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A Citation Comparison of Sourcebooks for Audiovisuals to AVLINE Records: Access and the Chief Source of Information

Katherine Hart Weimer

To catalog audiovisuals, information must be taken from the title screens. Often these data are not consistent with data on the labels, containers, and accompanying written materials. The chief source concept for audiovisuals was examined through a comparison of citations from fully cataloged audiovisual records and their corresponding citations from bibliographic sourcebooks. Specific bibliographic elements were evaluated regarding access and descriptive cataloging. The comparison revealed much similarity with title and other title information; however, series, producer, credits, and dates are more completely described in the fully cataloged record than in the sourcebook citation. There was no evidence to support cataloging using only eye-readable materials. Cataloging using the chief source of information consistently provides more bibliographic data. The arrangement and completeness of the sourcebooks were also evaluated.

The “chief source” concept has been in existence since the publication of the second edition of the Anglo-American Cataloging Rules (AACR2) in 1978. In AACR2, the concept of the “chief source” of information was introduced and defined as “the source of bibliographic data to be given first preference as the source from which a bibliographic description (or portion thereof) is prepared” (AACR2 1978, 564). For books the chief source of information is the title page. Audiovisuals, however, must be mounted and viewed to obtain data from the opening and closing frames.

Many researchers (Dodd and Sandburg-Fox 1985; Frost 1983, 33–37; Intner 1987a, 129; Olson 1985, 29; Rogers 1987, 15–17) have discussed the problems in obtaining bibliographic information for audiovisuals. The requirement of viewing each item’s title screen is inherent in the media. Very often the bibliographic data contained on the labels, containers, or

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other accompanying material differ from the information found on the title frames. The items' labels or containers may get separated, discarded, or defaced. In addition to the bibliographic inconsistencies found within each item, viewing each item means that the time needed to catalog an audiovisual can be quite lengthy. Herein lie the difficulties that motivated this study.

The sources of bibliographic data for audiovisual materials are not as standardized as that for books, the title page. Nonetheless, producers have been somewhat consistent in placing bibliographic data in the first few title screens. To what extent does the concept of the “chief source” apply to nonprint media? Frost (1983) compares the cataloging codes used with audiovisual materials to the models established for books and maintains that “the same bibliographic concepts can be applied to both books and nonbook materials.” The ability to catalog using this assumption is investigated.

In a library catalog, how many access points to bibliographic records for audiovisuals are necessary? And from where should the data in the records originate? Considering continually growing arrangements and the movement toward simplified cataloging, some might deem the time needed to fully catalog audiovisuals unreasonable and promote a simpler, more efficient procedure. Is it feasible to challenge current cataloging rules and reconsider past practices of cataloging media relying on only eye-readable materials? Any discussion of this option should consider the impact of this decision on cooperative cataloging and the union catalog.

This study is a comparison and quantitative analysis of the degree of similarity of two types of bibliography for audiovisuals—one a specific library catalog, the other a bibliographic sourcebook. The hypothesis supposes no substantial difference in bibliographic access between the two. Comparing these two types of bibliography is particularly interesting because the bibliographic data used to create the sourcebooks come from the publishers or various print materials. Sourcebook publishers typically do not create citations by viewing each title screen, as catalogers are instructed to do in AACR2. This comparative study should help catalogers determine the degree to which the general concept of the chief source applies to or is useful for audiovisuals. This study also includes an analysis of the degree of fullness of bibliographical sourcebook citations and an examination of differences in the two types of bibliography for audiovisuals.

**Methodology**

The first step was searching and producing a printout of all AVLINE (National Library of Medicine's Audiovisual On-Line Catalog) records for videocassettes, slides, and software produced between 1985 and 1989. The date limitation ensured that the rate of corresponding matches in the audiovisual sourcebooks was high and that the bibliographic records under examination reflected current cataloging rules. The search retrieved 2,050 catalog records. A select, random sample of these records was compared with their corresponding citations in audiovisual sourcebooks.

Several constraints were placed on the size of the sample. Practicality and statistical relevance dictated that a sample of 250 comparisons be made. Those 250 citations were divided proportionally by format; records for 146 videocassettes, 52 slides, and 52 software packages were matched to citations. In actuality, 243 records were used. The bibliographic fields examined were those most critical to accession and bibliographic description: title and subtitle, producer, series, date, and credits.

The sourcebooks used were those containing citations originating from media producers or compilers of the sourcebook. No library finding tools (e.g., union catalogs) were included as sourcebooks. The five sourcebooks selected were the Directory of Educational Software for Nursing, Directory of Medical Video Programs 1990, The Software Encyclopedia, The Video Source Book, and Media Resource Catalog, 1988 Supplement from the National Audiovisual Center (see appendix).
A variety of differences emerged from the citation and AVLINE comparison. These differences were defined and organized into six matching types. Each of the six critical bibliographic elements for each citation pair was coded for one of the matching types, with the results stored in a dBASE III file. The matching types reflected an examination of the content and location of each bibliographic element’s compared data. The first type of match was an “exact” match. An exact match was defined as the citation from the sourcebook and its corresponding AVLINE record matching exactly word-for-word and being cited in the same part of the bibliographic record (see figure 1). The second type of match, a “partial” match, was defined as those instances in which the data contained some variation, such as abbreviations, pluralization, or missing or different keywords, and were located in the same bibliographic element (see figures 2 and 3).

“Other,” the third type of match, was defined as those cases in which the citations matched word-for-word, but data were located in other parts of the bibliographic citations. Most often the “other” category resulted from titles in the sourcebooks matching series statements in the AVLINE record. However, additional matches defined as “other” included cases in which the titles cited in sourcebooks exactly matched AVLINE’s title added entry (see figures 4, 5, and 6). A fourth type of match, labeled “None-1,” indicated the absence of matching data. “None-1” applied when the bibliographic element being compared was absent in either the AVLINE record or sourcebook citation. Most often data were lacking in the sourcebook. Very often audiovisual materials are not issued as part of a series or given a subtitle. The designation “None-2” was given for those cases where a specific bibliographic element was absent in both the sourcebook and AVLINE. The last matching type was defined as “Different.” This category was used when the bibliographic element being compared did not fit into any of the above categories. Typically, this category was used only for differences in dates between the two citations.

**RESULTS**

An infrequent user of the bibliographic sourcebooks might assume that only minimal differences would arise between citations found therein and comparable AVLINE bibliographic records. This sample revealed a variety of differences, as well as many similarities and consistencies in the two types of bibliographic tools.

Title main entry, rather than author, is often the case with audiovisuals (Intner 1987a, 275). Therefore, any variance in the title element between the sourcebooks and the catalog record was significant. For videos and slides in this study the “exact” match of titles was approximately 75%. The remaining 25% was largely categorized as “partial” matches. Most often this occurred from the sourcebook’s abbreviation of a few words. For software titles, however, different results were evident. The “exact” match for software was only 25%, with 25% of software titles matching “partially” and a significant 45% matching “other” bibliographic fields. Many bibliographic sourcebooks utilized series names as title access points, particularly with the software in this study (see figure 5). This was most often the case for software titles in the “other” category. However, some titles in the bibliographic sourcebook matched AVLINE’s title added entries (most often variant titles). These were also coded as “other.”

Findings for the producer element varied more often. For purposes of this study, distributors were considered producers, making the definition of producers more liberal. The resulting variation was surprisingly higher than one would expect. “Exact” matches for producers were highest with slides (75%), although a number of slides had no producer information at all (12%, defined as “None-2”). Videos and software showed more diversity with producer information (only 50% and 60% “exact” matches, respectively). For many videos (35%) the bibliographic sourcebooks contained an incomplete accounting of the producers/distributors as compared with AVLINE’s records. Software, again, revealed distinct characteristics.
Title matches exactly.
The Directory of Medical Video Programs, 1990, p. 92.

Head Injuries: Care in the Intensive Care Unit
Colleen Dolgan, R.N., A.D.N.

Takes the treatment of head injuries from the ER to the intensive care unit. Reviews the brain's anatomy and describes the role of steroids in head injuries. Focuses on the effects of temperature increases on intracranial pressure and discusses in detail five methods for reducing the ICP.
C, S, VHS, BETA, 3/4", $385, Rnt $80, 15mins.
HSC (1986) 6481

AVLINE record

1. Critical Care - videocassettes 2. Head Injuries - therapy - videocassettes
3. Intensive Care Units - videocassettes
I. Dolgan, Colleen M.
02NLM: WE 706 VC no.19 1986
Price:
Loan: Health Sciences Consortium (U.S.), Write for complete information (no. 860- VI-095)
Sale: Health Sciences Consortium (U.S.), Write for complete information (no. 860- VI-095)

Source:
Health Sciences Consortium (U.S.)
Cit. No. 8601197A (rev. CIP.)

Figure 1.
approximately 25% of the software, the producers/distributors were totally unlike. Although it is unclear precisely why this occurred, these differences could be due to redistribution or repackaging of the same material.

The series data, for those items belonging to a series or multivolume set, also contained a range of differences. Software issued in multiple volumes was typically arranged under the series or set title in the sourcebooks, as compared with the monographic analyzed titles found in AVLINE. Therefore, software had a large number of
Compatible Hardware: Apple II+,IIe,IIc; IBM PC. Operating System(s) Required: Apple DOS 3.3, MS-DOS. Language(s): BASIC. Memory required: Apple 48k, IBM 360k.
disk $200.00 (Order no.: PIP-81304).
Identifies the changes in pulmonary function tests, specifically spirometry, flow-volume loops, lung volumes, single breath diffusion, & cardio-pulmonary exercise, that are pathognomonic of chronic obstructive pulmonary disease (COPD). The learner will identify the presence of COPD & classify its severity based on the results of test data provided. The learner also will identify the pulmonary function changes seen in asthma, bronchitis, & emphysema.
Medi-Sim, Inc.

AVLINE record

File size unknown. Disk characteristics: floppy disk, double-sided. Includes 1 computer disk (back-up) ; 5 1/4 in. Issued also for Compaq, Tandy 2000, AT&T, IT&T, Eagle, NCR and NEC.
1. Lung Diseases, Obstructive - software 02NLM: WF 600 CA no.3 1985
Price:
Loan: Not available from NLM.
Sale: Medi-Sim, Inc. (Edwardsville, Kan.), 200.00 (no. PIP-81304)
Source:
Medi-Sim, Inc. (Edwardsville, Kan.)
Cit. No. 87006484 (rev.)
Title matches title on leaflet.

The Directory of Medical Video Programs, 1990, p. 379.

Imaging Lung Cancer
Lawrence R. Goodman, M.D.

In adults, all new noncalcified nodules require pathologic evaluation.
CME: C, S, Aud, SL (129) $105, VHS, BETA $125, 3/4" $150, 66 mins.
RSNA (1985) 6930

AVLINE record

Imaging procedures for cancer of the lung [slide] / RSNA. -- [Chicago, Ill.] : RSNA, c1986. -- 129 slides : b&w with col. + 2 sound cassettes (65 min. : 1 7/8 ips) + 1 leaflet. Title on leaflet: Imaging lung cancer. Title on cassette label: Imaging procedures for lung cancer. Credits: Lawrence R. Goodman. Sound accompaniment compatible for manual and automatic operation. Issued also as a videocassette. Approved for 1 1/4 credit hrs. in category 1 of the Physician's Recognition Award of the AMA.
1. Lung Neoplasms - diagnosis - slides
2. Tomography, X-Ray Computed - slides I.
Goodman, Lawrence R. (Lawrence Roger), 1943-
II. Radiological Society of North America.
III. Title: Imaging lung cancer IV. Title: Imaging procedures for lung cancer
02NLM: WF 658 SC no.5 1986
Price:
Sale: Radiological Society of North America, Educational Materials Division, 105.00 (no.RSP720)
Source:
Radiological Society of North America, Educational Materials Division
Cit. No. 8700130A

Figure 4.
Title matches series title.  

Comprehensive Care of Elderly  
Patient care/Aged  
Hea-Sci, 1986  
30 mins.; Beta, VHS, 3/4U; 7 progs.  
USE: Institution, SURA
A nurse-training series for the care of elderly patients.  
Titles:  
1. Normal Physiological Changes of the Aging  
2. Meeting the Physiologic Needs of the Elderly  
3. Family & the Aging  
4. Loss & Grief  
5. Depression in the Elderly  
6. Sexuality in the Elderly  
7. Self-Actualization of the Elderly.  
Ancillary Materials: Available.  
Audience/Purpose: Adult; Professional.  
Producer: Intercollegiate Center for Nursing Education.  
Distributor: Intercollegiate Center for Nursing Education.  
Acquisition: Rent/Lease, Purchase.

AVLINE record

Self-actualization of the elderly  
[videorecording] / Intercollegiate Center for Nursing Education. -- Spokane, Wash. :  
I.C.N.E., c1986. -- 1 videocassette (29 min.)  
: sd., col. ; 1/2 in. -- (Comprehensive care of the elderly)  
Credits: Project coordinator, Charlene Clark, Carolyn Hunter ; content and dialogue, Juanita Smith. Supported by PHS grant no. I DIO NU 20043-06. Issued also as a 3/4 in. videocassette.  
1. Aged - videocassettes  
2. Geriatric Nursing - videocassettes  
3. Human Development - videocassettes  
I. Clark, Charlene II. Hunter, Carolyn III. Smith, Juanita IV. Intercollegiate Center for Nursing Education (Spokane, Wash.) V. Series  
02NLM: WY 152 VC no.30 1986  
Price:  
Loan: Care Video Productions, 45.00  
Sale: Care Video Productions, 195.00  
Source:  
Care Video Productions  
Cit. No. 8900859A
Title matches title on label.
The Directory of Medical Video Programs, 1990, p. 276.

**Precoat Cemented Total Hip Replacement System**
*William H. Harris, M.D.*

Explains the design rationale, range of components, and surgical technique of the Precoat Cemented Total Hip System.  
C, S, VHS, $35, 25 mins.  
**AMER ACAD ORTHO** (1988) **8202**

AVLINE record

**Price:**  
Loan: Modern Talking Pictures Service, Inc. Write for complete information (no. VT-281)  
Sale: American Academy of Orthopaedic Surgeons, Write for complete information (no. VT-281)  
**Source:**  
Modern Talking Pictures Service, Inc.  
American Academy of Orthopaedic Surgeons  
Cit. No. 8900691A

Figure 6.
"other" matches in the series area. By comparison, for videos and slides the sourcebooks rarely offered series information, as evidenced by the large "None-1" area. Of course, a great number of videos and slides were not part of a series or multivolume set, represented as "None-2."

Most citations in the sourcebooks contained some date information. Many dates in the sourcebooks exactly matched the date in the AVLINE record for software and slides (both approximately 75%). The videos, however, showed a much lower number of "exact" matches for dates. Dates for almost half of the videos were unlike by one to three years. This might have been caused by the common practice of redistribution or reissuing of videos. Only a small number of sourcebook citations for videos contained no information on the date (None-1).

Other title information, as defined in AACR2, was not a common occurrence in this sample. Less than 25% of this sample contained any subtitles. Of particular interest in this study were the large percentage of "exact" matches for videos containing other title information. Compared to the results for slides, which revealed a larger percentage of "partial" matches in other title information, the video citations showed a large degree of consistency in other title information.

For purposes of this study, all personal name access points (main and added entries) were considered credits, regardless of the role the person played in the production of the item. In a comparison of the credits data in the sourcebooks to personal name entries in the AVLINE records, the AVLINE record consistently contained more credit data than the bibliographic sourcebooks. This was particularly the case with videos, shown here graphically as "None-1." Software, however, revealed a much larger percentage of "partial" matches for credits, this typically being the case where the sourcebook contained only one personal name and AVLINE included multiple names.

CONCLUSIONS

This study reveals some limitations of bibliographic data contained in sourcebooks, particularly the credits and series information. To what extent are the credits and series data important to the library catalog
and its users? Surveys have demonstrated a large variation in the use of author searches by patrons, as discussed in review articles by Weintraub (1979) and Hufford (1991). If the personal name credits found in audiovisuals are of the same stature as authors or editors of print materials, then names should be made available as prescribed in AACR2, chapter 21. However, it is clear that the role of persons responsible for the content of an audiovisual is quite diffuse compared to the role of an author of a monograph, so much so that rules of main entry for nonprint materials have been continually challenged (Frost 1983, 37). The lack of credit information appearing in sourcebooks might suggest a difference in the value of these access points as retrieval elements for audiovisual materials, as opposed to print materials. Or the higher number of personal names included in the AVLINE records might result from those items having been cataloged with data from the chief source of information.

The lack of series data contained in the bibliographic sourcebooks, as well as the books' lack of indexed cross-references for individual parts, has implications for access and acquisition of audiovisuals. The Video Source Book, for example, routinely organizes its citations based on the series title, but does not provide a title index for the analyzable titles within the series. Series data is a key element in collection development. Without these data, duplicates may be ordered and bibliographic control becomes unmanageable. For those conducting series searches in the catalog, the value of a collocation device such as a series title cannot be overestimated. This justifies the continued inclusion of series data in the catalog record, and especially in the order or short records often utilized by those acquiring audiovisuals.

The variation in choice of title by the sourcebooks as compared with AVLINE is significant as it relates to descriptive cataloging. Although titles from the sourcebooks matched AVLINE's title in approximately 75% of cases, in 25% of the items examined, either differences existed in the title element or the titles in the sourcebook matched the added title or series entries in AVLINE. This large number of differences in the sourcebook's citation of the title underscores the importance of the

![Figure 8. Slides (N = 38)](image-url)
series and title added entry to bibliographic access.

The differences in dates, typically only 1–2 years, probably reflect the common practice of rereleasing or "repackaging" some audiovisual programs. It is unclear from this study whether the videos examined are actually updated editions or simply a repackaging of the same work.

As an auxiliary study, a count was taken of the number of videocassettes that had variant title added entries. These variant titles were then compared with the citation in the sourcebook. Surprisingly, out of 29 AVLINE records containing variant titles for videos (less than 20% of the sampled 150), 16 (approximately half of the 29) exactly matched the bibliographic sourcebook. From this sample, one may deduce that 90% of videocassettes do not require additional cataloging from the chief source; cataloging only from eye-readable materials would suffice. But is that acceptable given the national standards and the need for consistency? It is important to consider the concept of the title page as it relates to nonbook formats. Frost (1983, 34) states that we must "come to terms with the existence of a wide variety of title page substitutes, each with its own set of characteristics and problems." The designers of AACR2 have, in effect, defined the "title page substitute" for each nonbook format with the chief source of information concept. There is no discernable evidence from this study that anything other than the currently defined chief source of information should be used as the title page surrogate. Bibliographic data from the sourcebooks, although often matching AVLINE's title from labels and other eye-readable material, are consistently brief and omit significant information.

**Recommendations**

Only a subset of the audiovisual universe—the biomedical field—was examined in this study. Therefore, an obvious recommendation is that the study be replicated in other disciplines. It is quite possible that the findings of this study are only true for audiovisuals in the health sciences. Media in other disciplines might manifest diverse results, given the recent progress by medical media producers to standardize bibli-
ographic data. This standardization might not exist in the bibliographic identification and labeling of nonbiomedical productions. A multidisciplinary study would ensure a broader analysis of the situation.

Also, a separate comparison should be made between records for the fully cataloged item and the same item cataloged using data only from its label, container, and eye-readable accompanying materials, because this study is only an approximation of records cataloged using data from eye-readable sources.

There appears to be a need for a comprehensive finding tool for audiovisual materials. A number of AVLNE's holdings are not found in any of the sourcebooks used in this study. Bischoff (1987, 46), Intner (1987b, 35–36), Palmer (1990, 40), and others have discussed this deficiency and call for a multimedia tool modeled after Books in Print. It seems that AVLNE is the most comprehensive source for audiovisuals in the biomedical sciences.

This study shows that bibliographic data found in bibliographic sourcebooks for audiovisuals in the biomedical sciences are largely consistent with bibliographic data found in the AVLNE database. However, it does not necessarily follow that the sourcebooks should be considered bibliographically equivalent to catalog records that originate from the chief source of information. Without consistent use of the chief source of information in cataloging and the corresponding rules that national-level cataloging demand, a wealth of information would not be accessible. The degree of bibliographic control and the number of access points lost when not cataloging from the chief source would be detrimental to those acquiring, organizing, and using audiovisual materials.


APPENDIX: BIBLIOGRAPHIC SOURCEBOOKS


**works cited**


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Empirical Analysis of Literature Loss

Charles A. Schwartz

Recent technological innovations—the OCLC Online Computer Library Center’s Online Union Catalog coupled with the OCLC/AMIGOS collection analysis system—provide the means to assess the declining ability of the nation’s research libraries to maintain comprehensive book collections. An application of the new technology is presented in the form of a model of total book publication output and the aggregate acquisitions of 71 research libraries for a selected field over the past decade. The usefulness of such modeling is discussed in terms of generating knowledge that, while low on precision, has broad reliability and relevance.

Literature loss refers to the declining ability of the nation’s research libraries to maintain comprehensive book collections in the face of extraordinary growth and price inflation of scholarly literature since the 1970s. The dual problems of analysis involved—to gauge total book publication output and the relative strength of research collections for a given field—have long attracted interest but have not been materially clarified (Machlup 1976; Osburn 1983; Gareau 1983; Atkinson 1989; Wiemers 1991). Instead, we tend to think—along with university administrations and outside funding agencies—of library budgets as not having even theoretical limits (Carrigan 1988; Hardey 1991).

Recent technological innovations, however, provide the means to assess these problems with reasonable costs of computation. An application of the new technology is presented here in the form of a model of the growing gap between total book publication output and the aggregate holdings of 71 member-institutions of the Association of Research Libraries (ARL) for a selected field, Judaic Studies. While any one field might be of limited interest to most readers, the methodological approach of this model is generally applicable to the social sciences and humanities. Indeed, the scope of literature loss in Judaic Studies has the same order of magnitude as that of anthropology (Schwartz 1992a), international relations (Schwartz 1992b), psychology (Schwartz 1993), and sociology (Schwartz, in press).

The model is developed in three main parts. Part 1 and the appendix contain a description of its scope and methodology. Part 2 contains an outline of certain zones of ARL members’ acquisitions and literature loss. In the last part the usefulness of such modeling is discussed in terms of generating knowledge that, while not precise, has broad reliability and relevance.

Charles A. Schwartz is Social Sciences Bibliographer, Fondren Library, Rice University, Houston, Texas. Manuscript submitted November 30, 1993; accepted for publication December 29, 1993.
Efforts to compare total book publication output with average or aggregate research-library acquisitions have been unsuccessful up to now. UNESCO data on international book output are "incomplete, use unstated bases and assumptions, and vary considerably in nature and completeness from country to country" (Line and Roberts 1976, 123). In the United States, the Census Bureau has substantially understated the volume of book publishing activity since the 1970s, with the result that "librarians and booksellers seeking to measure their acquisitions against total output have been progressively more deceived" (Dessauer 1993, 69). ARL data on research-library acquisitions are not broken down by fields.

The new technology for gauging total book publication output is the OCLC/OLUC (Online Union Catalog), developed in 1990 from the shared cataloging records of over 4,800 libraries, including the Library of Congress (LC), in 48 countries. This system provides search by keywords, subject headings, and publication periods (as well as formats and 365 languages). It counts as a book any separately published monograph of at least 50 pages.

