* to develop a nondamaging book-copying device, as well as British developments in this area, received considerable coverage in the library press. A photograph of a British image digitizer gave a good idea of what is being attempted (Damage-Free). Painter* reviewed historical developments in photocopying equipment from 1950 to the present. Since photocopying equipment is always a headache for librarians, they should follow with considerable interest the Minneapolis Public Library's decision to allow a commercial photocopying firm to operate a copying service within the library (Coin-Op).

VIDEO/OPTICAL DISK TECHNOLOGY

Hahn* and Fleischhauer* described LC's optical disk pilot project for print and nonprint materials, respectively. Criswell* looked at the implications the project has for serials. An advisory committee for the proj-

ect was established when publishers expressed reluctance to forgo royalty fees for their works while the disks were being tested (Fields 1983a, 1983b). The National Library of Canada has completed a successful videodisc demonstration project involving four separate productions employing a variety of media (Sonnemann 1983a, 1983b).

Two government agencies are in the process of using optical disks to replace their paper files. The U.S. Patent and Trademark Office will digitize the text and graphics of two million of the most recent U.S. patents, using optical disk memories and digital image processing, and anticipates a totally paperless operation by 1990. Depository libraries and their patrons will have free access to this system; other users will have to access the files via private companies like Mead Data Company (Patent). What effect this recent development may eventually have on Pergamon's Video PATSEARCH, the interactive videodisc patent searching system that has been on the market for three years now (e.g., Schulman), remains to be seen. The National Technical Information Service is also planning to store the seventy to eighty thousand government reports it produces each year on optical disks. This change should result in a 25 percent savings over five years and a twenty-four-hour turnaround time for orders instead of the present three to five days (NTIS).

Battelle Columbus Laboratories announced the creation of a videodisc laboratory and its plans to produce a state-of-the-art report on videodisc technology which will then be published on an interactive videodisc (Battelle-Columbus). Burroughs, in the meantime, decided to cancel its optical drive product development program and reduce its optical media program to a strictly research effort. The uncertain market for this new technology appears to have been one of the reasons for this sudden move (Burroughs). An article in the *Wall Street Journal* also emphasized this uncertainty, implying that what is currently being sold is ideas, not reality, and that optical disks for the world at large are still three to five years away (Hughey). Some also fear that if optical disks are not marketed soon, they may be superseded by magnetic memories (Kalthoff, 11). Supposedly the first system has already reached the marketplace, although by sacrificing storage density (Boss), and others are expected to appear in 1984.

Two companies received a lot of attention for new developments in the field. Matsushita Electric Industrial Company demonstrated a prototype of the first erasable optical videodisc system in April. Any document or picture, stored on one of its eight-inch disks, can now be individually erased and replaced. Maximum access time is half a second (Matsushita Shows; New Optical). [Energy Conversion Devices later filed a patent infringement suit against Matsushita, claiming misappropriation of its laser optical memory technology (Matsushita-Energy).] Prototypes of a LaserData system which can convert standard low-cost optical videodiscs into information systems were exhibited at ALA in June (New Low). The storage capacity of this system is thirty times that of high density magnetic tapes, two thousand times that of double-sided, double-density floppy disks and three thousand times that of microfiche,

with a cost estimate of less than two cents per million characters (New Videodisc).

The Yankee Group, a high technology market research and consulting firm, recently completed a massive study appraising the acceptance of optical disk systems over the next eight to ten years. They found that if substantial progress is to be made into the data and document storage market, the end user must be better understood and optical disks must be marketed as an integrative, rather than a replacement, technology. The group also estimated that by 1990 optical disk systems will have captured 15 percent of the micrographics industry's revenue (De Cillia). Both Wozniak (as quoted in *Micro-Image**) and Hendley (1983a) believe that videomicrographic systems (i.e., systems that electronically transmit microfilm images) will be the next step in the development of information handling systems and one that will link rather than isolate microfilm and optical disk technology. Articles by Kalthoff,* Walter,* and Sporer* weighed the advantages and disadvantages of micrographics and optical disks from various perspectives.

In the library literature itself, the November issue of the *Journal of the American Society for Information Science* was largely devoted to an overview of video and optical disk technology (Lunin) and John Riddick* has begun an annual review of the literature of this technology in *Library Hi Tech*. Farrington* discussed videodiscs from the library viewpoint, predicting less user resistance to them than to microforms because the technology has already penetrated the home environment, something micrographics has yet to do. Magnuson* and Chadwyck-Healey* advised librarians to adopt a "wait and see" attitude about the newer, unproven technologies, at least until the quality improves and costs are reduced. An article in *Library Systems Newsletter* estimated that "off the shelf" optical disk systems suitable for libraries may not be available in the 1980s (Optical Digital).

The use of telefacsimile technology in libraries has been limited because of cost, image quality, and other factors. Several developments during 1983, however, indicated a renewed interest in the subject. An entire issue of *Library Technology Reports* was devoted to the development and use of telefacsimile in libraries, particularly as an alternative method of document delivery (McQueen). A similar study by Cawkell* reviewed British developments in this area. Line,* Yates,* and Gates* published papers originally presented at a 1982 conference on new document delivery systems. Bull* considered the implications of such systems for existing copyright laws. The Massachusetts Institute of Technology is designing a facsimile machine that will be able to scan directly from bound volumes. At present a photocopy must be made and fed into a facsimile copier (Library Fax). Six RLG libraries will participate in a funded investigation of the feasibility of electronic transmission of library materials in lieu of interlibrary loan (Electronic).

Actual uses of facsimile by the Denver Public Library, the Columbia University Law Library, the Pacific Northwest Library Facsimile Network, and the Texas College of Osteopathic Medicine were described (Libraries Begin; Tracy 1983a). Tracy (1983b) provided a bibliography

of recent literature relating to telefacsimile in libraries. In addition, it was announced that OCLC and Information Access Corporation are exploring the possibility of establishing an overnight electronic document delivery system (OCLC), and University Microfilms International is considering the digital transmission of articles as a further extension of its article reprint service.

“FAIR USE”

The concept of “fair use” was both attacked and defended throughout 1983 (e.g., the Register of Copyrights report to Congress, the New York University suit, the Sony-Betamax hearings). ALA finally released its comments on the Register’s report in June (ALA) and ARL followed in September with two position papers which strongly supported the fair use provisions of the 1976 Copyright Act (ARL 1983a, 1983b). The suit filed by the Association of American Publishers [AAP] against New York University, nine of its faculty members, and a nearby copy center was settled out of court in the spring (NYU; Mutter), about the same time the AAP also reached amicable agreements with two large corporations, Texaco and Pfizer (Pfizer). In July, the Copyright Clearance Center [CCC] announced an Annual Authorization Service, a licensing program that will initially be used by industrial corporations but might later include “some aspects of higher education” (CCC, 18). Later in the year, the Institute for Scientific Information, which operates a document delivery service, admitted that royalty fees for many journals were raised so much after the creation of the CCC, that it has passed on this cost to its clients because “in some cases, the royalty charge alone is more than two times our full price for an article” (ISI, 1630). A British version of the CCC, called the Copyright Licensing Agency, was formed in 1983 and represents British authors and publishers. It is currently trying to persuade publishers to participate in a scheme which would force libraries to pay four pence per photocopied page for a book and ten pence for a periodical (10p). Considering the unhappiness of British publishers with the lack of copyright reform (Copyright and New), this may not be hard to do.

The ADONIS [Article Delivery Over Network Information Service] project, which was expected to begin operation in early 1984 and alleviate some of the copyright and publishers’ cost-recovery problems long associated with local photocopying, was suddenly shelved in the spring of 1983. At a meeting at ALA in Los Angeles, Karen Hunter of Elsevier Science Publishers (one of the consortium members) admitted that a major cause for its failure was differing United States and European market characteristics. Also, antitrust concerns existed and U.S. publishers had given the project a cool reception (Kendrick, 282). Other contributing factors might have been: (1) the emergence of copyright licensing schemes such as the Copyright Licensing Agency and the CCC’s Annual Authorization Service, (2) the debut of University Microfilms International’s Article Clearinghouse, (3) the growing interest in digital telefacsimile, and (4) the reluctance of some to rely on the relatively new and untested optical disk technology (Adonis).

The long-awaited Supreme Court decision on the *Universal City Studios vs. the Sony Corporation of America* suit finally came on January 17, 1984, with the court ruling that neither the consumers who videotape television programs in their homes nor the companies who make or sell video recorders are guilty of violating copyright law (Greenhouse). The ruling is important to libraries in that it broadens the interpretation of "fair use," but it has left many related copyright issues unresolved. It is expected to have a negative effect, however, on legislation pending in Congress that would levy user fees on the sale of video recorders and blank tapes.

Educational institutions and libraries have been exempted from two bills seeking to amend section 109 of the copyright law—the "first sale" doctrine—with regard to the rental, lease, or lending of audio and video recordings and motion pictures (Copyright). Similarly, in Japan, libraries and rental book shops have been exempted from proposed legislation that would grant copyright holders the right to give or refuse access to their work for the rental record and video software business (Copyright Changes). New regulations on the acquisition and deposit of unpublished television programs will allow LC to make off-the-air copies and demand copies of unpublished television transmissions, in its efforts to develop an American Television and Radio Archives (Copyright Office). The Erie County Board of Cooperative Educational Services was barred from taping the copyrighted works of three prominent educational film companies and fined \$78,515 when it was found that all the works it had copied had been available for rental or long- or short-term lease (New York).

Two authors attempted to clarify the meaning of "fair use" in relation to specific types of materials. Gasaway (1983a, 1983b)* discussed copyright issues and nonprint and audiovisual materials and Crawford* looked at them with regard to archival collections. The Copyright Committee of the American Association of Law Libraries is preparing a handbook that will deal in part with copying materials in microformat. Hébert* and Noel considered the rights of the handicapped user, while DeFreitas* reviewed the practice and problems of copyright in developing countries. Two articles analyzed in some detail the impact of the 1980 amendments to the Australian copyright act (Allen, G.; Brian); another dismissed the charge of excessive photocopying in British libraries (Wood). Donald Johnston's* useful *Copyright Handbook* was issued in a new edition. *Library Trends* published one of the best overall discussions of current copyright woes in the United States in its Fall 1983 issue (Allen, W.).

In conclusion, it can be said that the year 1983 saw continued activity in the area of the bibliographic control of microforms. Advances in video/optical disk technology were also made, but most libraries remained unaffected since practical systems were still not available for use. Improvements in telefacsimile technology, however, stimulated renewed interest in document delivery systems, while the emergence of copyright licensing schemes in the United States and Great Britain appeared to result in a more stringent definition of "fair use."



Reprinted, by permission of Times Newspapers Limited, from J. L. Lambie, "Evolution in the Library," *Times Higher Education Supplement* no. 536:27 (Feb. 11).

REFERENCES

- "AARP Assumes Information System on Older People." 1983. *HDS Fact Sheet*, Oct. Photocopy.
- "Accreditation of Microforms Testing Laboratories Progresses." 1983. *Journal of Information and Image Management* 16 (Sept.): p.10-11.
- "Adonis Loses Half Its Members." 1983. *Reprographics Quarterly* 16 (Summer): p.91.
- ALA. American Library Association. 1983. *Comments of the American Library Association on the Report of the Register of Copyrights to Congress*. Washington, D.C.: The Association. [Also issued as an attachment to the *Washington Newsletter* 35 (July 7, 1983).]
- Allen, G. G. 1982. "Copyright and Copying in Australia; the Impact of the 1980 Amendments to the Australian Copyright Act," *Libri* 32 (Sept.):p.207-23.
- Allen, Walter C., and Miller, Jerome K., eds. 1983. "Current Problems in Copyright," *Library Trends* 32 (Fall): p.161-248.
- Alston, R. C. 1982. "The Eighteenth Century," *International Journal of Micrographics & Video Technology* 1, no. 4:199-203.
- Amodeo, Anthony J. 1983. "Photocopying without (Much) Damage," *College & Research Libraries News* 44 (Nov.):p.[365], 368-70.
- "ANSI-NMA-PH5 Relationship." 1983. Attachment #4 of a Memorandum from Patricia Harris to the American National Standards Committee Z39 dated Nov. 4, 1983. Photocopy.
- ARL. Association of Research Libraries. 1983a. "Current Issues in Library Photo-

- ing and Copyright: A Briefing Paper For Librarians and Archivists." Photocopy.
- _____. 1983b. "Reproduction of Copyrighted Materials for Classroom Use: A Briefing Paper for Teaching Faculty and Administrators." Photocopy.
- Astarita, Murray. 1983. "Micrographics Today and Tomorrow: The One Thing That Hasn't Changed Is the Image Itself!" *Journal of Micrographics* 16 (Mar.): p.17-18.
- Banks, O. Gordon. 1983. "Roots and Branches," *Journal of Micrographics* 16 (Mar.):p.1.
- Barberini, Paul S. 1983. "A New Guide to Reaching a COM Make or Buy Decision," *Journal of Information and Image Management* 16 (Sept.):p.42-44, 47.
- Basic U.S. Government Micrographics Standards and Specifications*. 1983. 6th ed. Silver Spring, Md.: National Micrographics Association.
- "Battelle-Columbus Creates Videodisc Laboratory." 1983. *Videodisc/Videotex* 3 (Spring):p.88-89.
- Bauer, Charles J. 1983. "What Records Managers Should Know about Quality Control," *Journal of Information and Image Management* 16 (Sept.):p.30-34, 37-40.
- Bednar, Colleen. 1984. "Cataloged Microform Sets," *RTSD Newsletter* 9, no.1:p.2-3.
- Bekiares, Susan E. 1983. "U.S. Federal Depository Microfiche Reviews," *Microform Review* 12 (Fall):p.243-47.
- Bogue, David T. 1983a. "Exploring the 'CAR' Approach to Office Automation," *MicroForum* 2 (Winter):p.3-5.
- _____. 1983b. "Selecting a Computer-Assisted Retrieval System," *Journal of Information and Image Management* 16 (Nov.):p.25-28.
- _____. 1983c. "SOM, the New Revolution in Office Microfilming Systems," *Information Management* 17 (Mar.):p.42, 45.
- Boss, Richard. 1983. "Optical Digital Disks as Mass Storage Media," *Videodisc/Videotex* 3 (Spring):p.127-32.
- Brian, Rob. 1983. "Copyright Now," *Australian Library Journal* 32 (Feb.):p.24-31.
- Broadhurst, R. N. 1983. "Trends in Equipment," *Times Higher Education Supplement* no.536 (Feb. 11):p.24.
- Bull, Gillian E. 1983. "Document Delivery Services and Copyright," *Aslib Proceedings* 35 (Apr.):p.183-94.
- "Burroughs Exits Optical Disk Field." 1983. *Micrographics Newsletter* 15, no.8 (Apr.):p.5.
- Calkins, Robert G. 1983. "Microforms and the Medieval Illuminated Manuscript," *Microform Review* 12 (Summer):p.156-60.
- Cawkell, A. E. 1982. *An Investigation of Commercially Available Facsimile Systems*. (British Library Research & Development Reports, report no.5719) London: British Library.
- "CCC Launches New Authorizations Service." 1983. *Publishers Weekly* 224 (Aug. 12);p.18.
- "Census Microfilm Rental Program." 1983. Washington, D.C.: General Services Administration.
- Chadwyck-Healey, Charles. 1983. "The Future of Microforms in an Electronic Age," *Wilson Library Bulletin* 58 (Dec.):p.270-73.
- "Coin-Op Public Photocopiers Replaced by Minneapolis Public." 1983. *Library Journal* 108 (Dec. 1):p.2198.
- "Copyright." 1983. *Washington Newsletter* 35 (Dec. 30):p.1.
- "Copyright and New Technology: UK Publishers Unhappy." 1983. *Outlook on Research Libraries* 5 (Apr.):p.9.
- "Copyright Changes for Japan." 1983. *Outlook on Research Libraries* 5 (Nov.):p.8.
- "Copyright Office Issues Regulations on Unpublished Television Programs." 1983. *Library of Congress Information Bulletin* 42 (Oct. 10):p.348.
- Corporate Copyright & Information Practices*. 1983. New York: Law & Business Inc., HBJ.
- Crawford, Michael J. 1983. "Copyright, Unpublished Manuscript Records, and the Archivist," *American Archivist* 46 (Spring):p.135-47.
- Criswell, Lela Beth. 1983. "Serials on Optical Disks: A Library of Congress Pilot Program," *Library Hi Tech* 1 (Winter):p.17-21.
- Cruse, Larry and Warren, Sylvia B. 1982. *Microcartography: Applications for Archivists and Librarians*. (Occasional Papers, no.6) Santa Cruz, Calif.: Western Association of Map Librarians.
- "Damage-Free Copying." 1983. *Library Journal* 108 (Dec. 1):p.2200.
- Davies, J. E. 1982. "Why Microforms? Management Experience in a Modern Univer-

