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Guest Editorial

How Scholarly Communication Should Work in the 21st Century

Scholarly journals are obsolete as the primary vehicle for scholarly communication. The recent furor over "cold fusion," for example, developed entirely outside the scholarly-journal process.

We need to harness available technologies to reform the entire system of scholarly communication. The $500-million spent annually on journal subscriptions could finance a new system.

Five years from now, the new system could be a reality—if university presidents, foundation directors, scholars, and librarians choose to create this 21st-century option. Here's how it could work:

Scholars in all disciplines could "publish" their articles on the Scholarly Communication System, an electronic network on which they could also read other publications. As a scholar completed an article or paper, it would be sent electronically to the system, where it would be assigned a category and cross-referenced to other relevant categories. Given the increasingly interdisciplinary nature of much scholarly work, the capacity to alert readers in one subject area to articles published in other areas could help build important links among disciplines.

The system could provide three new capabilities: a "notes and comments" section, citation tracking, and a usage log. Scholars with valid passwords, obtained by paying a modest annual fee, could leave signed statements related to the article's content in the comments field immediately after an article entered the system. The comments could contain suggestions for references to other literature, ideas for clarifying arguments, rebuttals of arguments, notes of possible errors in data or interpretation, and even compliments on the quality of the contribution.

The system would permit such responses to be added only to the comments section. Signatures on signed comments would be checked automatically to assure their validity (through a program matching names with users' authorized numbers).

The new system also would be a valuable communication tool for academics while their research was under way. In the "search only" mode, researchers could seek data from all the content tracks and could gain access to archival as well as to current files. The system would be available 22 hours a day to anyone paying the hourly usage and printing charges, leaving 2 hours of "down" time for maintenance.

After an article had been in the system for six months so that comments could be collected,

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and citations monitored, it would be flagged for review. The author would be notified of this via the system, and she or he then would have 10 working days to prepare a final version to submit to the appropriate review board. The author could use all responses from the comments section and information about citation patterns to create a revised version of the article. If the author failed to respond to the review notice, the article would be removed from the system.

Review boards and management groups would be the governing agencies for each scholarly area, with members nominated and elected by participating institutions. The boards would perform the reviews now undertaken by editors of scholarly journals using the practices considered most equitable and fair: blind reviewing, review by a panel of three scholars in the same field, and written comments supplied to the author. Members of review boards would be given 15 working days to complete their task. They would be required to place an article in one of the following seven categories:

- Original contribution to literature in a field.
- Logical extension of research in a field.
- Application of a theoretical perspective or method developed in one content area to another content area.
- Restatement or interpretation of existing research.
- Review of the status of research on a particular topic.
- Seriously flawed in research design, experimental technique, or conclusion.
- No scholarly contribution.

Thereafter, researchers using the system would be able to use these fields to limit their searches, thereby avoiding paying to retrieve articles they would not use. (Each author would be asked to suggest a category characterizing the “research technique” used for his or her study when it entered the system; the selection would be confirmed by the reviewers.) This feature would permit users to locate studies using particular research techniques in which they were interested—specific analytical procedures or research designs, for example. Such information is difficult to find through the typical indexes now available.

After a review was completed, the article would be sent back to the relevant category in the system. The citation and usage logs would continue, but the comments field would be replaced with a more formal “research note” that could be entered only by scholars with authorized passwords in the relevant field or fields. A correction field would be added that could be used only by the original author. Using technology to combine all communication about a piece of research would result in a cleaner pattern of scholarly communication because errors could be noted more quickly and corrected more easily.

Management groups would supervise each content area, appointing and training review boards, as well as supervising an appeal process for researchers whose work was called “seriously flawed” or “no scholarly contribution” by the original reviewers.

Capital costs for setting up the system could be provided by grants and fees from founding universities, foundations, and government agencies. The management groups and review and appeal panels could be financed by annual fees paid by each academic institution in the United States. The fees would go to pay for selection and training of reviewers, honoraria for reviewers, administrative costs, and other associated expenses. Institutional fees would be assessed on a sliding scale based on each area of doctoral, master’s, and undergraduate instruction offered by a college or university.

Hourly usage charges, in conjunction with the basic membership fee paid by each institution, would cover the annual operating costs of the system. Royalty payments would be provided to authors whose articles were printed out on the system. Libraries would print files in formats requested by users, using sophisticated graphics software and color printers to reproduce the digitally stored images, thereby overcoming much of the resistance to electronic journals.

The new scholarly communication system would provide many benefits to colleges and universities, including substantial economic advantages:

- The amount of money spent by colleges and universities for subscriptions to publications
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would be substantially reduced and the savings used for the new system. In just 10 years, the average costs of research journals have increased 160 per cent, and it is likely that trend will continue. And more than 5,000 new journals, some in new fields, began publication in 1988 alone—creating even more pressure on already ailing library budgets.

• The need for more library space would be reduced. The escalation in size and number of journals creates a constant need for more space to house the publications and their readers. In 1989, each square foot of new library space costs an average of $95.43.

• The hours spent processing journals, shelving, and reshelving them could be much better spent on developing more sophisticated indexes of journal contents and on helping users find and select the information they want.

As a bonus, the system would establish and enforce standards for the formats used for storing data, thus assuring scholars that material computerized now will be easily retrievable in the future.

Most important, however, universities would regain control over decisions made about the largest item in their budgets: faculty salaries. Instead of letting publishers and an inner circle of referees decide who gets published and, therefore, who receives tenure and merit raises, universities could insure the quality and fairness of the review of research in all fields. Universities would have a prescribed role in choosing the members of review and management boards. The reviewers chosen by such boards could be very different from the people now used by journals if the selections were not based on the buddy system or "old boy" connections. The system thus could provide better information for universities to make informed personnel judgments.

If universities, foundations, libraries, and scholarly organizations act now to form this new communication system, it could soon be in place to serve the needs of researchers and scholars far into the 21st century.

SHARON J. ROGERS is University Librarian at George Washington University.

CHARLENE S. HURT is Director of Libraries at George Mason University.
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Resource Sharing or Cost Shifting?—The Unequal Burden of Cooperative Cataloging and ILL in Network

Charles B. Lowry

The values and reward system that characterize library cooperation are drawn from an environment quite different from that of the modern library network, which is founded on the shared cataloging/ILL utility. Reflecting as it does an earlier system of values about participation, the reward system for the technology-based network encourages use of but not contribution to the "national library database." This paper examines the dilemmas of participation in resource-sharing networks and proposes solutions based on shifting the inducements toward contribution by remunerating the contributing library for the unit cost of original cataloging and the suggested restructuring. The restructuring suggested is applicable to library network/utilities in general. However, OCLC's recently announced "contribution pricing" may serve as a model for changing the reward system, which is a prerequisite to preserve the "national library database" that the OCLC represents.

COOPERATION—WHAT IS IT?

In the post-World War II period, the concept of library cooperation has tended to focus on two primary and critical activities—shared cataloging and interlibrary lending. But in recent years, a more comprehensive notion of the dimensions of library cooperation has become essential to our lexicon. This extends right down to local cooperative activities and includes shared collection development, preservation, and training, particularly for technological purposes.¹

To understand the dimensions of library cooperation today, we must understand the modern development of library networks. JoAn Segal notes that "there are implicit levels of networking . . . of several sorts: type-of-library networks, size-of-library networks, and geographical-area networks at various aggregations of area."²

Recently Edward Walters has applied the social sciences concept of institutions to provide an organizing model to group the variety of organizations that we call library systems, networks, consortia, associations, and cooperatives. He has identified five forms of networking: (1) the unit cost networks such as OCLC or RLIN, with the size and revenue sources to raise substantial capital for development; (2) the multistate regional auxiliary enterprise networks such as AMIGOS or SOLINET, with their low capital investment and fee-based assessment with a more limited ability to amass capital; (3) the authority-sanctioned networks such as IL-LINET and FEDLINK established by governments or government agencies that have jurisdiction and draw on those au-

Charles B. Lowry is Director of Libraries at the University of Texas at Arlington, Arlington, Texas 76019. This article is based on a paper delivered as a keynote address for a miniconference on the Cost of Cooperation in Academic and Research Libraries jointly sponsored by the University of North Texas, School of Library and Information Sciences, and AMIGOS Bibliographic Council held in Denton, Texas, May 11, 1988.
authorities for their power to coerce the acceptance of standards and as a source of capital for new projects; (4) the discipline and type-of-library networks that are created for the purpose of sustaining either a discipline, (e.g. law, medicine, and agriculture), or an institutional form (e.g. university or corporation); and (5) local consortia or proximity networks that are founded and sustained because geographical proximity makes library cooperation more timely and often more effective. These latter vary greatly in the kinds of organizations they include, size, governance, and programs.

Each of the five types of library networks is part of a national library "network picture" that is interlocking in its services and belief systems. One cannot talk about a type of network without defining its relationship with the others. Moreover, most academic libraries are members of several of these types of networks. The University of Texas at Arlington and the University of South Alabama—two libraries where the author has most recently been director—have been simultaneously members of four or five types. This degree of participation brings attendant cost and benefits. The question becomes "is the cost outweighed by the benefit?" Several problems arise in this networking environment because of the underlying assumptions we have about cooperation, and the need for managerial control based on a realistic cost model in our "not-for-profit industry." There are also numerous hidden or indirect costs to which no attention is paid as we work towards the abstract ideal of cooperation.

DILEMMAS OF NETWORK RESOURCE SHARING

It has been pointed out frequently that resource sharing in any type of network environment may be used by libraries as a prop to reduce their own obligations to build adequate local resources. Moreover, there is a growing concern among larger research libraries that the primary objectives they have for cooperating through utilities—cataloging and interlibrary loan—are heavily subsidizing services they neither need nor want. There is considerable anecdotal and some empirical evidence to illustrate that libraries, including members of ARL, take unfair advantage in relation to their contributions to network participation. The assumption is often made that research libraries with the largest budgets and collections are the largest ILL net-lenders. However, among those twenty-five ARL libraries with the largest budgets, only ten are among the top twenty-five net-lending libraries in ARL. Of the other fifteen, eleven are not among the ARL top forty largest lenders. Curiously, of the ARL libraries with the twenty-five largest collections, fifteen are not among the twenty-five largest lenders and eleven are not among the ARL top forty—exactly the same numeric result. By contrast, nine of the top twenty-five ILL net-lenders in ARL have budgets that are not among the ARL top forty, and eight of the top twenty-five net-lenders have collections which are not in the top forty. These striking numbers indicate clearly that the ethos of ILL resource sharing is not necessarily associated with either the largest budgets or collections. An examination of contributed cataloging would likely produce similar results. There certainly has been no lack of conjecture at OCLC Users Council meetings that libraries with extremely high search levels and low holdings and FTU use are "ripping off" the database.

"Networking becomes more an economic decision than one of 'apple pie and motherhood.'"
Paul Gherman argues that "networking becomes more an economic decision than one of 'apple pie and motherhood.' Accordingly, the goal of 'the greatest good for the greatest number' is tempered by the recognition that nothing is free, by the desire to avoid exploitative imbalance of services between libraries, and by preference for contractual or cost-based transactions over open-ended moral commitment."7

Criticism of the value of network cooperatives comes not just from the academic research libraries but also from the public library sector. Notable among these is Thomas Ballard. He states that, "an entirely unsubstantiated belief in cooperative resource sharing as the best way to improve library services has been considered sufficient reason to spend millions of dollars. This is dogma—purely and simply." Ballard offers criticism at another level, calling into question the basic assumptions of cooperative network activities with a belief that "for the patron, bibliographic networking is merely a return to closed stack concept," and that the "levels of inter-library loan indicate that people really don't want everything."8 Such opinions from colleagues no doubt raise hackles among the majority in our profession. This occurs because of an intricate belief system that (1) no library has the resources to satisfy all its patrons' needs, (2) library cooperative efforts will fill the gap between patron needs and resources, (3) a national library network built from the bottom up is a self-evident good, and (4) libraries have a democratic responsibility to minimize the gap between the information rich and the information poor.9 Library networking even received pontifical support when in 1982 "Pope John Paul II . . . expressed deep interest in the Theological Library Network founded . . . in Rome by 60 representatives of pontifical universities and other Catholic as well as non-Catholic institutions."10

SQUARING "BELIEF SYSTEMS" AND BEHAVIORS

How do we reconcile our belief systems with the reality of behavior among institutional participants in library cooperation? With the emergence in the 1970s of major bibliographic utilities containing large extraordinarily rich electronic databases, the foundation was laid for the development of a complex array of networking arrangements. Today, the local library cooperative is possible only as part of this larger scheme. These utilities came into existence and libraries became cooperating members for two primary reasons—to reduce the cost of cataloging library materials and to use the databases built in this process as a new vehicle for interlibrary lending. No one wants to go back to doing things pre-1970, because the utilities have been extraordinarily effective in helping libraries reduce the cost of labor-intensive manual systems.11 Nonetheless, there are inherent temptations in the way we structure member participation, which encourage libraries to ignore the belief system and to take advantage of their peers. Two examples of this structural problem—ILL and shared cataloging—are the focus of the balance of this paper. These two activities alone are fundamental illustrations of the great success of automated/electronic networks, and probably point the way to the most cost-effective cooperative activities of the future.12 However, they are not without flaws. In the discussion which follows, OCLC is the prominent example, but the other major bibliographic utilities are affected by similar conditions with the same results.

INTERLIBRARY LOAN

Interlibrary loan should properly be characterized as interlibrary sacrifice, because we have tended to focus narrowly when determining the cost on a tightly defined range of issues, including local staff time, equipment costs, lending charges by the utilities, charges from the lending library, success or fill rate, and turnaround time.13 These are not inconsequential issues, but they are not sufficient to help us in determining the real cost benefit of ILL cooperation or in defining new ways to establish an adequate added value to this service.

It has been frequently argued that the tradition of "free" interlibrary loan is no longer adequate in the electronic environment of the modern bibliographic utility
and that small libraries will lose their initial euphoria over the good of participation as they approach net lending versus net borrowing. Herbert White recently stated that "our attitude comes from acceptance of interlibrary loan not as a pragmatic commodity, but as a moral precept . . . . This premise now conflicts directly with our evolving responsibilities as resource managers accountable to those who fund us and those we serve directly." The problem, as he sees it, is that the lowest priority in ILL becomes lending our materials and the highest priority becomes borrowing materials for our patrons.

"The pricing of OCLC/ILL charges from the perspective of actual costs or as an inducement to lend makes little sense."

The ILL system as presently constituted tempts participants to make cooperation a one-way street, though many avoid the temptation. "The net lenders know who they are, and they also know that they provide far more than they receive." An example of the dilemma is UT Arlington Libraries' ILL Department which has long prided itself on handling an OCLC/ILL request within twenty-four hours and has a well-earned reputation for responding quickly. The net result is that lending is on the increase. If it were not for the fact that requests for borrowing have skyrocketed due to a major surge in doctoral education and externally funded research, UTA would have long since been a large net lender. In this situation, a library manager is faced with the dilemma of either adding staff and equipment to the ILL Department in order to meet demands to lend materials, or setting the principle that borrowing is the first priority and responses to requests to lend will be allowed only when all of the borrowing is done. If we were to adopt this stance, requests to borrow would bypass UTA in the OCLC queue and, before long, requests would begin to decline.

The pricing of OCLC/ILL charges from the perspective of actual costs or as an inducement to lend makes little sense. The borrowing charge is 83 cents, and the lending credit is 20 cents. There is no palpable difference between these two costs from OCLC's perspective, and certainly no reason to encourage lending at so insignificant a level. The 20 cents credit for lending does not even qualify as a sop, although OCLC's primary objective is to support system costs, not encourage ILL lending. Increasingly we hear calls for the actual determination of cost honestly, in terms that meet the accounting criteria of the supplier whose perception is ultimately all that matters. Cost is not the same thing as price." A recent experiment by the Missouri State Library in which "lending libraries were reimbursed $5.00 for each item loaned, above the number of items borrowed by that library" seems to point in a reasonable direction. Likewise, medical libraries participating in TALON pay a $4.00 fee per item borrowed. But the determination of standard costs or the call for standard fees will take more than guesswork, and must include new cost elements which will be discussed below.

SHARED CATALOGING

It is curious that the cost structure of shared cataloging has not had the same scrutiny nor produced as much literature as ILL. There are two obvious omissions here. The first is that studies of pricing tend to focus on the surcharges added by regional networks to OCLC costs. These are of some importance, but they are not paramount since the surcharges are a small percentage of the total cost of cataloging and contribute to direct services of the regional networks. The credit on OCLC for original contributed cataloging is $1.00 a record. Libraries participating in the "enhance project" receive $1.29 for records which they upgrade.

One wonders how many libraries could demonstrate that $1.00, or even a $1.29 compensated them adequately for the expense of original cataloging. On the other hand, the OCLC charge for prime time use of a record in the database is $1.29. If there ever was a disincentive to contribute origi-
nal cataloging, this price structure is it. The truth is that utilities, particularly OCLC, have reaped the benefit of added value of cataloging supplied by libraries to their union databases. At present OCLC estimates that member input (including GPO and NAL) is about 76 percent of current cataloging in the OLUC (OCLC online union catalog).

Although libraries have viewed utilities as entities they have created to do work for hire, the reality is that libraries are supplying piece-work cataloging to the utilities at a sweat labor price which is resold to other libraries for a tidy sum. How do we correct these shortcomings and remove the temptation to reduce our costs at the expense of other libraries by waiting for some other library to assume the cost of original cataloging?

**COST-BENEFIT CRITERION AND UNIT COST METHOD**

The cost benefit criterion theme stated simply is that as a system changes its expected additional benefits usually must exceed its expected additional costs.21 There have been numerous calls for cost benefit or cost effectiveness analysis. This always sounds complex. Perhaps it can be simplified.22 Kaye Gapen says it is time to begin treating the “access cost” as equal to the “collection cost.” Put another way, “There will be new choices to be made in smaller libraries between low fixed costs and high incremental costs per search strategy. Larger libraries are more likely to choose the high fixed cost and low incremental cost strategy at least for very commonly used datafiles.”23

Cost benefit would work something like this: a library borrowing on ILL pays to the lending institution a cost based on the high fixed cost experienced by the lending institution for maintaining materials in its collection and recovering them for lending purposes. Similarly, a library contributing original cataloging benefits from this labor in a manner equivalent to the effort and expense of its work. In either case, there is a positive inducement to cooperate and share collection resources or cataloging labor and no inducement to take advantage of the system.

The actual unit cost for ILL activities must be established in order to judge the cost benefit. "Techniques have been developed permitting uniform cost analysis for varying libraries. These techniques take into account the fact that nearly all the direct budget contributes to more than one service (book stock and technical services), are a kind of overhead, and that details of cost allocation depend on the actual levels of service rendered."24 Obviously, unit cost will vary from library to library, but a sample can provide a relatively standard method of determining unit costs. A good example of the unit cost method is the work done recently at Virginia Tech.25 How would this work in our electronic network environment? Put another way, how will unit cost be established and who will pay? Examples of ILL and cataloging help explain the use of the cost benefit and unit cost approach.

To use White’s phrase, ILL is temporary acquisition. “The real decision is between permanent and temporary acquisition. Permanent acquisition costs more initially, but that cost is not repeated for each future use. Temporary acquisition costs less one time, but if it is repeated the costs reach an equal level.”26 We should also recognize that each time a library lends through ILL it may lose an opportunity for its own patrons to use an item in which it has invested at high fixed cost. This happens in two ways. First, the item may not be on the shelf when the patron goes to look for it. Second, there is a loss due to wear-and-tear on the item which now has one less circulation in its expected “life span.”

A recent in-house study entitled “Cost Data for the Virginia Tech Library” established the total cost of purchase and shelving monograph volumes at $106 each and the total cost for purchase and shelving of serials volumes at $181 each. This per item investment represents a finite number of uses, and each time a library lends materials to nonprimary patrons the net result is a potential loss on that investment. Assuming 25 circulations per item for a typical publishers book binding, Virginia Tech is dissipating $4.24 per monograph for each ILL loan that it makes.27 Likewise, if a “class A” serial binding lasts 50 circulations, the loss per photocopy-loan
amounts to $3.62. Conversely, the borrowing library is saving an equal amount. An ARL library lending 70,000 items per year (half books and half serial copies) has lost $275,100 of its capital investment in collections. Using the unit cost method, a formula could be developed that factors in the lending libraries staff expenditures, periodical expenditures and monograph expenditures of over a five-year period. The staff expenditure would have to be indexed on the average salary for staff. Periodical expenditures would be indexed on the average cost per title and book expenditures on the average cost per volume. This would take into account regional differences in wages and the variable character of collecting costs depending on the relative emphasis in each institution on different types of materials. It might also be helpful to develop an index of collection size, because there is an implicit cost for maintenance, although this may be captured in the staff cost index. By gathering these statistics, annually libraries would provide the basis for establishing the unit cost for lending both photocopy and book stock. This unit cost would be an added value to the interlibrary loan transaction, which would be paid directly to the lending institution by the borrowing institution.