The new technology for gauging aggregate ARL acquisition patterns is OCLC/AMIGOS, developed in 1989. It shows the distribution of titles in an LC subject classification range by year of publication—not by year of acquisition—for the period 1979–88 (e.g., the number of titles in the BM range for Judaism held by a given percentage of ARL institutions).

As a rule, titles in any analysis of literature loss are limited to a single LC range per case study (though several studies, each based on a different LC range, may be advisable for an interdisciplin ary literature). This rule is a technical necessity to correlate OLUC data with AMIGOS data. As a practical matter, an attempt at comprehensive coverage of book output in a field tends to be an arbitrary and endless process (extending in the case of Judaic Studies to the history of Palestine, Israel, and the Middle East; Jewish arts; medieval Jewish philosophy; and so on). Thus, an important simplifying assumption is the conceptual as well as technical need to structure or bound a literature in some consistent way.

None of the estimates are highly precise figures. The model reflects an approach that Nobel laureate Herbert Simon termed "satisficing"—finding good enough answers to questions whose best answers are unknowable (1981, 36). Strictly speaking, OCLC data reflect the universe of books held by OCLC institutions, not world publishing output in its totality. Nevertheless, the set of 7,100 titles published in the BM range over the period under review, together with the set of 71 ARL collections, is adequate to draw reliable estimates of the general picture.

MODEL OF ZONES

The growing gap between total book publication output and additions to aggregate ARL holdings in Judaic Studies for the period 1979–88 appear in figure 1. As may be seen from line A, total book output was at a high of 846 titles in 1987 and at a low of 599 titles in 1979; on average, 713 titles were published annually, with a standard deviation of 82.

Line B—covering that part of book output that is held in at least one ARL institution—shows the additions to aggregate ARL holdings in Judaic Studies by year of publication. Such additions fluctuated from a high of 464 for titles published in 1983 to a low of 333 for titles published in 1988. On average, 393 titles were added per year of publication, with a standard deviation of 43. Aggregate ARL acquisitions in Judaic Studies dropped from 57% of total book output—as measured by aggregate OCLC holdings—in the early 1980s to 49% in the late 1980s.

The area of ARL holdings (below line B) is demarcated between the mainstream literature and the gray literature. The former includes about 1,207 titles held by at least 10% of ARL institutions and comprises 17% of aggregate holdings. The gray literature includes about 3,053 titles held in less than seven ARL institutions and represents 43% of aggregate holdings.

Overall, with respect to the total of
some 7,100 titles in Judaic Studies published in the period 1979–88, an estimated 40% of book output is not held in any of the 71 research collections. Another 43% of book output (the gray literature) is also virtually lost except through search of the Online Union Catalog, because the average ARL institution collects only a fifth of it. Of the remaining 17% of book output (the mainstream literature), the average ARL institution collects one-third of it, or roughly 6% of total output. Among the largest ARL institutions, the average collection holds half of the mainstream literature. Among smaller research libraries (with about 1 million volumes), the average collection holds one-fourth of the mainstream literature.

As noted above, aggregate ARL holdings in Judaic Studies declined from 57% of total book output—as measured by aggregate OCLC holdings—in the early 1980s to 49% in the late 1980s. Empirical patterns of this sort might be useful for writing collection development grant proposals or advising university groups of the deteriorating position of academic libraries vis-à-vis the scholarly system. Underlying literature loss are two salient trends: exponential publication growth and price inflation.

Publication growth patterns in a given field can be found by arranging OLUC data into ten- or twenty-year intervals for the past century or two. While the number of titles in Judaic Studies doubled every forty years from 1800 to the middle of this century, it began to double twice as rapidly (in twenty-year intervals) around 1960 and now approaches some 28,000 titles.

Price inflation figures, though commonplace in the library literature, are still informative to university administrations and outside funding agencies. The average price of a hardbound academic book on religion increased 228% during the period under review (Bentley 1991, 404); and the cumulative inflation rate for institutional subscriptions to religion journals increased 249%, rising to 302% by 1993 (Alexander and Carpenter 1993, 438). Also, new journals in any field (23 since 1979 in religion and philosophy as a group) tend to “crowd out” book acquisitions.

**PRECISION, RELIABILITY, USEFULNESS**

High precision in the model presented here is unattainable. On the one hand, OLUC contains some duplicate records and cataloging discrepancies. On the other, AMIGOS does not include govern-
TABLE 1
GAP ANALYSIS OF FONDREN LIBRARY'S COLLECTION COMPARED TO THE
AGGREGATE AND AVERAGE HOLDINGS OF SEVENTY-ONE RESEARCH LIBRARIES
FIELD: JUDAISM

<table>
<thead>
<tr>
<th>Holding Range</th>
<th>Fondren Holdings</th>
<th>Aggregate Holdings of 71 Libraries</th>
<th>Average Holdings</th>
<th>Gap Titles</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-100%</td>
<td>18</td>
<td>19</td>
<td>17</td>
<td>1</td>
</tr>
<tr>
<td>80-89</td>
<td>34</td>
<td>44</td>
<td>37</td>
<td>10</td>
</tr>
<tr>
<td>70-79</td>
<td>49</td>
<td>60</td>
<td>44</td>
<td>11</td>
</tr>
<tr>
<td>60-69</td>
<td>50</td>
<td>64</td>
<td>41</td>
<td>14</td>
</tr>
<tr>
<td>50-59</td>
<td>54</td>
<td>93</td>
<td>51</td>
<td>39</td>
</tr>
<tr>
<td>40-49</td>
<td>69</td>
<td>137</td>
<td>61</td>
<td>68</td>
</tr>
<tr>
<td>30-39</td>
<td>67</td>
<td>164</td>
<td>59</td>
<td>97</td>
</tr>
<tr>
<td>20-29</td>
<td>37</td>
<td>174</td>
<td>42</td>
<td>137</td>
</tr>
<tr>
<td>10-19</td>
<td>19</td>
<td>355</td>
<td>47</td>
<td>336</td>
</tr>
<tr>
<td>Gray Literature</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-9</td>
<td>21</td>
<td>1,613</td>
<td>71</td>
<td>1,592</td>
</tr>
<tr>
<td>Unique</td>
<td>4</td>
<td>1,453</td>
<td>20</td>
<td>1,453</td>
</tr>
<tr>
<td>0-100%</td>
<td>422</td>
<td>4,176</td>
<td>491</td>
<td>3,758</td>
</tr>
</tbody>
</table>

Thus, Fondren Library's collection is 86% (422/491 titles) the size of the average ARL collection.

*Interpreting Gap Analysis:* The top line, for example, shows that 19 titles are held by at least 90% of the libraries, the average collection has 19 of the 19, and the Fondren Library has 18. The fifth line (in bold type) indicates the number of titles held in at least 50% of the libraries but not in Fondren's collection; those 75 titles in that gap would be a priority for retrospective collection development.

...enough for the purpose in hand or that are better than predictions from alternative theories.

For our purposes, consider (a) whether the model is generally applicable to the social sciences and humanities, and (b) whether it is at least as accurate as other approaches to quantitative analysis of the scholarly communication system.

As noted above, the model is part of a series of studies on literature loss in the social sciences and humanities. While the relative size of mainstream literatures and gray literatures varies somewhat from field to field, the 6% estimate of average ARL holdings for total book output in Judaic Studies is of a general order of magnitude for the literatures of international relations, anthropology, psychology, and sociology. Thus, figure 1 is a model that, while not precise, has broad reliability.
Such estimates do not compare unfavorably with quantitative measures of various other aspects of the scholarly communication system. Consider the usual rules-of-thumb:

- research quality: production of significant publications increases by the square root of total publications in a field (Golub, Vernier, Tappeiner, and Eberharter 1991; Rescher 1978)
- research productivity: half of the literature will be contributed by the square root of the total number of authors publishing in that field (Price 1963; Kochen 1969)
- bibliometrics: a large proportion (about 80%) of citations in a field are attributed to a small proportion of influential sources.

Psychologists suggest that graphic models (such as figure 1) that are low on precision yet generally reliable “make it possible for the human mind to organize, store, and retrieve complex sets of knowledge” (Argyris 1982, 204).

From that perspective, the essential value of the model presented here depends on its usefulness for coming to grips with the concepts of “access, not ownership” and literature loss. For the average ARL institution, the notion of “access, not ownership” pertains to some 94% of total book output in Judea Studies: the 40% of completely unacquired titles (above line A of figure 1), plus four-fifths of the 43% of the gray literature (below line C), plus one-third of the 17% of the mainstream literature (area B). For other fields in the social sciences and humanities, “access, not ownership” pertains to about 90% of total book output.

Thus, it is not enough to point out that precision is low. It is necessary to show that higher precision would make a difference—that we would have different perspectives if we used some other (unknown) approach. Moreover, the AMIGOS methodology (which has been adopted by only 70 libraries since 1980) includes gap analysis of one’s own institution. As shown in table 1, such analysis provides a qualitative basis for determining collection coverage goals and their associated costs.

WORKS CITED


Friedman, Milton. 1953. Essays in positive economics. Chicago: Univ. of Chicago Pr.


APPENDIX

METHODOLoGY FOR CORRELATING OLUC AND AMIGOS DATA

The OCLC/OLUC and the OCLC/AMIGOS systems are structured differently. OLUC search is by keyword(s) or subject heading(s), whereas AMIGOS search is by single LC subject classification range. (Note that OLUC refers to the command-driven Online Union Catalog, not to the menu-driven WORLDCAT system, which has no “OR” Boolean operator and is thus not usable to analyze literature loss.) Adjusting the two sets of data within a reasonable margin of error requires experimentation through sampling of output.

OLUC

1. Combine primary, secondary, and associated subject headings.
   f s# not (judaism and social problems)
2. Eliminate subject headings cataloged primarily in other LC ranges.
   f s# not (judaidsm and philosophy)
   f s# not (judaism and social problems)
3. Limit format to books.
   f s# and pt bks
4. Eliminate government documents.
   f s# not pb us
5. Limit to AMIGOS publication-year range but drop the last year.
   f s# and yr 1979–1988
   (Note: Although a two-year lag was built into the AMIGOS database to allow for cataloging backlogs, the last year still does not fall within standard deviations of error; to include it would skew the model.)
6. Print samples of, say, 50 records for different years (in format 6) to determine the margin of error and make search strategy adjustments.
   f s# and yr 1979
d s# f 6 1-50
7. Limit the final set to successive single-year sets.
   f s# and yr 1979
   f s# and yr 1980 [and so forth]

AMIGOS

1. Set system defaults: Peer Group 1, LC Class BM1-BM9999, Holdings 0–100%, output to screen.
2. Go to Bibliographic Lists, then to Gap Analysis and find aggregate ARL holdings for each publication year.
3. From the Subcollection Gap report, find the total number of gap titles for your institution. Those titles are not included in the aggregate ARL data and should be added to publication-year figures on an average basis. Because the total number of gap titles for your institution is based on the 11-year AMIGOS database and the last year is dropped in this analysis, add only ten-elevenths of the gap titles to each year of AMIGOS data on aggregate ARL holdings.
   Example: If total gap titles for your institution are 1,000, then 1,000 × 10/11 = 909, which would be 91 titles to be added to aggregate ARL holdings per year.
Collection- or Archival-Level Description for Monograph Collections

Richard Saunders

Patrons seeking monographs in collections rather than as discrete items are frustrated when libraries do not keep some collections together. It is often useful for patrons to have access to groups of books related by provenance, typically in a special collections setting. The author proposes several practical methods to describe book collections in a variety of settings, so that library users can assemble and browse a list of titles received from a significant source, as part of a thematic collection, or from a descriptive catalog.

Fredson Bowers stated pointedly in his Principles of Bibliographic Description (1949, ix) that he "divorced from descriptive bibliography any consideration of cataloguing." Still, the conventions of modern bibliographic description prescribed by the Anglo-American Cataloguing Rules, second edition, grow out of the nineteenth-century British discipline of analytical bibliography, a perspective that focuses on the book as an artifactual object. The work of Bowers, W. W. Greg, and others following this tradition focuses on understanding—and describing—the production, composition, and variation of books as discrete objects. For obvious reasons New World libraries have descended from the British perspective. Conversely the French histoire du livre school views the book as first an intellectual object—its meaning, content, and metaphysical or social importance—incidentally possessed of a physical form. It will not be discussed here. This paper is limited to description, not the larger tradition of selection and other aspects of librarianship.

In the library the traditional purpose of bibliographic description has been to control discrete items. Simply put, monographs are cataloged individually. As a control issue, the explosion of printed material (thanks to technological advances in publishing) needing catalog entries has been offset by the computer's data sorting, retrieval, and storage capabilities, making cataloging less labor intensive than it once was. It has become unthinkable for a modern library not to rely on computers in some fashion.

Despite the computer's great speed, cataloging itself has remained essentially unchanged. No necessarily better access to cataloged holdings has been gained, only accessing speed. To deal with the attendant costs of geometrically increasing holdings (while coping with decreasing funding), libraries increasingly rely upon

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copy cataloging, accepting as a viable public record the barest generic entry downloaded from a bibliographic utility rather than using that entry as a template for a record that reflects descriptive and topical collecting interests and patron needs. Efforts to topically describe each item and its unique focus have been limited to reliance on close or detailed analytic cataloging, not on the larger contexts provided by groups of items.

A researcher’s task is simplified by physical and intellectual browsing. To aid this process, classification schemes arrange similar books by physical proximity. Intellectually, thesaurus descriptors cross disciplines to link thematically comparable materials, but still lean heavily on subjective content. These two organizational ideas are very useful in grouping topical material, but libraries relying upon these descriptive tools alone miss other relationships between materials that researchers often find important—relationships that usually are not served by traditional classification theory or practice—that is, describing books relationally.

In some cases books have a larger, metaphysical or contextual value in addition to being individual objects. New books added to holdings as part of routine accessioning by approval or standing orders have no relational context to preserve. They are selected and accessioned individually for a topical subject. At the same time, libraries also receive block gifts from donors. Some collections are random acquisitions of a lifetime; a few are the careful collections of professionals who have created a body of work from the books they own. In some of these latter cases it is valuable to preserve for research information about the collection as a whole, information typically lost in library processing. By the time a library shelves the books from Dr. Z’s collection, the scholar doing research on Dr. Z’s or Mrs. M’s groundbreaking contributions to literature, science, art, history, etc., finds the situation somewhat analogous to that of the blind men describing an elephant from its various parts: Each could respectively describe the characteristics of the tail, trunk, ear, side, tusk, and leg, but none alone could describe—because he could not see—the entire elephant.

Collection-level description is most useful in special collections for which there might be a desire to preserve the context of a collection. The purpose of collection-level or archival description is to allow a researcher to cross the prescribed descriptive boundaries imposed on discrete bibliographic items, gathering materials related by provenance (origin) or other relational theme. In such cases, archival principles, dealing with groups of material as basic units rather than discrete items, can supplement bibliographic description and preserve a variety of relationships between books, values not typically described bibliographically.

Three broad classes of book collections that researchers find potentially useful are discussed here: private research collections, honoraria collections, and “source” collections.

Private research collections are often linked to a body of personal papers and consist of books assembled by an individual such as a notable scientist or scholar, frequently received accompanying a manuscript collection. Particularly among scholars, a personal library frequently provides a qualified view of a career.

Honoraria collections are exemplified by the Marriner S. Eccles Library of Political Economy. Eccles was chairman of the Federal Reserve throughout the Roosevelt and Truman administrations and was the key figure in U.S. monetary policy during and after World War II. Funds at the University of Utah were dedicated to create and house a finite collection of works on government, banking, politics, and the U.S. economy and fiscal policy for the years Eccles was chairman of the Federal Reserve that were produced before his death. The 900-volume collection itself thus becomes a historiographic snapshot. Standard classification schemes would have divided the diverse materials and made access difficult. Similarly, public libraries often have a small collection of local history materials kept apart from the general holdings.

“Source” collections are collections of works from one source, such as a novelist...
One should bear in mind that archival princes or particular press. In such cases gathering all works is impossible without a lengthy search through primary materials to recreate publishing history. Often overlooked are press collections. Researchers interested in the entire body of work produced by a press want to see specifically what items from a press are held by the library. This is particularly true when dealing with incunabula and early printers or with modern fine and private presses, such as Aldus Manutius or Black Sparrow. Library catalogs generally do not provide access beyond title, subject, and author. This liability is only imperfectly overcome by online keyword searching, a capability seriously diminished by increasingly larger catalogs.

Appraising the metaphysical benefits of collection-level description is one thing; providing an economical and workable method is quite something else. Fortunately both demands can be met, by one or a combination of several means. However, one should bear in mind that archival principles typically do not reduce to the formulaic regimens governing bibliographic description, because each collection is unique in composition and context. Before implementing any method of collective description, a case-by-case consideration must be made of the collections and informational needs of library patron communities, the necessity for a specific collection to be kept together intellectually (if not physically), and the technical capacity of the library to produce such description. One descriptive method does not preclude another. The goal is to provide economically workable solutions and better service.

**BIBLIOGRAPHIC LISTING**

Perhaps the simplest form of describing a collection is a list or bibliography. Not typically considered the final product of a library's technical services department, a bibliography is appropriate when a focused thematic collection is integrated into general holdings because the books themselves lack intrinsic value, but still possess an important collective view of the interests or work of the donor. Bibliographies have the pleasant attribute of being simple to compile with a minimum amount of technical expertise. Once compiled, a copy can be bound as a monograph (produced, of course, on acid-free paper of appropriate weight) and itself cataloged under the donor's name (see figure 1) because the collection is, in fact, the intellectual creation of the collector. Cataloging in this fashion follows rules 21.1A1-2, 21.4A1 in the Anglo-American Cataloging Rules, second edition, 1988 revision, and Steven L. Henson's Archives, Personal Papers and Manuscripts, second revised edition (Society of American Archivists, 1991), which is used by the Library of Congress (LC) in describing collections, typically manuscripts. Examples have been created to best illustrate the method described. While based on real collections, the descriptions are not from actual records. Access to the collection's intellectual content is not sacrificed because the books are listed, and a representation of the library could be created from the list.

Such a listing has its benefits. Relatively low cost is one, because production is not of a technical nature compared to cataloging. It is also physically manageable (compared to the volume of the actual collec-

Brodie, Fawn McKay, 1915-

The Fawn M. Brodie library: a bibliographic list. -Salt Lake City: University of Utah Marriott Library, 1975


Figure 1.
tion), and researchers can make copies if necessary for their own research. A hard copy listing of a collection also insulates against theft and assists in restitutions in cases of theft, particularly if the library has only a single copy of a work, one that has been accessioned as part of a collection. Also, a bibliography represents the collection in its entirety without having to physically keep duplicate works. The importance of such bibliographies is hardly tangential. Those familiar with collections regarding the American West point to the bibliographic catalog of the Everett Graff gift (Storm 1968) or exemplary sales catalogs for the Streeter collection (Celebrated Collection, 1967–69). These are landmarks in the field, classics in their own right. Similar bibliographical reference works exist in every literature.

An independent listing apart from the catalog records has the benefit of near-infinite space for explanatory notes regarding the collector, other materials (such as manuscripts) in the institution, biographical essays, scope and content notes describing the breadth and reasons of collecting, and any other information deemed pertinent. To take advantage of latitude in descriptive inclusions, a carefully constructed bibliography is ideal.

At the same time, a bibliographic listing or catalog should not be the only form of collective description for a collection. Despite a listing in the bibliography, every new item still needs to be processed into the library's holdings. There is no way to gather the library's holdings from the collection for online browsing. A bibliography also lists what is received, not what is kept. Out-of-scope materials received in a collection may be appropriately discarded or dispersed into a general collection, but they are still important parts of the larger historical or biographical picture and should not be left out of any bibliographic finding aid.

**NUMERIC LINKS**

Classification schemes are intended to group materials physically for browsing. If the materials are housed in a closed stack area, classification does not need to be used because holdings are not accessible for patron browsing. If duplicate copies are kept in a special collection and in general stacks, the copy holdings record will show and index both numbers, so that the book will be displayed under an LC classification search or collection search on a numeric key. If only one copy is held, this presents an indexing problem for a comprehensive search of LC classed holdings. Where browsing is not possible, or a collection is maintained separately, the collection can be grouped together under a separate classification system. The unique number also ensures that should a volume leave the room it would be returned promptly without being mistakenly interfiled in the general collection.

A unique number series is indexed online like any other in the library, though it does not share the same classification scheme. Because the numbers are unique, users must understand the prefix to list and browse the entire group. Examples of some options are shown in figure 2. The first three refer to the same book. The fifth uses a *catalogue raisonné* number under the collection name, while the sixth uses a bibliography number as an access point, presupposing in both cases that such a catalog is available. Patrons can also use the number from a single volume brought

<table>
<thead>
<tr>
<th>Book</th>
<th>Coll 43 no. 335</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coll</td>
<td>43:d15</td>
</tr>
<tr>
<td>London</td>
<td>D15</td>
</tr>
<tr>
<td>Grabhorn</td>
<td>1924:16</td>
</tr>
<tr>
<td>Doby</td>
<td>A22</td>
</tr>
<tr>
<td>Wagner-Camp-Becker</td>
<td>403</td>
</tr>
</tbody>
</table>

*collection number, sequential accession number*

*collection number, alphanumerical by author*

*collection name, alphanumerical by author*

*collection name, production year, number*

*collection name, bibliography number*

*bibliography name, entry number*

---

*Figure 2.*
up under a subject search as a key to search the entire group by call number online. Care should be taken not to inadvertently approximate an LC class or SuDocs number in the collection identification. Books thus identified can be physically arranged in any fashion: by height, alphabetically by author, by genre, or by general topic.

Describing a group of books in this fashion has drawbacks. While “recreating” the collection for online searching, this method alone provides no context for the collection itself. Each item is described individually and linked online only numerically. The tie to contextual information is vastly strengthened by using this descriptive method with one of the other systems.

**Tracings Links**

A descriptive method functionally similar to unique call numbers is locally defined notes, or tracings. Most modern online catalog software will support locally defined fields (MARC tags 580, 590, 8xx).

For a press collection, a tracing statement is “taken” from press information in each book. This can amount to nothing more than the press name itself, as shown in figure 3. A traceable local series statement for the collection could also be used. Used in this fashion, the series entry is not a mistagged subject tracing but an indexed statement of the collection title. Series notes are standardly searchable in subject indexes on many online systems and can be included on most others. A series note used thus can be divided as were the examples of numeric links in figure 2, or not at all.

This is, for some libraries, a less-than-satisfying solution because series statements are part of prescribed descriptive formats. Cataloging purists might believe that notes on local copies, whatever the intent, should not be part of the descriptive record. To the principle of this argument I both accede and disagree. While I freely admit that a local series note is not a part of the book being physically described, in the case of a unified collection it is a metaphysical part. Each book in a collection has a history and a purpose in that collection. Like topical headings, local series entries for collections describe the ideative book, not merely the physical book.

Another solution that has been used to record and sort preservation actions or book arts information is the form and genre field (MARC tag 655), Added Entry—Physical Characteristics (755), or the uncontrolled headings field (659), usually used for recording tracings from foreign libraries. The use of these fields for recording copy-specific information is most appropriate for rare book collections. Information recorded here about collection or physical characteristics can be used to gather and sort materials for exhibits, identify preservation and conservation needs, or aid in book arts research. Terms may be taken from a locally defined list or from one of several published thesauri, such as the Association of College and Research Libraries’s series of special collections thesauri (Paper Terms 1990; Genre Terms 1991; Type Evidence 1990; Binding Terms 1988; Provenance Evidence 1988).