- sity Library," *International Journal of Micrographics & Video Technology* 1, no. 4:p.183-98.
- De Cillia, Henry A. 1983. "Optical Disk Systems: The Yankee Group Study," *Information Management* 17 (Feb.):p.25, 33.
- DeFreitas, Denis. 1983. *The Copyright System: Practice and Problems in Developing Countries*. (Commonwealth Education Handbooks) London: The Commonwealth Secretariat, Marlborough House.
- Deitch, Joseph. 1983. "Portrait," *Wilson Library Bulletin* 58 (Dec.):p.288-89, 318.
- Dupont, Jerry. 1983. "Cooperative Microforms Publishing: The Law Library Experience," *Microform Review* 12 (Fall):p.234-38.
- "Editorial Control & the Eighteenth Century Report." 1983. *Report: The Newsletter of Research Publications* 1 (Winter):p.1, 3.
- Eisenbeis, Kathleen. 1983. "Census Maps on Fiche," *Documents to the People* 11 (May):p.58.
- "Electronic Loans in Prospect." 1983. *Outlook on Research Libraries* 5 (Dec.):p.8-9.
- Englemann, Lothar. 1983. "New Impetus for Silver Halide Materials," *Photomethods* 26 (Apr.):p.47.
- Everitt, Alastair. 1983. "A Letter from Harvester Microfilm." 1983. *Microform Review* 12 (Spring):p.81-83.
- Farrington, Jean Walter. 1982. "Video Disc: A Versatile New Storage Medium," *The Serials Librarian* 7 (Winter):p.35-40.
- Fields, Howard. 1983a. "Library of Congress to Name Disc Panels," *Publishers Weekly* 224 (Sept.):p.39.
- _____. 1983b. "Publishers Balk at LC Disc Project," *Publishers Weekly* 224 (July 8):p.22-23.
- "The 'Final' NMA Conference—a Last Hurrah for Micrographics and a Big Hello to Information and Image Management." 1983. *Micrographics Newsletter* 15, no.8 (Apr.):p.1-3.
- Fleischhauer, Carl. 1983. "Research Access and Use: The Key Facet of the Nonprint Optical Disk Experiment," *Library of Congress Information Bulletin* 42 (Sept. 12):p.312-16.
- Frost, Carolyn O. 1983. *Cataloging Nonbook Materials: Problems in Theory and Practice*. Littleton, Colo.: Libraries Unlimited.
- Gasaway, Laura N. 1983a. "Audiovisual Materials and Copyright in Special Libraries," *Special Libraries* 74 (July):p.222-39.
- _____. 1983b. "Nonprint Works and Copyright in Special Libraries," *Special Libraries* 74 (Apr.):p.156-70.
- Gates, Yuri. 1983. "User Needs and Technology Options for Electronic Document Delivery," *Aslib Proceedings* 35 (Apr.):p.195-203.
- "Getting Information Dissemination off the Ground at Air College." 1983. *Information Management* 17 (Nov.):p.21-22.
- Gibb, I. P., and Phillips, A. B. 1983. "Conserving the Printed Word," *Times Higher Education Supplement* no.536 (Feb. 11):p.25.
- Gleaves, Edwin S. 1983. "Micrographics Education: Content, Methodology, and Resources for a Graduate Course," *Microform Review* 12 (Summer):p.166-71.
- Gray, Edward. 1983. "Mainland China in the Microform Business," *International Journal of Micrographics & Video Technology* 2, no. 1:p.47-51.
- Greenhouse, Linda. 1984. "Television Taping at Home Is Upheld by Supreme Court," *New York Times* (Jan. 18):p.1, D20.
- Hahn, Ellen Z. 1983. "A Report on the Print Project Activities," *Library of Congress Information Bulletin* 42 (Oct. 31):p.374-76.
- Hébert, Françoise and Noel, Wanda. 1982. *Copyright and Library Materials for the Handicapped: A Study Prepared for the International Federation of Library Associations and Institutions*. (IFLA Publications, no.21) München: K. G. Saur. [Also published by Shoe String Press (Hamden, Conn., 1982).]
- Hendley, A. M. 1983a. "Future Optical Based Document Storage and Retrieval Systems," *Reprographics Quarterly* 16 (Autumn):p.141-49.
- _____. 1983b. "1980s: Era of the Paperless Office," *Times Higher Education Supplement* no.536 (Feb. 11):p.22, 26.
- Heynen, Jeffrey. 1983a. "The ARL Microform Project," *Reprographics Quarterly* 16 (Summer):p.103-105.
- _____. 1983b. Memorandum to heads of cataloging departments in ARL, CARL,

- and large ACRL libraries that are not members of ARL or CARL, together with a news release on the Microform Cataloging Clearinghouse. 13 September 1983. Photocopy.
- Hill, Marjorie. 1983. "Retention Guidelines for Paper, Microfilm, Mag Tapes, Diskettes," *Information Management* 17 (Jan.):p.17-18, 20.
- Horrocks, John L. 1983. "Microfiches to the Rescue! Limited Library Access and Part-Time Law Students," *International Journal of Micrographics & Video Technology* 2, no.1:p.27-33.
- Howrdajian, Ara. 1983. "Developments in Color Micrographics," *Microform Review* 12 (Summer):p.161-62.
- Hughey, Ann. 1983. "Optical Disk Market Clouded by Questions about Benefits," *Wall Street Journal* 102, Section 2 (July 8):p.23. Eastern ed.
- "Information Management—Everyone's Doing It." 1983. *Reprographics Quarterly* 16 (Spring):p.48.
- "Interrelated Technologies, New Products, New Focus Highlight IMC '83." 1983. *Micrographics Newsletter* 15, no.21 (Nov.):p.1-4.
- "ISI Says Journal Prices Vary because of Stiff Copyright Fees." 1983. *Library Journal* 108 (Sept. 1):p.1630, 1632.
- "JM to Become the Journal of Information and Image Management." 1983. *Journal of Micrographics* 16 (May):p.6-7.
- Johnston, Donald F. 1982. *Copyright Handbook*. 2d ed. New York: Bowker.
- Kalthoff, Robert J. 1983. "Micrographic-Based versus Laser-Based Optical Mass Memories," *International Journal of Micrographics & Video Technology* 2, no.1:p.5-14.
- Kendrick, Brent L. 1983. "RLMS Technology Committee." In "Reports on the Annual Conference of the American Library Association, Los Angeles, Calif., June 25-30, 1983: Resources and Technical Services Division," *Library of Congress Information Bulletin* 42 (Aug. 22):p.281-83.
- Kidd, Harry B. 1983. "Micrographics Standardization in the United States," *Journal of Micrographics* 16 (Mar.):p.57-59.
- Kohlmeyer, Frank J. 1983. "Viewpoint," *IMC Journal* 19, no.1:p.6.
- Laird, W. David. 1983. "Report of the RLAC Task Force on Cataloging Microform Sets Survey," *Research Libraries in OCLC: A Quarterly* no.12 (Oct.):p.1-3.
- Lamble, J. H. 1983. "Evolution in the Library," *Times Educational Supplement* no.536 (Feb. 11):p.27.
- "Libraries Begin to 'Think Digital Telefacsimile.'" 1983. *American Libraries* 14 (Mar.):p.162.
- "Library Fax Machines Under Development." 1983. *Library Systems Newsletter* 3 (June):p.45-46.
- Library of Congress Microfilm Specifications*. 1983. Silver Spring, Md.: Association for Information and Image Management.
- Line, Maurice. 1983. "Document Delivery, Now and in the Future," *Aslib Proceedings* 35 (Apr.):p.167-76.
- Lunin, Lois F., and Paris, Judith, eds. 1983. "Videodisc and Optical Disk: Technology, Research, and Applications," *Journal of the American Society for Information Science* 34 (Nov.):p.405-40.
- Macfarlane, Alan. 1983. "The Actual and Potential Role of Microforms in British Historical Research," *Microform Review* 12 (Spring):p.74-80.
- "Magazine Collection Claims Staff & Patron Time Savings." 1983. *Library Journal* 108 (Nov. 1):p.2012.
- Magnuson, Barbara. 1983. "Collection Management: New Technology, New Decisions," *Wilson Library Bulletin* 57 (May):p.736-41.
- Margoshes, Miriam K. 1983. "The Second Annual Videodisc Conference, New York, November 1982: A Report," *International Journal of Micrographics & Video Technology* 2, no.2:p.121-24.
- Mass, Rita. 1983. "Candy is Dandy . . . but Liquor is Quicker," *Information Management* 17 (May):p.5.
- "Matsushita-Energy Conversion Devices Patent Suit." 1983. *Micrographics Newsletter* 15 (June):p.3.
- "Matsushita Shows an Erasable Disk." 1983. *New York Times* (Apr. 6):p.32.
- McIntosh, Melinda. 1983. "Selecting Microform Reading Equipment," *Microform Review* 12 (Winter):p.27-33.

- McQueen, Judy and Boss, Richard W. 1983. "High-Speed Telefacsimile in Libraries," *Library Technology Reports* 19 (Jan./Feb.):p.7-111.
- Michaels, George H.; Kerber, Mindy S.; and Hall, Hal W., comps. 1983. *Microform Reader Maintenance Manual*. Westport, Conn.: Meckler Books.
- "Microfiche Forces SEC to Use Letter-size Paper." 1983. *Bulletin of the American Society for Information Science* 9 (Feb.):p.7-8.
- Micrographic Film Technology*. 1983. 2d ed. Silver Spring, Md.: National Micrographics Association.
- Micrographics Equipment Review*. 1983. See the following articles in the 1982 survey: "Micrographics Equipment in 1982," p.3-8; "Microfilm Jacket Systems: A Survey of Available Supplies and Equipment," p.9-40; "Reader/Printers for Office Applications: Features and Functions of 27 Models," p.41-84; "Micro Design and Bell and Howell Microfiche Readers," p.85-99; "Realist Microfiche Readers," p.100-113; "Readers for Library COM Catalogs: An Update," p.114-21.
- "Micro-Image Transmission Next for Information Technology." 1983. *Machine Design* 55 (Dec. 8):p.16.
- Miles, Charles. 1983. "SOM: A Redefinition of a Concept and a Market," *Journal of Micrographics* 16 (Feb.):p.24-29.
- Minker, Whitney S., and Thomas, Michael L. 1983. "Maximizing COM Film Quality through the Use of ANSI/NMA Standards," *IMC Journal* 19, no.2:10-13.
- "Mnemos 6000—Tongue Twister and Hybrid CAR Systems." 1983. *Micrographics Newsletter* 15 (Feb.):p.6-7.
- Moody, D. P. 1983. "'Seeing is Believing': A Report on the First MAGB Seminar of 1983, 29 March, at the City University," *International Journal of Micrographics & Video Technology* 2, no.2:p.129-32.
- Morris, M. E. L. 1983. "Micrographics—A Review of Developments," *Reprographics Quarterly* 16 (Winter):p.16-20.
- Mottice, Robert. 1983. "Quality Standards for Microfilmed Serials," *International Journal of Micrographics & Video Technology* 2, no.3:p.203-205.
- Muller, William D. 1983. "Archives of War Resisters' International: A Review," *Microform Review* 12 (Winter):p.41-42.
- Mutter, John. 1983. "Unique Settles Copyright Suit with Nine Publishers," *Publishers Weekly* 223 (June 10):p.27-28.
- "New Low Cost Laser Disk System Poses Challenge for Many COM Users." 1983. *Micrographics Newsletter* 15, no.15 (Aug.):p.1-3.
- "New Optical Video-Disk System Allows Erasures, Recording." 1983. *Popular Photography* 80 (July):p.24.
- "New Products on Show at the Annual NMA Exhibition." 1983. *Reprographics Quarterly* 16 (Summer):p.93-97.
- "New Videodisc Supplier." 1983. *Electronic Publishing Review* 3 (June):p.89-90.
- "New York Court Fines BOCES \$78,515 and Bars All Taping of Educational Films." 1983. *Library Journal* 108 (June 15):p.1188.
- "NMA '83 Product Highlights." 1983. Parts 1, 2. *Information Management* 17 (May; June):p.32-35;p.30-34.
- "NMA Name Change Now Official." 1983. *Journal of Micrographics* 16 (May):p.6.
- "NTIS Moves Ahead on Disk Project." 1983. *Micrographics Newsletter* 15 (Apr.):p.5.
- NYPL. New York Public Library. 1983. *New York Public Library Register of Microform Masters: Monographs*. Bellevue, Wash.: Commercial Microfilm Service. Microfiche.
- "NYU and Publishers Strike Accord in Out of Court Copyright Settlement." 1983. *Library Journal* 108 (June 15):p.1185-86.
- "OCLC, Information Access Company Plan Electronic Document Delivery." 1983. *Information Retrieval & Library Automation* 19 (Oct.):p.3.
- "Opposition to Mormon Microfilming Project." 1983. *American Archivist* 46 (Spring):p.214-15.
- "Optical Digital Disc Update." 1983. *Library Systems Newsletter* 3 (Nov.):p.87-88.
- O'Shea, J. Bernard, and Williams, Lesley M. 1983. "Colour Microfiche in Australia," *International Journal of Micrographics & Video Technology* 2, no.2:p.99-100.
- Painter, Derek. 1983. "Copiers—A Review of Developments," *Reprographics Quarterly* 16 (Winter):p.21-23.
- "The Paperless Society? Not This Century According to IRDC." 1983. *Reprographics Quarterly* 16 (Spring):p.49.