A palpable billing nightmare could be caused by such a system, but there is a simple way out. It has been suggested that "since OCLC already bills requestors for its own transaction fee, it could possibly expand that accounting capability to include collecting and disbursing ILL fees." At its March 16, 1989, meeting, the AMIGOS Board voted to request formally that such a scheme of payment be incorporated into the OCLC "New System" design. That action was based on a white paper submitted by the AMIGOS ILL Policy Review Committee. The white paper proposes that each year participating libraries supply OCLC with their ILL charges based on type of materials. These ILL charges, or the actual unit cost, would be posted on the OCLC system in the name and address directory. Obviously, libraries would make borrowing choices, at least in part, based on these borrowing charges. When a library borrowed material, the unit cost (ILL charge) of the lending library would be added to the OCLC borrowing charge. On a monthly basis the difference between lending and borrowing costs would be reconciled for OCLC billing. This sort of system would not cause a billing and paying nightmare, but would eliminate one that currently exists for some libraries. For instance, a State of Texas payment voucher for ILL costs UTA Libraries, the University and the State more than $40.00 in paperwork expenses just to pay the lending library as little as a dollar. Moreover, this sort of unit-cost system would not prevent libraries from continuing existing arrangements of reciprocal borrowing agreements if they chose to do so.

"The real cost of original cataloging is significantly higher than the OCLC payment for original contributed cataloging or the 'enhance project.'"
of $50 per title. Any library would be entitled to payment for its contributions to the OLUC based on these unit costs which would certainly be far higher than the present payment for original input.

When would a library be entitled to payment? There are several possibilities. Payment could be made at the time of the initial input of the record if the title had not already been cataloged or if the re-cataloging was being done by an "enhance" library. A better system would pay a library when the cataloging copy was used by another library, either by paying in a lump sum (e.g., $50.00) or paying incrementally for each use of the record until the lump sum was reached (e.g., $5.00 a use up to the maximum of $50.00). The latter method has the advantage of letting re-use of the record establish its fair market value. This brings us to one final question. Who will pay the unit cost for this original cataloging? The point was made earlier that the added value for original cataloging is contributed by the member libraries, and at least in some measure it is represented in OCLC's corporate equity $49 million or net worth. Thus, OCLC should pay the lion's share of this new unit cost.

CONCLUSIONS

OCLC recognizes that the structure of member participation—whether ILL or contributed cataloging—induces use of, but not contribution to the OLUC. During the last year, OCLC has been exploring ways to resolve this dilemma. Recently it announced a highly innovative restructuring of pricing arrangements called "Contribution Pricing." If implemented as planned in 1990, the structure of "Contribution Pricing" may well provide a foundation for resolving the problems of the present network arrangement.

Briefly, the new scheme makes "least cost participation occur at full database contribution levels" by charging for access (bibliographic searches and holdings displays) and giving credits for contribution (original cataloging, add/delete holdings, create/update LDR's, and ILL lending and requesting). Removal of economic temptation to contribute less and reward for continued full cataloging and holdings contribution are among the benefits the OCLC says should arise from "Contribution Pricing." Whether the reward for contributed cataloging will reflect the real unit cost depends on how realistic OCLC is about paying libraries for the added value they provide to OLUC. Whether the temptation to borrow first and lend later is diminished will depend on whether an accounting mechanism for recovery of the unit cost of lending is provided in the New System for those libraries that wish to use it. OCLC deserves credit for understanding a fundamental flaw inherent in the structure of network participation and praise for a creative new approach to remedying it. Moreover, the preservation of the national library database, which has figured largely in recent debates over ownership of bibliographic records (e.g., OCLC copyright) and the encouragement of broad participation by libraries in building that database is likely to be dependent on just such a change.

So long as the inducements in our network arrangements reward borrowing, using original cataloging contributed by other libraries, or downloading records without setting the holdings byte—we may expect the present state of affairs to continue. Unequal contribution is a natural and expected outcome. What should surprise us is that many, perhaps most, libraries make an honest effort to contribute their share. The point argued here is that the inducements should have long since been arranged to reward participation. This paper touches on the two most successful examples of cooperation in the electronic environment—shared cataloging and interlibrary lending. There are potential areas of cooperation that we are just beginning to explore including collection development, preservation, and training. These incipient activities will present many of the same issues as those of cataloging and ILL. Thus, the library community faces a significant challenge in resolving the current dilemmas explored in this paper. We should be reminded in this undertaking of the old adage "not to decide, is to decide."
REFERENCES AND NOTES


12. Sweeney, p.95.


16. Ibid.

17. Ibid.


19. See, for instance, Cline, p.80-86.


26. White, p.54.


31. The description of "Contribution Pricing" provided here is based on handouts and presentations by OCLC staff given during the AMIGOS Bibliographic Council, Inc. Membership Meeting in Dallas, Texas, May 17, 1988, and the OCLC Users Council Meeting in Dublin, Ohio, May 25–26, 1989, both attended by the author.
The Paradox of Public Service: Where Do We Draw the Line?

Rebecca R. Martin

Academic librarians today face a paradoxical dilemma: as the explosion of information continues and the tools available for accessing information increase in number and sophistication, we realize that we will be able to offer only a portion of such resources to our patrons. Given the growing importance of information in our society, the demands upon us can only increase. This paper examines the ideals and realities of public service in this environment and explores the potential of new services to meet these demands.

The growing importance of information in our society and the technology now available to access this information provide librarians with the unprecedented opportunity to take a leadership role in academic institutions. Yet, as the demand for service increases, funding is on the decline, confronting academic librarians today with a difficult paradox: as the explosion of information continues, we have been forced to forsake the ideal of acquiring all of the information needed by our patrons. As the tools available to access this information increase in number and sophistication, we can, ironically, offer only a portion of such resources to our patrons. The finite reality of our buildings, our budgets, and our staffs forces us to limit our collections and our services at a time when information and access to it are gaining importance in our society.

TOO MUCH SERVICE?

When considering the prospect of drawing the line on the services and resources we offer, one is struck by how antithetical the notion of "too much service" is to public service librarians. After all, most of us became public service librarians because we wanted to assist people. Yet often people ask for more help than we can reasonably offer. They demand materials that are not in our collections, services that overtax our resources, and answers that are beyond our individual capabilities. These requests are usually not unreasonable or out of the domain of academic librarians. Yet public service librarians face, on a daily basis, the reality of not being able to provide enough, because we do not have good ways of saying no.

Why? Because we are taught to say yes. Yes, we can find the answer. Yes, we can help you find a book that will meet your need; if we cannot find the one you want, yes, we can locate a good substitute. And if we can't find a good substitute, yes, we can get you the one you identified from another library. We may not have exactly the thing you are looking for, but yes, we are sure we can find some way to help you.

Furthermore, we are taught to say yes to every request. Consider the first tenet of the ALA Code of Ethics:

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Librarians must provide the highest level of service through appropriate and usefully organized collections, fair and equitable circulation and service policies, and skillful, accurate, unbiased and courteous responses to all requests for assistance. (Emphasis added.)

The underscored parts of this statement are admirable and establish an ideal, but in the context of today's libraries, is this goal possible? What does it really mean? And if we do not meet this ideal, how does that affect our views of ourselves and of our profession? In light of the ethics and the ideals of our profession, can we draw the line?

The value of meeting the information need is very strong in our profession. So is the value of equal service, and therein lies another paradox. To provide the same level of service to everyone may mean that we provide the highest level of service to no one. Is equality worth the price of inadequate service? If we say yes to everyone, does it mean that the service we provide our "primary clientele" is diminished?

To some degree, the answer to the latter question has to be yes. For some of our services, such as online searching and interlibrary loan, it is possible to offer service only to a primary clientele. But for our basic public services (access to the collections and reference assistance) it is usually not possible—or even desirable—to limit service. The answer to how we control the flow in order to prevent overextension may lie in the way we view and organize our services.

THE REALITY GAP

Before we consider these issues, we should take a closer look at our ideals. How does the reality of public service in libraries today match our ideals? As individual librarians, how do we cope with compromises and limits on the services we provide?

In a very perceptive article, Charles Bunge outlines the ideals of reference librarianship and examines the gap between those ideals and reality. Those ideals extend beyond reference to all public service librarianship. He finds that the joys of reference librarianship come from working directly with people. We give of ourselves as persons to help other persons; we tailor our response and service to the specific needs of the person we are serving. We help persons to learn and to know, and, as a bonus, our own knowledge grows in the process. Each reference question is an opportunity to learn more about information sources, more about our clients, and more about the world at large.

In a broader public service perspective, we have similar ideals for the programs and services we offer. We want reference desks that are staffed well enough to deal properly with all questions. We want collections that will meet at least the basic needs of our students and faculty. We want access systems that will allow these patrons to find the materials they need and to check them out when they need them. We want instruction programs that will enable us to teach patrons how to use these collections and services well. We want services that recognize the special needs of certain patron groups and make their library experiences successful. We want to harness the new technology to help us do all these jobs in a more beneficial manner. Most of us view these services as basic necessities, not blue-sky dreams of the ideal library.

But the reality is quite different. Information resources today allow librarians, more than ever before, to answer a wider range of questions more effectively and to tailor answers to the precise information needs and preferences of the patron. But do we have enough money to buy them? Or, if we have squeezed out enough money for a few, how do we decide which to choose? Do we have the time to learn to use these tools effectively? Do we even have a grasp of the multitude of new sources available to us in our libraries and computer centers and through our online systems and networks? And do we have the time to communicate effectively what we do know to our patrons?

And what about our patrons? Many librarians have observed that we see a much wider range of patrons on our campuses than ever before. Our faculty have more intense and diverse research inter-
ests and needs. Our students come from more culturally diverse backgrounds, with varying degrees of basic skills and language capabilities. We have more students in reentry and extension programs, and we see more disabled students attending classes. In many academic libraries, we are seeing more community users. Each of these patron groups brings to the library a unique set of needs. A wider variety of users offers us a greater diversity of serious and legitimate questions, challenging us to use the full range of our skills and knowledge to find answers or to suggest sources and strategies for solution. But do we have time to provide the individual attention our patrons need? Are we prepared to provide special services? Does meeting the need of one patron detract from many others?

We are stretched further each day. As living costs rise for patrons, reliance on free services such as libraries increases. Academic institutions are not immune either to this additional library use or to the rising costs of operations. The result of these combined pressures is that our professional staffs have been reduced while the volume of activity has increased. Yet we have taken on new responsibilities in areas such as bibliographic instruction, computer searching, and outreach to special patron groups, in addition to more traditional duties. Involvement in campus and professional organizations, research, and publication may distance us from direct public service, leaving staff with less expertise to provide our frontline services. And resources to support collections, facilities, and automation continue to dwindle in the face of spiraling inflation and campus budget deficits.

THE STRESS FACTOR

The tensions between patron needs and staff capabilities cause personal and organizational stress. The line limiting how much service we can provide is often drawn for us due to lack of resources, lack of expertise, and lack of time. Staff members feel dissatisfied and frustrated as they perceive a gap between the ideal and the reality of librarianship.

"The tensions between patron needs and staff capabilities cause personal and organizational stress."

These feelings of dissatisfaction are not unique to librarians. Other public-service professionals in fields where the demand always increases to meet the supply of services experience them as well. By now most of us are familiar with the concept of "burnout," and at one time or another we have all suffered from its symptoms. There exists a classic cycle of burnout related to a project, an assignment, a job, or an entire profession. Enthusiasm for the undertaking, its challenges, and its problems is replaced by a sense of stagnation when solutions do not materialize and expectations are not met. This is followed by frustration with the system and the individual situation, which finally results in apathy.

How do we deal with this? Michael Lipsky, in his work Street-Level Bureaucracy, describes the responses of public-service professionals:

First, they develop patterns of practice that tend to limit demand, maximize the utilization of available resources, and obtain client compliance and above the procedures developed by their agencies. They organize their work to derive a solution within the resource constraints they encounter. Second, they modify their concept of their jobs, so as to lower or otherwise restrict their objective and thus reduce the gap between available resources and achieving objectives. Third, they modify their concept of the raw materials with which they work—their clients—so as to make more acceptable the gap between accomplishments and objectives.

If we stop to think about the compromises we have all made to help public service work within academic libraries, this pattern should seem familiar. We do the best with what we have. But if, in the process, we have lost the service ideal with which we started and reduced the needs of our patrons to fit within the limited services we can offer, can we still say we are fulfill-
Reference librarians perceive a gap between the ideals of reference librarianship that they believe and espouse and the realities of the reference service that can be practiced. The intensity of this perception has increased as funds have grown shorter and as we have become more and more aware of the complexity and immensity of the information needs of people in modern society and of the information resources available to serve them. To cope with the psychological dissonance caused by this perception, we stereotype our clients, respond to their needs in ways dictated by routines and procedures, blame them for their problems, and isolate ourselves from them. The unique needs and interests of the individual client have become less and less central to our value system and practice. These changes, however, only serve to perpetuate our feelings of dissatisfaction, guilt, resentment, isolation, and lack of confidence.

Though this burnout is real, many public service librarians have maintained their integrity in the struggle against limitations. At times we all feel frustrated, but it is helpful to understand that this frustration is part of a larger problem for many public service professionals.

Many coping mechanisms for burnout exist, including emphasis on client-centered service, development of support systems among colleagues, and continuing efforts toward self-awareness. Strong identification with a professional and individual value system is also essential. Librarians are coping well with these circumstances and are continuing to provide a high level of service, though constrained by limits on time and resources. Most librarians provide the best possible service, given the particular situation, to each patron who presents himself or herself at the desk, without reducing service to the level of lowest common denominator implicit in the notion of equal but inadequate service.

The concept of burnout, and the models for understanding and coping with it are closely linked to the notion of our service ethics and whether we can, in fact, draw a line in the services we provide. As individual librarians, we must find ways to live with the compromises that must be made within the context of our system and still provide services that meet both the patrons’ needs for information and our own ideals of public service. Drawing the line in providing service in the specific case is a personal and individual decision based on immediate circumstances, available resources, institutional policy, and, most of all, individual values. We need to keep these values intact if we are to make good decisions about the services we provide.

ORGANIZATIONAL OVERLOAD

Up to this point, we have looked at service limitations from the perspective of the individual librarian. It is also important to view these issues from an organizational and administrative perspective. Here, too, the ethical foundation is important, for the academic library’s ideals must also be drawn from the parent organization—i.e., the college or university—of which it is a part. American universities and colleges are founded on the belief that the expansion of critical understanding and the development of individual autonomy are essential for a free and democratic society. The library’s collections have always played an important role in this mission, but in recent years the library’s public services have increased in prominence as more advanced research strategies and information-acquisition skills have become necessary to gain access to the growing amount of available information. The library’s participation in the central mission of the university thus requires a commitment to reasoned inquiry, to the value of public discourse and scrutiny of contending opinions, and to the principle of free access to information. In public institutions, this commitment often extends beyond the students and faculty of the university to the surrounding community, to the region, state or nation, and to academe as a whole.

As the role of information in our society and in our universities expands, campus administrators are putting more pressure on libraries to respond. New demands to offer automated services, supervise com-
puter labs, support faculty research, and meet the needs of a more diverse student population abound. At the same time, budgets have not kept pace with this changing library. Even traditional library functions such as collection building and reserve book rooms are not funded to operate effectively in today's economy.

It becomes impossible to contend with physical constraints such as building size, inadequate wiring, and antiquated telecommunications systems when the academic institution itself is faced with little funding for capital improvements.

"The notion of a primary clientele directly contradicts our service ethic."

As the demand from above and without increases with little or no new support, the pressures to provide service strain the library's budgetary, physical, and personnel resources. The threat of failure—both real and perceived—of both the individual and the organization forces administrators to weigh the ethics of their primary purpose against the realities of financial support from the larger institution. Thus, the manager looks for other ways to relieve these stresses. In this organizational overload, such decisions can result in the eclipse of lower priorities, an increased emphasis on the conservation of resources, and the reduction of standards of performance.8 As procedures and systems are streamlined to handle increased volume, attention to individual needs and problems diminishes. A factory atmosphere replaces the library's thinking atmosphere, making both the patron and the provider feel lost in an impersonal intellectual world rather than encouraged by the surrounding wealth of knowledge.

**PRIMARY CLIENTELE:**

**A FALLACY?**

Given that today's academic libraries are, by their nature, in a state of overload in terms of both information and demand from the environment, it is easy to see how the notion of serving a primary clientele with a basic set of services has developed. Policies based upon restrictions in service can provide a buffer against the traumas of overload and burnout described above. But what of our users who do not fit into the standard categories? Do we ignore the needs of our disabled patrons or our reentry students? How do we serve those with language barriers or learning difficulties? Do we fail to recognize valid demands for library service that present themselves in unusual forms? If we are to hold to our professional ethic of the highest level of service to all requests for assistance and to our institutional ethic of individual autonomy and free access to information, we must address the unique information needs of our individual patrons.

The notion of a primary clientele directly contradicts our service ethic. When building collections, setting hours, and offering extended services such as microcomputer labs or interlibrary loan, consideration of the primary clientele can be an integral part of the decision-making process. But when providing access to information and assistance in locating it, limiting service to a primary clientele does not make sense. Often we cannot tell whether the patron standing in front of us is a student, a faculty member, a student from another school, or a member of the community. Perhaps we can venture a guess, from the way they look or the question they ask, but to base the level of response to the inquiry on such questionable grounds would be inappropriate and even a disservice to our perceived primary clientele. Furthermore, even if we could identify the nonprimary user, given the growing importance of information in our society and our traditional belief in the values of access to information, it would be irresponsible to deny or limit their assistance. Our democratic society's fundamental belief in freedom of expression implies freedom of access to information. Therefore, it is the ethical duty of academic librarians, as librarians and as members of the academic institution, to guarantee that access and to resist any policy or practice that limits or denies it.9 We must not draw the line in
the service we provide, but develop a circle which can encompass as many of the needs of as many of our users as possible.

THE PATRONS' LIBRARY

At the same time, overextending librarians at the reference desk does not make sense. The results of burnout are bad for librarians, for patrons, and for the library. We must find a way to ease the burden at the individual service point so that the interaction taking place there can be positive and productive.

To do this, we need to look carefully at the role of the librarian in providing access to the collection. The time when the librarian served as the key to the collection is long gone. The librarian’s library, where resources were devoted primarily to building pristine collections, and where the best access was through the minds of a few librarians, is a library of the past.

Today’s approach in academic libraries is to teach patrons to help themselves. We need to go one step beyond this and recognize that our libraries belong to the patrons. We need to listen carefully and become aware of their needs. We need to be creative in developing programs and services and in finding tools and technologies that will enable our patrons to help themselves. We need to view service at the reference desk as one of many tools available to patrons for access to their library and aggressively pursue alternatives, both to enhance their capabilities for finding information on their own and to protect the reference librarian from overextension. We need to assert our control over potentially chaotic situations by placing the knowledge of the library’s resources in the hands of the patrons before they come to the library.

These ideas and solutions are not new. Many of our libraries have had extensive bibliographic instruction programs in place for years to provide students with ways to help themselves and to cut down on routine questions at the desk. Library handouts, workbooks, tours, orientation sessions, and information desks have all been developed for this purpose. Library instruction, integrated into subject-based curriculum, goes even further, preparing students for library research when they are most motivated to learn these skills. We have all worked to make it possible for our patrons to use our libraries, thus freeing staff for more direct public service work. We place a high priority in reference interactions on providing patrons not with the answers, but with the tools they will require to find the answers themselves.

INNOVATION: WORTH THE EXPENSE

We have also incorporated new technology, as it becomes available, to help our patrons use their library. Many of us are actively looking for online catalogs that are easy for our patrons to use, developing dial-up systems for downloading, and introducing CD-ROM systems to put online searching capabilities directly into the hands of our patrons. We are beginning to address the needs of disabled students with special equipment to make it possible for them to access our collections without extensive assistance.

“We can make direct access to remote materials possible for our patrons and break down the barriers to information that our physical limitations and budgetary constraints create.”

We now have electronic systems that will open up resources to our patrons from far beyond our own collections. With the resource-sharing networks developed to support these systems, we can make direct access to remote materials possible for our patrons and break down the barriers to information that our physical limitations and budgetary constraints create.

Stretching already-tight budgets to meet these needs and develop these services is no easy task. We must actively and creatively pursue funding to support new and innovative programs. As we orient the library to the user, the need for trained personnel to manage instruction and develop new services will grow. We must work with teaching faculties and campus
administrators to underscore the importance of information and raise the position of the library on the university's political agenda.

These programs and services may seem to be expensive investments of operating funds and staff time. But this investment will continue to pay off in helping us to maintain the quality of our public services in the face of an increasingly complex and ever-growing demand. By viewing the reference librarian as one source among many, rather than as the only source, we will extend our resources as far as possible to provide the access to information that our patrons need.