Repeated fields are used for each type of information, preceded by a code identifying the type of list, as shown in figure 4 from a sample record.

In these cases the subfield a2 gives the type of information recorded in the field. The “aat” stands for the *Art and Architecture Thesaurus*, a list of genre formats and descriptive terms, divisible by standard subdivision practices (*Art Reference Tool 1993*). The “pres” code represents a field

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Eldon V. Gardner Library
Allen Press; 1964:14
Jack London collection; no. 335
Frank Doby collection; A22

Figure 3.
of locally defined preservation action information, preceded by three-digit codes for treatments done to a particular item (the spine had been repaired in October 1991). “Bind” refers to a local list of significant book arts features, in this case, that the book is in an original decorated (second subfield =a) publisher’s trade cloth binding with an intact dust jacket. “Form” notes the book’s important features, such as hand-colored plates (in this case), particular type styles or fonts, design styles, etc. The possibilities for using fields and constructing local codes are potentially endless; consequently care should be exercised to limit fields’ use and fill them from carefully groomed thesauri.

Access is greatly enhanced by constructing specific search keys for collection-level data. The architecture of the key is limited to fields (e.g., 490, 590, 830, 655) where information is entered to pull up only material relating to specific collections or formats. The particular field to be searched is specified in the find command and hinges on the +2 of each field. These search commands could be proprietary for in-house use or be made available to patrons for online catalog searching.

While this method has the greatest possibilities, it also has the greatest shortcomings. Because local fields are used for a collection’s series note or tracing, if the library downloads tapes from a bibliographic utility, local fields may be stripped out or rendered null. This might be a problem for some libraries that rely on tapes for updating an online catalog. The problem is lessened when downloading catalog records directly online, because with a little care to keep the collection physically together during cataloging, series statements or tracings for a collection can be added in regular processing. Even if the library routinely copies records without updating descriptions, a tracing or note for the collection can be added at the time copy holdings are described. Another workable possibility is to include the collection name as a local topical heading. Again, some bibliographic utilities do not accept local fields for production records. Ultimately, the capability to retrieve information recorded in this fashion is limited to institutions with a modifiable system architecture and cooperative systems personnel. The problem remains with this method that still no context is given for the collection itself. A patron might find a neat grouping of press books, ephemera, or topical materials and still not have available the context of the collection itself.

A major appeal of describing a collection in either fashion is rigidity. A search will retrieve precisely what is identified by the term specified. Arguments have been made that keyword searching functions similarly and exists in most online systems. Keyword indexing does retrieve appropriate titles, but like a fishing net, only the size of the holes can be regulated, not what swims into it. Precision with keyword searching relies either on the limpness and the need to sort through a list of topically unrelated material, or on search sophistication that tends to be beyond the skill or patience of typical patrons. The limpness of keyword searching might be appropriate for the unique combination of “Kurman collection,” but what about the homogeneity of “Allen Press”? Specific needs are best met by constructing a specific search; keyword searching is appropriate for omnidirectional browsing. A collection described in this fashion is gathered without the vagaries of false postings under keyword searching.

**Host-Item Entry**

The ideal solution to collection-level description in many respects is to create a
Black Sparrow Press

Black Sparrow Press collection, 1966--ongoing
<483> v.

Fine press of Santa Rosa, California (late of Los Angeles and Santa Barbara) devoted to publishing modern "anti-establishment and new" literature. Begun in 1966 by John Martin, it prints poetry, stories, and short novels in experimental, underground, postmodern, or alternative genre.

Summary: Prior to 1985 the library purchased all material produced by the press in every version or binding. Holdings are, with isolated exceptions, complete until this point. Due to budget cuts it currently acquires all titles produced by BSP in either the specially-bound private or limited lettered printings. Printings produced for regular sale are not presently collected, but may be received by gift. Search under title or author for specific volumes.


The core of the collection (246 v.) was received as a gift from Mr. and Mrs. John Doe in 1982.


Figure 5.

linked host-item entry by using MARC fields. This type of collective link is widely used in manuscripts and archives cataloging to describe individual items or subseries by using a separate record, then linking the item record to the record of its larger "host." A tree of related records is thus created and used in this fashion. This process can be somewhat modified for bibliographic use.

In the case of a book collection, a record for the entire collection is compiled as a host record. The record may state the library's collecting interest, some history on the source of the core collection (if, perhaps, received as a donation), how often titles are added and which editions are expected, significant gaps in the collection, etc.—anything a patron might like to know about the collected holdings. This record of detailed notes becomes the "host," as for example in figure 5.

Once entered into the catalog, the index number of the host record is recorded in linked fields within all subordinate bibliographic "item" records. The MARC field appearing in a tagged and linked display record for a manuscript within a collection (with a print constant "In") would appear as shown in figure 6. MARC protocols define the subfield *w as indexable; subfield *7 provides the link to the host record itself (*p = type of main entry [record linked to personal collection]; *2 = form of name (direct order); *b = AMC [collection] record; *c = bibliographic level [of host record] (collection, as opposed to monographic item)).

Though the record number (773 subfield *w) does not appear in the patron record, the computer gathers other bibliographic records related to the one displayed with a "related records" search (commands vary from system to system). The Research Libraries Information Network (RLIN) is probably the best working example of host-item system architecture.

There are some advantages as well as liabilities to this method of linking bibliographic records. Like lists gathered with
MARC coding
773 0- +7 plbc +a Black Sparrow Press collection. +w (UU) PBQ3417
773 0- +7 plbc +a Joseph Don Carlos Young papers. +w (UU) PAZ3425
773 0- +7 plbc +a Jack London collection. + (MtBC) 93-51224

Displays (system specific)
In Black Sparrow Press collection.
In Joseph Don Carlos Young papers.
PART OF: Jack London collection.

Figure 6.

series or topical entries, only specifically related records are recalled; patrons are again spared the inaccuracy of keyword searching. Because each record is independent, its fields are indexed like those of any catalog record. Main, added, subject, and title entries index normally. The significance of the linked record is that it also provides contextual value by relating a record to others with a similar provenance. With each record linked to a superior one, notes about the collection itself can be created for patron use in a record on the collection itself. As in the case with the Black Sparrow Press in figure 5, a context or rationale for the collection is available online.

Despite the attractive possibilities offered by host-item entry, there are drawbacks. Because full MARC potential is used infrequently, some online systems simply do not support linking fields. Or, if it is supported, the field is not indexed. In such cases collection information might be contained in a general note referring patrons to an unlinked host record. Unfortunately, describing collections in free text precludes meaningful indexing, but at least it informs patrons of the broader collection.

CONCLUSION
There are general benefits to archival description for book collections. One is assisting collection development. Specifically, with all the books by one press or in one bibliography so identified, it is a quick matter to find what items the library lacks.

I have merely outlined some methods for archival description of monograph collections, along with some of the expected problems and issues. Whatever the system chosen to meet the needs for collection description, there will be problems. No solution is perfect. In this age of ballooning online catalogs, the value of machine indexing has come to lie in not how much appropriate information can be gathered, but how much inappropriate information can be eliminated. Collection description is intended to weed out records “related” by keyword or other fuzzy searches.

Cataloging is a tool, not an end in itself, the purpose of which is to provide access to information. Collection-level description may use the catalog record in an innovative way to foster access to useful information not normally maintained for researchers. It is most appropriate for finite and fairly small numbers of monographs, and does not eliminate the per-item cost of cataloging because any new addition must be processed into the catalog. It does provide a practical method of linking individual works related by provenance, thereby preserving a type of information that is typically lost—or, at best, ignored—in most libraries. It is not intended to compromise or replace bibliographic description or classification, but to yield a broader view of interrelated parts—to describe the elephant.

WORKS CITED
Binding terms: A thesaurus for use in rare book and special collections cataloging.

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Adult Fiction collections and collecting practices in 116 medium-sized U.S. public libraries were surveyed in the spring of 1990. Adult fiction represents about 28% of the typical library’s holdings, with about 56% of this being “light” or entertainment fiction. The average library acquires 1,462 new titles and adds 157 more by gift in a given year, and selectors prefer to obtain new adult fiction in hard covers. For hardcover purchase, the typical library relies most heavily on the library and trade review media, followed by bestseller lists and user requests; for paperbacks, the typical library relies primarily on user requests, followed by library or trade reviews, and bestseller lists. In addition to these traditional methods, use of book clubs and similar automatic ordering systems, as well the reliance on book jobbers’ lists, appears to be increasing.

Although adult fiction in American libraries has had its share of controversy, it has always had an important place. Carrier (1965; 1985)—whose historical work is based on contemporary books, journals, conference proceedings, and library policy documents, as well as research by both librarians and educators—shows that the basic principles, arguments, and issues have changed little from 1876 to 1950. Aside from greater tolerance for some dubious formats (comic books were accepted in the middle of the 20th century somewhat more readily than “dime novels” had been in the late 19th), the “fiction controversy” begun by George Ticknor in 1852 continues. On the one hand, readers want popular fiction; on the other, relying on user demand violates tenets dear to the hearts of many librarians.

The current terms of the debate in the United States appear to have shifted from the traditional fiction-versus-nonfiction argument to a broader one between “important” or “serious” material and “entertainment” or “popular” material. Practical discussion has tended to revolve around the Baltimore County Public Library and its “give ‘em what they want” policy. Under the leadership of director Charles Robinson and Head of Adult Collection Development Nora Rawlinson (now editor-in-chief of Publishers Weekly), the BCPL in essence redefined its branch libraries’ policies to emphasize user demand as the major selection criterion. This approach, which has required the purchase of as
many as 700 copies of some titles, has increased the circulation and turnover rates of the typical library in the Baltimore County system (Rawlinson 1986). While many persons have attacked the library for pandering to the lowest common denominator, evidence suggests this is not so. In fact, there is clear evidence that user demand does include the literary classics, so long as they are attractively packaged and displayed (Rawlinson 1981).

An interesting variant of "what they want" may be found in the writings of Thomas Ballard, based on his experience as a metropolitan area librarian. Ballard (1986a, 121–69) supports the BCPL approach, in part, by giving strong weight to user demand but argues that taxpayers support the library because it is perceived as a public good with important social value (Ballard 1986b). His ideal library has a small reading area, little if any reference or audiovisual material, and very little fiction. For example, his suggested ideal library of 12,000 square feet devotes only about 400 square feet to popular literature of all kinds compared to about 8,000 square feet for "serious" fiction and nonfiction (Ballard 1986a, 198–206). On the other hand, users appear to prefer fiction. For example, a 1985 survey of users of Illinois public libraries found that 62% of them usually read a novel for pleasure (Goldhor, 1985).

For all the polemics, there is little information as to the actual opinions and practices of current working librarians. One recent study (Hamilton and Weech 1988) found Illinois librarians generally agreed more strongly with "demand driven" statements (such as "A library's primary goal should be user satisfaction") than with "quality-driven" criteria (e.g., "Libraries should concentrate on providing copies of books of high quality and enduring value"), but also found considerable agreement with many of the latter, suggesting that librarians are in fact balancing their decisions. The statistical reports of the Public Library Data Service (1990, 67–78) also provide some indication of current library thinking. In 1990, the year of the survey reported in this article, the most popular choice of focus for the 210 libraries that had selected roles was that of "popular materials center," with 208 libraries listing it as a goal and 174 ranking it as highest priority. In comparison, the second most popular goal was "reference library," listed by 179 libraries, with 111 considering this of highest priority. The third most popular goal, listed by 192 libraries, was "preschooler's door to learning," but only 44 ranked it as first priority. Assuming these libraries are representative, these results suggest that the traditional function of information provision, a "serious" activity, is actually slightly overshadowed by provision of entertainment reading.

**HOW MUCH FICTION SHOULD THE PUBLIC LIBRARY HAVE IN ITS COLLECTION?**

For all the discussion, the evidence regarding what we have actually done regarding fiction in the public library is surprisingly thin. As a point of departure, the American Library Association's Library Primer (ALA 1896, 9–10) recommended the new small library should be stocked with books of quality, without aiming too high, yet still avoiding "trash." The Primer suggested that these guidelines meant that about 20% of the collection would be fiction.

A number of studies have been focused on adult fiction collections using an "inductive method," checking library holdings against such sources as the ALA Catalog and Booklist. (Carnovsky 1935; Leigh 1951). Overall, the results consistently show an apparent tendency to emphasize popularity over "quality" in fiction collections, especially in smaller libraries.

A few researchers have started with the library rather than an a priori list. Carnovsky (City of Los Angeles 1949), for example, conducted such an analysis of the Central Library of the Los Angeles Public Library, finding that fiction made up 10.2% of the collection in 1940 and dropped to 9.2% by 1948. Multiple-library studies of this type are rare but not unknown. Beasley (1964) sent researchers into 11 (unnamed) Pennsylvania libraries in 1960–61 to sample the entire collection. He found a range of fiction from 25% to
TABLE 1
PROPORTION OF FICTION HOLDINGS IN PUBLIC LIBRARIES FROM PREVIOUS STUDIES

<table>
<thead>
<tr>
<th>Study, Date</th>
<th>Collection Size</th>
<th>% Fiction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beasley, 1964</td>
<td>9,188-61,845</td>
<td>25.0-54.3</td>
</tr>
<tr>
<td></td>
<td>Mean: 25,998</td>
<td>33.9</td>
</tr>
<tr>
<td>Blasingame, 1967</td>
<td>2,166-5,909</td>
<td>22.2-72.7</td>
</tr>
<tr>
<td></td>
<td>Mean: 12,295</td>
<td>37.0</td>
</tr>
<tr>
<td>Goldhor, 1979</td>
<td>995,000-1,636,000</td>
<td>8.3-18.8</td>
</tr>
<tr>
<td></td>
<td>Mean: 1,262,000</td>
<td>14.3</td>
</tr>
<tr>
<td>Goldhor, 1979</td>
<td>211,000-651,000</td>
<td>9.2-25.0</td>
</tr>
<tr>
<td></td>
<td>Mean: 452,000</td>
<td>17.4</td>
</tr>
<tr>
<td>Goldhor, 1979</td>
<td>43,000-168,000</td>
<td>22.3-43.6</td>
</tr>
<tr>
<td></td>
<td>Mean: 101,000</td>
<td>30.3</td>
</tr>
<tr>
<td>Goldhor, 1979</td>
<td>35,000-53,000</td>
<td>16.0-31.6</td>
</tr>
<tr>
<td></td>
<td>Mean: 42,000</td>
<td>24.0</td>
</tr>
</tbody>
</table>

54.3% of the whole collection. Soon after, Blasingame (1967) studied a small, rural library system in the same state. Of the ten libraries reporting detailed holdings, fiction represented a mean of 37% of the collections, with a range of 22.2% to 63.3%. Goldhor (1979) studied a small, national sample (19 libraries) in 1978. Although primarily analyzing nonfiction humanities material, he did ask the libraries to estimate the distribution of the entire collection by counting the shelflist drawers. Overall, 21.5% of the collection was adult fiction, with a range of 8.3% to 43.6%.

SURVEY DESCRIPTION
A major difficulty in conducting any study of libraries by size is the lack of standard data. For example, public libraries are often defined by size of service area, while academic libraries tend to be defined by size of library (collection, budget, etc.), and standard sources such as the American Library Directory ignore the former. Even then, many libraries report holdings only by title or by volume to the ALD, while others do not report budget figures. To avoid some of the problems of definition and lack of data, the sample for this study was based on either a volume or title count of 20,001 to 299,999, based on categories derived from ALA’s Librarians in an Information Society (Lynch 1986, 26). According to this source, about 53% of all U.S. public libraries hold fewer than 20,000 volumes, and only about 3% hold more than 300,000. Thus, one could argue “medium-sized” libraries consist of the 44% of public libraries holding between 20,000 and 300,000 volumes. Lacking further information, it seems plausible that fiction may be treated differently in very large and very small libraries. For example, the small budgets and staffs of the smallest libraries would limit collecting activities, while the very large staffs and budgets of the largest libraries would also seem to make their collection-management practices distinct.

A questionnaire was sent in the spring of 1990 to a systematic, random sample of 202 libraries drawn from the American Library Directory (1989) with one postcard follow-up. A total of 125 libraries responded, with 116 usable questionnaires, for a usable return rate of 57% (3 libraries declined to participate, while 6 others provided incomplete data). While the sampling method thus includes a few larger libraries (9 of the respondents held more than 300,000 volumes, although fewer than 300,000 titles), eliminating these would imply also eliminating the 16 other respondents for which volume data were lacking. In any event, all 116 responses are analyzed below, except as noted.

THE “TYPICAL” LIBRARY COLLECTION
Based on the responses, we can draw a picture of the typical medium-sized public library. First of all, it has a mean annual budget of about $678,489, with a median
TABLE 2
RESPONSES TO QUESTION: “OF YOUR ADULT FICTION COLLECTION ABOUT WHAT PERCENTAGE IS ‘SERIOUS LITERATURE’; ‘LIGHT FICTION/ENTERTAINMENT READING’?”

<table>
<thead>
<tr>
<th>% of Collection</th>
<th>“Serious Literature”</th>
<th>“Light Fiction/Entertainment”</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>0-9</td>
<td>8</td>
<td>8.4</td>
</tr>
<tr>
<td>10-19</td>
<td>20</td>
<td>21.1</td>
</tr>
<tr>
<td>20-29</td>
<td>38</td>
<td>40.0</td>
</tr>
<tr>
<td>30-39</td>
<td>17</td>
<td>17.9</td>
</tr>
<tr>
<td>40-49</td>
<td>5</td>
<td>5.3</td>
</tr>
<tr>
<td>50-59</td>
<td>4</td>
<td>4.2</td>
</tr>
<tr>
<td>60-69</td>
<td>3</td>
<td>3.2</td>
</tr>
<tr>
<td>70-79</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>80-89</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>90-99</td>
<td>0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Median = 25% serious fiction
Mean = 24% serious fiction
Median = 75% light fiction
Mean = 66% light fiction

of about $323,162. Its collection consists of a mean of 110,786 volumes (median of 67,184). This collection is composed of about 28% adult fiction (median 25%) and 43% adult nonfiction (median 43%), the remainder being children’s materials and a small fraction of adult nonprint material. Of the adult fiction, about 66% (median 75%) consists of “light fiction” or “entertainment” material, and about 24% (median 25%) is “serious literature.”

Responses to the survey question about type of fiction indicate the continuing nature of any discussion about “quality”: about one-fifth (18%) of the respondents did not answer the question at all, a number of them objecting to its categories as being too vague. This inability to define the difference, if there is one, between types of fiction certainly helps fuel the debate on the role of fiction, especially in view of the fact that about four out of five respondents did not apparently have any such problem.

Respondents were quite clear, however, on another subject: selectors concentrate on English-language fiction. The average number of non-English titles obtained per year was only 18. Eliminating the one library that acquired over 1,000 such titles reduces the average number purchased to just over 9 titles. In any event, in 85 libraries, roughly 76% of the sample, no non-English titles were bought at all.

ADDITIONS TO THE FICTION COLLECTION

Current additions to the collection are very important to any discussion of selection decisions. Again, while there is considerable variation, a general pattern emerges. In the mean library 1,462 new titles were bought last year, and about 157 were added as gifts; in the median library 925 were bought and 50 added as gifts. However, there is considerable variation in number of titles added: in two libraries more than 10,000 new titles were bought, while in three fewer than 100 were bought in the same year. Or, looking at this another way, in 69% of the libraries, fewer than the mean 1,462 were purchased titles, and only in 4% were more than 5,000 acquired. For comparison, Nora Rawlinson (1986) has estimated about 1,000 new titles a year
### TABLE 3

**ADULT FICTION ADDED IN ONE YEAR**

**(INCLUDING BOTH PURCHASE AND GIFT)**

<table>
<thead>
<tr>
<th>Titles Added</th>
<th>No. of Libraries</th>
<th>Cumulative No.</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>101-200</td>
<td>1</td>
<td>1</td>
<td>1.1</td>
</tr>
<tr>
<td>201-300</td>
<td>6</td>
<td>7</td>
<td>8.0</td>
</tr>
<tr>
<td>301-400</td>
<td>3</td>
<td>10</td>
<td>11.5</td>
</tr>
<tr>
<td>401-500</td>
<td>7</td>
<td>17</td>
<td>19.5</td>
</tr>
<tr>
<td>501-600</td>
<td>9</td>
<td>26</td>
<td>29.9</td>
</tr>
<tr>
<td>601-700</td>
<td>5</td>
<td>31</td>
<td>35.6</td>
</tr>
<tr>
<td>701-800</td>
<td>6</td>
<td>37</td>
<td>42.5</td>
</tr>
<tr>
<td>801-900</td>
<td>7</td>
<td>44</td>
<td>50.6</td>
</tr>
<tr>
<td>901-1000</td>
<td>2</td>
<td>46</td>
<td>52.9</td>
</tr>
<tr>
<td>1,001-1,100</td>
<td>6</td>
<td>52</td>
<td>59.8</td>
</tr>
<tr>
<td>1,101-1,200</td>
<td>2</td>
<td>54</td>
<td>62.1</td>
</tr>
<tr>
<td>1,201-1,300</td>
<td>3</td>
<td>57</td>
<td>65.3</td>
</tr>
<tr>
<td>1,301-1,400</td>
<td>3</td>
<td>60</td>
<td>69.0</td>
</tr>
<tr>
<td>1,401-1,500</td>
<td>0</td>
<td>60</td>
<td>69.0</td>
</tr>
<tr>
<td>1,501-2,000</td>
<td>6</td>
<td>66</td>
<td>75.9</td>
</tr>
<tr>
<td>2,001-2,500</td>
<td>6</td>
<td>72</td>
<td>82.8</td>
</tr>
<tr>
<td>2,501-3,000</td>
<td>3</td>
<td>75</td>
<td>86.2</td>
</tr>
<tr>
<td>3,001-4,000</td>
<td>7</td>
<td>82</td>
<td>94.3</td>
</tr>
<tr>
<td>4,001-5,000</td>
<td>0</td>
<td>82</td>
<td>94.3</td>
</tr>
<tr>
<td>5,000 or more</td>
<td>5</td>
<td>87</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Mean titles added</strong></td>
<td></td>
<td><strong>1,544</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Median titles added</strong></td>
<td></td>
<td><strong>900</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** A number of libraries replied only to one of the two questions regarding purchase and gift. This table lists only those who replied to both questions.

are needed to satisfy users' demands for new fiction. Fifty-two percent of the respondents bought fewer than this number.

On the other hand, the role of gift books can be very important, especially for the smaller library. Thus, although the mean number of new gift fiction titles was 157, three libraries actually received 1,000 or more titles as gifts. In fact, for the total number of libraries reporting on both purchases and gifts, new adult fiction titles added averaged 1,544 titles (with a median of 900). A number of respondents indicated the importance of these gifts in specific genres; gifts in effect free up book funds for other genres or more "serious" fiction. One respondent, by the way, indicated he bought no fiction at all, relying wholly on gifts, a situation that he, at least, apparently finds satisfactory. Again using Rawlinson's estimate of the need for 1,000 new titles, combining gifts with purchases, in over half the libraries (53%) fewer than the recommended number of titles were obtained.