- "Patent Office Plans Switch to Optical Disk Memories." 1983. *Micrographics Newsletter* 1 (June):p.3.
- Pederson, Carol Rohweder. 1983. "CAR Drives Seattle Traffic Violators into Fine Payment Lane," *Information Management* 17 (June):p.18-19, 22.
- "Pfizer, Texaco Agree with AAP on Copying." 1983. *Publishers Weekly* 223 (Apr. 22):p.20-21.
- "Photoduplication Service Delivers New Microfiche from 105mm Camera." 1983. *Library of Congress Information Bulletin* 42 (Mar. 21):p.102-103.
- Poli, Kenneth. 1982. "Concern about Fading Photographs Puts R-and-D Departments in Gear, Opens New Career in Photography," *Popular Photography* 89 (Dec.):p.10, 68.
- Pontius, Jack. 1983. "Micrographics," in *ALA Yearbook: A Review of Library Events 1982*, p.180-82.
- "Proposed Z39 Name Change." 1983. *Voice of Z39* 5 (June):p.2.
- Purcell, Carl. 1982. "New Picture Agency Uses Videodisk System for Instant Image Selection by Clients," *Popular Photography* 89 (Dec.):p.50, 202.
- Rayward, W. B. 1983. "International Exposition and the World Documentation Congress, Paris, 1937," *Library Quarterly* 53 (July):p.254-68.
- Reprographics Quarterly*. 1983. The following reviews of new equipment appeared in V. 16: Broadhurst, Roger. "Microsize 500 Microfiche Camera" (Autumn):p.156-57; "The Canon Canonfile 100: A Versatile New 16mm Planetary Camera" (Winter):p.26-27; "The Canon Colour Copier" (Winter):p.29-30; "Canon PC-10 Personal Plain Copier" (Spring):p.68-70; "Copiers: Agfa X23 for 'Recycling' Documents" (Summer): p.90; "Evaluation of the Canon Canonfile 100: A Summary of NRCd Evaluation Report TER 83/1" (Summer):p.109; "Group Evaluation of Full-Sized COM Microfiche Readers: A Summary of NRCd Evaluation Report TER 82/3" (Winter):p.24-25; "Group Evaluation of Microfiche Reader-Printers: A Summary of NRCd Evaluation Report TER 82/4" (Spring):p.65-66; "Kodak's IMT50 and KAR 4000 System" (Spring):p.67-68; "Landa: Improvement to Liquid Toner Copiers?" (Summer):p.90; "LTR: Another Face-Up Copier for Libraries" (Autumn):p.132; "Océ 1725: A New Copier in the Medium Output Range" (Winter):p.27-29; "Photomatrix 835 Autoload Fiche Duplicator" (Spring):p.51-52; "Regma LR-7 Plain Paper Reader Printer" (Summer):p.112-13; "Regma CS 16/ Alos Recorder 26 and Kodak Starfile RV-3 Planetary Cameras: A Summary of NRCd Evaluation Report TER 83/2 and TER 83/3" (Autumn):p.151-52; Williams, Bernard. "AGFA X41: War and Peace without Reloading?" (Autumn):p.154-55.
- Resource Center Index*. 1983. Silver Spring, Md.: Association for Information and Image Management.
- Riddick, John. 1983. "Videodisc Technology: Developments 1980-1982," *Library Hi Tech* 1 (Summer):p.93-96.
- RLG. Research Libraries Group. 1983a. "NEH and Mellon Grant \$1,350,000 to RLG for Preservation Microfilming." Press release dated May 9, 1983.
- _____. 1983b. Preservation enhancements available on RLIN March 7, 1983. On-line announcement.
- _____. 1983c. "Proposal for Cooperative Storage of Master Negatives." March 25, 1983. Photocopy.
- Robinson, W. Bryan. 1983a. "British Standards for the Micrographics Industry," *International Journal of Micrographics & Video Technology* 2, no.2:p.111-19.
- _____. 1983b. "International Standards: A Report," *International Journal of Micrographics & Video Technology* 2, no.1:p.43-45.
- Rogers, Joann V. 1982. *Nonprint Cataloging for Multimedia Collections: A Guide Based on AACRII*. (Library Science Text Series) Littleton, Colo.: Libraries Unlimited.
- Saffady, William. 1983. "Micrographics and the Reference Librarian," *Reference Librarian* 5/6 (Fall/Winter):p.23-31.
- Schaible, Dennis. 1983. "SOMething New," *Journal of Information and Image Management* 16 (July):p.49-51.
- Schieber, Phil. 1983. "U.S. Newspaper Program—an Extra for Scholars," *Research Libraries in OCLC: A Quarterly* no.11 (July):p.5-12.
- Schulman, Jacques-Lynne. 1983. "Video PATSEARCH: Unique Solution to a Unique Problem," *International Journal of Micrographics & Video Technology* 2, no.1:p.21-25.
- "Silver-Halide Technology Is Still Alive and Well." 1983. *T & E Center* 11 (Jan.):p.4.

- Smith, Joan E. 1982. *Microtexts in Cornell University Libraries, A Selected Guide*. Ithaca, N.Y.: Olin Library, Cornell University Libraries.
- Sonnemann, Sabine S. 1983a. "Videodisc: A New Resource for Library Information Storage and Retrieval," *International Journal of Micrographics & Video Technology* 2, no. 3:p.169-81.
- _____. 1983b. "The Videodisc as a Library Tool," *Special Libraries* 74 (Jan.):p.7-13. [This is a less technical account than the one cited above.]
- "Space Imagery on Videodisc." 1983. *American Libraries* 14 (Mar.):p.157.
- Sporer, A. H. 1983. "The Impact of Digital Storage on Micrographics Storage," *Journal of Micrographics* 16 (Feb.):p.41-45. (First published in *Journal of Applied Photographic Engineering* 3:p.200-203 (1982).)
- Spreitzer, Francis F. 1983. *Selecting Microform Readers and Reader-Printers*. Silver Spring, Md.: Association for Information and Image Management.
- Sung, Carolyn Hoover. 1982. *Archives & Manuscripts: Reprography*. Chicago: Society of American Archivists.
- Teague, S. John. 1982. "Archival Records, Henry VIII to Salt Lake City in Microform," *International Journal of Micrographics & Video Technology* 1, no. 4:p.209-11.
- _____. 1983. "Assessing the Impact of Electronics in Publishing," *Times Higher Education Supplement* no.536 (Feb. 11):p.22-23.
- "10p a Shot: British Copy Fee Scheme Launched." 1983. *Reprographics Quarterly* 16 (Summer):p.90.
- "Times Microfilm Licensed to Xerox." 1983. *New York Times* (Apr. 6):D5.
- "Tonal Microphotography: Photos on Microfilm." 1983. *American Archivist* 46 (Fall):p.473.
- Tracy, Janet and DeJohn, William. 1983a. "Digital Facsimile: Columbia Law Library and Pacific Northwest Facsimile Network," *Library Hi Tech* 1 (Winter):p.9-14.
- Tracy, Janet. 1983b. "Telefacsimile in Libraries: A Review of Current Literature," *Library Hi Tech* 1 (Winter):p.15-16.
- Treese, William R. 1983. "Rephotographing Microforms: The Translation of Microfiche into Slides and Photographic Prints," *Microform Review* 12 (Summer):p.163-65.
- USNARS. United States National Archives and Records Service. 1982. *Guide to Genealogical Research in the National Archives*. Washington, D.C.: The Service.
- _____. 1983. *Immigrant and Passenger Arrivals, A Select Catalog of National Archives Microfilm Publications*. Washington, D.C.: National Archives Trust Fund.
- Walter, Gerry. 1983. "Are Micrographics and Optical Data Disks Competing Technologies?" *Journal of Micrographics* 16 (Feb.):p.37-39.
- Watson, Paula. 1983b. "Federal Depository Microfiche Reviews: New Series from the Agency for International Development," *Microform Review* 12 (Spring):p.84-90.
- "What is Wrong with Microfilm?" 1983. *Microfilm & Video Systems* 2 (Mar.):p.2.
- "What's in a Name?" In "Microform Association of Great Britain Secretary-General's Report." 1983. *International Journal of Micrographics & Video Technology* 2, no. 3:p.239-40.
- White, Howard S. 1982. "Computer Output Microform Catalog Readers," *Library Technology Reports* 18 (Nov./Dec.):p.579-607.
- _____. 1983. "Microfiche Readers for Libraries," *Library Technology Reports* 19 (May-June):p.223-325.
- Whitmore, Marilyn P. 1983. "Innovative Approach to User Acceptance of Microforms," *Journal of Academic Librarianship* 9 (May):p.75-79.
- Wisdom, Donald F. 1983. "Newspaper Program Developments," *Library of Congress Information Bulletin* 42 (May 23):p.166-68.
- Wood, D. N. 1983. "Reprography and Copyright with Particular Reference to Inter-Library Lending Activities—a View from the BLLD," *Aslib Proceedings* 35 (Nov./Dec.):p.457-67.
- "XDM: Xerox Dry Microfilm." 1983. *Photomethods* 26 (Nov.):p.22.
- Yates, D. M. 1983. "Project Hiermes," *Aslib Proceedings* 35 (Apr.):p.177-82.
- Zink, Steven D. 1983. "The GPO Reduced to Size: Microforms and Government Publications," *Microform Review* 12 (Fall):p.229-33.

Headings for Corporate Names: International Standardization under AACR2

C. Donald Cook

To test the extent and kind of international standardization resulting from the use of the second edition of the Anglo-American Cataloguing Rules, a study was made of catalogue headings for corporate names entered in direct order. The headings examined appeared in the 1981 bibliographic records of the Library of Congress, the National Library of Canada, the British Library, and the National Library of Australia. Of the mutual uses of this type of heading, an average of 87.2 percent of an agency's headings matched one or more of the others. Unique uses by each agency are noted and the number and types of matches and differences are analyzed.

AS THE EXCHANGE of bibliographic records accelerates, efforts to achieve international standardization will undoubtedly increase as well. The second edition of the Anglo-American cataloguing code should be expected to be a major instrument for accomplishing that goal.

Even though the Joint Steering Committee for Revision of the *Anglo-American Cataloguing Rules* (JSC) may not have included the term *international standardization* in its guidelines, it was obviously an objective of code revision. The fourth objective cited in the preface to the code is

To provide for international interest in AACR by facilitating its use in countries other than the United States, Canada, and the United Kingdom. This final objective was later intensified, as a condition of funding by the Council on Library Resources, to one of making a contribution to the development of an international cataloguing code.¹

The revised code should now be tested on the degree to which uniformity is being attained internationally, and, in particular, among the agencies

C. Donald Cook, Professor, Faculty of Library & Information Science, University of Toronto, conducted this study with grant support from the Council on Library Resources and from the University of Toronto. MARC tapes for LC, NLC, NLA, and CONSER bibliographic records were lent by the National Library of Canada, UK MARC tapes by the British Library and the National Library of Canada, and LC *Name Authorities* tapes by the Library of Congress. Computer programming was done by Saralee Turner; research assistance was provided by Sharon Brown. The author is indebted to these agencies and individuals and wishes to express his appreciation for their substantial contributions.

that had a major part in its preparation, for these four reasons. First is the goal noted above that was originally set for the JSC. Secondly, the code presents itself as "Anglo-American" and, therefore, international. Third, AACR2 has in fact been used and is still being used as a model for other cataloguing codes, and lastly, in the library profession there has been continuing concern that the identification of bibliographic entities be standardized.

Although there are many facets to the standard identification of bibliographic entities, few are more important than uniformity in the name forms constructed for access points. The present study was designed to ascertain the degree of uniformity in the catalogue headings established by four national bibliographic agencies. Three—the National Library of Canada (NLC), the British Library (BL), and the Library of Congress (LC)—were authors of the revised cataloguing code. The National Library of Australia (NLA) was included as the fourth agency because it has adopted AACR2, is now a member of JSC and of the Association of Bibliographic Agencies of Britain, Australia, Canada, and the United States of America (ABACUS), and works closely with the other three agencies in matters of international cataloguing standards. Catalogue records issued during 1981, the first year of application of AACR2, were examined to determine the extent to which the four agencies used the same forms of headings, and to identify the types of differences. The only other study of the problem known to the author is a brief four-page analysis of twelve hundred headings, prepared by the National Library of Australia for internal use of ABACUS members.² This study does not indicate the basis on which the headings were selected and it is not possible to compare meaningfully the results of that study with this one.

METHODOLOGY

It was originally intended that all types of headings be studied. This plan proved impractical for economic and other reasons, and the study was therefore limited to headings for corporate bodies where names are used in direct order (i.e., MARC coding X10:2). Names of corporate bodies have, in general, been more problematic and difficult to establish than personal names, with more potential inconsistencies. Corporate names entered under place or jurisdiction are almost entirely those for government bodies, and it was assumed that the records prepared by each of the national agencies would be largely for the government bodies in their own countries and that there would therefore be few names of this type used by more than one agency.

All of the corporate names entered in direct order and established under AACR2 (and also, in LC's case, names whose forms of headings LC considered "AACR2-compatible")* were taken from the MARC tapes from the four agencies. (The 1981 CANMARC tapes contained an un-

*When LC began using AACR2, certain categories of existing headings, called "compatible" headings because of their close similarity to AACR2 forms, were continued unchanged as a means of lessening the initial impact of adopting AACR2. This "compatible" policy ceased on September 1, 1982.—*Cataloging Service Bulletin*, no.17 (Summer, 1982), p.31.

known, but small, number of headings which had not gone through NLC's usual process of authority establishment; at that time, NLC considered these valid AACR2 headings and they are included in this study.) Comparable headings from CONSER tapes also were included. The headings thus collected were consolidated into one file and then compared with LC's machine-readable authority file as it existed at the end of 1981. This check made it possible, first, to link headings for the same body when these were at different locations in the alphabet and, second, from the uses by other agencies, to add to the study names which LC had not needed to use in 1981, but presumably would have used had these names been needed for LC's own cataloguing. (The forms of these latter names did not, of course, always correspond.) If it had been practical to do a comparable check against the authority files of the other three agencies, some of the headings found in this study to be unique to one agency might have generated additional matches and differences; figures given later in the study suggest that the number would not have been large.

The resulting file of 20,189 headings was then analyzed, and summary results are indicated in table 1. More than 10 percent of the headings were deleted because they were inappropriate for this study, e.g., personal names, titles, and subjects, French equivalents (resulting from NLC's policy of bilingual cataloguing), or for other reasons (largely coding or computer errors), leaving 17,917 headings for further consideration. In those instances where the name of a parent body appeared both with and without a subordinate unit, or with different subordinate units, the name of the parent body alone was used. When necessary, headings were searched in cataloguing reference tools. Because the catalogued materials for which the headings had been used were dispersed among four countries, it was not feasible to verify any heading with its "chief source of information."

TABLE 1
SUMMARY OF DATABASE

	Number	Percent
Total headings from MARC tapes	20,189	100.0
Deletions	2,272	11.2
Inappropriate headings	157	0.7
French equivalents	411	2.0
Other	1,704	8.4
Valid headings for analysis	17,917	88.7
Unique to one agency	15,644	87.3
Used by two or more agencies	2,273	12.6
Matches	1,830*	10.2
Differences	443†	2.4

*The actual number of matches differs, since some differences also included matches (e.g., two agencies concurred and a third differed). See table 2.

†This is not the actual number of instances of difference; in some cases more than two headings were involved in a difference, and some headings involved more than one type of difference. See table 3.

RESULTS OF THE STUDY

MATCHES

All matches are summarized in table 2. If the partial matches are included, the number of AACR2 matches in the headings actually used during 1981 totals 706 or 37.5 percent. "Unused" headings from LC (which came from LC authority records) and LC's "AACR2-compatible" headings added the remaining 1,173 (62.4 percent).

In this group, the large proportion of headings resulting from the check of LC authority tapes confirmed the desirability of enlarging the database to increase the number of cases of multiple use of names. LC's "AACR2-compatible" headings, as would be expected, matched few headings from other agencies.

TABLE 2
SUMMARY OF MATCHES

	AACR2	Additional LC Headings	AACR2- Compatible	Subtotal	Partial Matches Included in Differences	Total	Percent
LC + NLC	310	582	17	909	17	926	49.3
LC + BL	218	449	6	673	20	693	36.9
LC + NLA	32	84	0	116	3	119	6.3
NLC + BL	20	1	0	21	3	24	1.3
NLC + NLA	5	0	0	5	0	5	0.3
BL + NLA	2	0	0	2	0	2	0.1
LC + NLC + BL	59	32	0	91	4	95	5.0
LC + NLC + NLA	5	2	0	7	1	8	0.4
LC + BL + NLA	4	0	0	4	1	5	0.3
NLC + BL + NLA	0	0	0	0	0	0	0
All	2	0	0	2	0	2	0.1
Total	657	1150	23	1830	49	1879	—
Percent	34.9	61.2	1.2	97.4	2.6	—	—

The types of corporate headings occurring in the matches were analyzed in order to compare them with those occurring in the differences, and comments on these are included in the discussion below.

DIFFERENCES

All differences are summarized in table 3. Note that the table is based on the number of instances or "sets" of differences, not on the number of headings used by the agencies.