We must, therefore, not approach the need for new and extended services with the intention of drawing the line. Given the explosion of information resources and the growing importance of information in our society, the demands upon us can only increase. We must aggressively pursue new services and innovative programs if we are to extinguish burnout in trying to meet this demand. We need to avoid drawing that line wherever possible and remain open to new ways of providing service. We need to seek new methods of providing service if we are to maintain our ethic of providing free access to information and our ideal of providing the highest quality service to all of our users.

REFERENCES

Libraries fail to complete retrospective conversion projects for a number of reasons. A long-term decline in the conversion rate may be halted or reversed once its causes are determined. Project managers should analyze production statistics and qualitative standards over the history of the project in order to pinpoint events and policies that have contributed to its declining productivity. Many online systems produce reports that can aid in making the conversion process more efficient. If qualitative standards also must be lowered in order to revive a project, the integrity of the catalog and the job satisfaction of converters must be considered.

Many academic libraries, retrospective conversion seems to have moved from the temporal to the eternal plane. Library literature abounds with reports of plans, studies, and procedures for retrospective conversion projects, but reports of their successful completion are limited to "special libraries [and] several medium-sized academic and public libraries." Despite predictions that "by the mid-1990s all but a few of the largest research libraries will have completed the conversion for their collections," only 14 percent of ARL libraries were reported to have done so by April 1986. The same survey showed that 13 percent of respondents were not even considering conversion projects, while the remaining 73 percent "have recon plans."

Many libraries undoubtedly have plans that are growing old. For some, the target date for the completion of an in-house conversion project was set long ago, is now well past, and may never be mentioned again. For others, a vendor could supply most of the needed records, but the dregs remain. Still others never had a timetable for completing conversion. In each of these cases, there may be a nagging sense that the end will never come.

These facts are troubling, because it makes little sense to undertake a retrospective conversion project without intending to complete it before the millennium. Simply doing as much conversion as possible may benefit the online catalog, online circulation system, or interlibrary cooperation that conversion projects are intended to advance. But until the job is completed, the primary objectives of a library catalog are not met. Users may not be able to find a work when the author, title, or subject is known, or be able to determine all of the library's holdings by a particular author or about a particular

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subject. Finding all of the library's holdings in one search, from wherever the computer cable or telephone line will reach, is impossible. Only a completed conversion allows for a completely functional online catalog and a fully automated circulation system.

Despite the shortcomings of partial conversion, it should not be surprising that relatively few conversion projects have been completed. Many catalog departments that undertake retrospective conversion projects get little or no additional staff to complete them, and so build (or add to already existing) backlogs of current receipts by diverting effort to conversion. In the long term, it is difficult to justify giving high priority to retrospective conversion of an item that is already cataloged instead of making a new item available for the first time. Target dates for completion of conversion projects are based on staffing levels and priorities that are bound to shift with the passing of years—and perhaps with the passage of generations of library and cataloging administrators. It is no wonder that some libraries never finish.

Some target dates for the completion of retrospective conversion projects will not go away. Projects undertaken with outside funding must meet the goals of the grant proposal and cannot afford to fail. New or remodeled libraries may not allocate valuable floor space to an obsolete card catalog, which means that conversion must be completed before a new building is occupied. Some library directors enforce a priority system that places retrospective conversion very near the top of the list. In any of these circumstances, managers of cataloging operations who need to accelerate a project are forced to do what should have been done before a crisis occurred: study the history of the project to see how standards and norms have changed.

ANALYSIS OF THE PROJECT'S HISTORY

A simple division of the current rate of production into the estimated number of remaining conversions may indicate that it is necessary to rejuvenate the process in order to complete the project on schedule. If this is the case, informed decisions on how to increase the productivity of a conversion project should be based on knowledge of the project's history and evolving norms. Every library that has embarked on a conversion project should have information on how the project has progressed over the years. This mass of numbers can be analyzed and can provide important insights into evolving qualitative standards and resulting rates of productivity. For the second-generation or subsequent manager of a conversion project, this analysis is critical; for the manager who cannot recall the details of the project he or she launched long ago, it can be just as important.

Current procedures and results can be put into proper perspective if an examination of the history of a conversion project is undertaken first. Qualitative standards and quantitative norms grow out of the expectations of project organizers and are based on the needs that they perceive. Over time, needs and expectations evolve, but corresponding procedures and policies may not. The result can be a project whose focus is not on satisfying

must be created in order to complete a major conversion project. It makes little sense to destroy the integrity of an online catalog by slapping a quick-and-dirty finish on a project that has generally been of high quality. This quick finish would be easy, but the price would be paid for decades by users who would not find what they sought and by a staff that would end up doing retrospective work in order to correct retrospective work. That is not economy. There is room to make management decisions and adjust productive norms without abandoning full bibliographic records or database integrity. The first step in this process is to analyze the history of the project to see how standards and norms have changed.
current needs, but the needs of five or ten years ago. For this reason, it can be profitable to examine predictions and local processing history before turning attention to the analysis of quantifiable results.

Predictions of project results may, in retrospect, be extremely optimistic. They should not be discounted, however, because they can serve as a valuable indicator of what the project was intended to accomplish. The projected norms should have been based upon knowledge of the quantifiable results of other functions of the catalog department and upon a set of qualitative standards that were assumed to be appropriate to the task. The projected norm may have been twenty conversions per hour, but the project may be producing only five conversions per hour. If so, it is clear that either the original projections were terribly erroneous or the fundamental assumptions of the project have changed. An investigation of the available data should provide the answer.

It is possible that an examination of the historical data concerning a retrospective conversion project will clarify the driving force behind the original project plan. It should not be uncommon to discover that a conversion project was begun to create and support an online circulation system, since many libraries had online circulation systems before they envisioned an online catalog. Discovery of circulation data in retrospective conversion files is good evidence of this situation. Such libraries may still be working under policies and procedures that were intended to support circulation, but are inappropriate to support an online catalog. The methods that would contribute to efficient processing for a catalog do not necessarily serve circulation, so method and object may now be at odds. Random conversion on demand based on circulation may be the practice, but systematic conversion may be the more efficient means to build an online catalog. Knowledge of the history of a project can help to uncover such problems.

The most important numbers available to the manager trying to rejuvenate a conversion project are clearly the evolving quantitative norms. These are, by definition, standards of achievement derived from the average achievement of a large group. If the number of conversions and the number of hours devoted to the task can be determined, a rate of conversion can be calculated for any particular month or year. For many projects the norm will have declined over the years. If there are periods of steep decline, concurrent events may help to define the problem. If the decline has been almost imperceptibly gradual, a study of the evolving qualitative standards may provide an answer. In either case, the numbers must be analyzed in detail if the project is not to become perpetual.

**FACTORS IN FAILURE**

The factors that cause productive norms of a conversion project to fall can be nearly as numerous as the number of libraries still working on such projects. There are five that may be more common than the rest, however. These are:

1. The easy titles are already done. As predictions are not met and proposed deadlines pass, there is a tendency to do the easy items first. Books with Library of Congress-produced MARC records are done early; nonbook materials without records in the bibliographic utilities are put aside. In the end, difficult items must be dealt with. Productivity declines.

2. The online catalog is implemented. If a library has not completed its conversion project by the time its online catalog is brought up, its new conversions begin to appear quickly (or instantly) online. Users may see and use the records at the moment they are created, and no vendor will come along to make sure that headings do not conflict with those already in the catalog. More care must be taken, and productivity declines.

3. Standards proliferate. External influences may range from OCLC Enhance Library status to NACO participation. Internal influences may be a desire to document each unusual situation so that a second decision need not be made on the same question. In the former case, more time is spent on each conversion to assure that the highest qualitative standards are met. In the latter case, productive norms are lowered as documentation is contin-
ually revised and consulted.

4. The wrong function is being served. As in the case of a project devised to serve circulation but now intended to build a complete online catalog, serious inefficiencies may result.

5. Authority work becomes part of the process. Not only must conflicts be avoided in an online catalog, but authority records and a syndetic reference structure must be created. Circulation systems are not concerned with authority structures; neither are converters who know that a vendor will address this problem before the online catalog is implemented. Once conversion is being done into an online catalog, authority work can slow the process significantly. A survey conducted in 1984 revealed that authority work can take up to 40 percent of the time devoted to copy cataloging.7 Because conversion should be a more economical activity than copy cataloging (such tasks as book handling and shelf listing are not usually involved), authority work could consume an even higher percentage of a converter’s time.

SOLUTIONS

The first two of these factors can be avoided only if they are understood very early in the project. Once the decision has been made to increase productivity by skipping over difficult titles, a corresponding decrease in production can be expected later in the project. The easy titles will be remembered fondly, but they will be gone.

Similarly, if a conversion project has not been completed before the online catalog is ready to be implemented, a drop in productivity will follow implementation. The ability of an online catalog to make bibliographic resources available instantly, both within and beyond the library’s walls, cannot be changed. Those who are seriously interested in serving library patrons will not regret that they have an online catalog, but they may regret that they did not complete conversion before the online catalog was implemented.

The third through the fifth factors can be controlled in the interest of higher productive norms. Two require an adjustment of vision, while the last may require an adjustment of work flow.

Local standards that proliferate in the interest of consistency and quality are difficult to condemn or eliminate. They are established with the intention of providing library users with the best possible bibliographic record, which is the catalog department’s reason for being. When conversion production falls to unacceptably low levels, however, it is important to recognize that five “perfect” conversions might not help users as much as twenty very good conversions. Retrospective conversion projects can become, by degrees, recataloging projects. The reexamination of every aspect of a record at the time of conversion may be a luxury that cannot be afforded if the project is ever to be completed.

Similarly, if a catalog department is engaged in activities that contribute to the quality of national bibliographic or authorities databases, it is clearly engaged in worthwhile activities. Production may fall to unacceptably levels because older bibliographic records in OCLC are being enhanced or because the name and series headings in those records are being examined in preparation for submission of records to NACO. The library must recognize the cost to the conversion effort of participation in such programs and may reasonably conclude that enhancements to national bibliographic and authority databases must be limited to newly cataloged titles. Rates of conversion will rebound accordingly.

An examination of the history of a faltering conversion project may reveal that its purpose has changed over time. If this is the case, it is necessary to determine whether or not policies, procedures, and standards have evolved with it. A conversion project that was designed to be circulation based and random may not be as efficient as one that is designed to be performed systematically. The adjustment in vision that is necessary to improve quantitative norms in this case must be shared by several departments. If the most efficient means of completing an online catalog is systematic conversion, the circulation department must agree to forgo on-demand conversions that might be more useful to it in the short term. If the
online system is integrated and will serve circulation functions, it may not be difficult to agree that the longer-term interests of both departments are served better by finishing the project quickly than by focusing on unconverted circulating titles.

Attention to authority work has the greatest potential for slowing the rate of conversion. Because retrospective conversion deals with older materials, which were cataloged according to the dictates of pre-AACR2 cataloging codes and early editions of *Library of Congress Subject Headings*, each heading must be checked to be certain that its addition to the online catalog will not put it in conflict with newer cataloging. If a conflict is discovered, headings frequently are not found in either the local online authority file or in LC's online authority files. The conflict must be resolved before conversion can take place if the integrity and predictability of the online catalog are to be preserved. The converter may be trying not to recatalog but is forced to make decisions and do work that is akin to cataloging.

In the case of many online catalogs, checking headings for conflicts and creating authority records in support of conversion can be greatly reduced by employing the capabilities of the online system. Some systems generate batch reports of all new headings, or of new headings that match references in authority records. Such lists alert the catalog department to names or subjects that are new to the file or that conflict with authorized forms. They are an effective means of highlighting potential conflicts that may require authority work, and save the converter from checking every added heading for consistency with existing bibliographic and authority records. An authorities unit that is dedicated to the task of checking such lists and creating authority records may already exist and be able to absorb this work. Rates of productivity for retrospective conversion should rise accordingly and allow the library to enter the conclusive stage of its conversion project.

**STAGES OF CONVERSION**

It is possible to define three stages of retrospective conversion in libraries that have undertaken a long-term project. The first stage is one of early enthusiasm, high productivity, and the tendency to skip over problems. Qualitative standards are very simple, because high productivity is the primary objective. A significant number of staff hours are devoted to the project, and progress is clear and encouraging. The project is seen as something clearly separate from ordinary cataloging functions and is expected to be finite.

The second stage is reached when project participants discover that optimistic projections will not be met. Early enthusiasm wanes, and fewer staff members may be devoted to the project. Problems can no longer be skipped over. A sense of failure may be overcome by an attempt to achieve legitimacy. Qualitative standards are issued to document the treatment of unusual situations. Project staff begin to see their jobs as equivalent to those of catalogers. If old local cataloging can be improved, converters want to do it. If the national database can be improved, converters want to do it. If authority work is necessary, converters want to do it. Productive norms fall accordingly.

If a library recognizes that it has slipped into this stage, a third stage is possible. It is a stage of compromise, based on reevaluated qualitative standards and adjusted quantitative norms. It is marked by high but realistic expectations for output, with standards lowered enough to allow for more progress, but still high enough to produce good records and job satisfaction.

It is on this question—the level of job satisfaction—that the ability to resurrect a failing conversion project may rest. The potential to lose good employees must be balanced against the potential to convert more records. Pride in work is to be valued, and vacant positions or low morale do not contribute to efficiency any more than unnecessarily high standards do. Authority work may have become the most vital and challenging aspect of a converter's job. Without it, the converter may feel the task has become more clerical and less satisfying. As a manager, it is important to balance a good worker's desire to perform against the need to improve productive norms and to factor in the willingness to risk losing the worker to a potentially more rewarding job. Ultimately, it is
vital to convince the conversion staff that the end of the project really is in sight, that their legitimacy and their job satisfaction must come from the successful completion of the project, and that there is always another project awaiting their skills.

CONCLUSION

Statistics can be very usefully employed in the management of a retrospective conversion project, especially if the project has suffered a serious decline in productive norms. Statistical analysis of the project's history can allow managers to pinpoint the events that have led to a sudden decline or to document a fall that has been almost too gradual to notice. Qualitative standards almost certainly have evolved to a higher level since the inception of the project. These can be adjusted, new productive norms can be determined, and further adjustments can be made and measured as necessary. The human factor of job satisfaction for converters must enter into this equation.

It is probably not possible to achieve the optimistic norms that were predicted before a conversion project began or to reestablish the norms set early in the project. But by considering and managing all factors it may be possible to double or even quadruple the current rate of conversion. This may allow the project to be completed well before the new century dawns.

REFERENCES AND NOTES

3. Ibid.
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A Social History of Madness—or, Who’s Buying This Round?
Anticipating and Avoiding Gaps in Collection Development

Paul Metz and Béla Foltin, Jr.

Both the internal organization of collection development and the nature of science and scholarship lead to inevitable gaps in collection development. The discussion identifies both nondisciplinary and interdisciplinary areas especially vulnerable to such oversight and suggests remedies to prevent the undue perpetuation of gaps.

It is generally conceded that even the best collection development programs will have gaps, so that works of potential value in a number of areas will simply not be acquired. The effort to discover and remedy such gaps consumes much of the time of most collection development staff. Very often individual titles of value are missed simply because they fall into multiple subjects whose respective selectors are not communicating, and consequently play an unwitting game of Alphonse and Gaston. Roy Porter’s A Social History of Madness, which furnishes our title, invites this sort of mutual deference among the three or more selectors to whom this title could be of interest.

An occasional missed title is an unfortunate inevitability, an event that will happen, even though the frequency with which valuable books are overlooked can be controlled. A gap—the recurring failure to acquire valuable materials in a given area—is more serious. The long-term failure to collect in a subject area is a serious problem, but one which can be avoided.

It is the purpose of this discussion to help collection development librarians avoid the perpetuation of gaps. We hope to do this by analyzing the structural and intellectual causes of collection development gaps, and by listing a number of areas whose literatures are especially vulnerable to being ignored or overlooked by selectors.

CAUSES OF COLLECTION DEVELOPMENT GAPS
Organizational Causes

It goes without saying that the days of the University Bibliographer responsible for selection in all areas are long gone. One may question whether it was ever possible for a single individual to collect in all areas, but clearly the growth and increased specialization of all disciplines make this a dead issue today.

The necessity to allocate collection development responsibilities to a number of individuals has led to a great diversity of organizational structures. The reporting

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lines, divisions of responsibility, and other structural features of these various approaches have been thoughtfully reviewed elsewhere, most recently by James Cogswell.¹

The most important distinction for our purposes is that between approaches which make university department or program the key basis for the division of labor among selectors and those which match selection assignments to subject or discipline. A third approach—by language group and publication area of the world—is less frequently used. All of these philosophical approaches are compatible with any of the various structural models.

The assignment of selection responsibilities by academic department may be compared to the use of a man-to-man defense in football. Selectors attempt to "chase" their departments all around the field of knowledge. As in football, individuals with these assignments are easily deceived about the directions of those they are assigned to cover. Selectors may also risk colliding fairly frequently in their efforts to cross and recross the field.

The assignment of selection responsibilities by subject or discipline is analogous to a zone defense. Selectors cover an area, and in effect build collections for the use of whoever may enter that area. As in football, there are invariably gaps between the various zones of responsibility. The subject approach has a number of compensating strengths not shared by the departmental approach. One is that (as in football) individual selectors can help inexperienced or underfunded colleagues by subtly redefining the zones of responsibility. A second is that the disciplinary approach is more likely to secure for the collection at least a representative sampling of materials in areas that will be of future research interest but are not currently being pursued.

Collection development assignments in most university libraries represent a hybrid of these approaches. A selector will be assigned to sociology, for example, with the understanding that he or she is primarily responsible for the academic discipline bearing that name, but secondarily responsible to acquire materials, or to make sure that other selectors acquire materials, supporting any current research and instructional interests of the department which transcend the normal boundaries of sociology as a discipline. If a faculty sociologist conducts extensive research on coalition formation within the nineteenth-century British Parliament, the selector for sociology should at least make sure that the selectors in history and political science are aware of this interest and will buy supporting materials.

"Because the very basis of allocation is by subject or department, whole areas of knowledge which fall outside the scope of traditional disciplines are ignored."

Either approach to assigning responsibilities, or any combination of the two, is likely to generate gaps for several reasons. First, because the very basis of allocation is by subject or department, whole areas of knowledge which fall outside the scope of traditional disciplines are ignored. There are many nondisciplinary areas in which practical, entertaining, or instructive materials are published. While most academic libraries accept a theoretical responsibility to serve a public library function to some degree, and all aspire to support various nondepartmental agencies on campus, these nondisciplinary areas are easily overlooked by schemes whose "first cut" is by definition disciplinary.

An additional problem with subject or disciplinary approaches is that of defining the fields so that emerging or interdisciplinary areas are covered. To clarify assignments and thereby minimize the interdisciplinary areas which will not be in scope for a selector, libraries often define responsibilities in part by call number area. The use of call numbers introduces yet a third dimension, one which often clarifies but sometimes confuses departmental and disciplinary definitions. That most books treating current affairs in various world areas bear Library of Congress call numbers that ostensibly correspond with
historical materials is but the most obvious example of this problem.

**Intellectual Causes**

In general, gaps will flourish the most in and around academic disciplines with weakly defined paradigms. A discipline like geography, which draws broadly on the social and natural sciences, will present far greater difficulties to a selector than will mathematics, most of whose research draws in a highly focused way on previous work within the discipline. Of course, even the "tightness" of the mathematics literature does not guarantee that it will be easy for the selector in mathematics to anticipate the particular needs of statisticians, physicists, or other external users of materials in mathematics.

It is a truism that academic disciplines are changing rapidly and that a disproportionate share of change takes place at the intersections of traditional disciplines. Charles Osburn has cogently summarized a number of recent changes in scholarship and research, such as the increased quantification of the social sciences, a trend in literary criticism towards close analysis of the text and away from historical analysis, and the growing dependence of scientific progress on technological developments.

New developments in academic or scientific fields often entail the redefinition of those fields, as Thomas Kuhn has shown. In time, a new field emerges or the definition of an existing field expands to embrace the new technique or theoretical understanding. In the interim, however, the area is conspicuously interdisciplinary and is easily overlooked by discipline-based selection programs. Current examples of books which challenge existing paradigms and therefore are marginal to scientific disciplines as presently defined are James Gleick's *Chaos: Making a New Science*, which challenges the mathematical and philosophical underpinnings of strict scientific causality; and James Lovelock's *The Ages of Gaia*, which would dramatically shift the intellectual constructs of a number of life sciences. These books are more nearly supradisciplinary than interdisciplinary at this point, although their perspectives may in time be embraced by new or existing disciplines.

Interdisciplinary areas sometimes arise from the borrowing of research techniques. Recent developments in scanning electron microscopy and in magnetic resonance imaging have been applied in a number of areas, including medicine, but remain sufficiently arcane that their literatures draw heavily on their fields of origin.