From the comments received, most gifts appear to be recent paperbacks. Since there is some evidence that the entertain-
TABLE 5
ADULT FICTION ADDED THROUGH GIFT IN ONE YEAR
N = 89

<table>
<thead>
<tr>
<th>Titles Added</th>
<th>No. of Libraries</th>
<th>Cumulative No.</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>12</td>
<td>12</td>
<td>13.5</td>
</tr>
<tr>
<td>1-10</td>
<td>5</td>
<td>17</td>
<td>19.1</td>
</tr>
<tr>
<td>11-20</td>
<td>5</td>
<td>22</td>
<td>24.7</td>
</tr>
<tr>
<td>21-30</td>
<td>10</td>
<td>32</td>
<td>36.0</td>
</tr>
<tr>
<td>31-40</td>
<td>1</td>
<td>33</td>
<td>37.1</td>
</tr>
<tr>
<td>41-50</td>
<td>18</td>
<td>51</td>
<td>57.3</td>
</tr>
<tr>
<td>51-60</td>
<td>2</td>
<td>53</td>
<td>58.6</td>
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<tr>
<td>61-70</td>
<td>1</td>
<td>54</td>
<td>60.7</td>
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<tr>
<td>71-80</td>
<td>2</td>
<td>56</td>
<td>62.9</td>
</tr>
<tr>
<td>81-90</td>
<td>1</td>
<td>57</td>
<td>64.0</td>
</tr>
<tr>
<td>91-100</td>
<td>7</td>
<td>64</td>
<td>71.9</td>
</tr>
<tr>
<td>101-200</td>
<td>9</td>
<td>73</td>
<td>82.0</td>
</tr>
<tr>
<td>201-300</td>
<td>5</td>
<td>78</td>
<td>87.6</td>
</tr>
<tr>
<td>301-400</td>
<td>4</td>
<td>82</td>
<td>92.1</td>
</tr>
<tr>
<td>401-500</td>
<td>1</td>
<td>83</td>
<td>93.3</td>
</tr>
<tr>
<td>501-1,000</td>
<td>4</td>
<td>87</td>
<td>97.6</td>
</tr>
<tr>
<td>1,001-2,000</td>
<td>2</td>
<td>89</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Mean titles added 157
Median titles added 50

ment reader, in particular, seems to prefer paper over cloth covers (Hayden 1987), those gifts may well have a substantial effect on circulation. On the other hand, the vast majority of librarians prefer to buy their fiction in hardcover. Not only did 84% of the respondents indicate they preferred hardcover, only one (0.9%) preferred paper. One other stated that “it depends,” and fourteen (12%) said it made no difference in their decision.

A comparison of publishers' output with these results may be useful. For example, all U.S. publishers in 1990 issued 46,743 hardcover and trade paperback titles, of which 5,764 (about 12.3%) were fiction. Mass-market paperback production, which generally contains popular reading, generated 3,988 new titles, of which 2,855 (ca. 72%) were fiction (Gran-
TABLE 6
RANKINGS OF METHOD FOR SELECTING NEW ADULT FICTION
HARDCOVER BOOKS

<table>
<thead>
<tr>
<th>Method</th>
<th>N</th>
<th>1 Don't Use</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5 High Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approval/blanket order plans</td>
<td>107</td>
<td>97</td>
<td>6</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Book clubs</td>
<td>107</td>
<td>92</td>
<td>8</td>
<td>4</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Reviews in library and book trade journals</td>
<td>114</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>14</td>
<td>95</td>
</tr>
<tr>
<td>Reviews in popular newspapers and magazines</td>
<td>114</td>
<td>10</td>
<td>16</td>
<td>37</td>
<td>22</td>
<td>29</td>
</tr>
<tr>
<td>Bestseller lists</td>
<td>113</td>
<td>2</td>
<td>2</td>
<td>18</td>
<td>23</td>
<td>65</td>
</tr>
<tr>
<td>Best book, other lists of recommended fiction</td>
<td>110</td>
<td>8</td>
<td>10</td>
<td>27</td>
<td>27</td>
<td>38</td>
</tr>
<tr>
<td>Prizes and awards</td>
<td>114</td>
<td>16</td>
<td>11</td>
<td>30</td>
<td>31</td>
<td>26</td>
</tr>
<tr>
<td>User requests</td>
<td>113</td>
<td>2</td>
<td>3</td>
<td>17</td>
<td>27</td>
<td>64</td>
</tr>
</tbody>
</table>

TABLE 7
RANKINGS OF METHOD FOR SELECTING NEW ADULT FICTION
PAPERBACK BOOKS

<table>
<thead>
<tr>
<th>Method</th>
<th>N</th>
<th>1 Don't Use</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5 High Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approval/blanket order plans</td>
<td>108</td>
<td>96</td>
<td>8</td>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Book clubs</td>
<td>105</td>
<td>102</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Reviews in library and book trade journals</td>
<td>106</td>
<td>15</td>
<td>15</td>
<td>23</td>
<td>13</td>
<td>40</td>
</tr>
<tr>
<td>Reviews in popular newspapers and magazines</td>
<td>107</td>
<td>33</td>
<td>21</td>
<td>23</td>
<td>13</td>
<td>17</td>
</tr>
<tr>
<td>Bestseller lists</td>
<td>100</td>
<td>23</td>
<td>13</td>
<td>18</td>
<td>16</td>
<td>33</td>
</tr>
<tr>
<td>Best book, other lists of recommended fiction</td>
<td>103</td>
<td>28</td>
<td>13</td>
<td>25</td>
<td>10</td>
<td>24</td>
</tr>
<tr>
<td>Prizes and awards</td>
<td>104</td>
<td>39</td>
<td>17</td>
<td>13</td>
<td>12</td>
<td>19</td>
</tr>
<tr>
<td>User requests</td>
<td>101</td>
<td>13</td>
<td>6</td>
<td>12</td>
<td>19</td>
<td>51</td>
</tr>
</tbody>
</table>

Pricipcity's sake the discussion does not treat all genres under all selection methods.

"AUTOMATIC" SELECTION METHODS

Approval and standing order plans are perhaps best known in an academic library context. In theory, these methods could be very useful for public libraries, particularly for light fiction selection: knowing users were interested in romances or westerns, a librarian could merely obtain a copy of every new release from specific lines of specific publishers. Survey results, however, suggest librarians still like their autonomy—approval and blanket order plans received the lowest rating of any of the methods studied and were most likely to be marked "do not use." Interestingly, there was one category for which such
### TABLE 8
BOOK CLUBS, STANDING ORDER PLANS AND APPROVAL PLANS USED FOR FICTION SELECTION

<table>
<thead>
<tr>
<th>No. of Libraries</th>
<th>Source/Genre</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>Bantam/Doubleday/Dell-related clubs</td>
</tr>
<tr>
<td>11</td>
<td>Avalon</td>
</tr>
<tr>
<td>10</td>
<td>Thorndike (large print)</td>
</tr>
<tr>
<td>3</td>
<td>G. K. Hall</td>
</tr>
<tr>
<td>2</td>
<td>Baker &amp; Taylor</td>
</tr>
<tr>
<td>1</td>
<td>Little, Brown &amp; Co.</td>
</tr>
<tr>
<td>32</td>
<td>Westerns</td>
</tr>
<tr>
<td>30</td>
<td>Crime/Mysteries</td>
</tr>
<tr>
<td>24</td>
<td>Romance/Gothics</td>
</tr>
<tr>
<td>16</td>
<td>Science Fiction/Fantasy</td>
</tr>
<tr>
<td>15</td>
<td>Fiction in general</td>
</tr>
<tr>
<td>7</td>
<td>History</td>
</tr>
<tr>
<td>4</td>
<td>War/Naval</td>
</tr>
<tr>
<td>4</td>
<td>Horror</td>
</tr>
<tr>
<td>2</td>
<td>Experimental</td>
</tr>
<tr>
<td>2</td>
<td>First works</td>
</tr>
</tbody>
</table>

40 libraries listed at least one such plan.

plans received some favorable ratings—romance literature. Eighteen percent of the respondents used these methods for romance paperbacks and 20% for romance hardcovers, while overall only about 10% used them for other categories.

The typical book club is similar to approval plans in that the club's recommendation comes automatically unless the librarian takes some action. In addition, book clubs often provide large discounts and free books to new subscribers, as well as credit toward free titles for each purchase above the minimum. Clubs also provide reviews of some sort (in the monthly announcement). The 1990 Literary Market Place (1990, 453–59) lists 25 clubs dealing with adult fiction. Given the large number of specialty clubs, it seems plausible that many libraries would rely on them, especially for lighter fiction. While rarely used for paperbacks, such clubs are used to some extent for some hardcover genres. About 25% of respondents do use them for crime and mystery or for science fiction, both areas that have longstanding, reputable clubs. In addition, book clubs are rather popular for large-print materials. Several respondents indicated particular large-print book clubs or jobbers in response to this question. Other librarians made similar points in a free-form question.

**REVIEWS**

The considerable importance claimed for book reviews as a selection method is verified again in this survey. Of all the methods studied, reviews ranked the highest. All respondents indicated they used reviews in the library and publishing trade press for selection of hardcover fiction, 83% ranking this method as extremely important. As is the case with other selection methods, reviews are less important for paperbacks; only 38% ranked the method as extremely important, and 14% indicated they did not use them at all. With very slight variations, the same proportions hold for the various genres studied.

Reviews in more popular media, including newspapers, are less important than those in the professional media, even for the popular genres. Only 16% of respondents ranked popular reviews as extremely important for paperback selection, and only 25% the same for hardcover selection. Nearly a third (31%) did not use such reviews at all for paperbacks, nor did 9% use them for hardcovers.

The questionnaire also included a request that respondents list the five most important review sources used under each category. The most common response was a list of titles under the general heading “fiction” followed by an indication that the same sources were used for all genres. The most popular review source is Library Journal (used by 102 libraries) followed by Booklist (96), Publishers Weekly (81), the New York Times (58) and the Kirkus reviews (34). Aside from a rather rapid drop-off in frequency, this is similar to past results, notably those found in Futas’
TABLE 9
REVIEW SOURCES
FOR FICTION IN GENERAL

<table>
<thead>
<tr>
<th>No. of Libraries</th>
<th>Sources Listed</th>
</tr>
</thead>
<tbody>
<tr>
<td>102</td>
<td>Library Journal</td>
</tr>
<tr>
<td>96</td>
<td>Booklist</td>
</tr>
<tr>
<td>81</td>
<td>Publisher's Weekly</td>
</tr>
<tr>
<td>58</td>
<td>New York Times (weekly and/or Sunday)</td>
</tr>
<tr>
<td>34</td>
<td>Kirkus Reviews</td>
</tr>
<tr>
<td>19</td>
<td>Wilson Library Bulletin</td>
</tr>
<tr>
<td>17</td>
<td>Baker &amp; Taylor alerting publications</td>
</tr>
<tr>
<td>13</td>
<td>local newspapers (each title listed once)</td>
</tr>
<tr>
<td>7</td>
<td>Ingram alerting publications</td>
</tr>
<tr>
<td>6</td>
<td>H W. Wilson catalogs (e.g., Fiction Catalog)</td>
</tr>
<tr>
<td>4</td>
<td>School Library Journal*</td>
</tr>
<tr>
<td>3</td>
<td>publishers' blurbs and catalogs</td>
</tr>
<tr>
<td>2</td>
<td>7 titles listed twice each*</td>
</tr>
<tr>
<td>1</td>
<td>14 titles other than local newspapers listed once each</td>
</tr>
</tbody>
</table>

*There are a number of titles listed in addition to SLJ that primarily cover children's books. Presumably the libraries in question use these to select young adult books, which are then placed in the adult section. Or some libraries may have merely listed the five most important sources for reviews.

national survey of public libraries (Futas 1984, xxi–xxix).

However, when taken together, the next most popular sources listed were the alerting tools of jobbers (Baker and Taylor lists were mentioned by 17, those from Ingram by 7 and those from Brodart by 2), ranking ahead of Wilson Library Bulletin (19) and local newspapers (13). With the exception of recent work by Palmer (1991) and Serebnick (1992), previous researchers have not remarked on the influence of jobbers' "reviews." Whether these findings are the result of the difference in population (I looked only at medium-sized public libraries; past researchers tended to survey larger ones), the nature of the material (I asked only about fiction), or a change in library practice in recent years (more may now be using jobbers) is not clear.

It is interesting in this context that Serebnick (1992) has found an apparently strong influence of jobbers on selection of small-press books. Regarding fiction, Shaw (1991) found an apparent influence of some factor other than reviews, and Palmer (1991) found strong influences from jobbers and rental services on Canadian libraries' acquisition of Canadian fiction. On the other hand, the continuing influence of two traditional review sources (Library Journal and Booklist) is clear, while the role of the Kirkus service appears to be declining.

"BEST BOOK" LISTS

Another possible type of selection source is the list of recommended material. Most review sources tend to have special lists of the "best of the year" or similar; Library Journal, for example, has several such lists. And, of course, the several bibliographies produced by H. W. Wilson, especially the Fiction Catalog series, would appear to be obvious sources of recommended material. Literary Market Place (1990, 1070–1101) lists about 100 prizes available for adult fiction (excluding poetry and drama), including many in "light fiction" genres such as mystery, romance, and science fiction. Assuming a lack of interest or expertise in such fiction on the part of a local selector, such awards made by experts in the relevant genres would seem to be popular selection aids; they are not. In fact, a number of respondents use prize lists only to the extent they find them in the course of normal reading. Best book and similar lists of recommended books get a somewhat higher rating than do prizes, with 24% of the libraries rating the former extremely important for paperback selection and 35% for hardcover selection, versus similar ratings of 19% for paperback and 23% for hardcover prize lists.

Given the apparent ease and value of using recommendations like these, the relatively low rank accorded them is curious. One possible explanation for this fact
could be that prize winners often tend to be heavily reviewed, with mention of the prize usually included once it is awarded, so that reliance on reviews may imply at least knowledge (if not direct use) of awards. It could also be that librarians prefer to rely on their own judgment, and thus, while taking awards into consideration, feel the further information provided by reviews is critical to a selection decision. And, of course, both recommendations and prizes tend to be given some time after the books have been published. Assuming reasonable skill and speed in selection, the "best" books will already be in the library by the time they get nominated as such.

While I did not make any attempt to judge whether libraries held the "best" books, the preceding results tend to confirm that librarians make conscious selection decisions, as opposed to blindly following the "official" crowd. In addition to Serebnick and Shaw's results, Schwartz's (1989) more theoretical work also suggests that the complexity of the selection process is greater than many models have made it.

DEMAND CRITERIA

The discussion above concerns quality measures; however, librarians also consider demand in selection. The questionnaire contained an inquiry about both bestsellers and user requests, the former as a possible measure of national demand, the latter aimed at local demand. Certainly, bestseller lists are important to the librarians surveyed, with 58% ranking these as extremely important for hardcovers. The situation for paperbacks is less clear, with 32% ranking such lists as extremely important and 22% stating they do not use them. Since the more popular titles tend to be reprinted in paperback, it is possible the lower ranking for paper merely reflects the tendency of librarians to avoid buying paperbacks.

On the other hand, local demand, as represented by user requests, is very important to nearly all respondents, ranking only a bit behind library or book-trade reviews as a selection source. 51% of respondents ranked user requests as extremely important for paperback, and 57% for hardcover. Considering the vocal opposition to the "give 'em what they want" school, it is interesting that most respondents pay considerable attention to user requests. Presumably, regardless of how a librarian might respond in theory to a survey question, the simple fact of a local taxpayer requesting a specific title is hard to ignore: If libraries are for use, what better predictor of use than a specific request? And if libraries serve the public, what better way than by responding to a specific request from a member of that public? In any event, within budget constraints, it appears most librarians will buy at least some adult fiction on demand.

COMPETING SOURCES OF MATERIAL

In recent years, there has been much discussion about the role of libraries within a "community of information," including other libraries and such outlets for reading as bookstores. The former can include nearly any other library, given the extent of resource-sharing networks. It is clear that local bookstores have little effect, since 81% of respondents stated they did not consider them at all. Availability of a title in nearby libraries has a bit more influence, but 56% still did not consider this factor in selection. Interlibrary borrowing was a bit more important, with only 40% of the libraries stating they did not consider it at all and 5% ranking it as extremely important (compared with 4% for bookstores and 2% for nearby libraries respectively). In other words, it appears that medium-sized public libraries come rather close to ignoring commercial outlets for fiction, but do give moderate attention to availability of material from other libraries when they buy a new title.

SUMMARY AND CONCLUSION

This study was a survey of medium-sized public libraries in the United States, a group that has generally been ignored in similar studies in recent years. Likewise, respondents were asked about the adult fiction collection, again a neglected topic. In general, respondents obtain fewer than 1,600 new titles a year, such that
about one-fourth of their collections consist of adult fiction. About two-thirds to three-fourths of this is "light" or entertainment-oriented material, but the rest is more serious literature, suggesting that these librarians are taking a middle ground in the demand-versus-quality debate. By far, librarians prefer hardcovers, in spite of the supposed paperback revolution. Concern for individuals with vision impairment through age or disability leads to apparently common purchases of at least some large-print fiction for these clients.

Librarians in these libraries rely primarily on reviews in the standard library and trade journals for information about the new titles, but also consider local demand when selecting their books. Even with the availability of a number of "automatic" ordering methods, librarians tend to prefer item-by-item selection methods. While the number of awards, recommended lists, and other shortcuts for adult fiction selection is rather large, most librarians did not see them as highly important, compared with their knowledge of their communities and the combined information and evaluation provided by reviews. In general, then, these librarians appear to behave according to the "common wisdom" of the profession.

On the other hand, common wisdom does not completely describe the situation in medium-sized libraries, as the following points demonstrate:

- While book clubs and similar "automatic" order procedures remain uncommon, about one in four libraries uses at least one such plan.
- Lists provided by book wholesalers are apparently becoming an important tool for selection, as they appear to be for some other kinds of library materials, such as small press books.
- Notices of books in local or regional newspapers may be more important for public library fiction selection than hitherto thought.

Regardless of the impact of information technology, it is clear that provision of fiction, for entertainment, information, or self-improvement, remains an important role for the public library. While we retain an imperfect knowledge of the details of both fiction collections and their use, recent research, including this study, suggests the treatment of such material might be changing. It is particularly curious that both this form of material and this size of library have been neglected in the United States, while British librarians seem quite interested in the area. For example, a recent book on the subject (Kinnell 1991) includes two chapters on U.S. practice, including one based on the study reported by this author. Two other book-length works on the subject have appeared in Great Britain in the last decade or so (Dixon 1986; Atkinson 1981). In any event, this writer, working with a colleague, plans to continue examining the subject in greater detail.

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Library Processing Practices by Discipline: Are Some Books More Equal than Others?

Mary Page and Melinda Ann Reagor

This study is a test of the performance of research libraries in providing timely technical services processing for materials in different disciplines. The researchers use cataloging dates from bibliographic records in the Research Libraries Information Network (RLIN) to measure the difference in processing times among selected research libraries with centralized technical services operations. A random sample of monographic titles from the 1988 catalogs of publishers of high-quality research materials is coded for the broad areas of humanities, social sciences, and science; these titles are then searched in RLIN to identify cataloging dates. The cataloging date is an imperfect indicator of availability, but it is a strong measure of overall technical processing performance. The average processing time per title is used to test whether processing times in this sample vary significantly by discipline. It was found that science materials were processed more slowly (mean 152.9 days) than materials in the social sciences (mean 130.7 days) and the humanities (mean 100.7 days).

Libraries play an acknowledged role in the advancement of research in all settings. While every serious researcher owns some needed tools, the body of materials that can be owned by an individual is limited by many factors, including ease of use, storage, purchase price, and cost per anticipated use. The institutional support provided by libraries ensures that researchers can share both the costs and the benefits of access to information necessary to research. An academic library is responsible for providing support for those pursuing research aims in the service of the institution and the advancement of knowledge.

In order for this implicit contract of collective ownership and access to work effectively, researchers must be confident that materials will be available at the point of need. Libraries bear responsibility not only for acquiring materials but for making them available in a timely way. Economic factors are among those that force

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individual researchers to rely on libraries. Similarly, such factors have always forced libraries to look beyond local resources to sharing resources with other institutions. Dwindling resources in higher education have only increased the importance of resource sharing among institutions.

Relatively recently, the availability of electronic resources has begun to prompt reevaluation of the roles of scholars, publishers, and libraries in making research findings available. Many resources are now available in electronic format, while a growing number are available only electronically, and the academic community is working on new paradigms for such functions as refereeing in the electronic environment. Regardless of the format of resources needed for research, the success measure of the supplier remains the same: making needed resources available at the point of need.

For the purposes of this study, technical processing is construed to include ordering, cataloging, and those selection processes that cannot easily be separated from ordering. The study is designed to examine closely only one segment of current library practice in supplying information to researchers: the processing of monographic publications. More specifically, this study is focused on whether there are significant differences in processing times of monographic materials in different disciplines. The researchers wanted to know whether subject matter was a factor in technical services processing, either by design or by default.

**Subject-Based Priority Systems in the Literature**

First, the researchers sought to determine whether monographic materials in certain disciplines were deliberately processed quickly. A search of the literature yielded little information on the practice of assigning priorities based on subject. Holley (1984, 345) defined a priority system as “processing library materials on any basis other than complete randomization.” Holley outlined several factors that could influence priority decisions; subject area was not included. He did note that “statistically verified use patterns” and the librarian’s assessment of “perceived need” could be considered as factors in priority assignment (346). There was, however, no explicit discussion of subject-based priorities.

Koerner (1972, 512) discussed the acquisition and cataloging practices of map libraries, advocating the establishment of “a system of cataloging priorities emphasizing the subjects and areas of major importance to the university...” Koerner found that most map libraries were following some informal, unwritten policy, but she encouraged map librarians to establish a formal system, to make sure “that those maps likely to be of most interest to the academic community will be processed and available in the shortest time possible” (515). Because neither the literature nor informal conversations with professionals at a wide range of research libraries indicated that formal subject-based priority systems were in general use, the researchers designed a study to test whether significant differences in processing times among the disciplines were present in practice.

Calhoun and Bracken (1983) presented an elegant method for determining publisher quality. They compared the average number of titles a publisher had appearing on Choice’s annual list of outstanding academic books to the publisher’s total output, generating for each publisher a “quality ratio.” Among the criticisms of the methodology was the authors’ failure to account for titles that were not original scholarly works, such as works of fiction or children’s books. Including such titles in the comparison of total output to scholarly books unfairly penalized trade and textbook houses and led to inaccurate conclusions.

Dougherty and Maier (1971) reported processing lag times that ranged from a low of 115 days to a high of 198. These figures cannot be compared to the present study, because Dougherty and Maier’s research measured processing time from the date of initial order to the date of actual availability.

**Methodology**

The study was designed to compare the processing time in research libraries of
materials in the humanities, social sciences, and sciences. The purpose was not to compare individual libraries' performance, but rather to see whether actual processing patterns reflected differences in treatment among the disciplines. The publishing year 1988 was selected as the most current year that would allow the study to test library processing patterns reliably. The items would be new enough to support conclusions about current publishing and processing patterns. At the same time, they would be old enough so that, in all likelihood, they would not be in library processing backlogs.