Among the headings from the Library of Congress, only four were found to be "AACR2-compatible." Whether revision to AACR2 requirements would have made these headings identical to those from other agencies is not known; however, the low number indicates that the presence of "compatible" headings in 1981 was not an important barrier to international standardization.

The discussion that follows takes up each type of difference in the order of the AACR2 rules that govern the establishment of headings in each case.

TABLE 3
SUMMARY OF DIFFERENCES

	24.1/2	24.1 Punct.	24.2C	24.2D	24.3A	24.3B	24.4B	24.4C2	24.4C4	24.4C5	24.4C8	24.4C9	24.4C10	24.5C1	24.12/13	24.14	24.17/18	App. B.9	Total	Percent
LC + NLC	14	5	4	14	1	1	1	10	16	9	2	1	1	2	5	2	2	13	59	22.4
LC + BL	23	6	4	14	7	2	6	35	4	9	2	1	1	12	8	1	8	13	156	59.1
LC + NLA	5							2							1		1		9	3.4
NLC + BL	1						1	3		2		1		1					9	3.4
NLC + NLA																			0	0
BL + NLA																			0	0
LC + NLC + BL	9		2		1		1	6	2	3					1				25	9.5
LC + NLC + NLA	1						1	9	2										4	1.5
LC + BL + NLA								1											1	0.4
NLC + BL + NLA																			0	0
All							1												1	0.4
Total	53	11	6	14	9	3	11	57	24	14	2	3	2	15	15	1	11	13	264	
Percent	20.1	4.2	2.3	5.3	3.4	1.1	4.2	21.6	9.1	5.3	0.8	1.1	0.8	5.7	5.7	0.4	4.2	4.9		

24.1/2 *Basic Rule [Choice of Name.] Variant Names.* There were 53 instances (20.1 percent of the differences) where agencies chose different names for the same corporate body (with no evidence that these were changes of name as covered by rule 24.1B). It is possible that, in some cases, the general rule for conventional name (24.3C1) may have been invoked, although agency rule interpretations give no indication that the latter rule may be used (as might be inferred from its wording) to override the provisions for the name by which a corporate body is predominantly identified in items issued by that body or in reference sources. Because rule 24.1 does not distinguish as clearly between choice and form of name as do comparable rules for personal names (22.1, 22.2, and 22.3), it is difficult in some instances to deduce the problems inherent in the names for this group of headings.

In 17 of these cases, there were differences in the entry words.

Example:*

LC: Morris Gallery

NLC: Donald Morris Gallery

Comparison of these names with those which appeared in the matches is not possible because of the impracticality, referred to earlier, of determining the ways in which these names were "predominantly identified" in the catalogued materials themselves.

24.1 *Basic Rule [Punctuation.]* In chapter 24, the only specific provision for the punctuation which may occur in corporate names pertains specifically to a name that "consists of or contains initials," and 1 variation (0.4 percent) of this type was found.

At the same time, agency interpretations from LC, NLC, and NLA indicate that the punctuation and abbreviations present in the form of any type of name chosen should be retained, and these interpretations are supported by the principle, present in many parts of AACR2, of forming headings according to usage. The presence or absence of hyphens and commas accounted for 10 variations (3.8 percent) among agencies.

Examples:

BL: ORSTOM

LC: O.R.S.T.O.M.

BL: European Centre for Medium-Range Weather Forecasts

LC: European Centre for Medium Range Weather Forecasts

Headings in 70 of the matches included the same types of punctuation noted above, but without causing discrepancies among agencies.

24.2C [*Variant Spellings.*] Variations in spelling resulted in six differences (2.3 percent), in all cases occurring because of differences in Brit-

*The examples in this section reflect the type of difference being considered and do not necessarily indicate the usual application of the rule by a given agency. A complete list of all differences has been supplied to the four national agencies, to the JSC, and to the Council on Library Resources; others desiring a copy should address the author.

ish, Canadian, and American orthography. The ways in which these variations occurred suggest preference for the agency's "national" spelling or inadvertent errors in proofreading.

Example:

BL: North Atlantic Treaty Organisation

LC: North Atlantic Treaty Organization

The same words which occasioned differences under this rule appeared in 14 matches, where usage was identical.

24.2D [*Initialisms and Acronyms.*] Among other variant forms, AACR2 provides for "a brief form (including an initialism or an acronym) that would differentiate between the body and others with the same or similar brief names." Fourteen differences (5.3 percent) occurred when one agency chose an initialism or acronym and another chose a full form. LC's rule interpretations indicate a clear preference for the full form, and all of the full forms in this category originated with LC; all but one of the initialisms or acronyms originated with BL. The only variation which did not result in a different entry point was a heading where the brief form occurred in the name of a subordinate body.

Example:

BL: FEoLL

LC: Forschungs- und Entwicklungszentrum für Objektivierete
Lehr- und Lernverfahren

Initialisms or acronyms were used by all of the agencies whose headings appeared in 18 matches.

24.3A [*Variant Names. Language*] None of the agencies applies the Alternative Rule providing for "a form of name in a language suitable to the users of the catalogue if the body's name is in a language that is not familiar to those users." Although the nature of the corporate bodies whose names appear in this category suggests that the language of the body would be used for the name in the heading, there were 9 instances (3.4 percent) where one agency used the name in English in preference to other languages. This resulted in seven differences in the entry point.

Example:

BL: Hungarian Academy of Sciences

LC: Magyar Tudományos Akadémia

For this rule and the next (24.3B), as with 24.1/2, it was impractical to determine, among the matches, those names where the use of English or another language has been resolved.

24.3B *Language. International Bodies.* "If the name of an international body appears in English on items issued by it," the name in the heading is in English. There were 3 occurrences (1.1 percent) where one of the agencies used another language, resulting in an equivalent number of different entry words.

Example:

LC: Centro de Estudios Económicos y Sociales del Tercer Mundo

NLC: Center for Economic and Social Studies of the Third World

24.4B Additions. Names Not Conveying the Idea of a Corporate Body. Differences in adding "a general designation in English" to names which do "not convey the idea of a corporate body" resulted in 11 variations (4.2 percent) among agencies. In three instances, an agency omitted any qualifier; in one case, a qualifier was used to designate a "firm" rather than using "Ltd."; in one case, an agency used a qualifier when its own rule interpretation indicated that none was needed; and in the six remaining cases the qualifiers varied among agencies.

Rule 24.4B itself does not specify except by example what qualifiers should be used, and it is probable that to do so would be impractical. At the same time, LC has considered it desirable to issue a reasonably extensive rule interpretation, dealing principally with qualifiers for ships and for performing groups. Consequently it may be of interest to note that the differences among qualifiers used included "steamship" vs. "ship," "sloop" vs. "ship," "boat" vs. "schooner," and "musical group" vs. "musical quartet."

Example:

NLA: Beatles

NLC: Beatles (Musical group)

BL: Titanic (Ship)

LC: Titanic (Steamship)

NLC: Who (Musical group)

LC: Who (Musical quartet)

Among the matches, there were eight instances where the qualifier and its form were identical.

24.4C1 Two or More Bodies with the Same or Similar Names. General Rule. The largest single category in the study, 102 differences (38.6 percent) resulted from the provisions that "if two or more bodies have the same name, or names so similar that they may be confused, add a word or phrase to each name as instructed in 24.4C2-24.4C10" and that these rules can be applied optionally, even if there is no need to distinguish among bodies.

That differences would occur seems almost inevitable, given the presence of an option. Also, the phrase "so similar that they may be confused" immediately opens a substantial number of cases to cataloguers' judgment and decision. LC, NLC, and NLA, in their decisions on options and their rule interpretations, have stated their application of these rules somewhat differently, but in general the result is a generous use of qualifiers; BL, on the other hand, has elected not to apply the option except on a limited case-by-case basis.

It should be noted that in 27 cases (among all types of differences)

agencies used the form "name, place" rather than the "name (place)" asked for in rule 24.4A. This may result from perpetuation of an older form of heading or from use of "name, place" as the predominant form used by the corporate body (24.1).

Examples will be found in the following subsections of rule 24.4C.

24.4C2 Names of Countries, States, Provinces, Etc. In 49 instances (18.6 percent), the presence or absence of a national, state, or provincial qualifier resulted in variations among agencies.

Example:

BL: Amalgamated Union of Engineering Workers

NLA: Amalgamated Union of Engineering Workers (Great Britain)

There were, in addition, 7 instances (2.7 percent) where judgments differed on the level of the qualifier to be added.

Example:

LC: Centre for Independent Studies (N.S.W.)

NLA: Centre for Independent Studies (Australia)

Finally, there was 1 case (0.4 percent) in which agencies did not concur on the form of the name of the country used as a national qualifier.

Example:

LC: (Ireland)

BL: (Republic of Ireland)

There were 18 headings in which national, state, or provincial qualifiers were used uniformly.

24.4C4 Bodies Located Outside the British Isles. There were 24 differences (9.1 percent) resulting from the presence or absence of a qualifier for names of local bodies outside the British Isles.

Example:

BL: Institute for Food and Development Policy

LC: Institute for Food and Development Policy (San Francisco, Calif.)

Six cases of uniform application of this rule occurred among the matches.

24.4C5 Bodies Located in the British Isles. The presence or absence of a qualifier for bodies located in the British Isles resulted in 14 differences (5.3 percent).

Example:

BL: Atomic Energy Research Establishment

LC: Atomic Energy Research Establishment (Harwell, Berkshire)

It should also be noted that in two of the few instances where BL was

found to use a qualifier, the local place name was not followed by the name of a larger place, reflecting BL's application of the second option in rule 23.4B for additions to place names.

Example:

BL: St. Paul's Cathedral (London)
LC: St. Paul's Cathedral (London, England)

No cases occurred among the matches.

24.4C8 Institutions. Two instances of qualification by institution occurred (0.8 percent), reflecting the presence/absence situations already noted. The other also reflected the "name, place" form noted above under 24.4C1.

Example:

BL: King's College, London
LC: King's College (University of London)

No qualifiers of this type were used in the headings that matched.

24.4C9 Year(s). The presence or absence of years as a qualifying element occasioned 3 differences (1.1 percent).

Example:

BL: Belgian Antarctic Expedition (1898-1899)
NLC: Belgian Antarctic Expedition

In the matches, there were 3 instances where years as qualifiers were used uniformly.

24.4C10 Other Additions. There were 2 instances (0.8 percent) where terms other than places, institutions, and years were present or absent.

Example:

LC: Université de Paris III
NLC: Université de Paris III (Sorbonne-Nouvelle)

Two uses of other types of qualifiers occurred in the matches. There was no similarity among the qualifying terms used in all of the four names.

24.5C1 Terms Indicating Incorporation. Fifteen variations (5.7 percent) occurred as a result of the presence or absence of terms indicating incorporation.

Example:

BL: Cambridge Information and Research Services
LC: Cambridge Information and Research Services Ltd.

Names including terms of incorporation were used identically in 16 cases among the matches.

24.12 Subordinate and Related Bodies. General Rule; and 24.13 Subordinate and Related Bodies Entered Subordinately. Fourteen differences (5.3 percent)

occurred as a result of differing decisions on whether to enter nongovernmental bodies directly or subordinately.

Example:

LC: Université de Montréal. Centre international de criminologie comparée

NLC: Centre international de criminologie comparée

There was also 1 instance (0.4 percent) of a differing opinion as to the parent body to which the name in question should be subordinate (cf. 24.18).

Example:

BL: Royal Greenwich Observatory. Nautical Almanac Office

LC: Great Britain. Nautical Almanac Office

The 15 differences resulted in 11 different entry words.

The word *center* (or *centre*) occurred in a sufficient number of differences, particularly in conjunction with educational institutions, to suggest that this word should receive consideration as a part of rule 24.13 or in agency rule interpretations.

Subordinate units were entered uniformly in 304 of the matches. It was not practical to attempt a distinction between governmental and other bodies, so that names formed under the provisions of 24.17/18 are included here.

24.14 Direct or Indirect Subheading. A single discrepancy (0.4 percent) arose from a difference in judging whether a subordinate body should be entered directly or indirectly.

Example:

BL: Commission of the European Communities. Coordination of Agricultural Research

LC: Commission of the European Communities. Directorate-General for Agriculture. Coordination of Agricultural Research

Examples of this problem were not evident in the matches.

24.17 Government Bodies and Officials. General Rule; and 24.18 Government Agencies Entered Subordinately. Closely related to the differences noted under rules 24.12/13 are the 11 instances (4.2 percent) where the agencies did not concur on entry of a government corporate body under its own name or subordinately. A rule interpretation from the British Library on closely related forms of names for government bodies suggests that BL applies this rule so that names which include the adjectival form of the name of any of the constituent parts of the United Kingdom are not entered subordinately.

Example:

BL: Scottish Courts Administration

LC: Great Britain. Scottish Courts Administration

In 9 of these cases, the differences resulted in different entry words. Matches related to these rules are considered under rules 24.12/13.

Appendix B.9 General Abbreviations. The abbreviation of "and" to "&" and "Department" to "Dept." did not occur consistently in 13 instances (4.9 percent).

Example:

BL: Yale University. Department of Classics

LC: Yale University. Dept. of Classics

In 22 of the matches, these were used uniformly.

In all of the differences, only two types of problem, use of qualifiers and choice of predominant form of name (see table 4), appear to have occurred in sufficient number to suggest that any significant reduction in the number of discrepancies among agencies might result from further cooperation in applying the relevant rules in the same manner.

TABLE 4
TYPES OF DIFFERENCES, BY RANK

Type	Number	Percent
Whether or not a qualifier should be used and, if so, how	102	38.6
Which is the predominant form of name	53	20.1
Use of terms indicating incorporation	15	5.7
Entry of a name directly or subordinately	15	5.7
Initialism/acronym vs. full form of name	14	5.3
Use of abbreviations	13	4.9
Use of punctuation in a name	11	4.2
Use of qualifiers for names not conveying the idea of a corporate body and, if so, how	11	4.2
Entry of a government body directly or subordinately	11	4.2
Name in English, or in vernacular	9	3.4
Differences in orthography	6	2.2
Choice of language for name	3	1.1
Direct or indirect subheadings	1	0.4
Total	264	100.0

SUMMARY AND CONCLUSIONS

Table 5, summarizing all uses of headings by the national agencies, and table 6, indicating the effects of mutual uses of this type of corporate heading, bring to a conclusion a somewhat long and detailed study. What then, has been found?

First, national agencies, no doubt because of a concentration on the preparation of bibliographic records for the publications of their own countries, use a majority of these types of corporate headings uniquely. Among the agencies, the average of unique headings was 76.1 percent—more than three-quarters of all of the headings used. This use ranged from a high of 82.2 percent for the Library of Congress to a low of 67.3 percent for the National Library of Canada—indicating, perhaps, for

TABLE 5
ALL USES OF HEADINGS

	Unique	Percent of		Percent of		Percent of		Total	Percent
		Agency	Appeared in	Agency	Appeared in	Agency	Differences		
		Total	Matches	Total	Differences	Total			
LC	9757	82.2	1848	15.6	255	2.2	11860	59.1	
NLC	2393	67.3	1060	29.8	105	2.9	3558	17.7	
BL	2793	73.4	821	21.6	192	5.0	3806	18.9	
NLA	701	81.6	141	16.4	17	2.0	859	4.3	
Total	15644		3870		569		20083		
Percent	77.9		19.3		2.8				

TABLE 6
MUTUAL USES OF HEADINGS

	Total	Matched	Differed
Library of Congress	2,103	87.9%	12.1%
National Library of Canada	1,165	91.0	9.0
British Library	1,013	81.0	18.9
National Library of Australia	158	89.2	10.8

LC, that its cataloguing is less international than might have been thought; it is less startling for the Canadians, who attempt to include in *Canadiana* publications from throughout the world when these concern Canada or are by Canadians.