Interdisciplinary areas also arise when the traditional bases of division among fields are disregarded or refuted by those who champion new areas of study. Area studies, black studies, and women's studies are inherently interdisciplinary because they reject the distinctions of philosophy and methods which have been historically defined the various academic disciplines, and instead define their areas in terms of subject matter. The same could be said of science studies, which draws on philosophy, sociology, history, and other disciplines to study the topical domain which defines it as a field.

While changes emanating from various intellectual disciplines may readily change disciplinary boundaries and create new interdisciplinary areas, larger intellectual forces present in the academy or in the general zeitgeist may redefine the boundary between what is considered to be disciplinary and what is not. For example, women's studies proponents and others have sought to redefine the literary canon to include hitherto neglected writers or even published diarists whose sex, race, or nationality have been underrepresented in traditional studies. When suc-

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"The postmodern spirit also assumes an integration of political, social, artistic, and literary life so fundamental as to challenge both disciplinary boundaries and the very theoretical and methodological approaches the traditional disciplines have taken to their subject matters."
cessful, these efforts move their personalities into the domain of legitimate literary studies and out of the realm of the popular (or unpopular, as the case may be).

Even more fundamental changes in intellectual life may have similar results. For example, the postmodern movement has championed an irreverent and eclectic aesthetic spirit which challenges the very existence of a permanent canon. The postmodern spirit also assumes an integration of political, social, artistic, and literary life so fundamental as to challenge both disciplinary boundaries and the very theoretical and methodological approaches the traditional disciplines have taken to their subject matters.

SOME EASILY OVERLOOKED AREAS

In the following sections we have attempted to list a number of nondisciplinary and interdisciplinary literatures which seem to be especially vulnerable to oversight by selectors. Some of these are areas of ephemeral current interest, but most pose more permanent challenges. Insofar as possible, we have categorized these literatures according to the causes which make them so easily overlooked. Such an exercise in classification may serve to extend and refine the previous discussion of the reasons which account for the existence of collection development gaps. We also hope that the examples can serve as a very partial checklist for selectors' discussions about their respective areas of coverage.

Nondisciplinary Areas

1. Materials serving the public library function. Materials, including self-help materials, in problem areas such as alcoholism, drug or tobacco dependency, and the handicapped serve the legitimate and often important needs of individuals throughout the campus community, as well as external borrowers. Travel guides such as the Fodor’s and Michelin’s series are useful to university staff and students anticipating professional or personal travel, while materials on English as a second language are much needed by foreign students and their families. Also valuable to a large constituency are materials on financial planning, tax preparation and avoidance, estates and probate, small business and the process of incorporation, home gardening, food preservation, sewing, carpentry, and other crafts or hobbies.

2. Materials serving nondepartmental campus agencies. A variety of administrative and quasi-administrative agencies on campus will typically have use of library materials, even though their literatures may fall outside disciplinary boundaries. Examples include the areas of fundraising and development; health and safety; career planning and placement; student activities; and equal opportunity and affirmative action.

3. Lay approaches to subjects within disciplinary boundaries. Whether a book falls within an academic discipline depends as much on the author’s approach as on the subject matter. There is therefore a large body of literature which treats topics of interest to academic disciplines but is not disciplinary because of its theoretical approach or because of the kinds of data it considers to be valid.

A variety of naturalists have achieved literary distinction and provided highly stimulating insights into natural phenomena without necessarily contributing to scientific progress. Lewis Thomas, Annie Dillard, and Stephen Jay Gould in his more popular writing exemplify this tradition. Popular books on how science is done, such as Ed Regis’s Who Got Einstein’s Office: Eccentricity and Genius at the Institute for Advanced Study also fall into this category, as do nonacademic surveys such as T.R. McDonough’s The Search for Extraterrestrial Intelligence: Listening for Life in the Cosmos, or David MacCaulay’s splendid The Way Things Work.

Intelligent lay analyses of various societies provide a social science equivalent to the naturalist’s essay. Frances Fitzgerald’s Cities on a Hill is an example of popular sociology approaching literary status. Paul Theroux’s Riding the Iron Rooster is only the most recent example of the literate travel book, a highly developed genre falling in this category.

The highly intelligent lay essay is a culturally important contribution, examples of which often attract academic attention
in later years. In considering such materials, selectors should ask themselves whether their policies would support the acquisition of T.E. Lawrence’s *Seven Pillars of Wisdom* or George Orwell’s *Homage to Catalonia*, if these unquestioned masterpieces describing war and the politics of war were written today.

4. Cultural expressions not considered ‘Literature.’ Works in this grouping approach literary status but differ from the previous, related category because of the diffuseness of their subject matter. Thoughtful biographies such as James Reston’s *Growing Up* or Annie Dillard’s *An American Childhood* may be valuable additions to a collection. The reflective and socially revealing commentary of such humorists as P.J. O’Rourke, Dave Barry, Roy Blount, Jr., Calvin Trillin, and Woody Allen may be equally worthwhile contributions.

**Interdisciplinary Areas**

The acquisition of materials in interdisciplinary areas is even more critical to successful collection development than is the selection of a representative portion of the best nondisciplinary literatures. Here, after all, are materials whose topics and methodologies make them more or less academic in scope, even though they do not neatly match the interests of individual departments. The following examples illustrate the kinds of areas in which valuable interdisciplinary materials may easily be missed.

1. **Materials with ambiguous classification numbers.** As we have already indicated, books describing current political or social conditions in various parts of the world are generally classified in LC classes D through F. This practice does not necessarily reflect misclassification for the purposes of cataloging and retrieval, especially when the materials in question do not neatly reflect the perspectives of one or another individual social science. However, one result of such ambiguous classification practices may be to make selectors hesitate to acquire materials of potential value to area specialists in a variety of social science disciplines.

   There are a number of other literatures whose typical call numbers may partially misrepresent their subjects and may therefore tend to discourage selection or blur the division of responsibilities.

   “There are a number of other literatures whose typical call numbers may partially misrepresent their subjects and may therefore tend to discourage selection or blur the division of responsibilities.”
unusual interest to the campus community. Issues of keen contemporary interest to the public as well as to professional researchers also show a marked tendency to occur at the boundaries and intersections of academic disciplines, rather than strictly within their boundaries. The following examples of current “hot topics” may be useful for illustrating this tendency. Because the examples listed are current issues, it is likely that an illustrative listing made five years from now would be entirely different.

Example 1: Materials on the economics of health care, including the HMO movement and the insurance crisis, span the boundaries of economics, medicine, and public policy.

Example 2: Recent materials on the crisis of third world debt treat an economic problem whose implications and possible solutions will be fundamentally political.

Example 3: Materials dealing with the regulation of business, whether in the context of consumer protection, antitrust, or the reduction of industrial pollution, are of potential interest to researchers in law, public policy, environmental studies, business, and other disciplines.

Example 4: Materials on AIDS raise a number of vexing economic, ethical, medical, and social questions, often bringing these domains together in new ways.

Example 5: Materials of strong interest to patrons in military science tend to scatter throughout a number of disciplines. It is not always clear to selectors whether topics such as arms reduction or the state of NATO belong to military or political science, or whether materials on SDI and other military technologies pertain more to military science or to engineering.

Example 6: Materials on Liberation Theology and Catholic radicalism assert a new relationship between religion and political life.

3. Miscellaneous areas inviting gaps. Several areas are especially seductive in raising selectors’ beliefs that “Alphonse is buying that” for reasons that do not pertain to classification issues or the intersections of academic disciplines. Children’s nonfiction is one such area: it would be perfectly plausible for the selector in children’s literature to purchase only literature in the narrow sense (PZ), while selectors in other areas failed to acquire juvenile-level materials in history, biography, or science because they assumed that these areas were being covered. A similar and much more damaging instance could arise in the case of English translations of foreign literature. It would be all too easy for the works of both contemporary authors such as Garcia Marquez and canonized authors such as Proust to be ignored when published in translation because of the mutual deference of selectors in English and foreign languages.

PREVENTING COLLECTION DEVELOPMENT GAPS

Even though the persistence of collection development gaps is caused in part by such fundamental forces as the structure of collection development responsibilities or the winds of cultural change, many gaps can be prevented by collection development managers who are alert to the risks and practice relatively ordinary forms of vigilance. Naturally the academic library will wish to spend only a limited portion of its materials budget on materials of a nonacademic nature, however stimulating these may be. The necessity to limit such expenditures makes the principles of selection and the care with which they are applied even more critical.

Nondisciplinary areas of interest to the campus community can be identified. These are often ideal candidates for assignments to staff outside collection development who are seeking job enrichment. Generally these individuals will spend their limited collection development funds with enthusiasm and care. Collection development officers should include in their assignments academic disciplines not represented on their own campuses, as is often the case with such professional areas as medicine, journalism, and law.

The choice of appropriate selection tools is a key determinate of success in avoiding collection development gaps, as it is central to so many other aspects of success in selection efforts. In spending the relatively limited portion of its budget that will be accorded to explicitly nonacademic materials, the library’s selectors will want
to use tools that review books and do not merely provide imprint information. Our experience suggests that The New York Times Book Review—the source of most of the examples cited above—is an excellent vehicle for alerting selectors to recent publications that have high quality but do not use the theoretical perspectives of forms of data associated with traditional academic disciplines.

"It is critical that the library foster an ethic that permits justified selection decisions outside of narrow disciplinary boundaries."

Collection development officers can also prevent the appearance of unnecessary gaps by encouraging communication among library selectors. All too often the issue of covering all areas of knowledge is discussed systematically only when approval plan profiles are revised. Physically centralized locations for the review of new materials can help to facilitate communication among selectors. The routing of review journals and other selection tools will generally stimulate discussion, especially as selectors begin to see that their colleagues do not select in areas they had taken for granted.

In general, not taking anything for granted that has not been explicitly discussed is an excellent byword for the avoidance of gaps. One of the most important contributions a collection development manager can make is to lay out clear ground rules governing the selection of materials for which multiple selectors could be responsible. It is particularly important to determine which selector will normally be responsible when researchers from one department are known to be working in another discipline. Even beyond this, it is critical that the library foster an ethic that permits justified selection decisions outside of narrow disciplinary boundaries. It is far better that time be wasted beginning to process an order that turns out to be redundant than that selectors miss materials because they are territorial or have assumed that someone else is buying the next round.

REFERENCES

The Representational Rights of Academic Librarians: Their Status as Managerial Employees and/or Supervisors Under the National Labor Relations Act

Ronald L. Gilardi

In this article, the author discusses how certain labor relations concepts have been applied to academic librarians. More precisely, the application of the National Labor Relations Act to academic librarians is explored.

This process discloses that academic librarians have frequently been the subject matter of representational litigation. In particular, their status as supervisors and/or managerial employees is an issue that has, on more than a few occasions, occupied the attention of the National Labor Relations Board.

Moreover, the author provides a survey of National Labor Relations Board decisions which pertain to the supervisory/managerial status of academic librarians. Additionally, this article deals with the decision making process of the National Labor Relations Board and the impact that these kinds of determinations have upon the representational rights of academic librarians.

Over forty years ago, Congress passed the National Labor Relations Act (hereinafter the NLRA). The NLRA, while addressing a large number of issues in the area of labor-management relations, deals with one particularly significant matter, the representational rights of employees. In short, Congress, through the NLRA, granted to American workers the right to form, join, and/or assist unions.

The NLRA's coverage is, to say the least, quite broad. Employees, in private industry, are almost all covered with few statutory exceptions. Additionally, the National Labor Relations Board (hereinafter the Board) has administratively created jurisdictional tests, related to an employer's dollar volume of business, which exclude certain rather small business entities.

The NLRA is administered, in the first instance, by the Board. Typically, the representational rights of employees are
brought to the Board's attention in the form of a certification of representative petition, usually referred to as an "RC" petition. This petition, which is presented on a Board supplied form, is, as a general rule, filed by a labor organization. With it, the petitioner must file authorization cards by which at least 30 percent of the affected employees designate the petitioner as their agent for purposes of collective bargaining. The primary purpose of such petitions is to obtain, under Board supervision, an election which will determine whether the affected employees wish to be represented by a labor organization. If the petition does not lead to a voluntarily agreed upon election, a hearing is held wherein issues, such as those discussed in this article, are litigated. If, after this litigation process is concluded, the Board finds that the petitioned for bargaining unit is appropriate, an election is held to allow eligible employees to vote on the question of whether or not they wish to be represented by a labor organization for purposes of collective bargaining.

For many years, the Board, using its rather broad discretionary authority, refused to extend its jurisdiction to colleges and universities. In 1970, that all changed. In the Cornell University decision the Board held that the nonprofessional employees of that institution were indeed entitled to organize under the NLRA. Within a year thereafter, in the C. W. Post Center case the Board extended this ruling to the professional faculty members of a college. This does not necessarily mean, however, that an employee, otherwise employed by a covered employer, is entitled to vote for or against membership in a labor organization. The NLRA, by its express terms, does not apply to a "supervisor" as that term is defined by section 2 (11) of the NLRA. A supervisor, for this statutory purpose, is defined as follows:

(11) The term "supervisor" means any individual having the authority, in the interest of the employer, to hire, transfer, suspend, lay off, recall, promote, discharge, assign, reward, or discipline other employees, or responsibly to direct them, or to adjust their grievances, or to effectively recommend such action; if in connection with the foregoing, the exercise of such authority is not of a merely routine or clerical nature, but requires the use of independent judgment.

Similarly, a person deemed to be a "managerial" employee cannot be included in a collective bargaining unit formed pursuant to the NLRA. Here it should be noted that the managerial employee exclusion will not be found in the express terms of the NLRA. Rather, this concept was developed through the processing of individual cases. It appeared as early as 1947.

Simply stated, a managerial employee is one who can formulate and effectuate management policies by expressing and making operative the decision of the employer. Parenthetically, the Board and the courts were not particularly troubled by the fact that Congress neglected to define this term or, for that matter, even mention it in the NLRA. Instead, its creation through case law was largely justified on the basis that such an exclusion must have seemed so patently obvious to the framers of the NLRA that there was no need to define it specifically.

The remainder of this article will deal with the ways in which the Board has classified professional academic librarians. That is to say, it will explore the circumstances under which academic librarians have or have not been declared managerial and/or supervisory employees under the NLRA.

In preparation for discussing these specific issues, two preliminary matters should be considered. In almost all cases surveyed it was discovered that the employing college or university, rather than the librarians themselves, was the party advancing the argument that librarians ought to be excluded as either supervisors or managerial employees.

Secondly, librarians, in an academic setting, have almost always been placed in bargaining units with other professional faculty members. This does not mean, however, that the Board will not permit academic librarians to form separate units for collective bargaining purposes. Indeed, in several Board decisions, it was held that a librarian-only unit, while per-
haps not the optimum unit, may never­
theless constitute an appropriate unit, es­
pecially when the salaries, working
conditions, and job duties of the librarians
were markedly different than the rest of the
faculty.  

THE DECISION-MAKING
PROCESS AND ITS IMPACT

Before discussing the substantive issues
involved with Board decisions, it would
be prudent to consider the process by
which the Board arrives at its conclusions
and the effect that such determinations
have. Initially, it should be noted that the
proponent of the supervisory/managerial
exclusion need not prevail on both issues
in order to have an employee excluded
from the bargaining unit. That is to say, if
a librarian is determined to be either su­
ervisory or managerial, that individual
cannot participate in a Board sanctioned
election.

Secondly, the Board, in making these
kinds of decisions, is primarily interested
in the actual day-to-day functioning of the
employee. Thus, job titles and descrip­
tions, while certainly relevant, are not by
any means conclusive.  

Thirdly, if it is decided that a given em­
ployee or class of employee is managerial
or supervisory, it follows that person’s or
group’s right to participate in a Board elec­
tion has been extinguished. It also means,
as a practical matter, that the employee’s
other rights under the NLRA have been
effectively lost. Accordingly, the right to
prosecute an unfair labor practice charge,
for example, will, for almost all purposes,
have been forfeited.

THE SUBSTANTIVE LAW

In virtually all cases reviewed, espe­
cially those arising after 1980, the manage­
rial and supervisory issues were raised si­
multaneously. For that reason, the
following discussion will treat these issues
in much the same way.

With respect to the managerial em­
ployee argument, the Supreme Court’s
landmark decision in NLRB v. Yeshiva Uni­
versity necessarily requires our initial at­
tention. To be certain, the managerial ex­
clusion was not new in 1980 when the

Yeshiva decision was rendered. Yet, the
breadth of the Supreme Court’s decision,
a decision that effectively disqualified the
entire faculty at Yeshiva, deserves special
mention. Additionally, because the Ye­
shiva decision was rendered by the United
States Supreme Court, its precedential
value was conclusive on both lower fed­
eral courts and the Board.

In Yeshiva, both the supervisory and
managerial issues were argued. However,
because the Supreme Court ultimately de­
cided the case on the basis of the manage­
erial issue, it did not have to reach the su­
ervisory status exclusion.

In large measure, the Supreme Court’s
conclusion—that faculty members at Ye­
shiva were managerial employees—was
premised upon the finding that the faculty
members effectively operated the enter­
prise.

The Supreme Court, in reaching this
broad conclusion, emphasized the fact
that faculty members played a significant
role in course selection and scheduling,
teaching standards and grading policies,
admission standards, and tuition
changes. These factors, according to the
Supreme Court, were the hallmarks of
managerial decision making in an aca­
demic setting.

To say that the Yeshiva decision has gen­
erated much comment and controversy
would hardly be an exaggeration. In fact
the Supreme Court itself was sharply di­
vided as indicated by its 5 to 4 vote. Never­
theless, Yeshiva remains as the law of the
land and, as we shall see, persistently ap­
ppears in cases involving academic librar­i­ans.

Of perhaps equal importance to this dis­
cussion is an earlier line of cases involving
the supervisory status of academic profes­
sionals. In 1972, the Board, in Adelphi Uni­
versity, held that academic professionals
shall only be excluded from bargaining
units, as supervisors, if they spend more
than 50 percent of their time supervising
nonunit employees. This rule, in 1973,
was specifically applied to academic librar­i­ans in the case of New York Univer­
sity.  

Thus, with the holdings of both Yeshiva
and New York University, we can now re-
view a number of significant cases involving academic librarians.

As to the supervisory status of librarians, it would be fair to suggest that the 50 percent rule, as described above, has clearly benefitted the proponents of librarian inclusion. Illustrative of this point is the Board’s ruling in Bradford College, a case decided in 1982. In Bradford, the employer argued unsuccessfully that the “librarian” and “assistant librarian” were statutory supervisors. The Board, finding that their supervisory tasks took less than 50 percent of their time, ruled in favor of inclusion.

In Marymount College, a case decided in 1986, a similar result was achieved. In Marymount, the parties were concerned with the status of the reference librarian, the public services librarian, the catalog librarian, and the acquisitions librarian. The Board after concluding that these professionals only sporadically exercised prerogatives, held that they were not supervisors within the meaning of the NLRA.

It should not be inferred from the discussion thus far that the Board’s rulings are uniformly in favor of librarian inclusion. In Northeastern University, for example, six “assistant librarians” were excluded as supervisors. These same librarians, it is important to note, supervised other professional employees. The Board, moreover, did not seem to be at all concerned with the 50 percent rule under such circumstances.

In a subsequent case, Mt. Vernon College, the Board included a librarian because she did not supervise other professionals nor did she spend more than 50 percent of her time supervising nonprofessionals.

Perhaps more guidance on the precise application of the 50 percent rule is evident in a second New York University decision. In this 1975 ruling, the Board excluded several librarians as supervisors and did so without regard to the proportion of time that they spent supervising nonprofessional employees. That is to say, once having determined that these librarians supervised other professionals, they were excluded without considering whether their supervisory duties took more than half of their time.

From what has been said thus far, several conclusions are very much in order. Academic librarians, if they spend less than half of their time supervising nonprofessionals, are not deemed to be supervisors within the meaning of the NLRA. If, on the other hand, they spend the majority of their time supervising nonprofessionals, or if they supervise other professionals, they will be considered supervisors under the NLRA and will be excluded for collective bargaining purposes.

As to this latter point, one very practical problem, with significant legal implications, may arise. Often, especially in larger academic libraries, a more senior librarian may be temporarily required to train or act as mentor to a less-experienced librarian. This assignment will usually end once the need for direction has ceased. Under such circumstances, then, the issue may arise as to whether the more senior librarian has effectively become a supervisor because he or she, at least temporarily, exercised supervisory authority over another professional.

The Board, under such circumstances, may view the more senior librarian as a supervisor, but only if these “temporary” assignments occur with some degree of regularity. Additionally, the Board would look to factors such as use of independent judgment by the more senior librarian, and the actual authority exercised by the directing librarian. Moreover, it is difficult to draw any hard and fast conclusions. It is certain, however, that temporary assignments to positions of apparent supervisory authority can, under the circumstances referred to above, lead the Board to conclude that a librarian is a supervisor.