**Selection of Titles**

The items in the study had to be research-level materials warranting addition to research library collections. The researchers opted to select research monographs from the 1988 output of respected scholarly presses. Choosing publications from the 1988 lists of the Princeton, Cambridge, and Oxford university presses ensured selection of high-quality research materials both widely accessible and well regarded in the scholarly community. Review of the presses' 1988 spring and fall catalogs indicated that their collective annual output would be large enough to support a valid random selection. Ruling out broad categories on each list, such as reprints, children's literature, and guidebooks, further narrowed the pool to those items that would likely be in demand by scholars for immediate use (Calhoun and Bracken 1983).

Several other methods of identifying research items in the universe of monographs were considered and ultimately rejected. The *Weekly Record* and its cumulations (e.g., the annual *American Book Publishing Record*) contain a high volume of nonresearch-level material. The only advantage of using the *Weekly Record* would have been allowing the researchers to pinpoint the date of commercial availability. Using this date as an absolute measure of performance would not have added to the study's focus on relative performance by discipline among libraries. For nearly all libraries in the study, *College Libraries* and *Choice*, were seen as appropriate for testing college collections but not adequate to justify conclusions about research-level materials, especially as a pretest indicated a great variability in ownership of titles. The expert selection published annually in *Science* and *Nature* have no parallel in the other two broad subject areas, humanities and social science.

**Measurement of Processing Time**

The researchers chose to use the cataloging dates available through the cataloging module of the Research Libraries Information Network (RLIN) as a means of measuring technical services processing time. RLIN retains a separate record for each item cataloged by a member library, and the individual member records include information about the dates on which they were used. For example, it is possible to determine that a given library first ordered a tape record on March 27, 1992, and again on May 14, 1992. The first tape date was used as the cataloging date.

It was recognized that the RLIN cataloging date would measure processing time at a point somewhat before the item would be available to the researcher. Cataloged items generally have to be marked and shelved in some way before they are actually accessible to patrons. However, the RLIN cataloging date is a strong measure of all technical services processing time up through the point of cataloging, i.e., the time required to process orders and catalog materials. Because selecting and ordering activities are often closely intertwined, for example, in approval plans, some selection time might also be included. As detailed above, every effort was made to select titles that should have been processed by major research libraries, so that we measured when these titles were processed rather than whether they should be acquired.

The cataloging dates could, it was determined, be used as a relative measure. The study was not focused on how soon after publication an individual library processed an item. Rather, the researchers calculated how nearly libraries in the study
matched the performance of the first library to catalog an item, and compiled those figures by discipline to ascertain whether there were differences.

It should be pointed out that other methods of measuring processing time were evaluated and rejected as unfeasible. Internet or dial-access to remote local catalogs only occasionally supported access to the MARC record, which might or might not contain the date a given record was added to the database. Surveys requiring detailed responses from the institutions were deemed too complex and time-consuming to be either reliable or likely to have a high rate of return. The other major bibliographic utility, OCLC Online Computer Library Center, Inc., does not make available the date a given holdings symbol is added to the single master record.

SELECTING THE LIBRARIES

Libraries selected for the study had to meet three criteria. First, they had to be RLIN libraries, preferably major research institutions with strong research collections in all three broad subject areas. They had to be institutions without obvious focus in one of the three broad areas, because an institutional focus could be expected to lead to implicit priorities in technical services processing. For example, Cal Tech was excluded because it could be expected to process science materials quickly. Additionally, any institutions with separate RLIN technical services functions for health sciences were disqualified, as such decentralization of processing can be seen as an institutional commitment to priority processing of materials. Finally, libraries had to be tape-loading RLIN members, first cataloging on RLIN then loading tapes into their local system. Libraries that catalog on local systems, then backload tapes to RLIN, were excluded from the study because their RLIN records do not have reliable first-use dates.

Twelve libraries met the criteria. Although a geographic spread was desired, applying the established criteria resulted in selecting largely East and West Coast institutions. Of the twelve institutions selected, eight were Eastern, three were Western, and one was Midwestern.

IDENTIFYING TITLES

A case study approach was used with the empirical data described below. The indexes of each of the six publisher catalogs (spring and fall 1988 catalogs for the Oxford, Cambridge, and Princeton University presses) were used to assign sequential numbers to titles in the catalogs. A total of 2,121 titles were assigned numbers in a single numerical sequence covering the six indexes. Each numbered entry was then coded as humanities, social science, or science, using actual catalog descriptions for clarification when necessary. At this point, nonresearch titles were dropped; cross-disciplinary titles involving science and the humanities or science and the social sciences were coded with the nonscience-discipline.

Next, a simple random sequence of 300 numbers was used to identify titles in each of the three broad subject areas. The 300 numbers were regrouped into six sequences of fifty, with numbers throughout the full range in each sequence. This upgrading process ensured that items in the entire alphabetic sequence in the indexes had an equal chance of being selected. The researchers checked each randomly selected title for research value and proper subject coding. Forty titles for each subject were compiled to ensure that a minimum of thirty titles for each subject area could ultimately be tracked.

The sequence of random numbers produced forty titles in the humanities, forty in social sciences, and forty-two in science. Lists to be used in the tracking study were prepared for each subject, including sequential number, random number, title, author and edition (when needed for clarification), and a code for publisher catalog reference.

SEARCHING RLIN

Each item on the three lists was searched on RLIN. Most often, a title search (using
A single master record to which library holdings are attached, RLIN maintains individual cataloging records for each institution. To simplify searching and retrieval, records in RLIN "cluster" with other records that have the same information in certain fields. Occasionally, multiple RLIN record clusters clearly reflected a single published title; in these cases all relevant clusters were examined.

Once the correct bibliographic record was retrieved, each of the four-character identifiers for the twelve selected libraries was entered in turn (dis ABCD). If the library held the item, the cataloging date was determined and recorded. In each case, although these data ultimately were deemed irrelevant.

**Analysis of the Data**

The raw data were entered into a spreadsheet program (Lotus 1-2-3) for manipulation. For every item in each of the three disciplines, the cataloging dates were entered for each of the twelve libraries. To facilitate arithmetic and statistical calculations, the dates were converted to numerical format (i.e., 5/20/88 became 322983, the number of days between January 1, 1900, and May 20, 1988). The converted dates were sorted from earliest to latest, and the earliest date was subtracted from each subsequent date indicating how many more days than the fastest library it took the other libraries to catalog the same item. The earliest cataloging date provided the benchmark to which the other dates were compared, but once the dates were sorted, they were no longer associated with a specific library. It is important to emphasize again that an individual library's performance or how quickly a specific title was processed was ultimately not significant; these factors were considered only as the first step in determining performance by discipline.

In each discipline, the mean number of days to catalog each item was determined. The mean per item was used to calculate the mean by discipline. The figures for the mean by discipline indicate that it took on average 101 to 153 days to catalog these materials (Dougherty and Mular 1971).

The dates were analyzed further to determine whether any libraries dominated in either fastest or slowest processing time in any of the three disciplines. No library exhibited clear dominance, and chi-square tests on these data, as hoped, revealed no significant differences in patterns. However, the fact that libraries with consistent moderate performance were not represented weakened this analysis.

**TABLE 1**

Analysis of the Processing Time at Twelve Research Libraries

<table>
<thead>
<tr>
<th></th>
<th>Humanities</th>
<th>Social Sciences</th>
<th>Sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average number of days</td>
<td>100.7</td>
<td>130.7</td>
<td>152.9</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>51.3</td>
<td>85.9</td>
<td>72.4</td>
</tr>
<tr>
<td>Coefficients of variation</td>
<td>50.9</td>
<td>65.7</td>
<td>47.4</td>
</tr>
<tr>
<td>Fastest processing time (per item avg. no. days)</td>
<td>36.3</td>
<td>33.1</td>
<td>50.6</td>
</tr>
<tr>
<td>Slowest processing time (per item avg. no. days)</td>
<td>232.9</td>
<td>360.1</td>
<td>327.3</td>
</tr>
</tbody>
</table>
RESULTS

Science materials in this sample were processed more slowly than materials in the other two disciplines. Social science materials placed second, and humanities materials were processed the most quickly. The mean number of days for science materials was 152.9; the mean for social science was 130.7 days. Humanities led the way with a mean of 100.7 days per title. The dispersion surrounding each discipline's aggregate mean indicated consistency in each distribution. The average number of days and standard deviation for each discipline are shown in Table 1. A standard measure of dispersion, the coefficient of variation, indicates that the distributions are similar. (The coefficient of variation is calculated by dividing the standard deviation by the mean and multiplying the result by 100.) The distributions had somewhat high levels of dispersion, but these could be due to the small number of libraries used in the study.

CONCLUSIONS

If subject matter were not a factor in technical processing, differences in processing times among the disciplines would be negligible, and all materials regardless of subject would be given equal treatment. Such a subject-blind policy would have the advantage of apparent fairness. However, the present study offers no evidence that such policies are in effect. Processing times for science materials lagged well behind those for nonscience materials. In fact, a de facto policy of cataloging humanities materials first is suggested.

Although the scientific community generally places a greater reliance on the journal literature, this preference should not justify slow processing of science monographs, for as Buckland (1975, 12) observes, the "usage of books declines with age in a negative exponential pattern," and this is especially true of scientific monographs. With obvious exceptions, such as geology and the history of science, new publications are the ones most valuable to researchers in the sciences.

The apparent general lack of attention to the different needs of different user populations in processing practices is of great concern. As Johnson (1985, 214) points out in his study of rush processing practices, "there is little point in developing a book collection useful to your patrons if you cannot provide the books when they are urgently needed. Once we begin providing books to patrons when it is most convenient to us and least convenient to them, we stop being librarians and start becoming bureaucrats."

Most large university libraries process enormous quantities of material, and the first-in, first-out principle is justified as a logical, democratic system to follow in such a context. Holley (1984, 345) points out that the major weakness in the FIFO principle for managing technical processing is that "no attempt is made to put ahead [in] the system materials whose special worth is relatively obvious." Still, it does provide a simple and justifiable method for managing large operations. However, the present study suggests that the FIFO principle is being circumvented, raising questions about what priority systems are employed in library technical processing.

For whatever reason, science materials are processed in a manner antithetical to the values of the discipline. Reasons for this finding might include the complexity of the subject, librarians' subject backgrounds, ordering procedures, availability of cataloging copy, or the complexities of science monographic publishing (works are produced in series, subseries, conference proceedings, etc.). Further studies could be focused on possible reasons for this finding. More importantly, current policies and practices could be reviewed to determine whether library processing performance should acknowledge the fundamental needs of different disciplines. Difficulties of implementation should not rule out considering new processing workflows that would more closely reflect libraries' responsibility to mirror use patterns in the disciplines they support.
WORKS CITED


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Notes on Operations

The Internet and Technical Services:
A Point Break Approach

Gillian M. McCombs

Automation has long facilitated technical services operations. However, much of the current library activity on the Internet has emanated from public services. The implications of the Internet for technical services are discussed. The importance of technical services librarians working on the network is detailed. A rethinking of traditional technical services attitudes toward the accessing and processing of information in an electronic environment is recommended.

In the media, not a day goes by without a discussion of information highways, communications bundling, and the digital revolution. The covers of Time and the New York Times Sunday magazine have featured articles on the Internet and the convergence of computing, telecommunications, and the media (Elmer-Dewitt 1993a and b; Gleick 1993). Even Mike in "Doonesbury" has been "surfing the Net" recently under the handle Tin Man. As "knowledge executives" (as described in Harlan Cleveland's Information Society [Cleveland 1985]), it is impossible for us to ignore the impact of these communications developments—the Internet being just one of them. As information professionals, it would be an act of extreme professional negligence to ignore one of the most instantaneous and far-reaching methods of information delivery available (Henry and Peters 1993, 513). The High Performance Computing Act of 1991 provides for the creation of a high-speed network that will transfer an entire encyclopedia in less than three seconds at gigabytes-per-second speeds and has the potential to revolutionize the concept of information processing, access, and delivery (McClure 1993, 25).

With notable exceptions (see the work done at Virginia Polytechnic Institute and Columbia University, OCLC’s research project on cataloging materials on the Internet, and MARBI Proposal 93-4), technical services librarians have remained on the sidelines of this activity. The Internet remains largely unexplored from a technical services perspective. Why is this, and what must change in order for technical services librarians to grab their metaphorical surfboards and surf the Internet?

Much of the literature on the Internet has focused on "how do I get on, where am I going, what do I find when I get there, and is it any good when I've got it?" (A variety of excellent works exist that combine how-to-do-it instructions with philosophy and history [LaQuey 1992; Krol 1992]; an excellent bibliography is in-
cluded in the OCLC report [Dillon 1993]). However, it will be necessary for us to change our conventional attitudes and assumptions about information transfer—assumptions that were made in a print environment—in order to move forward. Moving forward entails more than learning some basic skills—taking Internet classes or learning the difference between Archie (the FTP guru), Veronica (Very Easy Rodent-Oriented Internetwide Index to Computer Access) and Gopher (a client-server system accessing information on the Internet), although of course this training is important. The crucial elements that are needed before we can become "interneters" (Dern 1994, 22) are the relearning of cognitive skills and a breaking down of the barriers we unconsciously set up every day of our lives, both in the way we look at problems and in our organizational structures.

Rosabeth Moss Kanter used the following exercise as an editorial in the Harvard Business Review to illustrate the need for "thinking across boundaries" (Kanter 1990, 9). The task is to connect all nine dots with four lines. If you stay within the lines, this cannot be done. The solution is found only by going outside the lines. We instinctively set limits or barriers. The cognitive imprint of those nine dots on our brains is a square, and unless we realize this is the case and can override it—change computational cannots into cans—we will not take down the barriers or move out of the square. We need to question the initial assumption we made. Who said we could not go outside the undrawn lines?

The second part of the exercise is to try connecting the dots using three lines. Again, by challenging another assumption—that the circles must stay the same size—we can solve the puzzle. This is not a matter of abandoning all rules, but of changing the existing rules to create a new conceptual space. Constraints on thinking do not always constrain; they can sometimes make certain thoughts or mental structures possible.

One problem that many people have with the Internet is that it is essentially unmapped territory. At times the Internet seems amorphous and chaotic, and when it materializes in details such as unzipped files or tarring (a UNIX-based protocol used to simultaneously compress and connect groups of files), it seems even more unmanageable. However, a perfect comprehension or control of all the resources on the Internet (over 3 million files when OCLC conducted its study in 1992) is not essential. Flexibility, openness, and maintaining a focus on a resource's content rather than its container or delivery mechanism are more important (Martell 1985, 294).

We need to become comfortable with the concept of "alters," our electronic alter egos (Karnow 1993, 114), with the multiple overlapping of remotely located personalities. Our electronic alter ego picks up our mail, plays games with other alters while we are not looking, and retrieves information, sifts through it, and massages it for our digestion.

Flexibility and creativity are not characteristics that have been much encouraged in technical services over the years. Indeed, the climate that has been fostered is exactly the opposite. We apply rules, we compartmentalize information. We use classification schemes, subject heading codes, and rule interpretations. Information is analyzed, deconstructed, and

Figure 1. Problem: Connect All Nine Dots Using No More Than Four Straight Lines.
restructured in appropriate Library of Congress form. Consistency and standardization—qualities anathema to creative thinkers—are the characteristics of a traditional technical services environment. Rules and standards have in the past enabled us to do our jobs, to acquire and organize information so that it is readily accessible to our patrons. However, as Aldous Huxley said, “Too much consistency is as bad for the mind as it is for the body. Consistency is contrary to nature, contrary to life. The only completely consistent people are the dead” (Huxley 1929, 135). Friscilla Caplan specifically asks the question, “How do we accommodate networked electronic information when our cataloging rules are designed to describe physical items owned by and residing in libraries?” (Caplan 1993, 61).

On the Internet there are very few rules and very little consistency. Information sources are here today, gone tomorrow. Archiving is a central issue, but pickling (the storing of functioning hardware, like an Apple computer, in order to access its files fifty years down the road) is just as crucial (Wired 1993, 30). Ann De Klerk and Joanne Euster document the evolutionary stages that occur before mindset and workflow really change in response to technology (De Klerk and Euster 1989).

Typical stages in technological innovation include an initial period during which the individual manual processes, that may or may not be combined, are emulated. During this first experimental stage, that mechanized or automated mode is “layered” on to the manual process and both are in use. In a later stage, the manual process will be abandoned. Automated processes then substitute for manual ones but typically in the same context as before. The total system will not be completely rethought for some time, and advantage is not taken of new possibilities for fresh sequences and combinations.

Creativity and innovation are now viewed as skills that can be learned, processes of mental gymnastics rather than gifts that we are born with. Creativity training programs emphasize the use of analogies and metaphors to help solve problems, the idea being to break out of rigid thinking patterns that might block new ideas (Northcraft and Neale 1989, 210). The widespread use of surfing imagery in describing the Internet is one example of this phenomenon, as is the use of the language of exploration. Once we can imagine ourselves riding the breaks or exploring the unknown, we have freed ourselves from the usual ways of doing things.

Two of the 1993 Nobel prize winners are living examples of this phenomenon. Kary Mullis (described as an intellectual maverick) was awarded the Nobel Prize for chemistry. He was photographed returning from a celebratory surfing trip, surfboard under his arm. He described how the idea for a fast, accurate way of replicating genetic material simply came to him as he was riding his motorcycle a decade ago along California Highway 1 from San Francisco to Mendocino. Michael Smith, Nobel Prize winner in physics, told how his discovery of the way to alter DNA molecules came during a coffee break. Almost ten years ago, Allen Veaner noted the need for a change in the attitudes of academic librarians and called on us to focus on the increased development of our mental and intellectual talents: “to take risks, experiment, and...
even fail on occasion" (Veaner 1985, 296). Can we liberate our minds from print conventions to enter the final stage of automation predicted by De Klerk and Euster and completely rethink how we handle electronic processing and electronic information?

There are three basic applications on the Internet—e-mail, remote log-in to another computer, and file transfer (FTP) from a remote computer to your computer (LaQuey 1992). Technical services librarians will find themselves using these three applications in the following ways. First we can process information electronically, that is, use the Internet to acquire and catalog information, whatever the format. Second, we can position information that is only available electronically so that it can be accessed by our patrons. Third, we can do these two things simultaneously, and electronically process information without human intervention.

**Electronic Processing of Information**

The first scenario is standard. We use e-mail in interacting with our colleagues and staff at bibliographic utilities, and in accessing a variety of professional discussion lists (known colloquially as “listservs”). We use remote log-in to access our cataloging utilities in search mode via the Internet. Acquisitions staff is also using the Internet to utilize vendor services such as Blackwell Connect. In a cooperative cataloging project between the libraries of the University of Minnesota and the University of Washington, the Internet was used both to communicate in a timely fashion, one librarian to another, and to access cataloging records in each institution’s online catalog (Kiegel and Schellinger 1993, 221). We use FTP to output records from our local systems to RLIN, OCLC, and any other remote user we choose. At the University at Albany, FTP is used to transfer patron records and passwords from the Geac system into Rensselaer Polytechnic Institute’s online database, InfoTrax (a Spires system), in order to jointly access the Current Contents database that is on RPI’s mainframe computer. Of course, many FTP items for professional reading, such as OCLC’s report on the Internet Cataloging project (Dillon 1993).

**Electronic Access to Information**

The second scenario, positioning electronic information for ready access by our patrons, is not quite the status quo yet. The acquisition of electronic information for patrons is still the exception rather than the rule. This is not to say that electronic information was never previously acquired. Many libraries have been acquiring data sets for several years, but have relied on their local computing centers to store, mount, and provide access to that information. Electronic journals (e-journals) can be accessed by the individual either by subscribing to a listserv or by Gopher/FTP. Vanguard institutions like Virginia Polytechnic Institute have piloted projects to access and process e-journals (McMillan 1992, 470) and have copiously documented these projects in the literature. Publishers such as Elsevier are working with academic libraries to experiment with the delivery of bit-mapped journal page images and ASCII full text via the Internet in such projects as the TULIP (The University Licensing Program) Project.

**Electronic Processing of Electronic Information Simultaneously**

The third scenario, electronically processing electronic information without human intervention, is discussed more than done. The acquisition of electronic journals is one technical services process that highlights the quantum leap between the second and third scenarios. Most e-journals are received by a special account via electronic mail and moved from that account to a simple menu system (McMillan 1993, 125). The entire system is based on a mainframe help facility, but the essential ingredient is a knowledgeable person to manage the data. To optimize the capabilities of electronic processing in a UNIX environment, one can utilize a cron (which is a kind of demon that looks for particular
events to occur). Using a shell script run by the UNIX cron program, any new mail for the electronic journal user ID is collected nightly and moved to the Gopher file system. The WAIS index for this title is also rebuilt so that the new articles or issues are incorporated into the database. (Scripts and crontab entries for this are available through the Scholarly Communications Project of Virginia Polytechnic Institute). This system could be extended further to include frequency of publication in the program so that acquisitions could be notified by e-mail if issues lapsed. Placing more of the workload on the computer makes sense whenever possible. Automatic acquisition of e-journals also provides the added benefits of timeliness and full-text searching capabilities to the end user. Subscribing to VPIEJ-L, a discussion list for e-journals, will keep one up to date on developments.

Another technical services process falling into the third scenario is the electronic cataloging of e-texts such as theses and dissertations. This can be done using SGML (Standard Generalized Markup Language) or another markup language, or using tagged files with abstracts to be sent as two separate files. The content is tagged to go to the particular computer on which it will reside, and the separate abstract goes to an electronic address in cataloging, where a librarian can perform standard bibliographic analysis for the online catalog and can access the content file for further perusal if necessary. The Coalition for Networked Information, in conjunction with UMI, is exploring the concept of making theses and dissertations available electronically, and Cornell already has put several dissertations on its Gopher (gopher ofnext.cit.cornell.edu). Of course, many students have already made their dissertations available electronically via anonymous FTP.

A number of programs and mechanisms are being set up to organize the Internet and address the concern expressed earlier regarding information and files on the Internet being difficult to locate. A Gopher is an application that organizes access to resources on the Internet using a uniform, easy-to-use interface. Gophers actually transfer files, change directories, Telnet to computers, and query servers all over the world. This method of navigating still requires the input of specific Telnet IDs and the use of nontransparent commands. A variety of software packages are now available based on the Windows environment. In the public domain there is Cello, from the Legal Information Institute at Cornell Law School. In the private sector, NOTIS has developed its own product called WinGopher. These products use all the usual point-and-click Windows commands with pull-down menus, and often come with added functionality such as wrap-around e-mail (Cello) or the ability to download files (HGopher 2.3 from Martyn Hampson, an independent software developer). This means that it is possible to keep multiple Telnet sessions open, such as to a bibliographic utility, while looking at library catalogs, doing a Veronica search and sending an e-mail message to a colleague.

More sophisticated retrieval software is now available based on the World-Wide Web (a hypermedia linking of hypertext developed at the CERN physics laboratory in Switzerland). One such package in the public domain is Mosaic, a graphical

Figure 3. Entrepreneurial Solution: Enlarge the Dots and Use Three Lines.
browser available for the UNIX, PC, and Macintosh platforms and developed at the National Center for Super Computing Applications at the University of Illinois. Mosaic enables users to make use of hypertext links (programmed in HTML) to jump among related documents stored on different computers around the world. This software is dependent on the various universities that maintain resources on the Internet establishing the links for navigating between resources and keeping them up to date when resources are moved. Mosaic is considered by many to be one of the first “killer apps” of Internetwork computing (Markoff 1993, D1). Also available is the Global Network Navigator (GNN), an editorially and visually sophisticated commercial application of the World-Wide Web, which has coined the term Internet-zines for the journal-type information bundles it provides users (Wired 1993, 29). It is one of the first general-interest interactive guides to Internet resources and is being offered free of charge during its initial launch by O'Reilly & Associates, the publisher of Ed Krol's The Whole Internet: User's Guide and Catalog.