Second, the corollary of the first conclusion is, of course, that fewer mutual uses of headings occur among national agencies than many cataloguers may have supposed. On the average, only 23.8 percent of an agency's corporate headings of this kind were used by one or another of the others.

Third, when mutual use occurs, the incidence of matching headings is high. Of these headings used by each agency, an average of 87.2 percent will match the uses by another agency—the range is from 91.0 percent for Canada to 81.0 percent for the British.

Fourth, for reasons best judged by those in the United Kingdom, the headings used by the British Library are most likely to differ from those used by its international colleagues. The British will find that 18.9 percent of their uses of this type of corporate heading will conflict with those made by other agencies, in comparison with an average of 12.6 percent among all four. The Library of Congress is almost precisely at the average, with 12.1 percent; the Canadians would be least troubled with only 9.0 percent.

Perhaps most astonishing is that, in a full year's cataloguing, only three names of the type studied were used by all four agencies. All used "Methodist Church" and "Organisation for Economic Co-operation and Development" and all agreed on the form; all used "Beatles" but did not agree on whether it should be called a "(Musical group)."

The present study provides a partial evaluation of the effectiveness of the *Anglo-American Cataloguing Rules*, second edition, in achieving international standardization among four major national bibliographic agen-

cies, within the constraints of the decisions and rule interpretations each has made for its own application of AACR2. In short, there is now some indication of the degree to which headings from these agencies may be predictably uniform. By extension and inference, this gives some indication of the effectiveness of AACR2 as a voluntary international bibliographic standard.

The investigation also has identified specific illustrations of certain differences which have occurred among the agencies in headings for the same names. These illustrations may assist the agencies in deciding whether they may wish to modify any of their existing policies in order to achieve greater international uniformity in catalogue headings in the future. These data may also indicate to the JSC possible areas where the provisions of the code itself might be reconsidered.

It would be desirable to have similar studies of other types of headings (e.g., those for personal names). It would also be of interest to replicate this study using current cataloguing records from the same agencies to determine if any changes have occurred following several years of experience with AACR2 and some revised rule interpretations.

No matter what the type of heading may be, the degree to which differences in catalogue headings are important depends on several factors in addition to purely personal judgment. The size of a file will greatly influence the importance of qualifiers, for example, in identifying and distinguishing between names of corporate bodies. The type of reference structure in a file, and its completeness, are important when two forms of the same name do not begin with the same word or letter of the alphabet. (In the 264 cases of difference, entry words for a heading differed in 61 instances.) Automated authority files embedded in a database so that users may arrive at a desired record from variant forms of name without being aware of intervening references undoubtedly will reduce the importance of variations. In addition, minor variations in form may be unimportant where computer access is easily browsable or "forgiving" in accepting and subsequently matching relatively inconsequential differences.

Nevertheless, standardization and uniformity on an international level have more than theoretical value. The use of derived cataloguing, particularly through bibliographic utilities and networks, is now taken for granted by a large number of libraries. It surely must follow that national bibliographic agencies should not themselves be deprived of the benefits of such sharing. For this to occur, and for these benefits to be passed on in turn to individual libraries in a substantial number of countries, a high degree of international uniformity is essential.

REFERENCES

1. *Anglo-American Cataloguing Rules*, 2d ed., ed. Michael Gorman and Paul W. Winkler (Chicago: American Library Assn., 1978), vii. (AACR2) Subsequent references to AACR2 may be located by rule number rather than by page number.
2. "AACR2 Rule Interpretations." Unpublished report from the National Library of Australia to ABACUS, 27 July 1983.

A Use Study of the Card Catalogs in the University of Illinois Music Library

Jeanette M. Drone

A multifaceted card catalog use study was conducted at the University of Illinois Music Library to determine (1) the hourly rate of use at the sound recording and book/music catalogs, (2) the amount of time users spend at the catalogs, (3) who uses the catalogs and why, (4) what difficulties users encounter, (5) the success rate of users' searches, and (6) recommendations for designing an online catalog.

THE SKILLS, HABITS, AND ATTITUDES of library users will change, no doubt, as libraries introduce automated catalogs. There is, however, still a need for librarians and designers of online catalogs to study the use of the traditional card catalog, especially since it has been assumed that using card catalogs and computer catalogs involves similar basic cognitive processes. The users of today's traditional card catalogs will be the users of tomorrow's automated systems. Therefore it follows logically that the skills and habits of present users should be given prime consideration in the design and development of automated catalogs.

REVIEW OF THE LITERATURE

In 1930 William M. Randall expressed the need for reliable quantitative information about those who use the catalog, how and why it is used, and finally, with what difficulties it is used. He emphasized that the major criterion of the success of a catalog is the measurement of how well it performs its function—the ultimate goal being the development of catalogs for library users. Randall explained:

This cannot be done by a study of the catalogs themselves, or of the rules by which they are made; neither can it be done merely by an examination of the books to be cataloged. It can be only by an intelligent study of the patrons themselves, their mental equipment, their background and their needs.¹

Although more than fifty major catalog use studies have been completed since Randall's presentation, few are comprehensive. Even

Jeanette M. Drone, Assistant Recruitment and Admissions Officer at the Graduate School of Library and Information Science, University of Illinois at Urbana, prepared this study for a doctoral seminar at that institution.

though the results of these studies are not applicable to all card catalogs in general or even to catalogs in specific types of libraries, their findings are still valuable, supplying a continuing evaluation of catalog problems, suggesting possible solutions, and identifying areas for further study.

In addition to the use studies themselves, several summaries and reviews have been issued as parts of specific use studies or as separate publications. The earliest is by Frarey (1953),² followed by Montague's thesis (1967),³ which examines and summarizes sixteen studies completed between 1949 and 1965. Additional reviews are also available in the following sources: Palmer (1970 and 1972),⁴ Aubry (1972),⁵ Krikelas (1972),⁶ Swanson (1972),⁷ and Lancaster (1977).⁸ In an OCLC technical report, Markey (1980) provides a comprehensive analysis of fifty catalog use studies, with generalizations and summaries of their findings.⁹

Of these studies, very few are concerned with departmentalized or subject catalogs, and in the field of music only one study is cited: Wolfert's analysis of the University of Chicago's catalog of music, which was designed to determine who used the catalog, how it was approached, and how the scores were used once they were found.¹⁰ Montague presents a detailed analysis of the study, concluding that the findings were probably of some value to the music librarian at the University of Chicago, but questioning its usefulness to other music libraries since the library had closed stacks, and only twenty-nine students and faculty were engaged in music courses during the time of the study.¹¹

DESCRIPTION OF THE STUDY

The author conducted a multifaceted use study of both the sound recording catalog and the book/music catalog at the University of Illinois Music Library. The findings report the length of time users spent at the catalogs, how they used the catalogs, and their success in using the catalogs. In the first phase of the sound recording catalog study, which was conducted in the 1981 spring semester, two hundred timed uses and fifty interviews were recorded. The use of *Phonolog*, a commercially published index, was also included as a part of the study since it is a frequently used source for verifying sound recordings that are currently available. In the fall of 1981, the study was extended to include interviews with an additional fifty users of the sound recording catalog, the assumption being that users, as a whole, would not have changed their search strategies from one semester to another. In addition, a similar time and descriptive study was completed at the book/music catalog.

BACKGROUND INFORMATION

The University of Illinois Music Library is a departmental library, located in the Music Building. The library's primary purpose is to serve the faculty and students of the School of Music, although its services and most materials are available to the entire university community. Statistics of the faculty and student enrollment, which were available only for the 1981 fall semester, are as follows: students = 737, of which 409 were undergraduates and 328 were graduate students (master's = 202; doc-

toral = 112; nondegree = 14); faculty (FTE) = 103.

The sound recording catalog has three parts: a main section; a manufacturers' file, arranged by manufacturers' names and subarranged by serial numbers; and a shelflist. The book/music catalog consists of two parts: a main section (including the choral and orchestral catalogs located at the end of the main section); and a shelflist. In addition to these catalogs, there is a supplementary catalog containing cards for all materials added since January 1979.

PURPOSE OF THE STUDY

The study was developed to answer the following questions: (1) What is the hourly rate of use at the sound recording and book/music catalogs? (2) How much time do users spend at the catalog? (3) Who uses the catalogs and why? (4) What difficulties do users encounter? (5) How successful are their searches? (6) What recommendations can be made for designing an online catalog?

DEFINITION OF TERMS

For the purpose of this report, several additional terms need to be defined. A *sound recording* is a long-playing disc, cassette tape or open-reel tape. *Music* is defined as print or microform materials that could be classified in the Library of Congress Class M Schedule as M 1-5000 and in selective areas of MT 170-950. The term *book* refers to print or microform materials that can not be designated as music and includes bound journal volumes. A *user* is an individual who opens or removes a drawer from the card catalog.

PROCEDURES FOR STUDYING THE SUPPLEMENTARY CATALOG

Since the supplementary catalog contains cards for sound recordings, books, and music added since January 1979, it was necessary to ask users to describe the types of materials they were attempting to locate. If the corresponding part of the study was being conducted at that time, then the user was timed or interviewed. In other words, when the author was interviewing persons using the book/music catalog and a user was checking the supplementary catalog for a book, then the user was interviewed, but if the user was searching for a sound recording, no interview was conducted. Data about the use of the supplementary catalog have been incorporated into the findings about the sound recording or the book/music catalog, as appropriate.

ANALYSIS OF THE DATA

TIME ANALYSIS

Methodology. The timed observations were made from positions where the appropriate sections of the catalogs could be seen. Since the consulting/reference tables at the catalogs are located near the entrance of the library, it was difficult to determine if a person walking up to a table was a catalog user. For this reason, the catalog use was timed from the moment a person opened a drawer and continued until the person walked

away from the catalog area. If an individual used more than one section of the catalog in succession, the use of each section was timed separately, and the travel time from one section to another was included. When a person returned to the catalog at a later time, the subsequent use was considered as being a new, separate use. This procedure was necessary since it was not always possible to identify individuals as previous users. Time at the catalog was considered to be continuous if a user left a place marker in the catalog drawer or removed a drawer for use outside the catalog area, a frequent occurrence as users left to sharpen pencils, check materials at the nearby shelving areas, or confer at the circulation desk.

Analysis of the Data. The author spent 17.5 hours timing 200 users at the sound recording catalog and 10.75 hours timing 200 users at the book/music catalog. The average rate was as follows: 11.4 uses per hour at the sound recording catalog and 18.6 uses per hour at the book/music catalog. (See table 1.)

TABLE 1
ANALYSIS OF TIMED OBSERVATIONS OF USERS OF
THE UNIVERSITY OF ILLINOIS MUSIC LIBRARY CATALOGS*

Catalog	Time Range	Mean	Standard Deviation	Median
Sound recording	0'09"-121'35"	5'19"	11'43"	2'08"
Book/Music	0'13"-40'31"	3'48"	5'08"	2'09"
Combined	0'09"-121'35"	4'33"	9'03"	2'08"

*Time in minutes and seconds.

Three previous studies reported timed uses of card catalogs; however, the findings of the present study are comparable to only the Bryant and Needham study which reported the average time of catalog use at Bath University as 3 minutes 45 seconds.¹² In the Yale study, users were divided into two different but roughly equal populations with modes of about two minutes and about six or seven minutes.¹³ Since only these summarized findings were reported, it is not possible to make a comparative analysis. Aubry timed volunteer graduate students during a series of preplanned searches in a catalog specifically designed for the study, but again no meaningful comparison can be made since the purpose and methodology were quite different from those of the present study.¹⁴

An analysis of the number of users per one-minute intervals indicates that 75 percent of the users at the sound recording catalog and 72.5 percent of the users at the book/music catalog completed their searches in 4 minutes or less. Ninety percent of the users at the sound recording catalog finished in 11 minutes or less, while the same percent completed their searches at the book/music catalog in 9 minutes or less.

Summary. Based on the data from the time analyses, a series of probabilities can be calculated for the amount of time users spend at the catalogs. Time intervals have been specified within whose limits it is estimated that 95 percent of all catalog uses will be made. It can be assumed that 73.5 percent \pm 4.4 percent of the catalog uses are completed in 4 minutes or less, while 89.5 percent \pm 3.0 percent of the uses are com-

pleted in 9 minutes or less. It can be assumed that 5 minutes 19 seconds \pm 1 minute 37 seconds is the average time users consult the sound recording catalog, and 3 minutes 48 seconds \pm 43 seconds is the average search time at the book/music catalog. When the data from the two catalogs are combined, it can be assumed that the overall average time spent at the catalogs is 4 minutes 33 seconds \pm 53 seconds.

DESCRIPTIVE ANALYSIS

Methodology. At the beginning of an interview session, the first user approaching the catalog was identified as an interview candidate, and thereafter, upon the completion of an interview, the author approached the next person who began using the catalog. Persons already using the catalog and those beginning a search while an interview was in progress were not approached; however, if such individuals returned to that particular catalog at a later time, they were possible interview candidates. Individuals were not interviewed a second time regarding a subsequent use of either catalog. Since the number of different users of the catalogs was limited, as was the time allotted for interviewing, it was necessary to talk with several of the same persons using both catalogs. In these cases, it was assumed that individuals' performances at one catalog would not predict their performances at the other catalog at a later time. The exact number of persons interviewed as users of both catalogs is not known; however, the author estimates the total was less than fifteen.

Users were interviewed before they started their searches, with the following information being requested: university status, departmental affiliation, and reason for using the catalog. The interview technique was designed to elicit specific information with minimum bias due to prompting or extended explanation.

After obtaining the preceding information, the author observed each person's use of the catalog, noting the strategy and success of the search. (A search was successful when the user found the specific item needed or an acceptable substitute.) When a user determined a search was unsuccessful, the author then offered to help locate the title. By following through with the search, it was possible to determine if a failure was (1) a result of the person's inability to use the catalog, (2) a problem with the way the item was cataloged, or (3) a failure on the part of the collection (that is, the item was not owned). The classification of search failures into these three categories was done at the discretion of the author, based on her knowledge of music materials and cataloging practices. Even though a user was searching for more than one item, only the search for the first item was observed, since a person having an unsuccessful initial search might declare subsequent searches to be failures as a means of receiving further assistance.

Catalog Users. A total of 221 persons were approached for interviews, and of this number, 15 (7 percent) declined to be interviewed, 8 at the sound recording catalog and 7 at the book/music catalogs. Six individuals (3 percent) were attempting to use the wrong catalog. As can be seen in table 2, the status and departmental affiliation of the users of the two catalogs were quite similar.

TABLE 2
STATUS AND DEPARTMENTAL AFFILIATION OF CATALOG
USERS AT THE UNIVERSITY OF ILLINOIS MUSIC LIBRARY

Catalog	Student		Faculty		Other	Total
	Music	Other	Music	Other		
Sound recording	62	28	8	2	0	100
Book/Music	72	14	8	0	6	100
Combined	134	42	16	2	6	200

Reasons for Catalog Use. Not surprisingly, 64 percent of the music students were locating materials for assignments, while only 38.1 percent of the other students were seeking course-related materials. In contrast, 50 percent of the students from other subject areas were locating materials for recreational uses as compared to 9.7 percent of the music students. Of the total number of faculty members, 94.4 percent were locating materials for teaching purposes, and likewise, 12.9 percent of the music students were seeking materials for the same reason. The remaining users indicated their searches were for personal or unspecified reasons. These figures are consistent with the findings of the majority of studies analyzing why users approach card catalogs in academic libraries.¹⁵

How the Catalogs Were Used. Of the one hundred users at the book/music catalog, seventy were locating printed music; twenty-nine were searching for books, and only one needed both types of materials. Naturally, the total number of searches at the other catalog was for sound recordings. The types of entries used by the searchers are shown in table 3.