As to the managerial employee issue, it is equally difficult to draw such precise conclusions. The original Yeshiva test is very much alive. As recently as 1987, the Board, applying the standards enunciated in Yeshiva, held that the entire faculty at Livingstone College was managerial and therefore ineligible to vote for union representation. In the Livingstone College decision, the Board emphasized the role that faculty members played in grading poli-
cies, course content decisions, degree requirements, and scholarship standards. Additionally, the Board arrived at its ultimate conclusion even though faculty members did not have significant authority over budgetary, promotional, hiring, or tenure matters.

"Nevertheless, even applying Yeshiva, the Board will not declare a professional to be a managerial employee unless it appears that the employee effectively exercises his or her authority on a regular and recurring basis."

Nevertheless, even applying Yeshiva, the Board will not declare a professional to be a managerial employee unless it appears that the employee effectively exercises his or her authority on a regular and recurring basis. This crucial point is illustrated rather well in those few cases that have involved academic librarians and that have been decided since Yeshiva.

For example, in the Bradford College case, cited earlier in this article, the Board ruled that academic librarians were not managerial employees. In doing so, the Board not only stressed the lack of authority of the librarians, but also focused on their inability to recommend or make changes. Thus, the librarians' budget recommendations were essentially ignored by their superiors as were such fundamental matters such as the library's hours of operation.

Similarly, in Marymount College, a case also referred to in an earlier discussion, the Board determined that the professional librarians were not managerial employees. In Marymount the Board once again reviewed the actual authority of the contested employees and concluded that their authority, if any, was effectively subsumed by their superior—in this case the library's director—and that their ability to make, or effectively recommend, managerial decisions was therefore negligible.

CONCLUSION

Clearly, the managerial employee-supervisory issues have and will continue to play a significant role in cases involving the representational rights of academic librarians decided under the NLRA. It is also clear that these cases, each rising or falling on their own facts, tend to highlight the actual job duties of the professional librarian. Moreover, theoretical authority, seldom used or followed, will probably not cause the Board to disqualify professional librarians.

As noted, it is not likely that either of these issues are going to go away in the near future; both concepts, after all, have been with us for over forty years. As the Board changes, however, as its members, with their varying points of view and biases, come and go, we will almost certainly see inconsistent or even surprising decisions, especially in the marginal cases.

Aside from the legal niceties involved in supervisory-managerial determinations, there is always one very practical consideration facing parties in this kind of litigation. The labor organization seeking representational rights wants ultimately to fashion a bargaining unit most likely to provide a favorable result in a Board-sponsored election. The employer, of course, wants to do exactly the same thing except that the manager wants a "no" vote on election day. This most basic of concerns usually affects, and frequently determines, the position each side takes as to whether an individual is a managerial employee and/or supervisor.

Moreover, if one side believes that their academic librarians are more likely than not to support their position on election day, that side will almost certainly seek their inclusion in the bargaining unit. The opponent of inclusion, on the other hand, has usually come to the conclusion that the librarian or librarians will not vote in a favorable way. The decision to argue exclusion or inclusion, in summary, involves both legal judgments and very practical electioneering considerations.

Parties making these kinds of decisions should be aware, however, that their pre-election posturing has long-range effects. Position taken in Board election proceedings can affect employee morale and can ultimately lead to an overly broad or fragmented bargaining unit, a unit that the
collective parties may have to live with for many years to come. Accordingly, the positions taken and the arguments to be advanced in these kinds of cases must be carefully weighed lest their long-term impact be miscalculated.

REFERENCES AND NOTES

2. Independent contractors, agricultural workers, federal, state, and municipal employees and domestic employees are not covered by the NLRA. In most cases, however, these excluded groups are covered by appropriate and analogous state legislation.
3. For an authoritative discussion of this topic, see Kenneth McGuiness, How to Take a Case Before the National Labor Relations Board (Washington, D.C.: Bureau of National Affairs, 1976).
5. 189 NLRB 904, 77 LRRM 1001 (1971).
7. Palace Laundry Dry Cleaning, 75 NLRB 320, 21 LRRM 1039 (1947).
9. Claremont University 198 NLRB 811, 81 LRRM 1317 (1972); Teachers College, Columbia University, 226 NLRB no. 193, 93 LRRM 1481 (1976).
15. 260 NLRB no. 81, 110 LRRM 1055 (1982).
16. 280 NLRB no. 50, 122 LRRM 1299 (1986).
17. 218 NLRB no. 40, 89 LRRM 1862 (1975).
18. 228 NLRB no. 153, 95 LRRM 1349 (1977).
20. For illustrations of this latter result, see Florida Southern College, 196 NLRB 888, 80 LRRM 1160 (1972) and Fordham University 214 NLRB 971, 87 LRRM 1643 (1974).
22. 286 NLRB no. 124, 126 LRRM 1332 (1987).
23. Interestingly enough, on the same day that the Board handed down its decision in the Bradford College case, it also rendered several other decisions wherein it was held that the faculties, including professional librarians, were managerial employees. See Duquesne University 261 NLRB no. 85, 110 LRRM 1046 (1982); Ithaca College 261 NLRB no. 83, 110 LRRM 1059 (1982).
25. Ibid. p.67.
26. While this article has concentrated on professional librarians in an academic setting, additional guidance, especially on the supervisory issue, may be obtained in the following cases involving professional librarians in a nonacademic setting. See Arkansas Gazette, 218 NLRB 1219, 89 LRRM 1443 (1975); Father Flanagan's Boys Home, 225 NLRB 782, 93 LRRM 1001 (1976); Capital Times, 234 NLRB 174, 97 LRRM 1124 (1978).
The Serial/Monograph Ratio in Research Libraries: Budgeting in Light of Citation Studies

Robin B. Devin and Martha Kellogg

Librarians are concerned with the ever-increasing portion of the budget being devoted to serials. No formula or objective guideline presently exists to determine the correct allocation ratio for serials vs. monographs. Over the past 40 years, over 50 studies have analyzed the use of the research literature in various subject areas. These studies use citation analysis to determine the actual percentage of serials vs. monographs used by researchers in each field. The present study uses these figures to provide a guideline for serial vs. monograph budgeting.

Research library collections have faced a complex budget squeeze for more than ten years. Escalating prices and burgeoning numbers of journals combined with limited budgets have placed tremendous pressure on research libraries to maintain a "balanced" collection of serials and monographs to meet the educational and research requirements of students and faculty. The ratio of serials to monographs has been a concern in academic libraries since the 1970s as serial subscription costs have outstripped other materials costs. Librarians view with alarm the trend toward devoting a larger proportion of the materials budget to serials. University libraries have undertaken major serials deselection projects in reaction to the perceived imbalance in the serial/monograph budget ratio. This paper will review causes of the serial/monograph budget squeeze, reactions in the literature, and responses of libraries to the problem. It will present a method for determining reasonable serial/monograph budget ratios for research libraries.

A serial is now identified by most authorities in terms of the AACR2 definition: "A publication in any medium issued in successive parts bearing numerical or chronological designations and intended to be continued indefinitely." Although serials take on many different forms (periodicals, journals, newspapers, magazines, annuals, proceedings, etc.), libraries acquire the majority of them by subscription (payment in advance of publication), a characteristic which often constitutes a fixed cost in the library's budget.

COPING WITH THE SERIALS EXPLOSION

Library materials budgets have been unable to keep up with the escalating numbers and costs of serials. White reported...
on studies of the Indiana University Research Center for Library and Information Science on the interaction of libraries and scholarly publishers for ten years starting in 1969. Strategies devised by libraries to cope with the budget crisis included the following:

1. Libraries tended to freeze periodical budgets at their current level and cut down drastically on new subscriptions.
2. Libraries cancelled duplicate subscriptions.
3. Libraries cancelled foreign titles (especially foreign language titles).
4. Libraries did not make cancellation decisions based on availability from other sources.
5. Libraries did not cancel because of price. When these strategies were insufficient to maintain serials collections within the budget, libraries coped, White concludes, by transferring funds from the monograph budget to the serial budget. He notes: in 1969, academic libraries spent $2.00 on books for every $1.00 on serials. In 1973, they spent $1.16 on books for every $1.00 on serials. In 1976, they spent $1.23 on serials for every $1.00 on books. The serial/monograph budget ratio had shifted in favor of serials for the first time.

Other authors have pointed with growing anxiety to the same phenomenon. Taylor reiterates: "Since it is difficult to forecast the exact cost of serial renewals, some [libraries] have merely treated serial renewals as a fixed cost and used one fund for serials and book purchases. . . . After the serials have been paid for, what is left is available for books. The book fund has had to bail out the serial fund when the serial fund is inadequate for the purpose." Statistics show that, indeed, a greater percentage of academic library budgets is now devoted to serials than to monographs. But available data from the Association of College and Research Libraries (ACRL) and the Association of Research Libraries (ARL) indicate that this change is not as dramatic as one might assume, considering the tremendous growth in the numbers and costs of serial publications. "Serials Expenditures as Percent of Materials Expenditures," published in the ARL and ACRL table, Analysis of Selected Variables of University Libraries, reveals that the median has actually changed very little in the last ten years. As can be seen in table 1, the ratio of serial to monographic expenditures has shifted slightly in favor of serials, but the median in academic libraries has fluctuated between 45 to 57%. Although some academic libraries spend two-thirds or more of their materials budget on serials, others spend one-third or less, and the median has stayed below 60%.

Additional funds to cope with serial costs have not come from other areas of the university budget. "Materials Expenditures as Percent of Total Operating Expenditures," from the same ACRL and ARL tables, shows that the materials budget as a percentage of library expenditures has remained virtually constant over the same period. Table 2 presents available statistics on the relationship between the materials budget and the total operating budget of academic libraries reporting to ACRL and ARL.

With academic library materials budgets remaining relatively constant (some growing at the rate of inflation, others remaining constant, some even decreasing), the

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Serials Expenditures as Percent of Materials Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>High</td>
</tr>
<tr>
<td>1978-79</td>
<td>82</td>
</tr>
<tr>
<td>1983-84</td>
<td>92</td>
</tr>
<tr>
<td>1985-86</td>
<td>97</td>
</tr>
<tr>
<td>1980-81</td>
<td>83</td>
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<td>1982-83</td>
<td>71</td>
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<td>1983-84</td>
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<td>77</td>
</tr>
<tr>
<td>1986-87</td>
<td>75</td>
</tr>
</tbody>
</table>

TABLE 2

MATERIALS EXPENDITURES AS PERCENT OF TOTAL OPERATING EXPENDITURES

<table>
<thead>
<tr>
<th>Date</th>
<th>High</th>
<th>Median</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACRL* 1978-79</td>
<td>55</td>
<td>36</td>
<td>19</td>
</tr>
<tr>
<td>1983-84</td>
<td>54</td>
<td>37</td>
<td>19</td>
</tr>
<tr>
<td>1985-86</td>
<td>47</td>
<td>35</td>
<td>17</td>
</tr>
<tr>
<td>ARL† 1980-81</td>
<td>44</td>
<td>32</td>
<td>20</td>
</tr>
<tr>
<td>1982-83</td>
<td>47</td>
<td>32</td>
<td>20</td>
</tr>
<tr>
<td>1983-84</td>
<td>50</td>
<td>32</td>
<td>17</td>
</tr>
<tr>
<td>1984-85</td>
<td>48</td>
<td>32</td>
<td>22</td>
</tr>
<tr>
<td>1986-87</td>
<td>49</td>
<td>34</td>
<td>20</td>
</tr>
</tbody>
</table>


serials budget has been caught in a squeeze. The number, cost, and importance of serial publications have grown dramatically during the latter half of the twentieth century, but library resources have not kept pace. Competition for scarce resources has affected the budget allocation between serials and monographs in academic libraries.

ALLOCATION OF THE MATERIALS BUDGET

Allocation of the materials budget among competing interests is at the heart of academic librarianship. It concerns acquisitions and collection development librarians, subject specialists, administrators, and the teaching faculty. The concept of allocating book budget funds by formula among the various university departments has long been advocated in the literature. Allocation formulas may be quite complex, assigning numerical weights to many variables considered important in distributing funds among subjects or departments. As summarized by Kohut and Walker, four major factors have generally been considered in allocation formulas: (1) subjective judgments based on collection evaluations and historical inequities; (2) size of academic departments (number of students, credit hours, faculty, etc.); (3) level of program (graduate/undergraduate) and library usage; and (4) size of the published literature. Each library assigns numerical values to these factors (and sometimes dozens of other variables) based on its own programs and emphases to arrive at an allocation for the academic departments at that institution.

Most allocation formulas deal with the book budget, leaving serials as a fixed cost not allocated by subject. (Kohut provided a model which takes into account the differential rate of cost increase, especially among serials. He assumed, however, that that allocation among departments and the serial/monograph ratio within departments had already been determined.) Department allocations based on most formulas provide an equitable balance for book acquisitions. When serial subscriptions are treated as a fixed cost, however, the explosive growth in number and price of serial publications has created serious problems with the allocation of the materials budget. It has led to the recent concern for the serial/monograph budget ratio in academic libraries.

THE SERIAL/MONOGRAPH RATIO

The importance of determining a rational ratio between serials and monographs within a limited materials budget has assumed greater importance under the circumstances detailed above. A review of the literature, however, yields little guidance for determining what the balance should be. Stueart and Miller maintain:

The question as to what proportion of a library's acquisitions funds should be allocated for serial commitments has been asked ever more frequently as costs have risen and budgets have lagged. There can be no definitive answer, even for a given type and size of library. No single recommendation can be made as to the proportions of a book budget that should be
spent on the two major types of publication [serials, monographs]. . . . There is no general agreement on the desirable ratio, but collection development officers seem to feel uneasy when periodical expenditures rise far above 60%.9

According to Magrill and Hickey: "Without question, one of the knottiest problems in many large research libraries is the distribution of limited acquisitions money between monographs and serials."10

Standards and guidelines for academic libraries developed by the American Library Association (ALA) recognize generally that budget allocation is necessary, but remain silent on the issue of a budget ratio between serials and monographs. ALA's Standards for University Libraries states only that "a university library's collections shall contain all of the varied forms of recorded information."11 ALA's "Guidelines for the Allocation of Library Materials Budgets" suggests allocation by form, by subject, or a combination of both, but presents no ratio between the two major forms of publication.12

Since monographs consumed the lion's share of the materials budget (often referred to as the "book budget") until the mid-1970s, the idea of a reasonable serial/monograph ratio is a comparatively recent concept. To a certain extent, the concept implies a fear that the monograph collection will be overwhelmed by a deluge of serials. As Kohut noted: "Implicit in the concern about serials costs is the assumption that too much of the book budget is devoted to serials. Most libraries could balance the acquisition of monographs with serials so as to maximize their potential to serve the university's information needs."13 Kohut also pointed out that a reasonable ratio between monographs and serials in a university library varies depending on the subject discipline: "Every discipline has its own optimal ratio between serials and monographs."14

White, while detailing libraries' ineffectual attempts to deal with the budget crunch, recognized that there is a relationship between the use of different types of literature and academic discipline. Of course, this shift from the monographic to the serials budget impacts some disciplines more than others. The physical sciences, in general, are strongly dependent on the periodical literature. The humanities, on the other hand, are far more oriented to monographs. Where shifts have taken place across departmental disciplines, there has been a shift in emphasis. There is nothing necessarily wrong with this, as long as it is done consciously.15

Swindler develops the theme that librarians, as traditional "book people," have had little understanding of library resources beyond the monograph, and that, until the recent financial crisis, "serials were quite neglected in comparison to books."16 Budget allocations, he suggests, should take into account both types of literature according to their importance within subject disciplines.

Depending on the programs, serials can be vitally important—often more essential than books in many subject areas and for satisfying certain needs. The tendency of libraries to budget primarily by format not only does not make sense in terms of supporting programs with the most appropriate configuration of resources, but a budgetary model based on format impairs the institution's ability to meet needs equitably, given the traditional bias toward maximizing the number of books purchased and the relatively new trend of arbitrarily setting a limit to how much the library will spend on serials subscriptions. Rather, expenditures should be considered as part of a consolidated budget allocation for the support of a particular program.17

Although Swindler suggests that the ratio between serials and monographs will vary depending on the discipline, he does not specify how the consolidated budget allocation for particular programs can be determined.

**DETERMINING THE RATIO**

It is our contention that a reasonable budget ratio between serials and monographs for individual subject disciplines can be determined. A serial vs. monograph budget allocation can be made using statistics provided in studies on the characteristics of literature usage in each subject area. Over the past 60 years, numerous articles have been published that characterize the use of the research literature in various fields. These studies have been conducted by selecting journal articles or other research done in specific subject areas and analyzing the references
<table>
<thead>
<tr>
<th>LC Class</th>
<th>Subject</th>
<th>Citation</th>
<th>% Serials Use</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>American Studies</td>
<td>Bolles(^1)</td>
<td>42.6</td>
</tr>
<tr>
<td></td>
<td>Theology</td>
<td>Whalen(^2)</td>
<td>23.3</td>
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<tr>
<td>BL-BX</td>
<td>Theology</td>
<td>Heussman(^3)</td>
<td>24.8</td>
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<tr>
<td>D-F</td>
<td>History</td>
<td>Baughman(^4)</td>
<td>23.3</td>
</tr>
<tr>
<td>DA</td>
<td>English History</td>
<td>Jones(^5)</td>
<td>27.1</td>
</tr>
<tr>
<td>M</td>
<td>Music</td>
<td>Vaughan(^6)</td>
<td>28.2</td>
</tr>
<tr>
<td></td>
<td>Music</td>
<td>Baker(^7)</td>
<td>23.5</td>
</tr>
<tr>
<td>N</td>
<td>Fine Arts</td>
<td>Simonton(^8)</td>
<td>28.6</td>
</tr>
<tr>
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<td>Philology</td>
<td>Tucker(^9)</td>
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<td>Tucker(^10)</td>
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<tr>
<td>PN</td>
<td>Speech</td>
<td>Broadus(1953)(^11)</td>
<td>45.7</td>
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<tr>
<td>L</td>
<td>Literature</td>
<td>Stern(^12)</td>
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<td>PR-PS</td>
<td>British and American Literature</td>
<td>Cullars(1985)(^13)</td>
<td>13.3</td>
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<tr>
<td>P</td>
<td>English Literature</td>
<td>Chambers(^14)</td>
<td>28.1</td>
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<td>Heinzkull(^15)</td>
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<td>Cullars(1988)(^16)</td>
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<td></td>
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<td>36.0</td>
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<td>BF</td>
<td>Psychology</td>
<td>Xhignesse(^19)</td>
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<td>Anthropology</td>
<td>Baughman(1977)(^21)</td>
<td>42.9</td>
</tr>
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<td>Botany</td>
<td>Hintz(^56)</td>
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<td>Medicine</td>
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<td>Waldhart(^64)</td>
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<td>Coile(^65)</td>
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<tr>
<td>TP</td>
<td>Chemical Engineering</td>
<td>Patterson(^66)</td>
<td>75.8</td>
</tr>
</tbody>
</table>
TABLE 3 Cont.

REFERENCES

10. Ibid.
cited. The references are then categorized by form and the percentage of use of the various categories is given.

To date more than 50 such articles have appeared. They cover almost the entire spectrum of subjects from the fine arts to engineering. These studies provide statistics on the use researchers make of serial versus monograph literature in their fields. Not every study categorizes the references cited in quite the same way, but it is possible in most cases to extract the total percentage of serial usage.

One of the most striking results of these various studies is the consistency of the data they provide. In certain subject areas this type of citation analysis has been conducted by numerous researchers over a substantial time span with similar results. In the field of sociology, for example, five studies of journal citations conducted over a 23-year-period gave serial use percentages ranging from 28–46% (see table 3). In fact, three of these studies by different authors found the same figure of 38% serial use.

Even when the materials analyzed are different, the percentage of serial use is very similar within a discipline. Three studies of sources in the field of education cited in table 3 illustrate this point. In 1953 Broadus did a study of the form of literature cited in the Encyclopedia of Educational Research and found that 42.6% of the citations were to serials. Chambers, in 1973, studied citations in master’s theses and found a serial citation percentage of 40.5%. Finally, in 1976 Mochida studied citations in journal articles and found that serial citations accounted for 41.7% of the total.

Table 3, "Serial Use by Subject," provides a summary of the data on serial versus monograph use given in these studies.

Most librarians have long been aware that researchers in the sciences rely much more on serials than do researchers in the humanities. Yet this information has not been translated into the budget allocation process. We have found that the data provided in these studies can be used to determine how much should be allocated for serials versus monographs in each subject area. The percentage of serial usage can be directly applied to the budgeting process.

Many libraries use some variation of an allocation formula to divide their monograph budget into subject categories. These monograph allocation figures can then be used as a basis for determining the
Using this formula, one could find, for example, that a library allocating $10,000 for the purchase of monographs in the fine arts should be allocating approximately $4,000 for serials in that subject.