As De Klerk and Euster described the various stages of automation, so has Paul Evan Peters (director of the Coalition for Networked Information) outlined three strategies that can generally describe the development of the Internet. Peters defines these strategies as modernizing, innovating, and transforming (Peters 1993, 60). The first strategy addresses how we can use this breakthrough (i.e., the Internet) to improve solutions to problems that we have already solved. The second strategy addresses how we can provide solutions for problems that we have never solved. And the third, transforming strategy helps us solve problems that we did not know we had because we were so busy taking care of our known problems.

It is interesting to review the three scenarios described earlier with these three strategies in mind. Much of our use of the Internet involves the modernizing strategy, as evidenced by the use of e-mail and file transfer as substitutes for paper mail and delivery services, and by computer-based services that preceded the Internet, such as library catalogs and citation databases. We are using the Internet to improve on previous information-retrieval and delivery services.

A growing number of services are addressing problems we have known about but for which we have never had good solutions. For instance, Archie, WAIS, Gopher and the World-Wide Web are all trying to bring order to particular types of Internet information resources. The Internet is also providing the opportunity to rethink the researcher's work environment and refocus all document searching, retrieval, and delivery around the scholar's workstation.

The focus has also moved from accessing information about information to accessing large banks of actual information electronically. A new report has just been issued by a panel of researchers convened to advise the National Science Foundation on its vision for the future of high-performance computing (De Loughry 1993, 20). The report, titled From Desktop to Teraflop, calls for widespread access to a pyramid of high-performance computing. At the base should be access to powerful workstations for individual researchers. The second level should consist of large numbers of midrange machines housed in academic departments or laboratories, and the third level should be made up of supercomputer centers accessible to researchers via networks.

The third transformational strategy is difficult to address at this early stage in the development and use of the Internet. How will researchers reconfigure their learning and studying processes as a result of the enhanced functionality and power of the information systems available to them? This is the time for us to be proactive, to rethink our “virtual enterprise” and move from organization and process to challenge and opportunity (Van Hoeweling 1993).

As knowledge executives (backroom or otherwise), it is clear that we have a crucial role in recognizing, enriching, and supporting these new work contexts. Whether this occurs on a small, pilot-project level or in some of the large-scale, collaborative demonstration projects such as CORE, TULIP, and the OCLC Internet Catalog-
ing Project, there is a place for us. And this is where we return full circle to the importance of brainstorming, "blue sky ing," and creativity. We need to do some of these things in a risk-tolerant environment. It is not easy for us to get the support of administrators for projects that take people away from busy retrospective conversion projects and trucks of uncataloged books, and that do not always have an immediate return on investment.

Internet access is not the prerogative of academe, in spite of the fact that this is where much of the "library" use of the Internet has occurred. New York State's Electronic Doorway Program has as its goal to enable all types and levels of libraries to provide electronic access to their patrons (Division of Library Development 1993). The South Central Research Library Council in western New York (headquartered in Binghamton) has incorporated the provision of gateways into information networks in its mission and strategic directions (South Central 1993). Thirty-two New Jersey libraries (public and academic) have joined with Bellcore to provide access to the Internet for their patrons through MORENET. The National Commission on Libraries and Information Science plans to survey public library involvement with the Internet in order to provide baseline data that will be analyzed to identify potential federal policies relating to the role of public libraries in developing a National Information Infrastructure. School libraries are heavily involved, judging by the more than 40 online special-interest groups on the Internet for grades K-12 (Ratzan 1993, 73). A variety of community-based networks are also operating, such as the Cleveland Freenet (reporting over 7,000 logins a day) and the Heartland Freenet (Lunin 1994, 11).

In the meantime, what steps should technical services librarians be taking with regard to the Internet?

1. Explore the Internet. Unless you get out there, get a feel for what kinds of resources there are and the problems you can encounter in trying to retrieve them, you will not be an informed participant in this venture. Subscribe to journals like *Wired* or *Internet World;* expose yourself to the digital revolution rather than stick your head in the sand.

2. Act to promote professional change. It is not sufficient to debate the issues and delineate the problems. Action is needed, and long-established rules and practices must be changed. Setting up pilot projects is a good way to obtain a manageable piece of this complex task for you and your institution.

3. Spread the word. It is our responsibility to increase overall awareness of electronic resources, to frame ways and means for supporting them, and to help improve the climate in which the initiatives I have mentioned and others are conceived and implemented.

4. Collaborate. Research has consistently shown that group problem solving is superior to individual problem solving 75% of the time (Lafferty 1974). Work with your colleagues in public services and computing services, your teaching faculty, library vendors, publishers, and community businesses. Networking and collaborating can only enhance our potential for transforming information transfer in an electronic environment.

5. Lobby. It is not enough just to spread the word, to make people more aware of electronic resources. You must lobby for standards such as Z39.50, for the National Research and Educational Network (NREN), for funds to promote accessibility at all levels of society.

There are also many pitfalls. Thus, in addition to the list of action steps, here is a list of caveats.

1. Do not forget library users. Our mission is to prepare the way for users. We are creating "user pathways for electronic information" (Faxon 1991) and should always be asking the question, How will this resource or method of information transfer help the patron?

2. Do not abrogate your powers of critical thinking to the cursor. Technology can be addictive. Internet has been shown to be extremely addictive. Li-
3. Do not forget your staff. Just because you have become a virtual librarian does not mean that the rest of your staff have. Changes in attitude do not happen overnight like religious experiences. They need to be managed—by you! Your staff needs to be nurtured and coaxed through the stages mentioned by De Klerk and Euster.

"Point break" in the title is a surfing term. A point break is where the very best surf can be found. When a wave front hits a point, such as at Malibu or the northwest shore of Oahu in Hawaii, it becomes concave. The energy becomes concentrated, and the wave will break with much greater force than it would if it hit a straight stretch of beach. Point breaks frequently produce long rides that start with a fast takeoff. Once into a point wave, there is no time to relax, as the wave continues to break behind you; it will not back off and leave you as a reef break might. This image captures for me the wave I see electronic information approaching technical services librarians.

Dougherty has observed that "the challenge for librarians . . . does not lie in constructing a vision or agreeing on professional values. Rather it lies in finding ways to get from where we are now to where we want to be" (Dougherty 1992, 139).

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AACR2R: Dissemination and Use in Canadian Libraries

Lynne C. Howarth and Jean Weihs

The Anglo-American Cataloguing Rules, second edition, 1988 revision (AACR2R), has been available to cataloging agencies for over five years and has been recently amended. While much is understood about the structure of, and rationale for, the code, little empirical research has been conducted on the application of AACR2R, particularly in Canadian libraries. A national survey was undertaken to determine patterns of dissemination and use of the code for different formats of materials in various sizes and types of libraries. Questionnaires were used to explore (1) the nature and frequency of use of the code, (2) the preferred publication formats for acquiring AACR2R, and (3) the contribution of records to a bibliographic utility or network (in-house or external) database. Responses from across Canada were analyzed; descriptive statistics providing a baseline profile of AACR2R users and usage are summarized and discussed.

INTRODUCTION AND RATIONALE FOR THE STUDY

Since the mid-19th century, work has continued on the development and enhancement of guidelines for providing access to information and materials by means of bibliographic records. The Anglo-American Cataloguing Rules, second edition, 1988 revision, represents the most recent manifestation of that work in bibliographic standardization, and is itself updated by amendments published in 1993. While much is understood about the structure and application of, and the rationale for, the code, little is known empirically about how or how widely the second edition of the Anglo-American Cataloguing Rules (AACR2), or the more recent 1988 revision (AACR2R), is applied. This paucity of research is particularly evident in Canada, notwithstanding the national survey conducted in 1982 by the Canadian Library Association’s Technical Services Coordinating Group (TSCG) Subcommittee on the Implementation of AACR2 (Tayyeb 1982), or the questionnaire concerning preferred formats for the publication of the 1988 revision administered to North American, British, and Australian libraries by the Joint Steering Committee for Revision of AACR (JSC) (Weihs 1985). The

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TSCG survey investigated the adoption of the 1978 edition of AACR2, while the JSC asked for user preferences concerning proposed publication formats for the 1988 revision. Based on a review of library literature, we can posit that the present study appears unique in its focus on the actual dissemination and use of AACR2R within Canada.

Yet the steady growth in the size of bibliographic utility databases, the proliferation of local and networked online catalogs, and more recently the wide availability of machine-readable records via the Internet would suggest a pressing need to understand the nature and extent of the application of standards prescribed by AACR2R. When the derivation and use of bibliographic records extends far beyond local, provincial or state, or even national boundaries, the need for consistency of application of the code becomes more imperative. With no hard evidence to the contrary, the bibliographic community might be assuming adoption and use of AACR2R for a variety of formats of material that might or might not be occurring in practice.

Widespread participation in bibliographic utilities with authority record validation might help to balance problems with data integrity for author (personal names and corporate bodies), subject, and series entries, but similar internal structures do not exist for ensuring the quality of bibliographic descriptions, particularly for nonbook materials and ephemera. To a large degree the quality of descriptive records is dependent on cataloging agency policy concerning rule application. This policy itself might be governed to varying extents by rule interpretations from national bodies, such as the National Library of Canada or the Library of Congress; by guidelines prescribed by network partners or by bibliographic utilities; and by structures or conventions imposed by the local system.

Greater understanding of the ways in which AACR2R is used, particularly for various formats of materials, might give some indication of the potential quality and integrity of existing bibliographic databases. Furthermore, answers to questions concerning dissemination and use may assist in developing a profile of AACR2R users and give national agencies and international code revision groups some indication of the nature, extent, and frequency of application of AACR2R. British representatives on the JSC advocated a moratorium on code revision, while others continue to argue that keyword, full-text, and Boolean search capabilities inherent in many computer-based information-retrieval systems lessen the requirement for record structures determined by cataloging rules. The relevance of AACR2R to modern information systems is therefore in question. The present study is an attempt not only to address the paucity of research about the dissemination and use of AACR2R, but also to provide some quantitative baseline against which to measure the relative place or justification for cataloging codes, both in Canada and internationally.

**Methodology**

Following design and pretest of a survey instrument, a national survey was conducted early in 1992. The questionnaire was devised to explore the following six questions:

1. What kinds of libraries or other cataloging agencies use AACR2R?
2. How are those libraries and other agencies distributed geographically across Canada?
3. What kinds of materials are cataloged using AACR2R?
4. How many AACR2R users subscribe to a bibliographic utility (e.g., Ultras International [now ISM Library Information Services, Ltd.] or The OCLC Online Computer Library Center, Inc., etc.) or contribute records to an in-house or external network database?
5. Under what circumstances, and how frequently, is AACR2R consulted?
6. In what published format(s) did users purchase AACR2R, and if required to obtain additional copies, in what format(s) would users choose to acquire the code?

With the generous assistance of the Na-
tional Library of Canada, which agreed to circulate the questionnaire through its newsletter, and the Humanities & Social Sciences Committee of the University of Toronto, which funded translation of the survey tool into French, a total of 4,500 questionnaires printed in each official language were distributed through the National Library of Canada News. This "scattershot" approach was used in lieu of a more focused distribution because there is no current complete listing of all Canadian libraries; also, the same approach had yielded a national distribution of responses to the formats inquiry administered by the JSC (Weisb 1985). While circulating the survey instrument through the National Library News permitted broad coverage nationwide, one major drawback was the reliance on recipients who were not in technical services or in cataloging to pass the questionnaire to appropriate colleagues for response. On the other hand, casting such a wide net allowed the researchers to reach "other" agencies, such as commercial cataloging houses, which might have been missed through a standard directory approach. It was highly likely, and indeed expected, that an institution would receive several copies of the newsletter, or that individuals with no direct involvement or interest in cataloging would also receive the survey and that questionnaires in many cases simply would be discarded.

The representativeness of the total responses cannot be determined statistically, as the overall population of respondents—defined in the survey tool as "cataloguers, cataloguing or technical services managers, or AACR2R users"—is indeterminate. While it is probable that replies reflect a range of activities and practices relative to the application of AACR2R in various—though not necessarily proportionate—types and sizes of cataloging units across Canada, the fact that formal, representative sampling was not done precludes drawing definitive conclusions or making generalizations from analyses of data. The researchers can, however, summarize and describe tendencies in the data, and infer possible trends deriving from answers from a total of 336 self-selected AACR2R users.

While this study was confined to Canada, it is likely, given the similarities between, and overlapping of, Canadian and American approaches to bibliographic control, that findings deriving from this research may be applicable to cataloging in the United States. Other constituents using AACR2R outside of North America may likewise find elements of the application of the code of some interest or value.

**SUMMARY OF RESPONSES**

In the present paper we summarize and discuss some of the key general findings of the study. In future papers we will specifically address (1) the dissemination and use of AACR2R for nonbook materials, (2) an analysis of format preferences identified in the present study as compared with those expressed in the 1985 JSC questionnaire, and (3) implications for online bibliographic databases of the utilization of AACR2R. From the 4,500 copies of the questionnaire mailed out with the January 1992 National Library News, 336 responses were received. All completed questionnaires were usable; no replies were deemed inadmissible to the study. Data were extracted, entered in a file created on dBASE IV, and downloaded to PC-SAS (Statistical Analysis Software) for subsequent manipulation. This initial review presents and assesses some descriptive statistics derived from the survey data.

**SIZE AND TYPE OF LIBRARIES USING AACR2R**

In table 1 the total responses to the two survey questions requesting indication of type and size of library are summarized.

The highest percentage (67.67%) of responses (N = 224) came from libraries with collection sizes of fewer than 100,000 volumes. Of those 224 respondents, 69 (30.8%) were from special libraries and 51 (22.7%) came from government libraries. This response from so-called smaller libraries provides a picture of AACR2R use from a constituency that has often been overlooked because collection sizes were not necessarily large enough to warrant a technical services or cataloging unit per se.
Sometimes “one-person operations”—small, special libraries—have been assumed, perhaps erroneously, to favor customized, “local use” approaches to bibliographic control.

In contrast, and perhaps a reflection of the inadequacies of the method of questionnaire distribution, is the low rate of response (N = 11; or 3.32% of total responses) from school libraries. The designated categories in the question asking respondents to circle the type of institution (question 2 of the survey instrument) may themselves have been problematic in some cases. While respondents were largely taken at their word, and replies recorded as circled, there were several instances in which either two types were selected or the indication seemed ambiguous to the researchers. For example, several resource centers for school boards (where responsibility for cataloging materials was assigned) labeled themselves as “other” rather than as “school.” A legal resource unit in a university answered with both “special” and “university” designations. Similarly a teaching unit of a government agency replied with both “government” and “college.” In these cases only one designation, as judged more appropriate by the researchers, was recorded. Several individuals circled “other” for such institutions as hospital libraries (indicated as “special” by other respondents) or legisla-

### TABLE 1

**TOTAL RESPONSES BY TYPE AND SIZE OF LIBRARY**

<table>
<thead>
<tr>
<th>Type</th>
<th>Type</th>
<th>Size (In Volumes)</th>
<th>No.</th>
<th>%</th>
<th>No.</th>
<th>%</th>
<th>No.</th>
<th>%</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>College</td>
<td></td>
<td>&lt;100,000*</td>
<td>29</td>
<td>8.76</td>
<td>8</td>
<td>2.42</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>(37 responses)</td>
<td></td>
<td></td>
<td>± 3.04</td>
<td></td>
<td>± 1.65</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University</td>
<td></td>
<td>100,000–500,000*</td>
<td>17</td>
<td>5.14</td>
<td>13</td>
<td>3.93</td>
<td>1</td>
<td>0.30</td>
<td>17</td>
<td>5.14</td>
</tr>
<tr>
<td>(48 responses)</td>
<td></td>
<td></td>
<td>± 3.38</td>
<td></td>
<td>± 2.09</td>
<td></td>
<td>± 0.59</td>
<td></td>
<td>± 2.38</td>
<td></td>
</tr>
<tr>
<td>(Public)</td>
<td></td>
<td>500,000–1,000,000*</td>
<td>32</td>
<td>9.67</td>
<td>25</td>
<td>7.55</td>
<td>5</td>
<td>1.51</td>
<td>8</td>
<td>2.42</td>
</tr>
<tr>
<td>(70 responses)</td>
<td></td>
<td></td>
<td>± 3.18</td>
<td></td>
<td>± 2.85</td>
<td></td>
<td>± 1.31</td>
<td></td>
<td>± 1.65</td>
<td></td>
</tr>
<tr>
<td>School</td>
<td></td>
<td>&gt; 1,000,000*</td>
<td>10</td>
<td>3.02</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>(11 responses)</td>
<td></td>
<td></td>
<td>± 1.84</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government</td>
<td></td>
<td>(Public)</td>
<td>51</td>
<td>15.41</td>
<td>11</td>
<td>3.32</td>
<td>1</td>
<td>0.30</td>
<td>3</td>
<td>0.91</td>
</tr>
<tr>
<td>(66 responses)</td>
<td></td>
<td></td>
<td>± 3.89</td>
<td></td>
<td>± 1.93</td>
<td></td>
<td>± 0.59</td>
<td></td>
<td>± 1.02</td>
<td></td>
</tr>
<tr>
<td>Special</td>
<td></td>
<td>School</td>
<td>69</td>
<td>20.85</td>
<td>5</td>
<td>1.51</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>(74 responses)</td>
<td></td>
<td></td>
<td>± 4.38</td>
<td></td>
<td>± 1.31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td>Other</td>
<td>16</td>
<td>4.83</td>
<td>5</td>
<td>1.51</td>
<td>2</td>
<td>0.60</td>
<td>2</td>
<td>0.60</td>
</tr>
<tr>
<td>(25 responses)</td>
<td></td>
<td></td>
<td>± 2.31</td>
<td></td>
<td>± 1.31</td>
<td></td>
<td>± 0.83</td>
<td></td>
<td>± 0.83</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>Special</td>
<td>224</td>
<td>67.67</td>
<td>67</td>
<td>20.24</td>
<td>10</td>
<td>3.02</td>
<td>30</td>
<td>9.06</td>
</tr>
<tr>
<td>(331 responses)</td>
<td></td>
<td></td>
<td>± 5.04</td>
<td></td>
<td>± 4.32</td>
<td></td>
<td>± 1.84</td>
<td></td>
<td>± 3.09</td>
<td></td>
</tr>
</tbody>
</table>

*Number of responses per category followed by percentage relative to grand total (= 331), with 95% confidence limit on line below.

*Note: Grand total = 331 (Frequency missing = 5, that is, 1 college, 1 university, 1 special, and 2 “other” did not indicate collection size. Therefore 331 of 336 total respondents replied to both “type” and “size” questions and are represented above.)
TABLE 2

TOTAL RESPONSES (ENGLISH AND FRENCH) BY PROVINCE OR TERRITORY IN CANADA

<table>
<thead>
<tr>
<th>Province/Territory</th>
<th>Total Responses No.</th>
<th>Total Responses, English-Language</th>
<th>Total Responses, French-Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>British Columbia</td>
<td>27</td>
<td>± 2.91</td>
<td>0</td>
</tr>
<tr>
<td>Alberta</td>
<td>47</td>
<td>± 3.71</td>
<td>1</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>7</td>
<td>± 1.53</td>
<td>0</td>
</tr>
<tr>
<td>Manitoba</td>
<td>13</td>
<td>± 2.06</td>
<td>0</td>
</tr>
<tr>
<td>Ontario</td>
<td>130</td>
<td>± 5.21</td>
<td>7</td>
</tr>
<tr>
<td>Quebec</td>
<td>80</td>
<td>± 4.55</td>
<td>64</td>
</tr>
<tr>
<td>New Brunswick</td>
<td>10</td>
<td>± 1.82</td>
<td>6</td>
</tr>
<tr>
<td>Nova Scotia</td>
<td>15</td>
<td>± 2.21</td>
<td>0</td>
</tr>
<tr>
<td>Newfoundland</td>
<td>5</td>
<td>± 1.29</td>
<td>0</td>
</tr>
<tr>
<td>Prince Edward Island</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Yukon Territory</td>
<td>2</td>
<td>± 0.82</td>
<td>0</td>
</tr>
<tr>
<td>Northwest Territories</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>336</td>
<td>100.0</td>
<td>258</td>
</tr>
</tbody>
</table>

Note: Percentages rounded in second column.

*Number of responses, followed by percentage relative to grand total (= 336), with 95% confidence limit on line below.

Some libraries (circled as "government" in other replies) or designated "other" for what might be considered "special" libraries. While any institution that self-selected "other" was recorded as such, some respondents to "other" that did not fit readily into any of the categories of "college," "university," "public," "school," "government," or "special" categories included archives, a clearinghouse operation, a centralized cataloging support unit, a library educator, and a commercial cataloging agency.

GEOGRAPHIC DISTRIBUTION

Of the 336 surveys completed, 258 (76.79%) were English-language returns.
and 78 (23.21%) were French-language responses. In Table 2, we summarize the distribution of responses in both English and French from all provinces and territories across Canada to which the National Library News is sent.

Replies were received from all provinces and territories across Canada with the exception of Prince Edward Island and the Northwest Territories. Nonresponse is not necessarily an indication of nonuse of AACR2R. The contrary may, however, be true. The large number of replies from Ontario and Quebec, in that order, reflects the national one-two ranking of those provinces in terms of total numbers of libraries, particularly those with collection sizes in excess of 100,000 volumes—establishments of a size that would likely require and support a cataloging unit. The Ontario responses from those that provided type and collection size data (N = 128; frequency missing = 2) indicates that 47 (36.72%) were from institutions with collections in excess of 100,000 volumes, while 81 (63.28%) came from “smaller” institutions with collections of fewer than 100,000 volumes. That pattern of response also occurred in Quebec (N = 80), where 23 (28.75%) responses came from libraries with collection sizes larger than 100,000 volumes and 57 (71.25%) had collections of fewer than 100,000 volumes. Observations from Canada’s most densely populated and “library-rich” region would suggest, therefore, a large number of self-declared AACR2R users broadly distributed by both type and size of collection.

Kinds of Materials Cataloged Using AACR2R

In question 5 of the survey instrument, respondents were asked to indicate what set of codes or guidelines was used when creating a new bibliographic format for any or all of “books,” “microforms,” “serials,” “cartographic materials,” “films,” “videorecordings,” “music,” “sound recordings,” “graphic materials,” “computer software,” “3-D materials,” or “other” formats (to be specified). Choices of codes included “AACR2 (1988 revision),” “AACR2 (1978),” “AACR (1967),” “other” (note: not specified), “not catalogued,” or “not in collection.”