TABLE 3
TYPES OF ENTRIES CONSULTED BY CATALOG USERS
AT THE UNIVERSITY OF ILLINOIS MUSIC LIBRARY

	Sound Recording Catalog	Book/Music Catalog	Combined
Author/Composer	65	73	138
Title	8	7	15
Subject	7	15	22
Performer	11	NA	11
Company number	8	NA	8
Other	1	5	6
Total	100	100	200

Search Results. At the sound recording catalog, eighty-three of the searches were successful, while at the book/music catalog there were seventy-one successful searches. In combination, these figures produce an overall success rate of 77 percent.

A comparison of university status and departmental affiliation with search results produced rates of success that varied from 66 to 78 percent. For example, 77.6 percent of the music students completed successful searches, as did 77.8 percent of the faculty, 76.1 percent of the students from other academic fields, and 66.7 percent of the remaining users. These statistics include unsuccessful searches for titles not owned;

adjusted figures, excluding the searches for unowned items, are given in the following section.

Examination of success rate and types of search entries produced the following results: title, 86.7 percent; author/composer, 78.4 percent; subject, 68.2 percent; and other (performer, arranger, corporate author, etc.), 70.8 percent.

Unsuccessful Searches. As explained earlier, the author followed through with the unsuccessful searches in order to determine the reasons for failure at the catalogs. The results of the forty-six searches completed by the author are shown in table 4.

TABLE 4
RESULTS OF SEARCHES COMPLETED BY THE AUTHOR

Catalog	Items Located	Items Not Owned	Other*	Total
Sound recording	10	7	0	17
Book/Music	14	12†	3	29
Combined	24	19	3	46

* Persons terminated searches, declining the author's assistance in locating materials.

† Three individuals searching for materials not relating to music were referred to the main library.

For the twenty-four titles eventually located, the author determined that the original searches for these items were unsuccessful for the following reasons:

1. Four persons had incorrect/incomplete title or author/composer information.
2. Twelve individuals did not understand how to use the catalogs.
3. Five of the searches were for materials that were extremely difficult to locate, for example, songs in collections. (In each of these cases the author consulted one or more reference sources before locating the title in the catalog.)
4. Two cataloging errors and one incorrect *see* reference were the causes of three unsuccessful searches. (Note: All were at the sound recording catalog.)

Since failure caused by nonownership does not necessarily reflect a person's ability to use the catalog, an adjustment was made to reflect the success rate for items actually in the collection. To calculate the adjusted figures, the number of persons conducting searches for unowned items was subtracted from the original 200 users, resulting in a total of 181, 93 at the sound recording catalog and 88 at the book/music catalog. Based on these adjusted figures, the overall success rate at the catalogs was 85.1 percent, 89.2 percent at the sound recording catalog and 80.7 percent at the book/music catalog. When these adjusted figures were correlated with university status and departmental affiliation, the findings were somewhat different from those reported in the preceding section; specifically, 100 percent of the faculty completed successful searches, as did 85.2 percent of the music students and 82.1 percent of the students from other academic disciplines. Since none of the users in the "other" cate-

gory conducted searches for unowned items, the original success rate of 66.7 percent remained unchanged.

In summarizing several catalog use studies, Palmer states that the user success rates ranged from 15 to 94 percent, with most of the studies reporting a 70 to 80 percent success rate.¹⁶ In the present study, the overall success rate of 77 percent is well within the range reported by the majority of the previous studies, and when the searches for unowned items are excluded, the 85.1 percent success rate is well above the average. In general, however, the validity of comparing the success rate of the present study with summarized findings of several studies should be questioned since it is seldom clear if the findings of the individual studies included or excluded searches for unowned materials.

Summary. Based on the findings of the descriptive analyses, the following profile describes users of the Music Library catalogs. The majority are music students attempting to locate information or materials for course-related assignments, and they prefer to use author/composer entries to retrieve information. The majority of the users are successful in their searches; however, when failures do occur, the most likely single cause is nonownership, although users' ignorance of the principles of catalog construction and use is another significant cause.

CONCLUSION

The use of the book/music and of the sound recording catalogs was remarkably similar; for example, the ratio of student-faculty use was almost identical. Even though the ranges of time spent at the two catalogs differed greatly, the average times were quite comparable. The major differences were in the types of entry used for retrieving information and users' success rate. At first glance, the variance in the overall success rate at the two catalogs was somewhat perplexing, although, when the adjusted figures were compared, the difference was much less. Since there were more searches for unowned items in the book/music catalog, the initial reaction was to question the comprehensiveness of the monographic collection. In a sense, however, there were nine searches for unowned items in the book/music catalog instead of twelve—three individuals attempted to locate titles not related to music.

It is unfortunate that three (6.5) percent of the forty-six unsuccessful searches were caused by errors in the catalog, but in relation to the total two hundred searches the figure was only 1.5 percent. Naturally, the "ideal" catalog would be error-free, although the exorbitant cost of creating such a catalog could never be justified. Of the catalog use studies consulted, none reported the rate of search failure caused by catalog error/deficiencies, and as a result, it is not clear how the 1.5 percent catalog error rate should be interpreted.

RECOMMENDATIONS FOR AN ONLINE CATALOG

It is recommended that an online catalog provide access to sound recordings by manufacturers' numbers. The need is supported by the fact that the average time spent at the manufacturers' file was by far the longest, 20 minutes 37 seconds as compared with the averages of 3 minutes

41 seconds at the main section and 8 minutes 29 seconds in the combined uses of various sections. In addition, the success rate at the manufacturers' file was 100 percent for items owned, and in two cases the author located sound recordings which could not be found by using conventional catalog entries.

Another recommendation is the provision of search delimiters by type of material. The need for this feature can be supported by the fact that all but one individual was searching for a single type of material, that is, books, printed music, or sound recordings.

In order to predict the number of terminals that will be needed when an online catalog is implemented, the findings on the rate of catalog use and the time spent at the catalogs can be correlated with circulation statistics. In addition to the circulation of materials for use outside the library, the in-house circulation of sound recordings must also be taken into consideration.

NEED FOR FURTHER STUDY

As stated earlier, only one other use study has been made of a card catalog of music materials. That study and the present one are not sufficient to provide definitive answers as to who uses music catalogs, why they are used, and with what success. These questions can be answered only after a number of similar studies are completed, providing information that can be used to create a general profile of music catalog usage. Future studies need to be made in music libraries of varying sizes and with various types of catalogs. The areas covered by the Wolfert study and the present one should be considered; however, a survey of previous catalog use studies may provide additional areas for investigation, depending on the nature and purpose of the study being designed.

As the results of future studies become available, comparisons and correlations can be made. In such comparative analyses, the following topics are only a few of the many which could be addressed: (1) unsuccessful search rate for unowned items and collection size, (2) search success and various divisions of the catalog(s), that is, separate book, music, sound recording catalogs or combinations of these, and (3) search success and size of catalog.

REFERENCES

1. William M. Randall, "The Uses of Library Catalogs: A Research Project," in *ALA Catalogers' and Classifiers' Yearbook II* (Chicago: American Library Assn., 1930), p.31-32.
2. Carlyle J. Frarey, "Studies of Use of the Subject Catalog: Summary and Evaluation," in *The Subject Analysis of Library Materials*, ed. Maurice F. Tauber (New York: Columbia University, School of Library Service, 1953), p.147-66.
3. Eleanor Ann Montague, "Card Catalog Use Studies, 1949--1965" (master's thesis, Graduate Library School, University of Chicago, 1967).
4. Richard P. Palmer, "User Requirements of a University Library Card Catalog" (Ph.D. dissertation, Library Science, University of Michigan, 1970).
———, *Computerizing the Card Catalog in the University Library; A Survey of User Requirements* (Littleton, Colo.: Libraries Unlimited, 1972), p.19-48.
5. John Aubry, "A Timing Study of the Manual Searching of Catalogs," *Library Quarterly* 42:407-14 (Oct. 1972).

6. James Krikelas, "Catalog Use Studies and Their Implications," in *Advances in Librarianship*, v.3 (New York: Seminar Press, 1972), p.195-220.
7. Don R. Swanson, "Requirements Study for Future Catalogs," *Library Quarterly* 42:303-8 (July 1972).
8. F. W. Lancaster, *The Measurement and Evaluation of Library Services* (Washington, D.C.: Information Resources Pr., 1977), p.19-72.
9. Karen Markey, *Research Report: An Analytical Review of Catalog Use Studies* (Columbus, Ohio: OCLC, Research Dept., Office of Planning and Research, 1980), ERIC Doc. ED 186-041.
10. Richard Jerome Wolfert, "Use of the Card Catalog of Music Scores in a University Library" (master's thesis, Graduate Library School, University of Chicago, 1959).
11. Montague, "Card Catalog Use Studies," p.28-30
12. Philip Bryant and Angela Needham, "You Need Long Nails," *Catalogue and Index*, no.33: 11-12 (Spring 1974).
13. Ben-Ami Lipetz, *User Requirements in Identifying Desired Works in a Large Library* (Washington, D.C.: U.S. Dept. of Health, Education and Welfare, Office of Education, Bureau of Research 1970), p.30, ERIC Doc. ED 042-479.
14. Aubry, "A Timing Study," p.399-415.
15. Markey, *Research Report*, p.15.
16. Palmer, *Computerizing the Card Catalog*, p.77-78.

INDEX TO ADVERTISERS

Association of Iron and Steel Engineers	279
Baker & Taylor	3d cover
Ballen Booksellers Int'l., Inc.	278
EBSCO	2d cover
Gale Research Co.	4th cover
General Research Corp.	202
McGregor	278
Midwest Library Service	277
Research Publications	280
K. G. Saur	201
University Products	277

Popular versus Technical Works in the Medical Library: A Use Study

Walter W. Morton

A use study was conducted of fifty pairs of popular and technical monographs in a health sciences library. The books were matched by subject, date of publication, and date of acquisition. Although in gross figures the technical works circulated more at both two- and four-year minimum intervals, the difference was not statistically significant.

THE GOVERNOR of our state has recently asked most state institutions of higher education for across-the-board reductions in expenditures. These reductions will be made in budgets that have been less than generous in the last few years. There is no doubt that this requirement will entail a good deal of agonizing about where to make the cuts. Inevitably one sure loser is going to be the library. Even if the librarian wins the fight against a crippling reduction there is going to be much less money to spend in the future.

This situation is far from rare these days. The numbers and details may be a bit different, but all libraries face increasingly austere budgets. As a result we are going to have to be even more careful about how we spend the money we do receive. There is even less excuse in these times to justify spending money on material that does not meet the needs of the library's community of patrons.

One category of work that is constantly competing for the health sciences library dollar is the "popular work." The National Library of Medicine *Medical Subject Headings* (MeSH) defines *popular works* as those "written for the layman." They are "popular in nature and usually addressed to the general public rather than the health professional."¹ We are constantly bombarded with self-help books, disease-of-the-month books, and diet books among many others. Some of these books are, of course, worthwhile, while others are not. But, as a class, are such works as useful to those who patronize the library as the technical and clinical works? For this paper a *technical work* has been defined as one designed for those having specialized knowledge in a particular discipline. In or-

Walter W. Morton is Assistant Librarian, Cataloging Department, Louisiana State University Medical Center Library, in Shreveport.

der to determine the comparative usefulness of these two kinds of materials a small study was conducted.

METHOD AND MATERIALS

Selecting the type of study was the first problem. One method of library self-analysis is the use study. Although such studies have their limitations, they can be effective in gauging the utilitarian values of a collection.² For the purpose of this study, *use* will be defined as the number of times a book has circulated outside the library. The advantages of this definition are that the statistics are readily ascertainable and have a high degree of accuracy, but there could be drawbacks. Are books which are checked out really "used?" Apparently they are, according to a study conducted by Raisig and others. They found that more than 78 percent of the researchers they interviewed did make effective use of the material checked out of the library.³

Simply counting the circulation figures does not take into account the number of times a book may be consulted without being checked out of the library. Steps might be taken to keep track of the number of times a book was removed from the shelf, but even here there are limitations. Books used to prop up the front legs of a chair in order to transform it into a "recliner" are certainly being used but hardly in the sense that might be relevant to our purposes. However, other studies have shown that in-library use does tend "to be parallel and proportional to circulation."⁴ Therefore we can assume that circulation figures are a reasonable indication of use both in and outside the library.

Books to be included in the study were taken from new-book lists covering a six-month period in 1978. All of the books had been acquired by the library at least four years prior to the final tabulation of the data in 1982. No work which was or had been in any special collection (reserve, reference, folio, etc.) was considered for inclusion. Only works that could obviously be categorized as popular or technical were chosen. The MeSH use of the *popular works* form subheading frequently simplified decision making. Since both subject and currency affect circulation figures,^{5,6} each popular work was paired with a technical work on the basis of subject (subjects such as psychology and psychiatry were considered to be paired), copyright date (plus or minus one year), and date of acquisition (plus or minus one month).

Because of the paucity of volumes meeting the definition of popular works and because of the number of criteria involved in the matching process, there was little need for actual selection from the available qualified titles. The technical work most closely matching the available popular work in subject, date of publication, and date of acquisition was used. A total of one hundred books (fifty pairs) was selected for study. Then the circulation figures were obtained from the records for each book for the years 1978-1982 and the difference between it and its matched opposite was calculated (see table 1).

ANALYSIS OF DATA

As of 1982 the technical works had circulated more frequently than the popular works (200 as opposed to 162 circulations), but their differ-

ence in mean circulation was less than one circulation period (4.00 compared to 3.24 for the popular works). Table 2 illustrates the distribution of books by the number of loans. Circulation for both groups tapers off sharply after four circulations but this simply reinforces the unfortunate finding that many books circulate very little, if at all.⁷ Eighty-two percent of the popular works and 70 percent of the technical works circulated four times or less.

TABLE 1
COMPARISON OF THE MATCHED PAIRS OF
POPULAR AND TECHNICAL WORKS IN A
HEALTH SCIENCES LIBRARY BY NUMBER OF LOANS

Matched Pairs	Number of Loans			
	1978-1980		1978-1982	
	Popular	Technical	Popular	Technical
1	1	3	1	4
2	1	3	2	4
3	1	5	3	6
4	2	2	3	2
5	0	0	3	0
6	1	2	1	3
7	3	1	4	3
8	0	0	0	0
9	1	1	2	1
10	0	1	0	4
11	0	1	0	3
12	7	1	15	2
13	2	0	2	0
14	2	0	2	0
15	1	0	2	4
16	1	0	9	0
17	0	5	1	5
18	7	7	8	10
19	0	1	2	4
20	0	10	1	13
21	1	0	1	0
22	1	3	2	3
23	2	0	3	0
24	0	1	0	1
25	0	8	0	9
26	0	0	0	0
27	1	4	3	5
28	0	1	0	3
29	5	3	7	5
30	2	5	3	7
31	0	6	1	8
32	1	8	3	12
33	0	7	2	8
34	6	2	7	3
35	7	7	11	10
36	3	3	4	7
37	2	0	4	0
38	3	0	4	2

TABLE 1 (CONTINUED)

Matched Pairs	Number of Loans			
	1978-1980		1978-1982	
	Popular	Technical	Popular	Technical
39	1	2	3	4
40	8	1	9	2
41	0	0	3	1
42	6	3	6	3
43	3	1	4	1
44	1	0	1	0
45	0	1	1	2
46	0	3	1	4
47	0	16	0	17
48	0	0	1	1
49	1	3	4	4
50	5	6	13	10
Total	89	137	162	200
Mean	1.78	2.74	3.24	4.00

TABLE 2

COMPARISON OF NUMBER OF LOANS FOR POPULAR
AND TECHNICAL WORKS IN A HEALTH SCIENCES LIBRARY
BY NUMBER OF TITLES AND YEAR

Number of Loans	Number of Titles Borrowed			
	1978-1980		1978-1982	
	Popular	Technical	Popular	Technical
0	18	14	8	10
1	14	11	10	5
2	6	4	8	5
3	4	8	9	7
4	0	1	6	8
5	2	3	0	3
6	2	2	1	1
7	3	3	2	2
8	1	2	1	2
9	0	0	2	1
10	0	1	0	3
11	0	0	1	0
12	0	0	0	1
13	0	0	1	1
14	0	0	0	0
15	0	0	1	0
16	0	1	0	0
17	0	0	0	1

Does this greater circulation figure for technical works really mean anything, however? When we apply the *t* test for matched sets, we see that, in fact, there is no significant difference at the 95 percent level in the circulation figures for the two groups: $t = 1.10$, $df = 49$, $p > .05$. Notice that the degrees of freedom are based on the number of pairs rather than the total number of books involved in the test (number of pairs - 1).