Guidelines for serials expenditures in those areas. Using the serial use percentage given in table 3, the serial allocation is determined by multiplying the monograph allocation figure (M) by the serial percentage (%) given in table 3 for that subject and dividing by (100 - that same percentage) as in the following formula:

\[ S = \frac{(M) \times \%}{(100 - \%)} \]

Using this formula, one could find, for example, that a library allocating ($10,000) for the purchase of monographs in the fine arts should be allocating approximately $4,000 for serials in that subject.

\[ \frac{(10,000) \times (28.6\%)}{(100 - 28.6\%)} = \$4,005 \]

A library may also use its serial allocation breakdown to determine a guideline for monograph expenditures. The formula would then be

\[ M = \frac{S}{\%} \cdot S. \]

The use of either of these formulas assumes that funds for each subject should be allocated between serials and monographs in the same proportion as each form of literature is used by the researcher. Thus, if fine arts research has a serial citation rate of 28.6%, then 28.6% of the library materials budget for the fine arts should be allocated to serials.

At first glance it appears that such a simplistic formula fails to take into account a number of factors generally believed to be important when establishing allocations. However, it must be remembered that the formula is actually only establishing a ratio between serial and monograph budgets within each subject area. Most of the factors such as collection intensity, number of students and faculty in the area, circulation statistics, and average cost per volume should have already been taken into consideration when the original monograph (or serial) allocation was made. The application of the formula just translates that dollar figure into a corresponding serial (or monograph) dollar figure using the citation ratio.

Once the percentages from table 3 have been used to establish the guidelines for serial versus monograph budgeting of each subject area, the individual figures can be totaled to determine an overall guideline for serial versus monograph spending. This method therefore links the library's budget allocation to the actual use of library material by researchers in each subject area.

**CONCLUSION**

The information explosion of the late twentieth century has placed a severe strain on the materials budgets of research libraries. University libraries that must support teaching and research in traditional disciplines as well as in emerging programs have been hard pressed to meet the needs of students and faculty. Massive increases in the number and price of serial publications have exacerbated the problem, and serial purchasing has come under closer scrutiny than ever before.

Statistics reveal that in the mid-1970s research libraries, for the first time, spent a larger share of their materials budgets on serials than on monographs. This unprecedented development led to the concept of a ratio between serials and monographs for budgeting purposes. But a search of the literature discloses no objective guideline for determining the optimum serial/monograph ratio for any type of library. Some writers suggest an overall percentage based on little more than a hunch; others suggest that the percentage of serials and monographs purchased will vary depending on the discipline.

The authors believe that it is possible to determine guidelines for developing a serial/monograph ratio for research library budgeting based on objective criteria. We
propose that, for a research library, the percentage of serials and monographs purchased should correlate with the characteristics of literature usage in each subject area. Citation studies conducted over the past 60 years covering most subject areas have been analyzed to determine the serial/monograph usage for each subject. Using the data presented in table 3, a research library with a current book allocation formula can determine its own appropriate serial/monograph ratio for each subject using a simple formula.

In conclusion, we find that there is no one optimum serial/monograph ratio for all research libraries. Rather, the ratio for each library will vary depending on its own priorities and emphases. For each subject, however, the serial/monograph ratio should be based on the use of the literature by researchers in that subject area as determined by citation studies.

REFERENCES AND NOTES

3. Ibid., p.32.
7. See, for example, "Factors in Designing an Allocation System" [at Cornell University], in G. Edward Evans, Developing Library and Information Center Collections, 2nd ed. (Littleton, Colo.: Libraries Unlimited, 1987), p.267-69.
17. Ibid., p.23.
The ""Do-it-Yourself"" Move for a 1.5 Million-Volume Library

Pauline S. Bayne

A decision by university administrators to rely on existing campus resources rather than commercial movers for the relocation of library collections and departments is not unusual. For a large library, handling a move this way is far less common but can be accomplished successfully with careful attention to planning. Logistical methods must be formulated and tested and contingency plans conceptualized. Planning should be equally detailed in the matters of communications with staff and library users, development of training programs, and establishment of special services to be available during the disruptive period of the move itself.

Library move planners require a great deal of detailed information on structuring a move: the decision structure, the organizational structure, the communications structure. Descriptions of logistical options and methods used by other libraries were helpful in formulating plans for a major move at the University of Tennessee, Knoxville (UTK) in 1987. This paper is offered to present planning principles, specific methods of moving and integrating collections, strategies for communication, staffing patterns, supervision, and equipment used at UTK that will be useful background for prospective do-it-yourself movers. Emphasis is placed on communications and training activities because they were key components in the success of this venture.

THE SETTING

The new John C. Hodges Library, a 350,000-square-foot facility providing central library collections and services to the University of Tennessee, Knoxville, opened to the public on September 14, 1987. Grand dedication ceremonies were held on September 25, 1987, the second day of fall quarter classes. Because moving activities had been completed on September 18, library faculty and staff were both proud and relieved to have met the dual deadlines of fall classes and dedication events.

Approximately 1,500,000 volumes, computers, furniture, and equipment for twenty-eight departments were moved into the building in a seven-week period, August 4 to September 18. A commercial mover was used only for the computer equipment and furnishings of the Library Automation Department, and expensive equipment such as photocopiers and the Kurzweil reading machine. Moving vans were required, but distance was not a great problem because library materials were housed in four buildings located only .2 to 1 mile from the new building. Three of the four collections (an undergraduate branch of 140,000 volumes, a remote storage facility of 260,000 volumes, and the old main library collection of 800,000 volumes) were A–Z general collections. These materials required extensive interfiling to become one integrated collection in the new building’s four stack floors. The remaining materials had been
in eleven department collections—such as reference, microforms, periodicals, reserve, nonprint—and required separate plans to accommodate the transfer of special materials, new arrangements in the new location, or integration from multiple locations.

Planning for the library relocation began in January 1986 for a proposed move period of June–July 1987. Four commercial movers made campus visits and prepared budget estimates for the work, ranging from $280,000 to $450,000, but the formal bid process was never begun. In late April 1986, campus administrators decided that an in-house move would be feasible and less expensive. Other major factors changed during the planning period. Originally, a science-technology library was to be established in the old main library building, but in September 1986, a campus-level decision to include those 350,000 science volumes in the new building resulted in the immediate revision of building and moving plans. Additional shelving and the reallocation of space in the new facility were required.

Not every move planner will encounter so significant a change in project goals, but events such as delays in construction, delivery of shelving and equipment, or even labor strikes are likely and must be met quickly with alternative plans. Less than two weeks before the start day for moving, a delay in delivery and construction of new shelving required resequencing of the entire collection move. “Expect the unexpected and plan for it” became a wise maxim rather than a cliché when it came to moving this library.

Four of the five weeks required to move the general collections occurred during the last month of summer quarter classes. Stack floors, where books were being removed, were closed to the public, but library pages retrieved materials from these areas as needed. Paging from the new library was instituted on the first day of moving. A daily move log, in printed form and on large chalkboards, allowed staff and patrons to determine which books had been moved to the new building. The library was closed completely for only two weeks immediately following summer classes. During that time, a move information desk provided emergency paging and reference services to researchers on campus.

Responsibility for move planning and implementation rested with a move director appointed from the library faculty. A professional moving company was not used; rather, all materials were moved by teams of temporary employees (primarily students) supervised by regular staff reassigned from the library or from the university’s physical plant department. While every library relocation requires detailed planning, the do-it-yourself nature of this move combined with its scope underscored the necessity of attention to detail. Every aspect of the move, from public relations to collection measurement to specifications for move equipment, was the responsibility of library staff.

A small planning team consisting of the move director, two experienced circulation managers, and a physical plant administrator, worked together on planning, data-gathering, testing, and training for a year before moving began. Planning team members met weekly during the planning phase; and in the implementation period, they supervised specific operations while continuing to meet daily for problem-solving sessions.

**METHODOLOGY**

The central problem in planning a move of several A-Z collections is interfiling the books by Library of Congress classification. We discarded several integration options which are used today because, in our assessment, they had potential for slowdowns or were too complex for the student staffing available to us.² We decided to try to make the method as simple as possible, one that would parallel normal reshelving.

In the general collections, the pattern of book distribution among source libraries was 63 percent in the main library, 25 percent in the storage building, and 12 percent in the undergraduate library. As with most plans, we moved the primary collection first, followed by the smaller collections which required interfiling. We identified several goals which became
planning principles as we developed the methods for moving general and departmental collections.

1. Restrict measurement and planning error by preassigning collection subdivisions to specific range locations. We chose 40 single-face sections as a maximum subdivision size (generally two double-face ranges in the new building). During the move, problems had to be resolved within these limits. Therefore, we had no problem with the cumulative effect of measurement error that might have resulted in delivery of more books than could be accommodated on a given floor.

The UTK collections had been measured, to the LC double-letter class level, in June and July of 1985. They were re-measured on a sample basis during September–December 1986 to verify the previous measurements, to account for collection growth, and to arrive at quantifications in smaller subdivisions to meet the 40-section limit.

All collection layout data were manipulated using Lotus 1-2-3 spreadsheets, from compilation of measurement data to ‘what-if’ experimentation with possible fill rates. The use of spreadsheet software facilitated planning efforts and allowed rapid response to circumstances as they changed during the planning period.

2. Move the primary collection first, working in designated LC subdivision groups and filling the shelves to the marked ‘main fill-rate.’ This is a common principle for moving books when integration of other collections is required. In our case, it allowed the use of minimally trained student staff as book movers. Move teams in the sending library loaded book carts and labeled the carts with the LC subdivision, a sequence number, and floor destination. Move teams in the new building reshelved the books in their final location by following the layout chart and the ‘main fill-rate’ markers on the shelves.

3. During the move of the primary collection, minimize later book shifting by reserving space for large sets coming from other locations. We met this goal by measuring all sets of books (journal backfiles and monographic series two feet or greater in length) in the storage and undergraduate collections. For each set, a cardboard placard listing the source library, call number, and length in both feet and inches, was interfiled into the main collection and moved along with the surrounding books. Whenever a placard was encountered as books from the main library were being shelved, space was reserved for the set by placing green and red self-adhesive dots on the shelves for the beginning and end of the set to be delivered later from one of the other locations. The placard was then placed in the reserved shelves to alert shelvers to the proper location of the set. Subsequently, as book-shelving teams worked on the integration process, they were guided by a list of all sets for which space had been reserved.

4. Sequence the move so that upon relocation of an LC subdivision from the primary collection (Main Library), books in the same subdivision are moved from the next largest collection (Storage Building) and then the smallest collection (Undergraduate Library). Such sequencing meant that by the end of the second week, we were moving simultaneously from three locations.
LC subdivisions were moved concurrently but in each case the subdivision (such as AC1-100) was moved completely from Main, then moved and interfiled from Storage, then moved and interfiled from Undergraduate. Moving teams in the source libraries were positioned to work on different stack floors for as long as possible to keep staff and equipment from crowding one another. At UTK, the Storage collection consisted primarily of journal backfiles, some of them in very long runs. It was fairly easy to integrate these materials because most were shelved in spaces which had been reserved for them. By moving these materials second in the sequence, the first stage of integration could be accomplished with little delay. In a move plan, it is desirable to schedule the easiest relocations and the largest quantity of materials early in the moving sequence. When this rule is followed, unexpected delays may have less impact on the overall progress of the move.

Because the Undergraduate Library collection was primarily monographic, its relocation most resembled the everyday operation of reshelving books. We knew this process would be the most time-consuming, but it also involved the fewest number of books (only 12 percent of the total). This final integration task, by occurring last in the sequence, allowed most of the books in a given LC classification to be already in place. Interfiling of undergraduate books required less shifting than the relocation of sets from storage because it was a volume-by-volume shelving operation. To compensate for the slowness of integration work, more shelving teams were needed. These teams were staffed by experienced library student assistants who were given special training and competency testing in LC classification and shelving principles. The relocation plan provided for additional library staff to be assigned to interfiling if necessary at this final stage.

5. Concurrently move books on to two or more floors of the new building while confining the removal of books from the primary collection to a maximum of two stack floors. When a library is moving from an old and crowded building, certain factors, such as lack of elevators or few exit points, can limit the number of teams effectively able to remove books. If services must be maintained, it is even more important to restrict the areas of move activity. In the new building, however, there are advantages to spreading out the teams and allowing reshelving to occur in a number of areas. The integration of collections may cause a backlog of loaded carts; therefore, having teams working on several floors avoids crowding of staging areas.

In fact, we could not follow this principle during the first week of moving due to a delay in new shelving construction. Forced to work with four rather than two teams in the Main Library, we had to close all stack floors and one of two public entrances to the building. This temporary departure from our plan caused inconvenience and misunderstandings for both patrons and staff. Although the situation was unavoidable and short-lived, it was clearly evident that adherence to this planning principle would have been preferable.

ORGANIZATION AND STAFFING

The organizational structures and staffing patterns of a move will depend on the methodology used and the move schedule permitted by local circumstances. At Tennessee, the first critical factor was the restrictive calendar: no moving of materials could begin before August 4, and all move activities needed to be completed by September 23. With an eight-week calendar, we quickly realized we needed a double-shift operation. We chose to move collections on a five-day week, working from 7:30 a.m. to midnight, knowing that weekends would be available if needed. In fact, we never had to vary from this schedule and required no overtime. The second critical factor was the directive by university administration that the move be handled by library and physical plant staff (two separate campus organizational units) plus temporary staff, primarily students, for the move period itself. Creation of a project-based organization was begun by naming a library faculty member as Assistant to the Director for Library Reloca-
tion to serve as move director and the Associate Director of Physical Plant as coordinator for physical plant involvement. Approximately 450 individuals were involved in the project, 200 working directly on the move of collection materials (see table 1). How were these people to be organized? A clear and specific organization had to be defined for both library staff and physical plant personnel.

For the collection move, the library was responsible for removing books from shelves, loading and labelling book carts, and delivering the carts to exit points in all sending locations. Physical plant staff were charged with transporting the book carts on moving vans between buildings and with delivering the carts to the proper floor in the new building. Library staff then took over again to reshelve the books at the new building. Physical plant had the additional responsibilities of moving all furniture and equipment that was to be reused and 508 double-face sections of shelving from the Storage Building. Relocation of furniture and shelving was done primarily on a day-shift basis, although some shelving disassembly and reassembly took place in the evenings.

Regular and temporary staff were organized into teams for the collection moving operations. Each team was led by a regular staff member from the library or physical plant, and many of these people had supervisory experience. Those from the library came primarily from departments such as circulation, reserve, current periodicals, and interlibrary loan—units that provided experience shelving materials. It is important to note that team leaders were recruited rather than merely reassigned. They contributed materially to the development of work routines and procedural decisions during the two to three months prior to implementation.

Library teams, of five to seven individuals, were divided into book-moving teams and book-shelving teams. Students hired as temporary employees on moving teams were not required to have previous library experience. They were trained to handle books carefully, to keep the books in order, and to follow the removal and reshelving procedures. Those on book-moving teams in the new building had the additional task of measuring for and leaving space on shelves for large sets to come from the smaller collections. The book-shelving teams worked in the new building to interfile books from the smaller collections among books already delivered from the primary collection. The book-shelving teams worked in the new building to interfile books from the smaller collections among books already delivered from the primary collection. Student assistants already working for the library were recruited to join the shelving teams and a few library staff members from both technical and public services were reassigned on a part-time basis to these teams. Shelvers were given retraining in Library

### TABLE 1

**UTK LIBRARY MOVE PERSONNEL**

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Source of Personnel</th>
<th>FTE</th>
<th>Time Period (months)</th>
</tr>
</thead>
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<tr>
<td>Move Director*</td>
<td>Library faculty</td>
<td>1.0</td>
<td>22.0</td>
</tr>
<tr>
<td>Building Coordinator*</td>
<td>Library supervisors</td>
<td>2.0</td>
<td>6.0</td>
</tr>
<tr>
<td>Relocation Secretary</td>
<td>Library staff</td>
<td>0.5</td>
<td>22.0</td>
</tr>
<tr>
<td>Relocation Secretary</td>
<td>Student library assistant</td>
<td>1.0</td>
<td>18.0</td>
</tr>
<tr>
<td>Personnel Assistant</td>
<td>Student library assistant</td>
<td>1.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Auxiliary Services Assistant</td>
<td>Student library assistant</td>
<td>1.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Team Leaders</td>
<td>Library staff</td>
<td>19.0</td>
<td>4.0</td>
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<tr>
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<td>Library staff</td>
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<td>1.0</td>
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<td>Student library assistant</td>
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<td>1.0</td>
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<td>Temporary student assistants</td>
<td>47.0</td>
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<td>Student library assistants</td>
<td>28.0</td>
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<tr>
<td>Book Shelvers</td>
<td>Library staff</td>
<td>6.0</td>
<td>1.5</td>
</tr>
<tr>
<td>Physical Plant Coordinator*</td>
<td>Physical Plant administrator</td>
<td>0.5</td>
<td>5.0</td>
</tr>
<tr>
<td>Truck Team Supervisors</td>
<td>Physical Plant staff</td>
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</tr>
<tr>
<td>Total</td>
<td></td>
<td>200.0</td>
<td></td>
</tr>
</tbody>
</table>

*Members of Move-Planning Team
of Congress classification and shelving rules before the move began.

The optimum number of teams to use in a move depends on such factors as building exits and delivery routes, the number of elevators in the buildings, the affordable number of moving vans and staff that can be maintained. We used three sending teams on each shift, and therefore calculated the move rate for collections on the basis of six teams per day. However, to integrate collections, which takes more time than simple sequential delivery of books, we provided five receiving teams per shift. Two book-moving teams and three book-shelving teams worked in the new building during each shift. The book-moving rate was predicted to be 1,120 linear feet per team day or 6,720 feet per day using six sending teams. At this rate, we projected 25 days to move the 1.2 million-volume general collection; and the relocation of these materials was completed in exactly this time frame.

Table 2 shows the team and supervisory structure used for the overall moving operation. Two members of the planning team were named as building coordinators for the implementation period. They functioned in a communications and problem-solving role facilitating both upward and downward communication between team leaders and the move director. The move director and physical plant coordinator, having built a strong relationship of trust during the planning period, felt free to communicate and resolve any problems occurring between the two divisions responsible for this move. All four members of the planning team were available by means of rented cellular telephones during both shifts so that major problems could be handled quickly and with the proper authority.

**TABLE 2**
ORGANIZATIONAL STRUCTURE FOR UTK LIBRARY MOVE

<table>
<thead>
<tr>
<th>DAY SHIFT</th>
<th>EVENING SHIFT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Library Director</strong></td>
<td><strong>Physical Plant Director</strong></td>
</tr>
<tr>
<td>* Move Director*</td>
<td>* Physical Plant Coordinator*</td>
</tr>
<tr>
<td>* Building Coordinator (Main)*</td>
<td>* Building Coordinator (New Building)*</td>
</tr>
<tr>
<td>Book-Moving Team 1</td>
<td>Book-Moving Team 1A</td>
</tr>
<tr>
<td>Book-Moving Team 2</td>
<td>Book-Moving Team 2A</td>
</tr>
<tr>
<td>Building Supervisor (Main)</td>
<td>Book-Shelving Team 3A</td>
</tr>
<tr>
<td>Book-Moving Team 3</td>
<td>Book-Shelving Team 3B</td>
</tr>
<tr>
<td>Book-Moving Team 4</td>
<td>Book-Shelving Team 3C</td>
</tr>
<tr>
<td>Building Supervisor (Main)</td>
<td>Building Supervisor (New Building)</td>
</tr>
<tr>
<td>Book-Moving Team 5</td>
<td>Book-Moving Team 4A</td>
</tr>
<tr>
<td>Building Supervisor (Garage &amp; Old)</td>
<td>Book-Moving Team 5A</td>
</tr>
<tr>
<td>Book-Moving Team 6</td>
<td>Book-Shelving Team 6A</td>
</tr>
<tr>
<td>Building Supervisor (Garage &amp; Old)</td>
<td>Book-Shelving Team 6B</td>
</tr>
<tr>
<td>Book-Moving Team 7</td>
<td>Book-Shelving Team 6C</td>
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<td>Building Supervisor (Garage &amp; Old)</td>
</tr>
<tr>
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<td>Book-Shelving Team 7A</td>
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<tr>
<td>Building Supervisor (Garage &amp; Old)</td>
<td>Book-Shelving Team 7B</td>
</tr>
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<td>Building Supervisor (Garage &amp; Old)</td>
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<td>Building Supervisor (Garage &amp; Old)</td>
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<td>Building Supervisor (Garage &amp; Old)</td>
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<td>Building Supervisor (Garage &amp; Old)</td>
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<td>Building Supervisor (Garage &amp; Old)</td>
<td>Building Supervisor (Garage &amp; Old)</td>
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<td>Building Supervisor (Garage &amp; Old)</td>
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<td>Building Supervisor (Garage &amp; Old)</td>
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<td>Building Supervisor (Garage &amp; Old)</td>
<td>Building Supervisor (Garage &amp; Old)</td>
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<td>Building Supervisor (Garage &amp; Old)</td>
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<td>Building Supervisor (Garage &amp; Old)</td>
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<td>Building Supervisor (Garage &amp; Old)</td>
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<td>Book-Moving Team 30</td>
<td>Building Supervisor (Garage &amp; Old)</td>
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<tr>
<td>Building Supervisor (Garage &amp; Old)</td>
<td>Building Supplier (Garage &amp; Old)</td>
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<tr>
<td>Truck Team 1</td>
<td>Furniture Team</td>
</tr>
<tr>
<td>Truck Team 2</td>
<td>Shelving-Construction Team</td>
</tr>
<tr>
<td>Truck Team 3</td>
<td>Shelving-Construction Team</td>
</tr>
<tr>
<td>Furniture Team</td>
<td>Shelving-Construction Team</td>
</tr>
<tr>
<td>Shelving-Construction Team</td>
<td>Shelving-Construction Team</td>
</tr>
</tbody>
</table>

* Members of Move-Planning Team
Physical plant teams performed the traditional role of movers in our project. There were three to five moving vans in use each shift for the collection move, plus two day-shift vans for furniture and shelving. Teams were formed using the driver (an experienced physical plant employee) as the team supervisor and assigning temporary employees to the sending and receiving locations to load and unload the vans.