Respondents were asked to circle only one number (designating the code) for each material format. Books were the most frequently collected type of material based on the number of responses (N = 330), followed by, in order from highest to lowest, videocassettes (N = 234), sound recordings (N = 209), serials (N = 197), microforms (N = 178), films (N = 131), computer files (N = 124), cartographic materials (N = 114), music (N = 112), graphic materials (N = 94), and finally 3-D materials (N = 54) (see “N = ” values in column 1 of Table 3). When one considers the number of respondents using AACR2R to catalog those materials (see column 2 of Table 3), the ordering is largely maintained, except that serials supercede sound recordings and computer files come before film. A percentage calculation of use of AACR2R relative to the total responses for each format of material (see column 3 of Table 3) results in a further reordering. While over 80% of respondents indicated use of AACR2R for every type of material except film (73.28%), the formats more likely to be cataloged to the standards of the current code, as opposed to an earlier code or “other” set of guidelines, were, in order of percentage of responses, computer files (89.52%), microforms (88.76%), serials (86.89%), cartographic materials (85.98%), books (85.45%), and (nesting at 80–81%) graphic materials, 3-D materials, sound recordings, music, and finally videocassettes. It is not clear that those indicating AACR2R for microforms were indeed applying the current standards of chapter 11 or were following the Library of Congress practice (pre-AACR2) of emphasizing in the bibliographic description data relating to the original, with data relating to the reproduction in a secondary position (LCRI, chapter 11). While substantially more analyses of nonbook material data will be forthcoming in a subsequent article, it bears observing that, of the 48 responses from libraries holding books but using a code other than...
TABLE 3
FORMATS OF MATERIALS COLLECTED AND USE OF AACR2R
OR "OTHER" CATALOGING

<table>
<thead>
<tr>
<th>Format Name (and Total Responses by Material Format)</th>
<th>No. Using AACR2R</th>
<th>% Using AACR2R*</th>
<th>No. Having Material but Using Other than AACR2R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books ((N = 330))</td>
<td>282</td>
<td>85.45 ± 3.80</td>
<td>48</td>
</tr>
<tr>
<td>Videocassettes ((N = 234))</td>
<td>189</td>
<td>80.76 ± 5.04</td>
<td>45</td>
</tr>
<tr>
<td>Serials ((N = 197))</td>
<td>171</td>
<td>86.80 ± 4.72</td>
<td>26</td>
</tr>
<tr>
<td>Sound recordings ((N = 209))</td>
<td>170</td>
<td>81.34 ± 5.28</td>
<td>39</td>
</tr>
<tr>
<td>Microform ((N = 178))</td>
<td>158</td>
<td>88.76 ± 5.39</td>
<td>20</td>
</tr>
<tr>
<td>Computer files ((N = 124))</td>
<td>111</td>
<td>89.52 ± 5.39</td>
<td>13</td>
</tr>
<tr>
<td>Film ((N = 131))</td>
<td>96</td>
<td>73.28 ± 7.58</td>
<td>35</td>
</tr>
<tr>
<td>Cartographic materials ((N = 114))</td>
<td>98</td>
<td>85.96 ± 6.38</td>
<td>16</td>
</tr>
<tr>
<td>Music ((N = 112))</td>
<td>91</td>
<td>81.25 ± 7.22</td>
<td>21</td>
</tr>
<tr>
<td>Graphic materials ((N = 94))</td>
<td>77</td>
<td>81.91 ± 7.78</td>
<td>17</td>
</tr>
<tr>
<td>3-D materials ((N = 54))</td>
<td>44</td>
<td>81.48 ± 10.36</td>
<td>10</td>
</tr>
</tbody>
</table>

Note: Not all respondents supplied an answer for every type of format; therefore, no overall total is supplied. *Percent relative to total responses by material format (i.e., “\(N = \)”) with 95% confidence limit on line below.

AACR2R (see column 4 of table 3), 46 were from libraries with collection sizes of fewer than 100,000 volumes, and of these, only 14 used a set of guidelines other than any of the Anglo-American Cataloguing Rules listed as choices. For those institutions that use AACR2R, its application seems relatively extensive (generally occurs in over 80% of cases) across all types of material formats.

NATURE AND FREQUENCY OF CONSULTATION OF AACR2R

In question 7 of the survey, respondents were asked to indicate, circling as many as applied, under what conditions and how frequently AACR2R was consulted. This particular question was revised following the pretest but nonetheless continued to be problematic in that it was ambiguous.
and confusing to respondents. In the final
survey instrument we stripped the ques-
tion of two categories, which made it sim-
pler to reply, but ultimately detracted from
the detail and informational value of the
query. While there were six defined cat-
egories in the original, only consultation of
AACR2R for “original cataloging,” for
“copy cataloging,” for “training cataloging
staff,” and for “other (specified)” remained
in the final version. Replies to this question
are summarized in table 4.

Clearly AACR2R is most frequently
consulted for original cataloging. A com-
bined total of 98.57% (275 of 279) of re-
spondents refer to it “always,” “often,” or
“sometimes” in this situation, which may
support a tendency toward creating consist-
ent, current-standard original bibliog-
rAPHic records. Whereas 73.49% “always” refer to AACR2R for original cataloging,
53.21% consult it “always” for derived or
so-called “copy” cataloging. One would	trust that, if original records were created
using AACR2R, derived copy would re-

flect that standard. This may not always be
the case, however, and the quality of de-

rived cataloging may be somewhat com-

promised and warranting additional verifi-
cation. No respondents indicated that they
“never” consulted AACR2R for original
cataloging. A remarkably slight combined
total of 11% of respondents indicated little
(26 = “seldom”) or no use (6 = “never”) for
the code in copy cataloging. Almost 62%
of the responses overall to this question
“always” favored AACR2R for training
cataloging staff. An intriguing 53 of 255
replies to the training question alone
(20.78%) indicated that training of cata-
logers “did not exist” within their situation.
This response perhaps bears some further
investigation by the researchers.

AACR2R FORMATS ACQUIRED
AND PREFERRED

Three of the survey questions were de-
signed to elicit (1) the degree of satisfac-
tion with formats in which AACR2R was

| TABLE 4 |
| FREQUENCY AND CONDITIONS OF USE OF AACR2R |

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Original Cataloging*</th>
<th>Derived Cataloging*</th>
<th>Training Catalogers*</th>
<th>Other*</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Always</td>
<td>205</td>
<td>73.48</td>
<td>141</td>
<td>53.21</td>
<td>158</td>
</tr>
<tr>
<td></td>
<td>± 5.18</td>
<td></td>
<td>± 6.01</td>
<td></td>
<td>± 5.96</td>
</tr>
<tr>
<td>Often</td>
<td>45</td>
<td>16.13</td>
<td>45</td>
<td>16.98</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>± 4.32</td>
<td></td>
<td>± 4.52</td>
<td></td>
<td>± 3.14</td>
</tr>
<tr>
<td>Sometimes</td>
<td>25</td>
<td>8.96</td>
<td>42</td>
<td>15.85</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>± 3.35</td>
<td></td>
<td>± 4.39</td>
<td></td>
<td>± 2.89</td>
</tr>
<tr>
<td>Seldom</td>
<td>3</td>
<td>1.08</td>
<td>26</td>
<td>9.81</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>± 1.21</td>
<td></td>
<td>± 3.58</td>
<td></td>
<td>± 2.00</td>
</tr>
<tr>
<td>Never</td>
<td>0</td>
<td>0.00</td>
<td>6</td>
<td>2.26</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>≈ 1.79</td>
<td></td>
<td>± 1.52</td>
<td></td>
<td>± 42.44</td>
</tr>
<tr>
<td>Condition does not occur/exists</td>
<td>1</td>
<td>0.35</td>
<td>5</td>
<td>1.89</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td>± 0.70</td>
<td></td>
<td>± 1.64</td>
<td></td>
<td>± 4.98</td>
</tr>
</tbody>
</table>

*Number of responses, followed by percentage relative to column total, with 95% confidence limit on line below.
TABLE 5
RANKING OF AACR2R FORMATS ACQUIRED VERSUS PREFERRED

<table>
<thead>
<tr>
<th>Format</th>
<th>No. Acquired</th>
<th>% Acquired*</th>
<th>Rank</th>
<th>No. Preferred</th>
<th>% Preferred*</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Looseleaf</td>
<td>137</td>
<td>39.37</td>
<td>1</td>
<td>153</td>
<td>55.04</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>± 5.13</td>
<td></td>
<td></td>
<td>± 5.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paperback</td>
<td>121</td>
<td>34.77</td>
<td>2</td>
<td>53</td>
<td>19.06</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>± 5.00</td>
<td></td>
<td></td>
<td>± 4.62</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardbound</td>
<td>90</td>
<td>25.86</td>
<td>3</td>
<td>67</td>
<td>24.10</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>± 4.60</td>
<td></td>
<td></td>
<td>± 5.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>0.00</td>
<td>5</td>
<td></td>
<td>1.80</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>± 1.56</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>348</td>
<td>100.00</td>
<td></td>
<td>278</td>
<td>100.00</td>
<td></td>
</tr>
</tbody>
</table>

*Percentage (relative to total) with 95% confidence limit on line below.

purchased or acquired, (2) the preferred format in which the code would be acquired another time, and (3) the reasons for that preference. In this section we will summarize some key observations from the initial review of data (table 5).

While libraries initially purchased or acquired AACR2R looseleaf, paperback, and hardcover formats, in that order (see column 4, table 5), preferences tended to looseleaf, hardcover, and paperback, respectively (see column 7, table 5). Comments concerning reasons for a particular preference were grouped according to such characteristics as “ease of use,” “ease of updating,” “conducive to annotating,” “removable pages for copying or circulating,” “portability,” “cost” (usually “inexpensive”), “durability,” “size,” and “other.” “Ease of updating” (98% of responses), and “ease of use” (64% of replies) were the primary motivators for choosing looseleaf. The higher cost for this format did not appear to be a deterrent to either its initial purchase or preference for future acquisition. While respondents were attracted by the lower cost and portability of the paperback format, problems with durability and binding rendered it the least-favored choice for repurchase. Dissatisfaction with both hardcover and paperback under-

standably resided with the difficulty of updating.

CONTRIBUTORS TO BIBLIOGRAPHIC UTILITY AND/OR NETWORK DATABASES

As might be expected within the national context, and as summarized in table 6, more respondents (22.77%) contributed records to the Canadian-based bibliographic utility, Utlas International (now ISM Library Information Services) than to OCLC (3.07%), the Research Libraries Information Network (1.02%), and the Western Library Network (0.26%). Local networks with 23.78% (N = 93) of replies were marginally behind the bibliographic utilities combined (N = 106; or 27.11%) as recipients of contributed records. Respondents associated with the Dobis system (9.97%) largely derived from the government library sector.

The replies were proportioned with 60.87% contributing records to a database and 39.13% indicating “not applicable.” The relatively large number of responses from small, special libraries may account for this distribution, speculating that those holding collections of fewer than 100,000 volumes may not have the need, or may lack necessary resources, to subscribe to a
TABLE 6
RESPONDENTS CONTRIBUTING RECORDS TO A BIBLIOGRAPHIC UTILITY OR NETWORK (IN-HOUSE OR EXTERNAL)

<table>
<thead>
<tr>
<th>Bibliographic Utility/Network</th>
<th>No. of Responses</th>
<th>% of Total Responses (N = 391)*</th>
<th>% of Total Responses Exclusive of N/A (N = 238)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utlas International (now ISM)</td>
<td>89</td>
<td>22.77 ± 4.16</td>
<td>37.39 ± 6.15</td>
</tr>
<tr>
<td>OCLC</td>
<td>12</td>
<td>3.07 ± 1.71</td>
<td>5.04 ± 2.78</td>
</tr>
<tr>
<td>RLIN</td>
<td>4</td>
<td>1.02 ± 0.99</td>
<td>1.68 ± 1.63</td>
</tr>
<tr>
<td>WLN</td>
<td>1</td>
<td>0.26 ± 0.50</td>
<td>0.42 ± 0.82</td>
</tr>
<tr>
<td>DOBIS</td>
<td>39</td>
<td>9.97 ± 2.97</td>
<td>16.39 ± 4.70</td>
</tr>
<tr>
<td>Local</td>
<td>93</td>
<td>23.78 ± 4.22</td>
<td>39.08 ± 6.19</td>
</tr>
<tr>
<td>Not Applicable (N/A)</td>
<td>153</td>
<td>39.13 ± 4.84</td>
<td></td>
</tr>
<tr>
<td>Total (Inclusive of N/A)</td>
<td>391</td>
<td>100.00 ± 4.84</td>
<td>100.00 ± 6.19</td>
</tr>
<tr>
<td>Total (Exclusive of N/A)</td>
<td></td>
<td>238.00 ± 6.19</td>
<td></td>
</tr>
</tbody>
</table>

*Percentage relative to column total, i.e., N (Column 3 "N = 391"; Column 4 "N = 238") with 95% confidence limit on line below.

bibliographic utility or support a local network. A future article in this series will explore the profiles of respondents to this question, considering additionally implications of AACR2R use for the nature and quality of bibliographic databases.

CONCLUSIONS
Because research into the dissemination and use of AACR2R, specifically, has not been conducted previously, the present study is hypothesis-generating, rather than hypothesis-testing. The study was intended to obtain a profile of AACR2R users and usage throughout Canada, to provide a baseline from which hypotheses could be derived for future research and analyses.

Responses came from a variety of types and sizes of libraries across the nation, excepting Prince Edward Island and the Northwest Territories. Responding users were Anglophone or Francophone, were heavily represented from so-called “small” special and government libraries, and were least likely to work at a school library. Just over 60% of responses came from institutions contributing records to a bibliographic utility or an in-house or external network database. The current code is applied extensively to all formats of materials being collected in responding libraries, though no one institution collected every format listed in the survey, and conversely, no one library held “none” of the material types. That AACR2R appears to be so widely applied may be reassuring to those responsible for devising and revising the guidelines.

The code is most frequently used for original cataloging but is relied on to a
lesser degree for checking derived copy or for training new catalogers. These two factors may hold consequences for the quality of catalog databases that rely increasingly on "mark and park" capture of bibliographic records with little or no further verification of data elements.

Those who use AACR2R are likely doing so with the looseleaf format. The clear "users' choice" for this format stems from the ease with which it can be updated—again a recognition on the part of the bibliographic community of the inevitability of revision and the necessity of keeping the code current with changes in material formats, technologies, and international standards.

While this was a survey that elicited responses only from self-selected users of AACR2R, as opposed to nonusers (a subject itself for separate research), those respondents seem—in very general terms and lacking more specific information—to be applying the most current code of bibliographic standards, particularly to some of the more recent types of material formats, such as computer files and video recordings. Moreover, the seeming "dedication" to AACR2R extends to a large number of so-called small libraries—a community that may not have been assumed to have the resources, user needs, particular training, or perhaps the inclination to apply (detailed) codes and standards. Such broad and deep application of AACR2R might indicate a trend toward a commitment to consistency and uniformity of bibliographic records so crucial to computer-based information storage and retrieval systems. There might perhaps be the recognition that as our local bibliographic "laundry" becomes ever more accessible to the outside world, it needs to be as "clean" as a cataloger can make it.

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Slow Revolution: The Electronic AACR2

John K. Duke

Attempts to encode AACR2 thus far have met with only moderate success. Three principal alternatives exist for converting AACR2: (1) create a simple ASCII file, (2) create a MARC format for AACR, and (3) use the Standard Generalized Markup Language (SGML). It was decided by the AACR2 principals to use SGML to construct the machine-readable version. It was further decided that the file would not be issued to end users as a finished product, but rather as a source file to other developers who would be responsible for adding display and search software and, if desired, for integrating other cataloging-related products with it. In producing AACR2-e, we have tried to remain true to several fundamental principles: (1) preserve the integrity of the text; (2) support the revision process without laborious rekeying and proofing; (3) reflect the printed text accurately as regards physical layout; (4) produce future printed versions; (5) have a database structure for online versions with connections to related products; and (6) preserve sequences of rules, yet also permit linkages among related rules. An inordinate amount of time has been spent on developing the Document Type Definition, and difficulty has been encountered in the conversion of the file to SGML. The potential to make catalogers think in new ways about how to structure the cataloging code for more efficient use is the greatest contribution that the electronic AACR2 will make.

For several years, the cataloging community has discussed the advantages of the rules for descriptive cataloging being in a computerized format for easy manipulation. Intner (1992) has discussed some of the possible features that such an electronic second edition of the Anglo-American Cataloguing Rules (AACR2-e) might have. As the world of the cataloger has moved increasingly to an electronic work environment, such a product seems not only a desirable and worthwhile endeavor, but even a necessary evolutionary step to integrate the rules with other tools and to boost productivity.

The tantalizing prospects for computer-based rules have inspired several experimental attempts to convert AACR2. The National Agricultural Library scanned portions of the rules as part of its demonstration project for a cataloging tutorial, creating hypertext links between portions of the rules (Thomas 1992). Texas A&M explored a different avenue, experimenting with the typographer's file used to typeset AACR2 by stripping out the proprietary

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codes and making a rudimentary ASCII file (Gomez 1993). Several university researchers have also been granted limited licenses to experiment with electronic versions of AACR2.

The attempts to encode AACR2 thus far have met with only moderate success, through no fault of those who have tried. The text of AACR2 is very complex, with highly coordinated relationships between elements of the text. Rather than simple sequential paragraphs, one finds a blend of roman, italic, and boldface type; frequent changes of indentations and margins; tables and numbered lists; diacritics and special characters; and text that is dependent upon other sections for meaning. The very intensive physical formatting on the page often carries meaning, which is difficult to duplicate in a screen format. As Gomez (1993, 94) notes: "The printed text of a monograph, especially one as complex as AACR2, cannot be made searchable electronically without considerable effort."

Despite the formidable obstacles, interest in a machine-readable AACR2 has continued. At the 1991 Annual Conference of the American Library Association, an open forum sponsored by the Committee on Cataloging: Description and Access brought together a large audience to discuss with representatives of ALA Publishing and the Library of Congress ways of making AACR2 machine-readable.

Three principal alternatives for converting AACR2 were expressed:
1. The most popular option was for a simple ASCII file. An ASCII file would give catalogers the ability to do rudimentary word searches and retrieve elements of texts. Because ASCII is device-independent, it could operate across a number of platforms. ASCII, however, has some significant limitations. Since it is limited to 128 characters, it would not be able to represent the diverse range of characters in the text. There would be no simple and immediately obvious way of indicating typographic characteristics such as bold or italics, which often carry meaning for the text. A simple ASCII file would also lack database capabilities to show, for example, the relationship between a rule number and a cross-reference, or between a rule and its subrules. While many believed an ASCII version could be produced quickly, a considerable investment would still have to be made because of the unsatisfactory state of the composition file.

2. A second option presented was to create a MARC (machine-readable cataloging) format for AACR2. This was attractive because library systems are in place that are already capable of handling the MARC format. Mechanisms have been worked out for representing non-ASCII characters, and techniques could be devised to represent the basic format of AACR2.

MARC records were designed to be used in database retrieval operations, although not specifically for full text. There was some feeling that using the MARC format would be a procrustean exercise and that the bureaucratic process for creating a new format would unnecessarily delay the project.

3. The final option considered was to use the Standard Generalized Markup Language (SGML). SGML is a device- and application-independent language that is gaining increased favor among publishers, document producers, and librarians. Although SGML uses ASCII characters, it does so in conjunction with various control files, permitting it to represent a wide range of diacritical marks, character sets, and formatting options. SGML files can be used both for printed output and for online database retrieval. Reformattting SGML files for different displays is a fairly trivial matter.

It was eventually decided by the AACR2 principals, the Joint Steering Committee for Revision of AACR2, and the publishers of AACR2 to accept the proposal to use SGML to construct the machine-readable version. It was further decided that the file would not be issued to end users as a finished product, but rather as a source file to other developers who would be responsible for adding
display and search software and, if desired, for integrating other cataloging-related products with it.

George Alexander, president of a software-conversion firm, was retained to produce the SGML file. I was retained to provide technical advice about cataloging, although in practice my role has evolved into principal SGML designer and editor. A group of reviewers was also recruited to assist with the project. Most of the reviewers are from university libraries, but reviewers are also located in library schools, national libraries, and a bibliographic utility. One reviewer is not a librarian but is conversant in SGML. Reviewers are located in Canada, Great Britain, and the United States.

In deciding upon SGML as the platform for development, the long-term viability and integrity of the rules was paramount. SGML is a way of encoding text to make it transportable across systems. It emphasizes tagging the components of a document according to their function and structure within the text, not according to their appearance on the page. Thus, for example, the "procedural markup" used by a word processor might have specific control codes for a heading that show a certain type font, size, and position on the page. These control codes would be specific to the software being used (WordPerfect, Word for Windows, a mainframe typesetting program, etc.). SGML, on the other hand, is a "descriptive markup" language. It would use a generic tag to delineate the heading, such as:

<HEAD ID="c1">Chapter 1</HEAD>

The tag <HEAD> could then be independently defined so that all similar headings would appear the same in the application—perhaps as Times Roman, bold, 16 point, and centered. If it were desired that all <HEAD>s be Helvetica, italic, 18 point, and flush left, this could be easily changed across the entire document. Alternatively, if the medium of presentation is intended to be purely electronic rather than print-based, <HEAD> can be defined as a 12-point Gothic font with yellow/black color attributes that is always displayed on the 25th line of the screen. Because the file is ASCII, it can be transported easily to other computer platforms. The transportability and malleability of SGML files is something that word processor-based files have difficulty supporting.

Another important characteristic of SGML is that the elements of a document can support identification attributes. These can be used to create links within the document, which can be especially important for electronic presentations. An example in AACR2 where ID attributes are being used is the cross-references to rule numbers, which could be used, for example, to create hypertext capabilities. Other uses of hypertext in AACR2-e might be links with the index, links to the appendices, and exploding and collapsing tables of contents. In the example above, the identification attribute might be expressed as:

<HEAD ID="c1">Chapter 1</HEAD>

Artificial intelligence strategies can be applied using the AACR2 SGML file, although some development effort will be required. Advanced uses of artificial intelligence from the SGML file will probably have to wait for a future version that codes the IF-THEN logic inherent within the rules, as well as modification to AACR2 itself to express stronger rule relationships. After having spent some time with this electronic version, it is my opinion that a fully developed set of electronic rules should be developed through the rule revision process as the next AACR2 edition.

SGML is an ISO standard known as ISO 8879 (Goldfarb 1990). The particular incarnation of SGML being used for this project is one based upon Z39.59 (Electronic 1991). Because of the complexity and some of the unique properties of AACR2, we have had to modify the Z39.59 standard somewhat, most notably in the length of the ID attributes. Other aspects of AACR2, such as multiple introductions and tables of contents, have required definition of new tags or redefinition of existing ones in the Z39.59 standard.

In producing AACR2-e, we have tried to remain true to several fundamental principles:
1. The file must preserve the integrity of the text.
2. The file should be able to support the revision process without laborious re-keying and proofing.
3. The file should be able to reflect the printed text accurately as regards physical layout.
4. The file should be able to produce future printed versions.
5. The file should have a database structure to facilitate manipulation by computer programs for online versions with connections to related products.
6. The file should preserve sequences of rules, yet also permit linkages among related rules.

As is often the case in computer coding projects, the time frame for completion was optimistic. The difficulties have been of two sorts. An inordinate amount of time has been spent on developing the DTD, or Document Type Definition. This is a control file in SGML that defines the relationship of the different document elements to one another. Because AACR2 is such a complicated document, with many of its structural elements occurring but once or a few times throughout the entire text, this phase of the project has been very tedious and time-intensive. It has proven awkward to be creating a design structure for no specific online product, for any number of potential publishers, and for both electronic and printed presentations, all the while maintaining absolute fidelity to the text and its format. A certain amount of presumption has had to be made in anticipation of possible uses, as well as some self-imposed constraints on what is feasible within a reasonable period of time.