In order to observe how the results would be altered by the length of time the material had been in the collection, circulation figures were also counted only through 1980. Circulation was, of course, much poorer for both groups with 76 percent of the popular works and 58 percent of the technical works circulating two times or less (table 2). Only one technical work was circulated more than ten times and no popular work was checked out more than eight times. However, the technical works did have a better relative position in this first two-year interval, with a mean circulation of 2.74 as compared to 1.78 for the popular works (137 versus 89 circulations), but it was still not enough to produce a significant difference ($t = 1.74$). We can see that the longer the material had been in the library the better the popular works "performed."

CONCLUSION

The technical works in this study did circulate more than the popular works but not enough to produce a significant difference. Although the popular works in this study circulated at essentially the same rate as the technical works, it would be prudent not to put too fine an edge on the results. For one thing the popular works were not a very large percentage of the library's total acquisitions. It was difficult to get an exact figure because of the problem of placing every book in one of the two categories; but an informal review showed that in the period studied, popular works amounted to about 5 percent of the total number of books added to the collection. Thus a patron who wants a technical work on a certain subject has a larger number of books from which to choose than does the person looking for a popular work on the same subject.

Even so, it is certainly evident that popular materials are used by and are useful to the library's regular patrons. They are also cheaper. The average price of the popular works in this study was \$8.63 as opposed to \$20.66 for the technical works. Popular works can be, in fact, a worthwhile purchase even to the medical library on a tight budget. The point to be made is not that the popular material is just as important as the technical or clinical material but rather that it does have a place in the medical library setting even if that place is a more limited one.

REFERENCES

1. National Library of Medicine, "Notes for Medical Catalogers," *National Library of Medicine Current Catalog* (Apr.-June 1982), p.A32.
2. Lowell A. Martin, "User Studies and Library Planning," *Library Trends* 24:483-96 (Jan. 1976).
3. Miles L. Raisig and others, "How Biomedical Investigators Use Library Books," *Bulletin of the Medical Library Association* 54:104-7 (Apr. 1966).
4. Robert N. Broadus, "Use Studies of Library Collections," *Library Resources & Technical Services* 24:319 (Fall 1980).
5. Peter Stangl and Frederick G. Kilgour, "Analysis of Recorded Biomedical Book and Journal Use in the Yale Medical Library," *Bulletin of the Medical Library Association* 55:290-315 (July 1967).
6. Theodora Andrews, "The Role of Departmental Libraries in Operations Research Studies in a University Library: Part 2, Statistical Study of Book Use," *Special Libraries* 59:638-44 (Oct. 1968).
7. Broadus, "Use Studies," p.317-24.

Is Cataloging a Passé Skill in Today's Technological Society?

Carol Truett

Since centralized processing centers are available in many large school districts today, the question arises as to whether or not practicing school media specialists need the skills taught in traditional cataloging courses. To determine the extent to which school librarians are actually involved in processing both print and nonprint media center materials and what tools they use, a survey was conducted of two hundred randomly chosen media specialists in Nebraska. Seventy-nine percent returned the questionnaire, and almost three-fourths indicated that despite the availability of centralized processing in some districts, they were still responsible for their own materials processing. Although about half receive most books already cataloged, they still have to process audiovisual materials and do some original cataloging of print materials. Approximately 14 percent processed all their own materials regardless of format. Dewey decimal classification and the Sears list were used for subject analysis, particularly for print materials, almost without exception. Almost one-third used either the first or second edition of the Anglo-American cataloging code as the authority for choice of main entry for original cataloging, although almost a fourth used some other authority or none at all. The librarians expressed interest in a variety of cataloging workshop topics. It was concluded that not only are school librarians in Nebraska still primarily responsible for materials processing but that they are very interested in continuing education related to cataloging.

A BASIC PRINCIPLE of learning theory states that students will learn material more readily and with greater retention when it is relevant to their experience. Thus, when a district coordinator of library services in a large metropolitan area was recently overheard saying that school librarians don't really need to take a cataloging course anymore because none of them do their own cataloging, it was somewhat disturbing since this author had spent a number of years teaching a class in that subject. In particular, there was concern about whether the tools emphasized in class instruction, such as the *Anglo-American Cataloguing Rules*, are in fact the tools practitioners are using. To ascertain whether or not cataloging is indeed a lost art and a skill no longer needed by media specialists, a survey was conducted of practicing school librarians to answer several basic questions: (1) To what extent were these librarians actually involved in processing and in cataloging school library materials? (2) what

tools were they using for both descriptive cataloging and subject analysis? and (3) what topics or areas were of continuing interest to librarians as expressed by their desire for in-service workshops related to cataloging?

DESCRIPTION OF THE SURVEY

The subjects for the survey were two hundred school library media specialists randomly chosen by selecting every third name from the 1982-83 directory of the Nebraska State Department of Education. Since at the time of the survey, the author was teaching in Nebraska, where out-of-state students are seldom enrolled in cataloging classes, the decision was made to limit the study to this one state, as this population seemed appropriate for purposes of determining the needs of students there. There were 159 usable questionnaires returned on the first mailing for a response rate of 79 percent. (See appendix 1 for a sample questionnaire.) Respondents were representative of all six classes of school districts in the state and from all grade levels, including personnel serving an entire school district. The majority appeared to be professional librarians, since 152 (95.6 percent) held media endorsements; while of the 7 with no endorsement, 4 held emergency endorsements, with only 3 not responding to this question. Nebraska state law requires additional hours of specialization in library science and media beyond the basic undergraduate degree teaching certificate for a person to serve as a school librarian. The additional coursework comprises an endorsement to the teacher's certificate. No respondents were library aides.

RESULTS OF THE SURVEY

As table 1 indicates, almost three-fourths (74.2 percent) of the media specialists were responsible for processing new materials for their school media center.

TABLE 1
LIBRARIAN'S RESPONSIBILITY FOR PROCESSING NEW
MATERIALS FOR THE SCHOOL MEDIA CENTER IN NEBRASKA

Category	Number of Respondents	Percent
Responsible for processing	118	74.2
No processing responsibility	38	23.9
No response	3	1.9
Total	159	100.0

The next major question inquired as to the processing arrangement in the respondent's library. As table 2 shows, almost half (49.1 percent) of the group received most books processed but did some original cataloging and processed their own audiovisual materials. Twenty-two (13.8 percent) of the librarians did all materials processing themselves locally, while 29, or 18.2 percent, had all of their materials processed at a central district office. Thus, while almost a fourth of the librarians appear to do no processing, almost two-thirds reported definite involvement in this

TABLE 2
PROCESSING ARRANGEMENTS IN NEBRASKA MEDIA CENTERS

Category	Number of Respondents	Percent
All purchased materials arrive completely processed	6	3.8
Processing is received with all books but audiovisuals processed locally	6	3.8
Processing is received with most books but some require processing as do audiovisuals	78	49.1
All materials are locally processed and cataloged by the librarian	22	13.8
All materials processed at central district office	29	18.2
Other arrangement	18	11.3
Total	159	100.0

process at least to some extent. In addition, the 11.3 percent checking that some other arrangement was made often included comments indicating that they were involved in cataloging or processing books or non-print materials in varying degrees.

CLASSIFICATION AND SUBJECT HEADING SYSTEMS USED

As might be expected, most school librarians reported the use of current editions of Dewey decimal classification (97.4 percent, or 155 respondents) for organizing their print materials (see table 3). No one used the Library of Congress classification, and only one respondent reported using some other system; but comments by the one librarian using "other classification systems" indicated this was actually an earlier edition of Dewey. More than 22 percent used the current unabridged edition of Dewey. There was somewhat less agreement as to the classification scheme used for nonprint materials (see table 4). While most (83.6 percent) used Dewey, fifteen librarians (almost 10 percent) used a broad subject area scheme developed in the local library, and seven librarians used other systems. Other systems included classification by type of material (e.g., filmstrip, tape, etc.), a combination of Dewey and a broad

TABLE 3
CLASSIFICATION SYSTEM USED FOR BOOKS AND OTHER PRINT MATERIALS IN NEBRASKA MEDIA CENTERS

Classification System	Number of Respondents	Percent
Dewey decimal classification abridged (11th edition)	119	74.8
Dewey decimal classification unabridged (19th edition)	36	22.6
Library of Congress classification	0	0
Other classification systems	1	0.6
No response	3	1.9
Total	159	99.9

TABLE 4
CLASSIFICATION SYSTEM USED FOR AUDIOVISUAL AND
OTHER NONPRINT MATERIALS IN NEBRASKA MEDIA CENTERS

Classification System	Number of Respondents	Percent
Dewey decimal classification (abridged or unabridged)	133	83.6
Library of Congress classification	0	0
Broad subject area scheme locally developed	15	9.4
Other special system	7	4.4
No system used—materials uncataloged	2	1.3
No response	2	1.3
Total	159	100.0

subject scheme, accession number, and subject guide, although the guide used was not specified. The interesting observation to be made here is that few libraries left their audiovisual materials unclassified and at the very least arranged them according to some scheme designed to facilitate locating and using these materials.

As table 5 indicates, the Sears subject heading list was used by 154, or almost 97 percent, of the media specialists. Again, no one used the Library of Congress list and only two librarians reported using some other subject heading list. The list selected was used for all materials, regardless of format, by 110 (69.2 percent) of the librarians, while only 20 (12.6 percent) restricted its use exclusively to print materials. Twenty-six respondents (16.4 percent) stated they used the list selected for most materials with only a few exceptions.

TABLE 5
SUBJECT HEADING SYSTEMS
USED IN NEBRASKA MEDIA CENTERS

Subject Heading List Used	Number of Respondents	Percent
Sears list of subject headings	154	96.9
Library of Congress subject headings list	0	0
Other subject headings lists	2	1.3
No response	3	1.9
Total	159	100.1

AUTHORITY FOR CHOICE OF MAIN ENTRY

To the question about the rules used for choice of main entry for original cataloging, thirty respondents indicated they used no source and fifteen responded that this was not applicable to their situation (see table 6). An equal number of librarians (twenty-six, or 16.4 percent) used the first edition of the Anglo American cataloging code (AACR1) as were using the more recent second edition (AACR2). Thus almost a third of the respondents were using some version of the Anglo-American Cataloging code. However, a rather large percentage was using other author-

TABLE 6
 RULES USED FOR CHOICE OF MAIN ENTRY FOR ORIGINAL
 CATALOGING PREPARED IN NEBRASKA MEDIA CENTERS

Main Entry Choice—Rules Used	Number of Respondents	Percent
<i>Anglo-American Cataloging Rules</i> (1st edition)	26	16.4
<i>Anglo-American Cataloging Rules</i> (2d edition)	26	16.4
Other authority used	36	22.6
No source used	30	18.9
Not applicable	14	8.8
No response	27	16.9
Total	159	100.0

ities. Thirty-six librarians, or 22.6 percent, reported using the rules found in the following for their main entry choices: Dewey and Sears, Wynar's *Introduction to Cataloging and Classification*, LC information in the front of books being cataloged, H. W. Wilson's *High School Catalog* and the *Junior High School Catalog* (i.e., Standard Catalog Series), Piercy's *Commonsense Cataloging*, Kearney State College's media program rules, ALA cataloging rules, and Akers' *Simple Library Cataloging*. The response to this question would seem to indicate that many school librarians feel no need for the detail found in rules such as the Anglo-American cataloging code and use standard tools and cataloging texts to make the choice of main entry decisions with which they are confronted.

OTHER AUTHORITIES CONSULTED

Almost half of the respondents (seventy-four, or 46.5 percent) either gave no response or indicated that they used no other aid for doing original cataloging. Of the texts used by the others, Bohdan S. Wynar's *Introduction to Cataloging and Classification* was preferred by 22.6 percent, while 15.7 percent preferred Esther Piercy's *Commonsense Cataloging*. The twenty-four respondents who specifically mentioned other sources that served as cataloging aids cited Paul S. Dunkin's *Cataloging USA*; Susan Grey Akers' *Simple Library Cataloging*; Katharine Ball's *Sample Catalogue Cards Exemplifying the Anglo-American Cataloging Rules*; *Nonbook Materials: The Organization of Integrated Collections*, by Jean Weihs and others; Mildred L. Nickel's *Steps to Service: A Handbook of Procedures for the School Library Media Center*, or the Bro-Dart Children's Catalog.*

The final question on the survey concerned the cataloging workshop or in-service interests of these media specialists. Fifty-two librarians (36.5 percent) were concerned about the cataloging of nonprint materials, while almost as many (forty-seven persons, or 35.8 percent) wished to study filing rules. Almost a third expressed interest in attending a program on the second edition of the *Anglo American Cataloging Rules*; almost another third wished to learn more about the assignment of subject headings. Twenty-four respondents, or 15.1 percent, found other topics

*Editor's note: Specific editions of these works were specified by neither the questionnaire nor the responses.

of concern, including weeding the card catalog, handling of in-house copies of videocassettes, LC classification, vertical file, and the finer points of Dewey classification.

SUMMARY AND CONCLUSIONS

It is obvious that school library media specialists, at least in Nebraska, still have a primary responsibility for processing their own library materials, as three-fourths report this to be the case. Furthermore, almost two-thirds are involved at least to some extent with the actual cataloging of these materials. The Dewey decimal system and Sears subject heading list were the overwhelming choices for classification and subject heading schemes, and no libraries used Library of Congress classification or its subject heading list. Some libraries did utilize locally developed or other classification systems for audiovisual or nonprint media, while the use of Sears was limited to books only by some libraries.

When it came to standard rules for choice of main entry or auxiliary texts as cataloging aids, there was little agreement on the choice of tools. Librarians were as likely to use AACR1 as they were AACR2 for main entry choice and they were even more likely to use some authority other than either of these. Indeed, responses to this question indicated that some librarians may not have actually understood what is meant by main entry as they cited Dewey and Sears as their authorities. Many apparently were of the opinion that no rules are necessary for main entry choice, as almost one-fifth use none. Even more librarians considered that an authority was unnecessary for other aspects of original cataloging.

Although no hard and fast conclusions can be drawn from the data gathered, it does appear that interest in the processes of cataloging and classification has by no means died out among school media specialists. They are involved in processing, including actual cataloging, of their materials and are in most cases working with nonprint and audiovisual materials. In fact, they appear to be more likely to be involved in cataloging these materials than print materials, probably due to the fact that commercial processing for nonprint materials is less available than it is for print media. Also, while use of AACR is not universal, about a third expressed an interest in an in-service workshop dealing with the use of the AACR2; others were interested in workshops on assignment of subject headings and on filing rules. These findings tend to belie the viewpoint that cataloging is being done for all media centers through central district offices and that, therefore, school librarians have no interest in or need for such information skills.

Although using AACR2 may not be the saving grace for practicing school librarians, descriptive cataloging and subject classification are still of interest to a large percentage of them. These media specialists, while expressing a need for help in more traditional areas, are nonetheless quite interested in more current topics, such as the cataloging of audiovisuals and the use of AACR2. Those planning professional in-service programs would do well to respond to this small but nonetheless

significant group of librarians who desire such workshops for updating their media skills.

