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PAGE  CONTENTS

381  Editorial: Hard Choices

383  Research Libraries in an International Setting: Requirements for Expanded Resource Sharing
   by Richard M. Dougherty

390  Thinking Big: A Commentary on the Research Agenda in Academic Librarianship
   by Paul Metz

395  PR: The State of Public Relations in Academic Libraries
   by Vikki Ford

402  Academic Library Services: The Literature of Innovation
   by Judy Reynolds and Jo Bell Whitlatch

418  Circulation Service Desk Operations: Costing and Management Data
   by Pat Weaver-Meyers, Duncan Aldrich, and Robert A. Seal

435  Letters

441  Recent Publications

441  Book Reviews

452  Other Publications
Research Libraries in an International Setting: Requirements for Expanded Resource Sharing

Richard M. Dougherty

Resource sharing has expanded significantly in the past decade. While the benefits have been obvious, the mounting costs of lending and borrowing are causing serious concern. Higher costs and the physical deterioration of library research collections are likely to influence not only national but also international resource-sharing agreements. In this article the roles and structures of several European national lending systems are described. The purpose is to find useful models to guide future developments both at home and abroad. The author suggests that a new basis for measuring the performance of interlending systems needs to be established in order to ensure equity and to limit resource sharing to specialized materials that support the research efforts of faculty and doctoral students.

The fact that no research library can be self-sufficient has become universally accepted and explains in part why university librarians have devoted so much time and energy in recent years toward improving resource-sharing arrangements and interlending systems among libraries. Much progress can be documented, and librarians in most Western countries can point with justifiable pride to significant programs intended to facilitate national programs of sharing library resources. Programs such as the International Federation of Library Associations' (IFLA) UAP (Universal Availability of Publications) reflect but one of the current efforts to extend resource sharing beyond national borders.

Recent resource-sharing developments, though encouraging, have also surfaced issues that, if left unresolved, could lead to the gradual erection of restrictive barriers. I am referring to concerns such as the mounting costs of lending and borrowing and the growing evidence that the collections of research libraries are deteriorating physically. It should be a priority professional goal to forge agreements that will endure and will ensure the perpetuation of unfettered resource sharing among the Western world's research libraries.

Library resource sharing should not be taken for granted. It was not too long ago that many government officials and academic officers viewed such sharing as a substitute for building adequate research library collections. This behavior pattern was described by Jefferson, as he pointed out that in the postwar period interlending between libraries was widely interpreted as a synonym for library cooperation. One undesirable implication of this interpretation was the use of interlending as a prop by some institutions. Instead of being used as a means of temporarily sup-

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implementing the resources of a library in a positive manner to insure that the more specialized or infrequently used books at the fringe of a library's book collection development policy were available to its readers, too often the interlending system was used as a substitute for local ownership. In the United States this misapplication of the intent of resource sharing has actually inhibited the growth of some research libraries. One of my colleagues once expressed this philosophy as a "sharing of poverty." If carried to an extreme, one might speculate on how scholars would obtain research materials if all libraries deferred purchases, depending on the largesse of others.

The philosophy espoused by organizations such as the Research Libraries Group (RLG) clearly places resource sharing in a more appropriate perspective. RLG's goal is to insure that books at the margin of a library's book selection policy can be made available to readers. For example, at the University of Michigan a faculty member may receive material on the Basque language through RLG that would not otherwise be available. (RLG is a nonprofit corporation owned and operated by its members. The creation of RLG in 1974 was "an effort by research universities and independent research libraries to manage the transition from locally self-sufficient and independently comprehensive collections to a system of interdependencies that will preserve and enhance our capacity for research in all fields of knowledge and improve our ability to locate and retrieve relevant information.""

The contributions of IFLA's UAP program have sharpened the understanding of international agencies, library officials, and users of libraries to both the potential and the limitations of resource sharing. The concept behind the UAP program is straightforward. It seeks to achieve "the widest possible availability of published material . . . to intending users, wherever and whenever they need it." Although the overarching goal of the UAP program is unattainable, the concept has energized efforts to improve availability in a number of countries, and consequently its impact will nudge librarians closer toward the ideal of universal availability than otherwise might have been possible.

THE CURRENT SCENE

A review of recent literature reveals that resource sharing and interlibrary lending have expanded rapidly throughout the industrialized world. While the growth of interlending seems to be universally consistent, the structure of national interlending systems that emerged varies greatly from country to country. For example, in the United Kingdom the resource-sharing system is based on a central lending collection at the British Lending Library Division (covering all significant serials and reports and all significant recent English-language monographs), supported by a system of national and regional union catalogs and several large libraries.