"A move manual, containing packing and labeling instructions, floor plans, overall procedures, schedules, and supervisory personnel, was distributed to all staff members."

Omitted from the organization chart are many staff members who assisted with the move of departmental furniture, equipment, and office contents. Supervision was arranged by asking department heads to name at least two coordinators for each library department: one to supervise removal of materials and the other to oversee proper delivery in the new facility. A move manual, containing packing and labeling instructions, floor plans, overall procedures, schedules, and supervisory personnel, was distributed to all staff members. Each department was responsible for packing its own materials, using the manual as a guide.

The relocation of departmental collections, such as those in Reference and Government Documents, also required that individuals from the department be designated as coordinators to ensure the correct delivery of materials. In each case, these individuals worked with the move director to devise specific move methods and layouts for their collections.

MICROCOMPUTER ADVANTAGE

The availability of microcomputers facilitated the calculations and projections required for a move of this scope. Spreadsheet, database, project management, and word processing software were all used in the library’s Relocation Office. Description of the specific plan for moving current periodicals will illustrate the special advantage that the use of microcomputers gives today.

Current issues of periodicals were located in two libraries prior to the move. They were integrated on paper by preparing a database using dBase III+. The database included fields for sequence number, call number, title, current location, and space required (one to six feet) for each title. The data were sorted by call number—the desired arrangement for the new location. In the planning stage, an initial printed list was used to identify duplicates, remove ceased titles, plan space for new titles, and measure for space needed for each title. The move method required that preprinted number labels (two labels for each sequence number in the dBase list) be produced. One set of labels was affixed to the shelving in the new building so that an exact location with the appropriate amount of space was reserved for each title.

The steps for moving the issues were:
1. wrap all issues for a title with a binding tie,
2. affix a preprinted number label to the title (the sequence number from the dBase list),
3. pack the issues in fiber book boxes,
4. transport the boxes,
5. shelve the journals.

Shelving was accomplished very quickly because it required only the matching of sequence numbers on issues to numbers on shelves. Matching a one- to four-digit number is much faster than matching an entire Library of Congress classification and author number. It was not even essential to deliver the boxes of periodicals in any specific order. Finishing tasks included removal of the binding ties and placement of shelf labels, which were machine-generated as a by-product of the computerized database. The automatic production of call number/title labels saved the department hundreds of hours of typing of over 6,900 shelf labels.

Similar special move plans based on computerized lists were developed for moving the microforms collection and the reference collection. In these cases, too, integration was achieved on paper and sequence numbers provided the guide to
moving the materials. For the general collections, computerized lists were used to create the placards needed to reserve space for large sets and to provide a guide to the titles designated for a preservation collection rather than the open stacks.

Lotus 1-2-3 was the primary tool used in collection measurement and layout activities (see tables 3 and 4). Spreadsheet software is particularly appropriate for the many calculations and recalculation necessary here. The sample measurements were entered and used to predict the size of each call number group after integration from the three source libraries. Tentative assignment to shelf sections was done and various fill rates were tested at the computer until final decisions were made. Prior to moving, we generated lists showing the call numbers assigned to specific ranges and numbered sections on each floor of the new building. These lists, along with graphic presentations of the ranges, were compiled into range notebooks used by each team leader as a guide to the delivery of books in the new building. All of this work could have been done without a microcomputer, but the extra time required might have limited flexibility in response to changing circumstances.

**EQUIPMENT**

Rolling carts were used for the transport of book collections, card catalog cabinets, microform and other large and heavy equipment items. Specifications were drawn up by the planning team, and the carts were built by the carpentry shop on

### TABLE 3

**A SAMPLE OF DATA MANIPULATION FOR PLANNING THE COLLECTION LAYOUT USING LOTUS 1-2-3**

<table>
<thead>
<tr>
<th>Subclass</th>
<th>Linear Feet</th>
<th>Main Storage</th>
<th>UGL</th>
<th>Total</th>
<th>Subclass Total</th>
<th>Fill Rate</th>
<th>Sections/Class</th>
<th>Sections</th>
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</thead>
<tbody>
<tr>
<td>HQ1-763</td>
<td>51.3</td>
<td>3.0</td>
<td>21.0</td>
<td>75.3</td>
<td></td>
<td>13</td>
<td>5.8</td>
<td>58.5</td>
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<td>HQ Total</td>
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<td>80.3</td>
<td>180.8</td>
<td>760.4</td>
<td>760.4</td>
<td>13</td>
<td>2.0</td>
<td></td>
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<tr>
<td>HS1-3353</td>
<td>19.9</td>
<td>3.0</td>
<td>3.0</td>
<td>25.9</td>
<td></td>
<td>25.9</td>
<td>2.0</td>
<td>9.3</td>
</tr>
<tr>
<td>HS Total</td>
<td>19.9</td>
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<td>3.0</td>
<td>25.9</td>
<td></td>
<td>25.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HT1-391</td>
<td>198.0</td>
<td>30.8</td>
<td>30.8</td>
<td>257.5</td>
<td>257.5</td>
<td>13</td>
<td>19.8</td>
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<tr>
<td>HT Total</td>
<td>294.2</td>
<td>36.8</td>
<td>47.3</td>
<td>378.2</td>
<td>378.2</td>
<td>13</td>
<td>9.3</td>
<td></td>
</tr>
<tr>
<td>HV1-847</td>
<td>262.2</td>
<td>153.8</td>
<td>29.3</td>
<td>445.2</td>
<td></td>
<td>14</td>
<td>31.8</td>
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<tr>
<td>HV848-5825</td>
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<td>61.5</td>
<td>263.3</td>
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<tr>
<td>HV5831-5825</td>
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<td>14.3</td>
<td>53.3</td>
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<td>14</td>
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<tr>
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<td>1126.4</td>
<td>1126.4</td>
<td>14</td>
<td>80.5</td>
<td></td>
</tr>
</tbody>
</table>

A. Input data from measurement of the collection was totaled. Various fill rates were tested until the appropriate capacity for the floor was reached. The spreadsheet formulations then converted footage to shelving sections required.

### TABLE 4

**OUTPUT DATA FOR SHELF MARKING, DELIVERY OF THE COLLECTION, AND FOR ACCESS TO THE COLLECTION BY PAGES**

<table>
<thead>
<tr>
<th>Class Segment</th>
<th>Begin Section</th>
<th>End Section</th>
<th>Sections/Class</th>
<th>Starting in Range</th>
</tr>
</thead>
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<tr>
<td>HQ4102-3290</td>
<td>1192</td>
<td>1197</td>
<td></td>
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<td></td>
<td>75A</td>
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<td>HT1.391</td>
<td>1200</td>
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<td></td>
<td>75A</td>
</tr>
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<td>1228</td>
<td></td>
<td>76A</td>
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<td>HV1-847</td>
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<td></td>
<td>76B</td>
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<td>HV848-5825</td>
<td>1262</td>
<td>1281</td>
<td></td>
<td>78A</td>
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<td>79A</td>
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<td></td>
<td>80A</td>
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<td>HX2-273</td>
<td>1313</td>
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<td></td>
<td>81A</td>
</tr>
<tr>
<td>HX274-947</td>
<td>1332</td>
<td>1343</td>
<td>1182</td>
<td>81B</td>
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</table>
campus. Book carts (see figure 1) were designed to carry 12 linear feet of books at an average of 550 pounds. Testing of a 4-foot-wide cart, a size often used, showed it was too large for easy maneuverability in the narrow aisles of some of our sites, so the 3-foot cart was chosen.

BOOK CART SPECIFICATIONS:
• 36" w x 15" d x 48" h
• 4 shelves with 13" space between shelves
• Shelves supported along back and sides, covered with tight-textured carpeting
• 4 straps with quick-release buckles, mounted on outside of cart, pulled to inside through holes in side 5" from front of cart and 5" above shelves
• Constructed of \( \frac{3}{4} \)" plywood for shelves and sides, \( \frac{1}{4} \)" plywood for full back, \( 1 \frac{1}{2} \)" layered plywood for bottom shelf
• 2 swivel and 2 fixed casters (5" wheel with \( \frac{1}{2} \)" hard rubber tread) mounted with bolts going through bottom shelf with countersunk bolt heads to create flat surface on bottom shelf.

The number of book carts needed was determined by considering the maximum number of book-moving teams working at any one time. For each team, four times the quantity for a truck load was needed: two sets in transit, one set being loaded, and one set being unloaded. In 14-foot moving vans, 19 book carts could be accommodated. [NB: Tie-downs and ramps

A library staff member pushing a fully loaded book cart.
were required for each van.] Some extra carts were specified to permit replacement of damaged carts. At UTK, 260 carts were requested but only 185 were built. There were some short periods when more carts were needed, but most of the time this number was satisfactory to keep three sending teams working each shift.

Carts for card catalog cabinets and other equipment were designed as four-sided boxes, open at the top and front and mounted on rubber-wheeled casters. Catalog carts were designed to hold the largest catalog cabinet, which was 43''w x 21''d x 69''h. Due to the loaded cabinet weight of 800 or more pounds, these carts were fitted with a two-foot-high hinged door to give better stability to the walls of the cart, 3/4" plywood was used, and the wood was layered to make a 1 1/2" cart floor. Card catalogs were loaded on the carts using a fork lift, placing the drawer-side of the cabinet to the solid back of the cart. In this way the cabinets could be moved with drawers in place but with little danger of loss of contents. Because nine catalog carts fit on one moving van, that was the number of carts built and used repeatedly until all 73 cabinets were transferred to the new building.

Six equipment carts were made either with no shelf above the bottom or with one shelf above. They were built exactly as the book carts but fitted with only one or two straps. These carts proved to be very handy for moving typewriters, microform readers, and a variety of library equipment items. The carts held up very well during the move, although a repair team was needed early in the project to compensate for incorrectly mounted casters and strap mountings which had loosened.

COMMUNICATIONS, TRAINING, AND PUBLIC RELATIONS

Good communications at every level are essential for a major library move. The success of strategies for fostering leadership, confidence, motivation, and task orientation rests to a great extent on frequent and appropriate communications. When inexperienced workers and staff from different organizational units must work together under stressful conditions, continuous communication and good training programs are essential. The library must develop programs for campus constituencies and the general public to avoid confusion, inconvenience, and ill-will during the disruption of the move. And last, direct one-on-one communication provides the move director with a means of coordinating and resolving the people problems that result from a variety of interdependent groups working together under tight deadlines.

Because the UTK move-planning team had been deliberately limited in size to improve efficiency, it was very important for the move director to have person-to-person and person-to-group discussions with administrators and groups of staff. The move director held several rounds of meetings with each of the twenty-eight library department heads and departmental staff. These meetings (1) gave needed information to the move director regarding special requirements for moving, working dependencies between departments, etc.; (2) provided staff with information and reassurances about the schedule, operational plans, and progress of the project; (3) increased mutual trust and both individual and organizational confidence; and (4) permitted instruction from the move director and suggestions from the staff for packing, scheduling, security, safety precautions, appropriate responses to emergency situations, etc. Two-way communication was always the goal of these meetings.

Once the sixteen team leaders were recruited from library staff, they met with the move director over a two-month period to develop detailed plans including specific move methods, daily work routines (work hours, breaks, etc.), emergency supplies and routines, placement of the limited number of telephones in the new building, handling of student timesheets, daily move logs, and routines for emergency calls to moving staff. The opportunity to work through these details together meant we were able to reach consensus on policies and procedures through participative decision making with the result that staff leaders "bought into" the process. Two-way communica-
"The opportunity to work through these details together meant we were able to reach consensus on policies and procedures through participative decision making with the result that staff leaders 'bought into' the process."

ition resulted in greater commitment from these essential project personnel and provided assistance to the move director in making many small but important operational decisions.

Very early in the planning process, the need for training was identified as a vital project component. To ensure the effective work of 200 individuals, either reassigned or newly hired, communication of basic concepts about the move became extremely important. These individuals had to be told what their responsibilities and objectives would be, how to accomplish tasks safely, how they contributed to the entire project, and why the established procedures were important. Training modules were developed using a variety of communication media: large group lectures with presentation graphics, small group meetings with team leaders, question-answer discussion sessions for supervisors, videotapes, and hands-on simulations. Training topics included: physical safety, book handling and preservation concepts, packing instructions, access to the collections during the move, Library of Congress Classification system, orientation to the move plan, daily work routines and university work rules, emergency plans, specific team methods, and CPR training for supervisory personnel.

Public relations activities for the UTK library move were in no way limited to the Relocation Office, but those of the move director included presentations to the UTK Faculty Senate, meetings of the administrators and/or faculty of each college, the Faculty Senate Library Committee, student government groups, the Panhellenic Council and Interfraternity Council, and even to interested civic groups. It became obvious that since the library’s constituencies must endure the inconveniences of a library move, their support was important. Early in the planning process many faculty and staff expressed doubts that the move could be accomplished in the time frame allowed. Many students and faculty felt that all of their own work would be disrupted and delayed. We hoped that when students and faculty understood the complexity of the undertaking and saw that detailed plans were being made to accomplish the task, they would be likely to offer support instead of roadblocks. By announcing and discussing specific operational decisions as they were made, we succeeded in getting the support of our constituents.

A two- to six-page monthly newsletter, the Relocation Bulletin, was published as a communications and public relations vehicle. It was distributed to library faculty and staff, but certain issues were designed for distribution also to campus faculty and administrators. The newsletter provided a means to give recognition and praise to library staff who were contributing to the project. Such recognition aided the overall team spirit needed for success. The use of the newsletter to inform the library organization and the campus of schedules, methods, and tasks completed brought increased confidence that the library could and would accomplish the move with dispatch.

The human face of communication—the interaction between independently working groups—becomes critical when moving activities must begin in a yet unfinished building. Architects, construction workers, circulation pages, reference librarians, and inexperienced movers differ in their responsibilities and methods of working. Proactive and continuing communications of the move-planning team with leaders of these groups are essential. At UTK, coordination with contractors and university facility planning personnel was enhanced by weekly meetings; both the move director and physical plant coordinator were a part of this group. Here problems relating to installation work, collection or departmental problems, difficulties in scheduling, building access, and security were shared and solved.
SUMMARY

It took thirty-eight workdays to relocate the UTK Library collections, furniture, and equipment using existing campus resources—library and physical plant staff and students hired on a temporary basis. All schedules were met; the multiple collections were cleaned, moved, and integrated; even shelf-reading, shifting, and adjustments in book placement were completed before the start of classes. However, it took more than eighteen months of planning, testing, organizing, and communicating before the first book was moved. The detailed planning for all aspects of a move, even over-planning, allowed line administrators to handle the unknown and unexpected situations that occurred during the move itself. Time and energy spent in staff training programs were worthwhile investments, and constant communication generated both confidence in leaders and improved project plans.

What about the costs of a do-it-yourself move? Does this method save money? Estimates for budget purposes, not official bids, from four commercial movers ranged from $280,000 to $450,000. Our estimate of new monies actually spent at UTK for temporary employees, construction and rental of moving equipment, and use of a mover for computer equipment totaled $250,000. However, the costs for reallocating staff to work on the project are not accounted for in this figure; probably, another $250,000 were used. The total cost to the university, if both new and reallocated resources are considered, was higher than the direct charges of a commercial mover. Yet, had a mover been hired, the library still would have incurred costs above the contract amount due to necessary involvement of library staff in planning and implementing the move. Depending on terms established between a library and mover, the amount of staff involvement and, therefore, this cost component will vary. For instance, will library staff clean books prior to the move, integrate collections, or read shelves after it? How many staff members will actually coordinate and plan the move with the moving company, and for how long? The costs of reallocated staff for these activities must be factored into any comparison of move costs with or without a commercial mover. Certainly, administrators should also consider hidden costs including stress and possible injury to staff, loss of productivity in regular job tasks, and the possibility of some degree of failure if professional assistance is not sought. Administrators need to consider many factors in planning a major move. Whether or not doing it yourself is the least expensive method, it is a viable option that can work even for a large library move.

REFERENCES AND NOTES

2. A common method used by professional library movers involves integration of collections at staging areas in the new building. Books are moved on rolling carts from each library, taken to class-number staging areas, and integrated on to other rolling carts. The newly filled carts, completely in order, are then moved to their proper location and shelved. The integration staff must be able to order the books quickly and correctly, but the shelvers need be trained only to follow instructions on fill rate and careful book handling. A large number of carts and multiple staging areas are required.

RECOMMENDED READINGS

Bayne, Pauline S., "Moving a 1.5 Million-Volume Library: A Study of Communication in Project Management," in LAMA President's Program Papers: Communication and the Language of Leadership (Chi-
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A variety of bibliographic databases on CD-ROM are now available. This study examined the appropriateness (as determined by three independent judges) of database selection by patrons, when a choice of databases was provided. It was found that one patron in five used the most appropriate database available, while one patron in five used an entirely inappropriate database. Patrons followed the same search procedure if they were using an appropriate database or not. Experience in searching also had no effect on database selection. Patrons using appropriate or inappropriate databases had similar opinions about their need for training and about how successful their searches were.

Academic libraries are increasingly adopting bibliographic databases on CD-ROM. While libraries at one time acquired one system, some libraries are now purchasing a number of different CD-ROM systems. Previous research has shown that patrons like to use CD-ROM and believe that they require little training to use these databases. To a great extent, these studies of CD-ROM involved surveys of patrons using Info Trac. But little research has been done to date in libraries which offer patrons a choice of bibliographic databases on CD-ROM. There has been no published study on the appropriateness of the databases selected by patrons when a variety of databases is provided. The purpose of this study was to examine the database selection by patrons at the Undergraduate Library of the University of Illinois at Urbana-Champaign (UIUC), and to determine the appropriateness of that database selection in searching specific topics.

BACKGROUND

Few of the studies of CD-ROM have compared the use of a variety of CD-ROM databases. Jane Kleiner compared the use of Info Trac, Legal Trac and Government Publications Index on CD-ROM. In that study, 77 percent of the patrons searched the Info Trac database, although the majority of users realized that other databases were available. Eighty-six percent of those surveyed considered that they had retrieved
adequate information from Info Trac.

Karla Pearce found that PsycLIT produced the largest proportion of satisfactory searches of the eight databases in her study. Eighty-seven percent of the users surveyed felt that they had retrieved relevant citations.

However, in both of those studies, the appropriateness of database selection was not determined. Appropriateness, in this context, relates to the suitability of the database in terms of its subject content for use in searching a specific topic.

**METHODOLOGY**

In August 1988, the Undergraduate Library at UIUC established a CD-ROM lab area, that has a number of workstations equipped with CD-ROM bibliographic database systems. There are two workstations equipped with Info Trac and Readers' Guide (Wilson), and a number of workstations equipped with other Wilsondisc systems. Additional copies of some of these CD-ROM databases are available elsewhere in the University, and a few databases not held by the Undergraduate Library are held by other departmental libraries on campus.

This study examined the use by patrons of Info Trac and nine Wilson bibliographic databases on CD-ROM in the lab area. During the period of the study, eighty-two searches were observed. The database selected by each patron and the topic of each search were recorded. Three independent judges then selected the three most appropriate databases available to patrons for each of the search topics, and the choices of the patrons and judges were compared.

The Wilsondisc systems included Readers' Guide, Applied Science and Technology Index, Biological and Agricultural Index, MLA Bibliography, Business Periodicals Index, Humanities Index, Education Index, Art Index and the Index to Legal Periodicals. The subject content of the databases in the Undergraduate Library CD-ROM lab ranges from general, such as Info Trac or Readers' Guide, to specialized, such as Art Index and MLA Bibliography.