There are two factors, however, that particularly need to be kept in mind by those teaching regular cataloging courses. One is that given the limited job market today, even though many students may be preparing for a career in a school library, they may have no choice but to work in some other type of library that uses AACR2 and Library of Congress classification and subject headings. Thus, to deny library students exposure to these other systems may be doing them a real disservice. The other major consideration is that even school libraries, and particularly those in large districts, are moving toward automation in their cataloging services and are consequently joining a network such as OCLC which uses both LC and AACR2 rules. Mountain View Elementary School in Northglenn, Colorado, is an example of an individual school with a microcomputer library catalog tied into the OCLC database, and Westside Community School District in Omaha, Nebraska, is representative of an entire district that is converting over to an automated system via OCLC. While assuring that the current needs of school librarians are being met, the long-range and even in many cases more immediate needs of media specialists, as technology and networking bring us more rapidly toward universal cataloging conventions, should not be slighted.

APPENDIX 1
SURVEY OF CATALOGING PRACTICES AMONG
SCHOOL LIBRARY/MEDIA SPECIALISTS

1. Are you the school library/media specialist for a:
 - 1) School district.
 - 2) Elementary school(s).
 - 3) High school.
 - 4) All-level school, K-12.
 - 5) Other. Please indicate: _____

2. Do you hold a state library/media endorsement to a teaching certificate?
 - 1) Yes
 - 2) No
 Also check one space below if you checked "no" above.
 - a) Hold emergency endorsement.
 - b) I am a library aide.
3. Are you responsible for processing new materials for your school media center?
 - Yes
 - No
4. Do you purchase materials which are already processed? Please check applicable response.
 - 1) Yes, *all* materials come completely processed with catalog cards, labels, book pockets, etc.
 - 2) Only books come processed; audio visual materials are processed by our library.
 - 3) Most books come processed; some require original cataloging as do audio visuals.
 - 4) All materials are processed and cataloged at our library by us.
 - 5) All materials come processed and cataloged from a central district office processing department .

- _____ 6) Other. Please describe other arrangement: _____

5. Please check the cataloging classification system used for materials in your media center:
Books and Print Materials
_____ 1) Dewey classification system abridged (11th edition).
_____ 2) Dewey classification system unabridged (19th edition).
_____ 3) LC classification.
_____ 4) Other classification system. Please name or describe: _____

6. *Audiovisual and Other Nonprint Materials*
_____ 1) Dewey classification (abridged or unabridged).
_____ 2) LC classification.
_____ 3) Broad subject area scheme developed by individual school.
_____ 4) Other special classification system used. Please name or describe:

_____ 5) No system used. Nonprint and audiovisuals not cataloged in our library.
7. Please check the subject heading system used in your media center.
_____ 1) Sears list of subject headings (Please give edition used. _____)
_____ 2) Library of Congress subject headings, _____ edition.
_____ 3) Other subject heading list used. Please name: _____

8. The subject heading list checked in 7 above is used:
_____ 1) Only for books and other print materials.
_____ 2) For all materials regardless of format.
_____ 3) For most materials, books and audio visuals with the exception of:
(Please list exceptions. Ex: vertical file materials may be filed using a separate subject heading list.) _____

9. If you do original cataloging in your library, please answer the following two questions.
When deciding how to choose the main entry for a work being cataloged, what *rules* do you use to make this decision?
_____ 1) *Anglo-American Cataloging Rules* (1st edition).
_____ 2) *Anglo-American Cataloging Rules* (2d edition).
_____ 3) Other rules, or book which is used to make this decision. Please name: _____
_____ 4) No source is used.
_____ 5) Not applicable. No cataloging done here.
10. Do you use any particular book as authority or aid for your original cataloging, such as:
_____ 1) Wynar: *Introduction to Cataloging and Classification*.
_____ 2) Piercy: *Commonsense Cataloging*.
_____ 3) Other. Please list author(s) and title(s). _____

11. Would a workshop on any of the following topics be useful to you? Please check *all* subjects you would be interested in.
_____ 1) *Anglo-American Cataloging Rules* (2d edition, 1978).
_____ 2) Subject heading assignment.
_____ 3) Cataloging nonprint and audiovisual materials.
_____ 4) Filing rules.
_____ 5) Other. Please list: _____

Thank you for your cooperation on this study.

IN MEMORIAM: BELLA E. SHACHTMAN

Bella E. Shachtman, formerly assistant director for technical processes, National Agricultural Library, died in Los Angeles on April 19, 1984. She contributed several articles to the early volumes of *Library Resources & Technical Services*, and her active participation in RTSD included service on the Board of Directors 1964-67 and on the CCS Policy and Research Committee. She also served three years as a member of the ALA Executive Board.

Bella Shachtman took a BA in Library Science at the Woman's College of North Carolina in 1933. After two years in the Public Library of Winston-Salem, North Carolina, she joined the staff of what was then known as the U.S. Department of Agriculture Library, where she spent most of her professional life, serving in positions of increasing responsibility.

Under her direction the USDA Library was one of the cooperating libraries in the pilot cataloging-in-source project at the Library of Congress. In 1961 she received a superior service award from USDA for "exceptional service, initiative and leadership in library science resulting in more effective service to Department research workers and agricultural scientists." She conceived and carried out the publication of the *Dictionary Catalogue of the National Agricultural Library*, for which she received (with Jeanne Holmes) a special award from the department in 1966.

In 1969 she retired from the federal service and moved to Berkeley where she served as assistant director for technical services in the University of California Library for a brief period before moving to Los Angeles.

Besides being an able administrator, Bella Schachtman was a warm person who cared about her subordinates, always looking for ways to help them develop and move into more challenging positions when they were ready. She was respected in her profession and regarded by her associates with affection and esteem.—*Margaret S. Bryant, Retired.*

Midwest Library Service



**You won't find more
personal attention
... anywhere**

College and university librarians. We have what you're looking for. While Midwest utilizes state-of-the-art computer systems, we realize machines can't do it all. So when you want to place an order, ask a question, or discuss a problem, you can call direct on Midwest's toll-free WATS line and conduct business on a name-to-name basis with your personal customer service representative. It's the kind of attention that Midwest has provided to college and university libraries for 24 years.

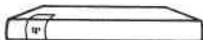
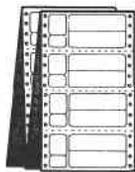


Midwest Library Service

11443 St. Charles Rock Road
Bridgeton, MO 63044

Call toll-free (800) 325-8833

Missouri librarians call toll-free (800) 392-5024 Canadian librarians call collect (314) 739-3100



**PROBLEMS WITH
LABELS
PEELING??**

NEW PRODUCTS...

WRITE FOR FREE SAMPLES!!

WE HAVE THE ANSWER!

University Products has introduced a new foil-backed Spine Label that really sticks! Manufactured with a superior combination of advanced high tack adhesive technology and foil-backed smudgeproof paper that retains the shape of the application while providing a superior cold application pressure sensitive label.

MINI/MICRO COMPUTER LIBRARY SUPPLIES

FREE sample package of our new line of computer Supplies for libraries, specifically designed to provide superior operation in micro computers. Includes our new "Smooth-Perf" continuous catalog cards, continuous processing labels, continuous interlibrary loan forms and more!



NAME: _____

ADDRESS: _____

CITY: _____

STATE: _____ ZIP _____

- LABEL SAMPLES
- COMPUTER SUPPLIES PKG.
- LIBRARY SUPPLIES CATALOG



**UNIVERSITY
PRODUCTS, INC.**

P.O. BOX 101
SOUTH CANAL ST.
HOLYOKE, MA 01041

"PERSONALIZED" SUBSCRIPTION SERVICE

McGregor can simplify complex and time consuming problems of periodical procurement involving research, ordering, payments, renewals and record keeping. Prompt courteous service has been a tradition with McGregor since 1933. Our customers like it; we think you will too.

- All domestic and foreign titles
- Title Research
- Prepaid Subscriptions
- Automatic Renewals
- Personal Service Representatives

Call or write for catalog today
815/734-4183



Mt. Morris, Illinois 61054



Continuation/Standing Order Service

A new benchmark in...

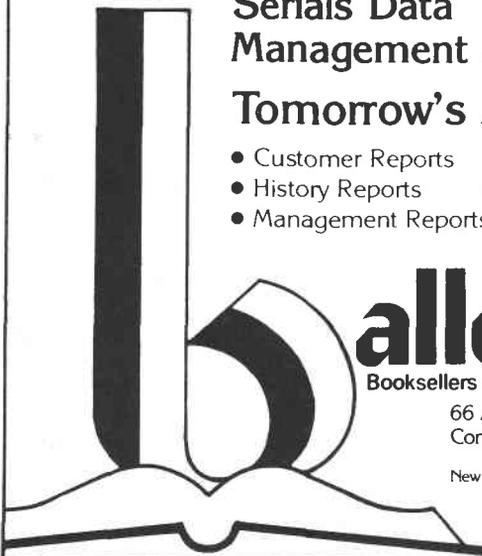
Serials Data

Management and Control Systems

Tomorrow's Answer Today.

- Customer Reports
- History Reports
- Management Reports
- Automatic Claiming
- Collective Claiming
- Check-In Claiming

For additional details write or call:



allen

Booksellers International, Inc.

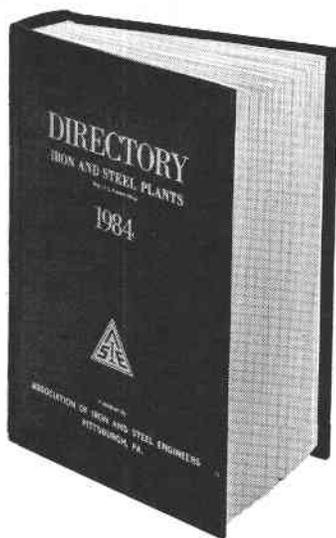
66 Austin Boulevard,
Commack, New York 11725

New York State Toll-free WATS (800) 832-4552
Toll-free WATS (800) 645-5237

600-PAGE FACT BOOK:

The PEOPLE, PLANTS and EQUIPMENT of the STEEL INDUSTRY

Authoritative, more complete than ever—published by Association of Iron and Steel Engineers. □ Listings on more than 1,400 companies (over 16,000 individuals). Information on all U.S. and Canadian steel companies, plus many overseas producers and most major suppliers to the industry. □ **DIRECTORY IRON AND STEEL PLANTS**, Suite 2361, Three Gateway Center, Pittsburgh, PA 15222—USA.



Order Information:

\$30 in U.S. and Canada (6% sales tax in Pennsylvania).
\$36 overseas. U.S. funds only.

Order by

Visa, MasterCard, Company Purchase Order or check.

Discover the Third World

A fascinating collection on microfilm of 19th-century and early 20th-century life in third-world regions recorded in hundreds of volumes of letters from American missionaries.

Papers of the American Board of Commissioners for Foreign Missions is one of the most significant collections of correspondence dealing with life in third-world regions from 1812 to 1919. One of the most heavily used archives at Harvard University's Houghton Library, this microfilm collection is a primary source of research for anyone studying life in Africa, Asia, India, Ceylon, the Near East, China, the Pacific Islands, and the Americas during this time period.

The collection is priced at \$28,000 for Units 1-6.

The first 3 units are now available.

- Unit 1-Letters from the Office of the Board to Foreign Correspondents, 1834-1919, 148 reels \$5,300.
Unit 2-Letters from Missions in Africa, 1834-1919, 75 reels 2,400.
Unit 3-Letters from Missions in Asia, 1831-1919, 164 reels 6,400.

Available in 1984:

- Unit 4-Missions to India 7,000. Unit 5-The Near East 5,400.

Prices slightly higher outside U.S. and Canada. To place an order, or for more information, call or write:

12 Lunar Drive/Drawer AB
Woodbridge, CT 06525
(203) 397-2600
TWX: 710-465-6345
FAX: 203-397-3893

Outside No. and So. America:
P.O. Box 45
Reading, RG1 8HF England
TEL: 0734-583247
TELEX: 848336 NADL G



research publications

Mail Call

I wish to place an order. Please contact me.

Please forward more information on **Papers of the American Board of Commissioners for Foreign Missions**.

Name _____
Title _____
Institution _____
Address _____
City _____ State _____ Zip _____
Phone _____



BaTaFORM™ COMBINES ADVANCED BIBLIOGRAPHIC INFORMATION WITH ELECTRONIC ORDERING.

Developed specifically for academic libraries, our new BaTaFORM system combines the essential elements of a bibliographic notification form service with BaTaPHONE™ electronic ordering. Each week the library will receive new title information according to its individual collection development profile. Using the ISBN provided on the multiple copy slip, title selections are keyed into a hand-held data terminal and then transmitted electronically to Baker & Taylor via a toll-free telephone line.

For details, contact the Sales Department of the division nearest you.

EASTERN , 50 Kirby Avenue, Somerville, NJ 08876, (201) 722-8000
 MIDWESTERN , 501 S. Giadulus Street, Mokenca, IL 60954, (815) 472-2444
 SOUTHERN , Mt. Olive Road, Commerce, GA 30599, (404) 335-5000
 WESTERN , 380 Edison Way, Reno, NV 89564, (702) 786-6700

EXPERIENCE YOU CAN DEPEND ON

BAKER & TAYLOR

a GRACE company

NEW BOOKS FROM G

All Gale Reference Books Are Sent on 60-Day A

Tests

...A *Comprehensive Reference for Assessments in Psychology, Education, and Business*. Edited by Richard C. Sweetland and Daniel J. Keyser. 890pp. Indexes. Test Corporation of America, 1983. Hardbound library edition distributed to libraries in the U.S. and Canada exclusively by Gale. ISBN 0-9611286-1-5. \$75.00. (SO)

Over 3,000 tests used in psychology, education, and business are thoroughly described and evaluated in this new reference work. Entries are grouped for productive browsing in 62 subcategories under the three main classifications: Psychology, Education, and Business. Entries furnish enough information about each test to provide a basis for evaluation, including the test's purpose, a description, relevant cost and availability information, appropriate level, and whether the test is self-administered. Six indexes: Categories/subsections, Title, Author, Publisher, Scoring Services, and Visually Impaired.

Commonwealth Universities Yearbook 1984

...A *Directory to the Universities of the Commonwealth and the Handbook of Their Associations*. 60th ed. Edited by A. Christodoulou and T. Craig. 2,600pp. in 4 softbound vols. Indexes. Association of Commonwealth Universities, 1984. Distributed in the U.S. exclusively by Gale. ISSN 0069-7745. \$170.00/set. (SO)

This authoritative reference source is updated annually and provides details on more than 360 institutions of higher learning located throughout the British Commonwealth. Up to 60 types of information are furnished for each institution, including descriptions of degree programs, complete academic staff, statistics,

publications, costs, exchange programs, calendar, research financial aid, and more. material includes essays; education in specific countries; appendixes covering social admission requirements

World Armies

2nd ed. Edited by John Keegan, Senior Lecturer in War Studies, Royal Military Academy, Sandhurst. 688pp. Maps. Photographs. Published in the U.S. and Canada by Gale, 1983. ISBN 0-8103-1515-7. \$80.00. (SO)

Now among the most powerful and significant institutions in international relations, armies consume enormous portions of national budgets and exert tremendous influence in economics, politics, and society. This work is a comprehensive reference source for information on the armies, military establishments, military histories, equipment and operations, and related subjects for every nation of the world. Numerous maps identify areas of military significance in today's world, and photographs provide a visual record of commonly used military equipment.

(SO) These titles are available at Gale's 5% Standing Order discount. Deduct 5% if you send check with order. Customers outside the U.S. and Canada add 10%.

GALE Research Co. Book Tower • Detroit, MI 48226

To order by phone: 1-800-521-0707 tollfree. In Canada, Michigan, Alaska, and Hawaii: 1-313-961-2242.