Although some modifications to the DTD are continuing to be made as new conditions are encountered, the DTD is now sufficiently developed to permit production of the chapters.

The second difficulty that has been encountered is in the conversion of the file to SGML. The only machine-readable version of AACR2 in existence is the one that was used to typeset the 1988 revision. It is in a proprietary format called Penta, which has its own set of control codes. The Penta coding is oriented toward the production of a printed page, and not toward the kind of rigorous database structure that SGML demands. We are using computer routines to process the source file into SGML, but this has been only partially successful because there is not a one-to-one correspondence between the codes used in the Penta system and what one typically finds in a SGML structure. After the programming runs, there is a laborious manual edit and proofreading of the file to clean up the areas that were not amenable to computer processing, with perhaps one-third of the text requiring further work. The conversion routines have been the most time-consuming part of the project.

Part I of AACR2, as well as a substantial portion of Part II, should be completed by the time this is published. We will then proceed to the appendices, index, glossary, and other secondary parts of the rules. The library community should be aware that this phase of the project will not result in a completely electronic AACR2. Instead, we will have an SGML file that can be used as the base to develop an electronic AACR2. Third-party developers will want to construct AACR2-specific access software to give catalogers superior working tools, although the base file will be usable with any SGML-compliant software. A simple ASCII editor will also be able to read and display the file, but the abundance of SGML codes may be an impediment to effective use.

Even after the conversion to SGML is complete, it is unlikely that the coding will remain static. Like the rules themselves, the markup can be expected to evolve as developers gain experience with the file and need new ways to manipulate information. For example, tighter integration of the examples with MARC coding is possible if it proves useful to catalogers.

It is also likely that the markup will help to shape the revision process of the rules themselves. SGML can impose a more consistent structure on a document. More significantly, it is likely that techniques for artificial intelligence and automated cataloging will impose new ways of expressing the rules and their relations. The potential to make catalogers think in new ways about how to structure the cataloging
code for more efficient use is, perhaps, the
greatest contribution that the electronic
AACR2 will make.

In cataloging, revolutions often come
slowly.

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Minnesota Opportunities for Technical Services Excellence (MOTSE): An Innovative CE Program for Technical Services Staff

Susanne Nevin

This is a report on an innovative program to improve technical services throughout the state of Minnesota. The program is unique in that it provides for regular workshop sessions taught by teams of trainers who have available to them well-developed manuals for trainers and students, complete with teaching materials, transparencies, handouts, exercises, and self-assessment tools. The background, purpose and goals, and first successes of the program are described.

Minnesota technical services librarians are in the process of developing a technical services improvement program of truly ambitious proportions. The program developed thus far provides workshops in the following three areas of technical services: cataloging—description, access, and subject analysis. The workshops are intended for both paraprofessional and professional library staff and focus on the needs of practitioners in Minnesota. What makes this program innovative and unique, however, is that it is taught by teams of trainers and provides teaching as well as learning aids, including trainer and student manuals, teaching materials, exercises, and self-assessment tools.

General Background

The Minnesota Opportunities for Technical Services Excellence (MOTSE) program is based on concepts developed by CORE (California Opportunities for Reference Excellence), a reference service improvement project that includes teaching manuals, a correspondence course, and reference manuals. The original CORE courses were a project developed from the Library Services and Construction Act in California. These were adapted for use in Minnesota by a volunteer committee of reference librarians and called the “More from CORE” program. A team of trainers conducted workshops throughout Minnesota in 1991, reaching more than 600 prac-

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tioners, the majority of whom were non-
degreed librarians. They are currently in the
process of revising the manuals and will offer
another series of workshops in 1994.

MOTSE originated within a subcommi-
tee of the Minnesota Library Association's (MLA) Technical Services Section in
1991. Eventually, the subcommittee grew
into a large, self-propelled group of volun-
teers—all technical services librarians
from special, public, and academic librar-
ies. Thus far, they have worked without
financial support from MLA or any other
organization, and the workshop presenters
have not requested honorariums. How-
ever, the program receives substantial sup-
port from the Information Management
Department of the College of St. Cather-
ine, the staff of the Minnesota Office of
Library Development and Services, and
the Minnesota Library Association Admin-
istrative Office, who have been of great
assistance in the areas of publicity and
arrangement of workshops with libraries
and library systems across the state and
region.

GOALS AND PURPOSE
OF THE PROGRAM

The program reaches out to all levels of
staff and types of libraries and has as its
main goal to ensure that the national stand-
ards developed for technical services and
cataloging are more uniformly applied
throughout the state. As more and more
libraries and library systems in Minnesota
have become automated and their catalogs
linked together, adherence to such stand-
ards has become more than just desir-
able—it has become a necessity. Although
there are a good number of workshops and
continuing education opportunities avail-
able in Minnesota throughout the year,
they concentrate mainly around the Twin
Cities area and are often very difficult to
attend by library staff from more remote
areas, especially by those who represent
the "one-person" library. The group de-
cided, therefore, to develop both training
manuals and teams of trainers to provide
access to learning opportunities where the
practitioners are.

The work of the group has been truly
ground-breaking. While several practi-
tioner-oriented "how-to" manuals exist
(mostly in the area of cataloging), there are
no useful, concise materials for trainers
who want to put on a half-day or full-day
workshop in a certain area of technical
services. Manuals such as those developed
by Ferl and Millsap (1991), Intner (1990),
Saye (1991), and Wynar (1992) are mostly
directed to the more experienced cata-
l oger. Even the Library of Congress's (LC)
most recent publication, Cataloging Con-
cepts: Descriptive Cataloging (Cundiff
1993) does not serve a comparable pur-
pose; with its two two-volume sets of in-
t ructor's and trainee's manuals, and its
emphasis on LC practice, it is too com-
prehensive and advanced to be adapted for
manageable, half-day or full-day workshop
presentations at the basic level.

WHAT THE WORKSHOPS
CURRENTLY OFFER

The MOTSE workshops developed thus
far cover primarily the books format and
include a four-hour session on description
and a full-day session each on access and
subject analysis. They are basic "level I"
courses and are designed for the parapro-
fessional who does mostly LC, cataloging
in publication (CIP), and copy cataloging,
as well as library staff from other areas of
the library. Although outlines for workshops
in the areas of "Basic Technical Services" and
"The Basics of Automation and Indexing for
Retrieval" exist, the format for these work-
shops is still under discussion.

Level II programs will include work-
shops on the cataloging of other print and
nonprint formats and will be offered to the
more advanced practitioner. Level III
courses will be directed to the expert and
might involve problem-solving discussions
carried out in a variety of environments
(e.g., at work, in a regional workshop, or
electronically). Such workshops are al-
ready offered at annual state and regional
conferences and by institutions such as the
regional OCLC network office and the
Information Management Department of
the College of St. Catherine and would
An extensive hands-on exercise session concludes the workshop. Participants are asked to form groups of three to five persons. Each group is given up to three books and is asked to assign subject headings and complete classification numbers. Copies of the respective title pages, along with CIP information and fully cataloged OCLC record, are then distributed to participants and discussed by the entire group. If time allows, a question-and-answer session concludes the workshop, with helpful hints tailored to the particular audience.

Yet to be developed, as a follow-up to the workshops, are self-assessment manuals for practitioners to assess their competency level and determine their strengths and continuing education needs. These manuals will include a listing of print and nonprint resources available for further study as well as the names and phone numbers of experts in the region to contact when questions arise.

A BRIEF CHRONOLOGY

MOTSE was formed by a task force of the Minnesota Library Association’s Technical Services Section in the fall of 1991. A “train the trainers” session took place in August 1992, followed by a series of pilot workshops in September. The winter months were spent revising the materials based on what had been learned from the critical evaluations and recommendations of participants in the pilot workshops. Finally, during March and April of 1993, the first workshops were held for staff of the Arrowhead Library System in northern Minnesota. Another round of workshops was held in the fall at Augustana College in Sioux Falls, South Dakota, and later in November once again in the Arrowhead region in northern Minnesota. Two concurrent workshop series took place in January 1994 in the Twin Cities and the south-central region of the state. Due to high demand, the workshops will be repeated in the Twin Cities in April. An additional set of workshops has been scheduled in Detroit Lakes, Minnesota, in mid-June.
OUTLOOK

Starting such a program and, most importantly, keeping it going has not been without problems. For one thing, the program depends on volunteer trainers, and although travel expenses, hotel accommodations, and meals are covered by the host, no honorarium guidelines have been established thus far. The process of developing the course materials has been time-consuming because so much had to be developed from scratch. During the planning process, a great deal of discussion concerned the content, length, and depth of the various workshops. Also, much time was spent on questions such as, How do we define “competency levels?” Can you really teach access at a very basic level without much theory?, and Who will be our primary audience? As the largely positive evaluations returned by participants indicate, the group has done a thorough job of planning, outlining, and developing the individual workshop modules. In the months ahead, the group will prepare a basic technical services module to be presented in the fall. They will also work on level II workshops covering audiovisual materials and music (scores and sound recordings). As Minnesota is currently developing a voluntary certification program for library staff, it is hoped that both the MOTE and MORE workshops will offer a broad selection of continuing education opportunities for practitioners seeking (re)certainment credits.

WORKS CITED


Book Reviews

Lawrence W. S. Auld, Editor


Forget what you’re reading in PC Magazine and MacUser—the decade of the 1970s was the true dawn of multimedia. Education was embracing film and television, and together with the newly inexpensive microform technologies, libraries were offering a plenitude of new media for research and reference. In response to this AV boom, Eugene B. Fleischer offered up in 1978 A Style Manual for Citing Microform and Non-Print Media (American Library Association). In it he recommended that in citing these new materials, authors add information to their citations indicating a medium designation, with the ACRB media designations as a starting point, and additional information as necessary to indicate the location of the references. In 20/15 hindsight, although Fleischer’s work made a contribution, the number of journals currently requiring “Fleischer Style” should indicate that as far as the practice of citation is concerned, one book does not a standard make.

Fifteen years later, in the middle of the next chapter of the media revolution saga, libraries are faced again with providing a new slew of information formats, now networked and electronically transmitted, and scholars and students are faced again with citing them. This time, Xia Li and Nancy B. Crane of Bailey/Howe Library at the University of Vermont answer the call with Electronic Style. Like Fleischer, the citation method of choice (with the exception of legal citations, to which the authors defer to A Uniform System of Citations, 1991) is an extension of a recognized style standard (American Psychological Association in this case) with elements to describe the new media and locational devices. In a volume directed at scholars and students as well as librarians, Li and Crane attempt to “standardize citation methods for the complete range of electronic formats” (back cover). Their work can be evaluated on four levels: (1) whether it is possible at this time or even desirable to enumerate a “complete” set of electronic formats; (2) the extent to which the work provides new methods not provided for in the traditional style guides; (3) how well the method bears out in practice; and (4) whether the method has the wide applicability and staying power that befits a standard.

Electronic Style is composed of three main parts: introductory materials, comprising a preface and a chapter on the organization and use of the guide; seven chapters containing basic forms of citations and “real examples drawn from various sources” (p. 1); and one chapter giving examples of in-text notes. The paper-bound-only volume is rounded out with appendixes, references, and a glossary. The seven chapters of basic forms and examples are divided according to various broad categories of sources; no rationale for the choices or grouping is given or apparent. They are full-text databases (monographic), full-text databases (periodicals), full-text databases (other, including but not limited to governmental, legal, “numerical” databases and graphic images), bibliographic databases (including abstracts), electronic conferences and bulletin boards, electronic mail, and computer programs. Chapters are subdivided variously according to subcategories of sources, the citing of a whole or part of a
source, and access method. Curiously only FTP, e-mail, and Telnet are identified as possible electronic access methods, to the neglect of gopher services, WAIS sources, or the World-Wide Web, to name a few.

Li and Crane specify the assignment of a "type of medium" statement for each source. Unlike Fleischer, they specify no authoritative source or rationale for such ambiguous choices of designations as "online" and "disk," both of which, depending on interpretation, are practically assumed in electronic environments. And the only other designation they use in their 250 examples is CD-ROM, which, while more specific than "disk," ignores the various encoding formats (High Sierra, Rock Ridge) and filesystems (Unix, Mac, DOS) that preclude their use on certain systems.

Many interesting electronic media formats are absent from the text, such as GIF, TIFF, and JPEG images from the "Graphic Images" section. The various sound and movie formats are also without instance, and no mention is made of the possibility of text formatting, such as Postscript or Rich Text Format. To their credit, the authors attempt to keep the discussion at a nontechnical level; however, they do their audience a disfavor by their omission of a large (and rich) segment of electronic resources.

The authors state that "the primary objective in making reference to an item, whether in print or electronic format, is to give enough information so that it can be located" (p. 1). To this end, they specify an "available" element in their citation style, identifying the path to retrieval of the item in what the authors describe as "generic terms" (p. 1). Putting their system to the test, I flipped through chapter 3, "Full-text Databases (Periodicals)," and tried to locate some items that interested me. Using the example sources I was able to reach from my office Macintosh attached to the Internet (unfortunately no LEXIS/NEXIS or other commercial sources), I tried eight Telnet connections (examples 67, 83, 84, 99–102, and 111) and three FTP accesses (examples 78, 89, and 90). In none of the example Telnet citations was a login or password specified, which is essential to starting a Telnet session. Since four of the sites had "gopher" in their address, I knew from experience that "gopher" might work as a login name. In the four of the eight cases that I was able to log in at all, the directory paths containing the files of interest had been changed or the files renamed, rendering location impossible. The authors explicitly do not "supply information on the mechanics of... retrieving a document from a remote site over the Internet" (p. ix), but to the extent that login names and passwords vary from system to system, they would make good candidates for inclusion in a reference. Of the three FTP accesses I attempted, only one still had the file in the location specified in the example. I then began to look closely at the example citations for sources that were accessible via e-mail. First, no distinctions were made between Bitnet and Internet addresses, a nontrivial point to the novice. Then, of the 42 example e-mail-accessible citations in the text, fully fifteen had malformed or incomplete addresses, rendering them unusable to all but the Internet-savvy. As I stated earlier, I was unable to test the commercial-source examples. In fairness, I can only guess, owing to the more controlled nature of these sources, that my hit rate would have been almost if not perfect. Aside from poor proofreading, these tests show that public-domain information sources are dynamic, difficult to rely on, and difficult to pin down in a static citation. This is one of the most important issues facing the Internet. How does one locate specific information without knowing its precise name and location beforehand?

Li and Crane's format is based on the assumption that electronic transmission of information sources is a characteristic of sufficient importance as to warrant a wholly new look at styles of citations. On this point I disagree. Between them, the Chicago Manual of Style, the MLA Handbook, and the APA provide ample rules and examples for most of the formats in question. As regards personal e-mail, to which Electronic Style devotes a chapter, the Chicago Manual of Style (1982) provides in 15.28-15.33 and 16.134-16.140 detailed rules for the citation of personal correspondence, and personal e-mail is nothing
but. I find Li and Crane’s suggestion for including the e-mail addresses of the correspondents as inappropriate (and perhaps asking for trouble) as placing the full postal address replete with zip code in a reference to a personal letter. For citation purposes, I see nothing to separate e-mail from other personal correspondence save transmission medium, which for such irrecoverable data as personal communications is largely irrelevant. With respect to the other electronic sources, earlier style guides treat electronic formats quite satisfactorily. Glancing through my MLA Handbook (1984) I find section 4.8.1 providing rules and examples for citing computer software, section 4.8.2 providing for material from a computer service, section 4.8.3 providing for material from an information service, including previously published materials. The MLA examples include citations from Dialog and other information vendors. APA Editorial Style (1983, p. 133) already provides for machine-readable data files and computer programs, in the same format as Li and Crane’s: bracketed media designation, and location and name of the person or organization from which copies of the file can be obtained. A logical application of these existing rules would cover most of the public-domain electronic files available today. The authors of Electronic Style state that these traditional style guides “give little or no attention to these newer media” (p. ix). I wonder whether these “new media” warrant any more attention than they’ve already been given. At the most, a synthesis of existing methods could be useful. The authors do make contributions with their coverage of the electronic conference/bulletin board and the e-mail discussion group, formats not widespread at the time of the earlier guides. Credit should also be given to the authors for setting down an enhanced standard for the description of commercial source materials, which is presented in appendix 1. As regards e-mail, FTP, and conferences/discussion groups, credit also goes to Li and Crane for bringing these new and vital information sources out of the closet as acceptable research citations. However, as evidenced by the difficulty in locating Li and Crane’s own examples, a more dynamic system of pointers, or perhaps a better complement of search tools, is needed. Thankfully, new tools and locational devices are continuously under development, as evidenced by the current interest in the World-Wide Web protocol and its system of Universal Resource Locators (URLs). I am confident there will come a day when our navigational tools will narrow the distance between information demand and supply so as to be transparent (so long as the price of that supply is met). Until that time, intermediary roadmaps such as those used by Li and Crane are inescapable, if ephemeral.

Like Fleischer’s work before it, Li and Crane are to be commended for the courage to make the first attempt at hitting the moving target of new media citation. Their work raises important questions about the use of and reference to dynamic information. However, Electronic Style spends too much time breaking old ground, to the exclusion of the most interesting of the new information media. The work lacks a thoroughness, perhaps born of the rush to embrace the new, both in research and in technical treatment. As often happens on the leading edge, the mistakes of the early can provide the lessons for those next in line.—Casimir J. Palowitch, University of Pittsburgh


Library and archival collections contain tens if not hundreds of thousands of photographs, microforms, and movies made over the past seventy years with cellulose acetate “safety” film. Once hailed as a non-flammable and permanent replacement for nitrate film, acetate film is now known to deteriorate in its own less dramatic but equally thorough manner. In the so-called vinegar syndrome, chemical deterioration...
leads acetate film to release acetic acid, which gives off a characteristic vinegar-like odor. The acetic acid accelerates the gradual embrittlement and shrinkage of the plastic film base. Eventually the emulsion and the base part company, resulting in channeling and buckling of the emulsion. There can also be crystallization and bubbling as the plasticizers in the base are exuded. Film in this condition can sometimes but not always be saved or copied; the cost of treatment is high and the quality of the rescued image rarely matches the original.

Based on research funded by NEH, NHPRC, and Kodak, the Image Permanence Institute has developed a method to quantify the effects of different combinations of temperature and relative humidity on the speed of film deterioration. The purpose of the Storage Guide package is to help collection managers prevent vinegar syndrome deterioration for as long as possible by translating the research findings into three easily manipulated tools that predict film longevity under a variety of heat and humidity conditions. Details of the IPI research are presented in two reports by Adelstein, Reilly, Nishimura, and Erbland (1992) and Reilly, Adelstein, and Nishimura (1991).

The wheel, the graphs, and the table constitute the working elements of the package. They link storage temperature and relative humidity to the approximate number of years before acetate film can be expected to develop serious vinegar syndrome problems. The wheel and the graphs are constructed to provide predictions both for fresh film and for already degrading film. The table refines these predictions by allowing the collection manager to add in the effects of any time the film spends outside of the selected storage conditions.

The accompanying booklet presents a cogent description of vinegar syndrome and other processes of acetate film deterioration before launching into the role played by poor storage conditions and an explanation of the “general philosophy of film storage” endorsed by the IPI. Along with the other useful information crammed into these few pages, one finds a brief history of film supports and how to identify them.

As the authors make clear, the tools in this package cannot predict the exact lifespan of any individual piece of film; rather, they describe “in a general, relativistic way how temperature and humidity affect the rate of film base deterioration” (p. 3). Likewise, the authors carefully disclaim any predictive power for other types of film or other types of acetate film problems such as color fading, silver mirroring, redox blemishes, and general wear and tear.

With these tools, the collection manager for the first time has scientific data presented in a way that facilitates and rationalizes planning for film storage. Finally we can balance the cost of environmental controls against the amount of time that improved controls can be expected to buy.—Janet Gertz, Columbia University, New York

Works Cited


Special Collections Policies, Procedures and Guidelines is designed to be a practical and comprehensive guide to administering special law-related library collections. However, I believe that the information presented would be helpful to anyone managing any special collection. A phone call to the author revealed that he
defines special collections as including rare books, books of historical significance, and archival materials (letters, photographs, and the like). There is nothing comparable in the area that gives as much detail concerning the day-to-day management or administration of such a collection, although Cary and Trudy Peterson coauthored a related piece called Archives and Manuscripts: Law (Society of American Archivists, 1985) Christopher Anglim can be reached at South Texas College of Law, 1303 Jacinto St., Houston, TX 7002-7000; (713) 646-1720.

Specifically, this book covers collection goals, mission statements, objectives, administration, scope and collection development, cataloging, user services, preservation, and conservation. Concisely written chapters include a wealth of bibliographic citations that allow the reader to pursue additional reading.

The discussion section of this book covers roughly 240 pages. The remaining 300 pages are mainly appendices, model policies, checklists, and procedures. I found these appendices to be extremely helpful. Topics include preservation treatment options, maintenance procedures, selective National Archives Guidelines, archival supplies, conservation techniques, binding policies and procedures, collections disaster plan, security of rare books, and ethical issues. The appendices include a surprising number of diagrams and instructional charts.

To be honest, the particular style and content of this work make straight reading rather dull, since the amount of detail is astonishing and it is easy to get lost in it. However, the practical nature of the detail makes the source valuable as a library management reference tool. I expect readers will want to "jump" into the work as necessary, using the table of contents. Unfortunately, there is no index. If you intend to create your own disaster plan, or need to know how to repair that valuable monograph stored in some remote location or even in the stacks, this book is for you. It will be useful in both large academic and private law libraries as a basic special collection management tool.—Mark Folmsbee, Washburn University, Topeka, Kansas

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In Memoriam

Carolyn Harris,
RTSD President, 1988–1989

Carolyn Hixson Harris, Director of Preservation and Conservation Studies at the Graduate School of Library and Information Science, the University of Texas at Austin, died Saturday, January 15, 1994. Harris was a pioneer in the field of conservation and preservation of library and archival material.

From 1992 to 1994, Professor Harris was the director and senior lecturer of Preservation and Conservation Studies at the Graduate School of Library and Information Science of the University of Texas at Austin. Prior to taking this position, Harris had been director of the Preservation and Conservation Education programs at Columbia University’s School of Library Service. She was head of the Preservation Department from 1981 to 1987 at Columbia University Libraries and Manuscript Cataloger at the Harry Ransom Humanities Research Center at the University of Texas at Austin from 1973 to 1980.

Harris received her bachelor’s degree in art history in 1969 and her master’s of library science in 1970 from the University of Texas at Austin. She held numerous offices and committee appointments. She was president of the Resources and Technical Services Division of the American Library Association from 1988 to 1989. Author of numerous articles in the field of preservation and conservation, Harris won the John Brubaker Award from the Catholic Library Association in 1983 and The Rex Dillow Award in 1990.

Those desiring may make contributions to Hospice Austin, 3710 Cedar St., Austin, TX 78705 or to Preservation and Conservation Studies, Graduate School of Library and Information Science, EDB 564, University of Texas at Austin, Austin, TX 78712-1276. A memorial fund will be established in her name.
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