In addition to these ten databases available in the CD-ROM lab of the Undergraduate Library, six other databases that are available elsewhere in the library system were added to create a list of sixteen databases available to patrons for end-user searching. The six databases added were ERIC, PsycLIT, Medline, ABI/Inform, Datext, and PAIS. Each of these databases is located in a departmental library in buildings that are adjacent to the Undergraduate Library. Undergraduates were able to go to the appropriate departmental library to use the database that was the most suitable for the subject of the search.

The three independent judges were experienced in using all of the CD-ROM databases available within the University. Also, to aid them in selecting the three most appropriate databases, each judge was provided with a list of the sixteen databases that are available to patrons within the University, and a description of the subject content of each of the databases. The independent judges were asked to select the three most suitable databases from the list provided for each of the searches included in the study. Judges were to name their first, second, and third choices of databases. These selections by the independent judges were then compared with the databases actually selected by the patrons for their searches.

If the database selected by the patron was the same database chosen as the most appropriate database for the search topic by an independent judge, the search was awarded three points. If the database selected by the patron was the database determined to be second best by an independent judge, the search was awarded two points. If the database selected by the patron was a judge's third choice, the search was awarded one point. This process was repeated for the three judges for each of the eighty-two search topics. The total score on each search would therefore range from zero points (complete disagreement between database selected by patron and databases selected as best, second best or third best by all independent judges) to nine points (complete agreement between patron and independent judges: database selected by patron was considered to be the most appropriate
database for the search by all three independent judges).

The number of cycles (that is, the time from initial input of a search statement to the input of another search statement or end of the search) through which each patron progressed during the search was also counted. A success was recorded when citations were considered valuable enough to be printed out. A failure was recorded when citations were not found or were not printed. The amount of time taken to perform each search was also recorded.

Patrons were asked a number of questions about their searches and their search results. They were asked which bibliographic databases they had used prior to their current search in order to determine if experience in searching had an effect on database selection. They were asked if they felt they had found some information on their search topics, and if they had successfully answered their research questions, to determine how positively they felt about their search results. The opinions of the patrons were also compared with the findings of the previous studies that reported patrons were generally satisfied with their search results (retrieved relevant citations and adequate information).

Patrons were also asked if they preferred using bibliographic databases on CD-ROM or comparable print reference tools. They were asked what they intended to do next in their research. Possible responses included: look up the citations found, go to another database on CD-ROM or to a print source, ask for help, or quit. It was expected that patrons using appropriate databases would be able to proceed with their research, but that patrons using inappropriate databases would have to look further for relevant citations before proceeding with their research.

**FINDINGS**

The results from the study were analyzed using a statistical package (Mac SS). In conducting hypothesis tests, the level of acceptable Type 1 error was set at $a=0.05$. Correlations were tested using Spearman’s rank order correlation.

When database selection by patrons was compared with database selection by independent judges, the highest percentage
was for absolute agreement between patrons and judges. The highest possible score of 9 points was received in 21.95 percent of the eighty-two searches. The second highest percentage was for absolute disagreement between patrons and independent judges: 19.51 percent of the searches received the lowest possible score of 0 points.

"These findings seem to indicate that patrons may not know that they are working in an inappropriate database, and may continue with their searches as though they were retrieving useful citations."

There was no significant difference in the way patrons conducted their searches using appropriate or inappropriate databases. No significant correlations were found between appropriateness of database and the number of cycles completed in the searches, or the time taken to perform the searches. These findings seem to indicate that patrons may not know that they are working in an appropriate database, and may continue with their searches as though they were retrieving useful citations. Table 1 shows the relationship between appropriateness of database selected and the numbers of cycles, failures and successes that were experienced by the patrons. The numbers in the "Inappropriate" column contain the results of the searches in which 0-2 points were awarded, based on the level of agreement between patrons and independent judges as to appropriateness of database selection. In these searches, at least one judge considered the database selected to be inappropriate. The "Marginal" column results are for those searches that were awarded 3-6 points, and the "Appropriate" column contains those searches where agreement between patrons and judges was strongest: those awarded 7-9 points. In these searches, at least one judge considered the database selected to be the most appropriate.

Although ANOVA showed significant differences in the number of cycles (p < .04) and in the number of failures (p < .01), these significant differences appear to have been caused by the fact that a larger proportion of searches using Info Trac were in the "Marginal" group of cycles and failures. Seven out of the ten searches using Info Trac had results that were included in the "Marginal" group, and it was found that Info Trac searches required more cycles and produced more failures than Wilsondisc searches. The results using the Wilsondisc systems were more consistent and therefore more evenly spread out between the three classes of scores. In these searches, the number of cycles completed and the numbers of successes and failures achieved were similar regardless of the level of appropriateness of database selected. This confirms the findings of the correlation analysis that appropriateness of database did not affect search characteristics.

There was also no significant correlation between appropriateness of database selection and the number of failures or successes in the search cycles completed by the patrons. At first glance, this result implies that, because there was no apparent difference in the search process measured in cycles or in the proportion of successes or failures when using appropriate or inappropriate databases, it did not matter which database was used by the patrons. While some patrons who were in inappropriate databases found no citations on their search topics, (for example, the patron who was searching in MLA Bibliography for articles on "mattresses") and left the CD-ROM lab without printing any articles, the majority of patrons printed out citations from inappropriate databases. Given the scatter of literature in a variety of journals, and hence in a number of databases, it is not surprising that some hits worth pursuing were even found in inappropriate databases. Although subsequent use of citations was not investigated in this research, one wonders whether the printed citations were actually used by the patrons.

There was no significant correlation between appropriateness of database used and the number of databases that had been used previously. This implies that
patrons did not benefit from past searching experience in improving their database selection ability.

There was no significant correlation between appropriateness of database used and opinions of the patrons of the extent to which they found some information in their searches. However, there was a modest and nearly significant relationship between appropriateness of database selection and opinions of the patrons that they had been successful in answering their research questions (R = -.2063, p < .06).

There was a significant positive correlation (R = .2182, p < .05) between appropriateness of database selection and patron preference for using bibliographic databases on CD-ROM or print reference tools (Spearman’s R Correlation). Patrons using appropriate databases expressed a stronger preference for using print reference tools. Although these patrons were using CD-ROM appropriately, they still demonstrated a preference for using the traditional reference tools.

There were no significant differences based on appropriateness of database selection in the subsequent activities of the patrons (Kruskal-Wallis ANOVA). The largest group of patrons (51.2%) went directly from searching to looking for the cited articles. Of these, 26.2% were using the most appropriate databases, and 14.3% were using totally inappropriate databases. It is reasonable to assume that the 26.2% of patrons using appropriate databases would have found useful citations to look up, and it seems reasonable to assume that the 14.3% of patrons in the wrong databases would not have found as useful citations.

The remaining patrons did not move from finding citations to looking up the citations, but they were going to ask for help, move to other reference tools, or quit. Of these patrons, 17.5% were using the most appropriate databases, and 25% were using totally inappropriate databases. It appears reasonable that the patrons using inappropriate databases would not continue with their searches, but it is difficult to understand why the 17.5% of patrons using appropriate databases did not continue by looking up the citations found. They may have, for example, found unexpected citations, or may have been using the appropriate databases incorrectly and retrieving citations that were not useful. The motivations for the subsequent actions of the patrons were not investigated in this research.

There were significant differences in the degree of appropriateness of database selection attached to the bibliographic databases on CD-ROM that were used in each of the searches (Kruskal-Wallis ANOVA). Table 2 shows the average number of points awarded to the ten searches carried out in each of the seven databases. For example, the highest agreement between patrons and independent judges on appropriateness occurred with patrons using the Biological and Agricultural Index (appropriateness rating of 6.9 out of the possible 9 points). The average search carried out using the Education Index scored only 2 points (out of a possible 9 points) on appropriateness. The average score on appropriateness was 4.43 out of the potential 9 points.

The most appropriate databases to be used in searching were those databases that are specialized in their subject content, rather than general in content. The

| TABLE 1 |
| SEARCH CHARACTERISTICS BY APPROPRIATENESS |

<table>
<thead>
<tr>
<th>Inappropriate</th>
<th>Marginal</th>
<th>Appropriate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycles (avg.)</td>
<td>2.15</td>
<td>5.2</td>
</tr>
<tr>
<td>Failures (avg.)</td>
<td>1.07</td>
<td>3.77</td>
</tr>
<tr>
<td>Successes (avg.)</td>
<td>1.11</td>
<td>1.42</td>
</tr>
</tbody>
</table>

| TABLE 2 |
| APPROPRIATENESS OF DATABASES SELECTED |

<table>
<thead>
<tr>
<th>Database</th>
<th>Avg. Points Awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological &amp; Agricultural Index</td>
<td>6.9</td>
</tr>
<tr>
<td>Business Periodicals Index</td>
<td>6.7</td>
</tr>
<tr>
<td>Applied Science &amp; Technology Index</td>
<td>6.4</td>
</tr>
<tr>
<td>Avg. of all databases</td>
<td>4.43</td>
</tr>
<tr>
<td>Info Trac</td>
<td>5.3</td>
</tr>
<tr>
<td>Readers’ Guide</td>
<td>2.9</td>
</tr>
<tr>
<td>Humanities Index</td>
<td>2.7</td>
</tr>
<tr>
<td>Education Index</td>
<td>2.0</td>
</tr>
</tbody>
</table>
closest matches of opinions between patrons and independent judges were on the selection of the two specialized science databases and the business database. There was a low level of agreement on the appropriateness of the selection of both Readers' Guide and Info Trac, and the greatest difference of opinion was on the selection of the Humanities and Education Indexes. This could relate to the fact that both of these databases, as well as Info Trac and Readers' Guide, cover a wide range of subject content.

IMPLICATIONS OF THE RESEARCH

The research provides information on the appropriateness of database selection by patrons using bibliographic databases on CD-ROM in the academic environment. Approximately 22 percent of the patrons selected a database that experts felt was entirely appropriate for the search being conducted. Nearly as many patrons selected a database that was not even considered to be one of the three most appropriate databases for the search topic. However, all patrons went through approximately the same search process, and there was no evidence of any results of inappropriate database selection during the search process. These findings raise some doubts about patron expectations from searching bibliographic databases on CD-ROM, as well as about their searching ability.

"Approximately 60 percent of the time, the independent judges were not unanimous in their selection of the most appropriate database to be used for searching a specific topic."

The results also show that there were considerable differences between databases. Those patrons using the more specialized databases received higher scores than those patrons using the more general databases for appropriateness in their searches.

The research also shows that some patrons selected the most appropriate databases without any assistance or training in database selection. But other patrons did not make adequate use of the bibliographic databases on CD-ROM. Approximately 60 percent of the time, the independent judges were not unanimous in their selection of the most appropriate database to be used for searching a specific topic. It follows that more than one database could be appropriate for many searches. Yet only a few patrons moved from one bibliographic database on CD-ROM to another during their searches, in order to retrieve more relevant citations. It follows, then, that for approximately 80 percent of the patrons, some training or assistance in database selection would have been advantageous.

There are a number of areas where future research would be valuable. The value of training in improving the database selection ability of patrons could be assessed. Aspects of patron search behavior could be studied, for example, why they continue with searches and how they make use of printed citations. Effects of lab area layout on database selection could be studied. Despite the presence of signage in the lab area, many patrons did not realize there was a variety of bibliographic databases on CD-ROM from which to choose, and they may have used the most accessible database rather than the most appropriate database for their searches.

Librarians should be aware of the significant differences in database selection ability of their patrons, and of the desirability of providing training or assistance in database selection, in situations where patrons are offered a choice in the bibliographic databases on CD-ROM that could be used in their searches.

REFERENCES


2. Published studies of patron response to Info Trac include: Beltran, "Info Trac at Indiana University: A Second Look"; Beltran, "Use of Info Trac in a University Library"; and Walker and Westneat, "Using Info Trac in an Academic Library."


5. Ibid.

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In *Information Literacy: Revolution in the Library* Patricia Senn Breivik and E. Gordon Gee urge top-level academic administrators to look beyond the traditional role for libraries in colleges and universities and to consider how library personnel and resources can be used to accomplish campus priorities. Concerned about the infrequent references to libraries in many of the recent reports on educational reform, Breivik, director of the Auraria Library of the University of Colorado at Denver, and Gee, president of the University of Colorado, suggest a wide range of possible roles for the library and librarians on campus. They spell out the ways academic administrators can promote this active role for the library and librarians and cite examples from a number of colleges or universities.

The concept of information literacy underpins their vision of an extended role for libraries and librarians, particularly the role of libraries and librarians in reforming instruction. To meet the educational challenges of today’s information society, colleges and universities must transform education into “active and integrated learning” that produces the “self-directed, lifelong learner.” Breivik and Gee believe that self-directed, lifelong learning is possible only for those who are effective consumers of information; that is, those who are information literate; and it is the library and librarians that are uniquely qualified to play a role in that process.

In addition to envisioning the library and librarians as critical to reforming instruction, Gee and Breivik promote and describe a significant role for the library and librarians in three other areas—increasing the productivity of researchers, serving the community, and supporting university administrative needs. The authors provide the background to enable the university administrator to act effectively to involve libraries in these areas. They succinctly summarize the current issues in library operations, and then highlight issues of people, technology, and funding for the wide-ranging library activities recommended. Gee and Breivik reiterate two key elements for the success of their vision: the necessity for a partnership between the library director and the academic administrator and the necessity for any expansion in the role of the library to support the university’s objectives and mission.

Perhaps because of the authors’ emphasis on advocacy, this book is not as carefully argued as one would wish. Breivik

This book is a final report of an eighteen-month study funded by the British Library. It was completed in September 1987. An interim report has been previously published under the title of Online Searching: Its Impact on Information Users (Mansell, 1987). The stated goal of this project is to examine the effect online systems are having on information-seeking behavior among those nonlibrarians who perform their own searches in Great Britain. What it has accomplished is no doubt valuable, but more modest.

Given the immense scope of the project, an eclectic approach was adopted to gather the necessary information. The research team employed surveys, interviews, case studies, analysis of two mailings of questionnaires administered for management purposes, and literature reviews where it deemed appropriate. The project population eventually included the newspapers, broadcasting media, financial institutions in the City of London, academic departments in the universities and Gee often rely on unsupported generalizations to advance their cause. Many of these seem to exaggerate the importance of the library to scholars across the board and, therefore, are at odds with this reviewer's experience as well as with a number of scholars' descriptions of how they work. Although the reader may not necessarily be converted to the authors' panoramic vision, many of the points they make and ideas they present are valuable, and their book serves as a guide to action, both for the academic officer at whom it is directed, and also for the librarian who wants to involve academic officers effectively in achieving the library's goals. Few of the ideas are likely to be completely new to librarians, but their presentation from the viewpoint of the academic administrator provides a number of fresh insights.—Melissa D. Trevvett, University of Chicago Library, Illinois.
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and polytechnics and industry as represented by several chemical and pharmaceutical concerns. This ambitious repertoire was hampered by a number of methodological and conceptual difficulties.

To begin with, since judgment samples were usually chosen; to use the authors’ own words, they cannot claim that their findings are “representative” but rather “indicative.” Second, in spite of its focus on end-use, the majority of the research was done through the eyes of the information intermediary such as the online specialists, who the authors described as possessing “an imperfect knowledge of online use.” Neither economy nor the librarians’ willingness could justify this approach. Such treatment is analogous to researching a physician’s diagnostic behavior through a survey of nurses; it is just not as reliable as would be a direct evaluation. The fact that the research team explicitly excludes CD-ROM technology also weakened its relevancy. The shortcoming of this omission was revealed time and again through all the case studies where conversations always led to the emerging optical storage technology. The respondents, according to this report, frequently expressed their interests in this new medium and yet this concern was considered to be outside of the present study.

The strength of the present study lies in the pioneer nature of this comprehensive yet empirical treatment of the topic. Useful and concrete conclusions regarding the current state of online practices and the future of end-use in Great Britain were offered. Based on the evidence provided, information consumers such as journalists and researchers have adapted very little of their work habits to take advantage of online information systems. End-use in British higher education was sporadic; financial and investment personnel were found more accustomed to the real-time systems (in the mode of the traditional telex machines) for quotes and statistics; and journalists their telephones and their library of newspaper clippings. In the final analysis, the end-users’ reluctance is partly attributable to the imperfection of the available databases. Be it full-text or bibliographic,
online systems are not comprehensive and up-to-date enough, and where retrospective materials are concerned, they do not go back far enough. The readers were also advised that adequate training for beginning users was essential to overcome initial resistance. More importantly, unless library professionals become more aggressive and more involved in the planning and implementation of online projects, they would increasingly lose control over online services in their organizations.

It is regrettable that little attempt was made to pull all the data together across the wide spectrum of applications. However, readers would be impressed and amused by the descriptions of many intimate case studies, notably the newspaper industry. I believe more can be gleaned from these interviews, and more interviews should be attempted. The reproduction of the research team’s interview schedules or questionnaires would have improved the overall quality of the report.

While data in percentage format, lists and charts were occasionally provided, the current study was mainly qualitative in nature. Examples of imprecise language and irrelevant editorializing are too many to mention. The following example is illustrative: When an information manager was cited as having suggested that the low demand of a certain legal database was due to a lack of perseverance on the part of the end-users, it was gratuitously introjected that this intermediary “runs half-marathons and, this, no doubt, influences his thinking!” This detailed study calls for a better focus and self-discipline.—Sidney Eng, Borough of Manhattan Community College, the City University of New York.


The freedom to write is worth protecting in any democratic society. Writing reflects the culture and the generation of each writer. The profligation of books about writing bodes well for this decade. Along
with Writer's Market and Literary Marketplace, we now have Fiction Writers Guidelines.

As the title suggests, this resource is a collection of guidelines reprinted directly from the editors of a representative collection of large, small, and genre magazines, both commercial and literary, that use fiction of any kind. The range includes guidelines for Hustler, Isaac Asimov's Science Fiction Magazine, Humpty Dumpty's Magazine, for children, The James White Review, a gay men's literary quarterly, and Jive, for a black audience, as well as the usual variety of little and literary rags, children's, women's, and animal-oriented magazines.

The editor, Judy Mandell, made a fair and judicious choice among the many titles available. Her inclusion of such men's magazines as Hustler along with the radical feminist litrags Sinister Wisdom and Calyx, and Evangel along with The Young Judean and Danish Brotherhood of America, shows an adroit diplomatic skill in creating a balance among a variety of tastes and ethnicities among writers, as well as readers. Her choices show a sensitivity to and an awareness of American culture in the 1980s.

That the collection includes several titles for blacks, gays and lesbians, and feminists indicates that these groups are finally being taken seriously, economically and creatively. All the guidelines want stories that show their group in a positive light.

When any group has a magazine dedicated to their advancement, it shows that such a group has made strides into the society, economically because they can support a magazine, creatively because they have found the necessary space in which to write and publish fiction that knocks down stereotypes and gives outsiders an entree in a world they might right really inhabit.

The variety and diversity of magazines available in this country is clearly indicated here. However, the common thread running through all these guidelines is the need for good writing that represents each specific audience. Writers seem not to look at the magazines they submit to first, nor do they seem to read enough good contemporary writing to know what that constitutes.

Although Fiction Writer's Guidelines includes only 200 sets from the vast number of titles available, and is therefore not as complete as comparable titles, it is representative of the magazines currently being published in this country, and gives anyone connected with the field an insight into what the editors want.

The guidelines contained in this selection will give those who would learn how various groups and people with ideological orientations go about inventing and defining themselves, an unusual perspective.—Jori Ranhand, New York, New York.
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ready art will be returned to the author(s) after publication.

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Manuscripts received are given an initial review by the editor, and those selected for further review are submitted to at least two readers, generally from members of the Editorial Board. Names of authors are removed from the manuscript, and thus author identification should be on the first page of the manuscript only. Insofar as possible, other items in the manuscript that identify the author (e.g., a bibliographical reference) are blocked out by the editor prior to submission for formal review.

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PUBLICATION

If accepted for publication, the manuscript is generally published from six to nine months after acceptance (depending on the supply of accepted manuscripts). The manuscript will be edited to conform to the style of the journal, and the editor may offer recommendations to the author on changes to make.

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Readers are invited to comment on articles in the journal through letters addressed to the editor. It is recommended that such communications be as short as possible and no longer than 200 words. All letters should be typewritten, double-spaced. A letter commenting on an article in the journal is shared with the author, and a response from the author may appear with the letter.

REVIEWS

*College & Research Libraries* includes reviews and listings of new publications of interest to academic and research librarians. Publishers are invited to send review copies of their publications as well as announcements to the editor-designate (Gloriana St. Clair, William Jasper Kerr Library, Oregon State University, Corvallis, OR 97331).

Readers wishing to review books for the journal are invited to write to the editor indicating their special areas of interest and qualifications.
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Prepared by Eldon W. Tamblyn

FILING
Filing is word-by-word

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Standard abbreviations are used except in titles. Names of some organizations, ALA, ACRL, LC, etc., are also abbreviated and are alphabetized as if spelled out.

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