In the Federal German Republic, the Deutsche Forschungsgemeinschaft organized in 1949 a supraregional system of literature provision based on two state libraries, four central subject libraries, fifteen university libraries, and thirteen special libraries. In the late 1950s seven regional union catalogs were developed; these provide access to the holdings of academic libraries in each region. The intention was to create a more equitable distribution of lending. In the 1950s and 1960s, every request had to pass through the nearest regional union catalog. Since that time, strict adherence to the regional protocol has given way to direct requesting. 5

In Sweden and Denmark the systems are essentially decentralized, although the Swedish system evidences some elements of centralization. Provision of loans to Swedish public libraries takes place through three interlibrary loan centers. Regional central libraries cooperate in planning the acquisition of special works. Advanced and highly specialized materials are provided by the ILL lending centers, and research libraries are involved only as a last resort. 6 In Denmark the system is based on a network of public libraries and on research libraries for some specialized subjects. 7 In the Netherlands one finds another type of structure. Union
catalogs are maintained by the Royal Library and the Technical University at Delft. Nonetheless, research libraries lend freely to others, and thirteen large public libraries provide regional support for scholarly literature in their respective regions.8

And finally, in the United States a network of more than one hundred research libraries cooperates in consortia such as RLG and OCLC, but resource sharing in the United States is largely decentralized. The diversity of systems that currently exists in the Western countries will have to be taken into account by those who plan future supranational programs of resource sharing and interlending systems. Planners will have to work within the organizational frameworks that currently exist.

Now, as we consider new approaches to international resource sharing, how can we build on the recent experiences of individual nations; which models are most appropriate to international resource sharing? This question is often raised in terms of operational effectiveness; but in the context of the international arena the questions of effectiveness may not be critical. Researchers have attempted to measure the effectiveness of various organizational structures, but no specific structure has shown itself to be superior under all circumstances.9 Furthermore, effectiveness alone is unlikely to convince a country to scrap or overhaul its existing system. Therefore, we can assume that any new international program of resource sharing must complement existing national or supranational plans.

Another problem to be considered is the fact that most national systems in western European countries are multitype library systems often dominated by public libraries. Research librarians cannot hope to restructure existing national interlending systems simply to accommodate their own needs. Again they will have to work within existing frameworks; nonetheless, it should be possible to accommodate the special needs of scholars if university librarians plan their programs carefully. In order to better understand the options available, it is worthwhile to review briefly some recent significant developments.

THE GOLDEN AGE OF RESOURCE SHARING

The impressive contributions of the British Lending Library and the more recent impetus provided by IFLA's UAP have already been cited. Less obvious, but also a contributing factor, has been the growth in the number and coverage of union catalogs in many countries. In the United States the most significant development has been the appearance of the automated interlibrary lending systems of OCLC and RLG. These systems, using records from databases containing over twenty million titles, provide information about the holdings of libraries, reduce the paperwork associated with interlending, speed up turnaround times, and enable librarians to monitor performance in a manner never before possible.

These advancements ushered in the "golden age" of resource sharing, and most librarians can point to these achievements with justifiable pride. But at the same time one should not ignore the danger signals that loom on the horizon. The heavy volume of interlending is straining the ability of many libraries to supply materials in a timely manner, and longer delays may become common along with the complaints of researchers whose expectations of performance are now higher than was previously the case. (Restrictions in transborder data flows could also prove to be a serious obstacle to international resource-sharing programs, but this article focuses on the sharing of publications and not the data that represent publications.)

The impact of the rapidly escalating volume of resource-sharing traffic has been very dramatic in the United States. First, the success in providing location information about publications stimulated levels of demand that has outstripped the ability of many libraries to deliver documents in a timely manner. This imbalance might be characterized as a collision of two eras: the technological age of bibliographical access colliding with the horse-and-buggy era of document delivery. Second, the heavy
volume of interlending coupled with on-campus use of collections is accelerating the physical deterioration of collection materials. The acid content of paper in many publications is rendering them too brittle for use, and some libraries are already restricting interlending or even local use of endangered titles.

The greatest threat to the continued unfettered exchange of materials, however, could be the dramatic increase in volume itself. Several years ago Frederick Kilgour analyzed the impact of OCLC on the lending activities of thirty-seven libraries located in the state of Ohio. Kilgour found that the lending rates of the small libraries had increased as much as 1,437 percent and in the largest libraries the rate, though much more modest, was an impressive 85.6 percent. Richard De Gennaro recently observed that the "rationale for free interlibrary loan no longer holds in the new, high-volume, and more demanding resource sharing environment that is being created by the successful computerization of the interlibrary loan location and communication functions through OCLC and other on-line networks." De Gennaro is an astute observer of the library scene and his cautions should be heeded.

PATTERNS OF COLLECTION USE

Let us for a moment consider the dynamics of collection use and how these factors influence resource sharing among research libraries. First, researchers have found that large segments of collections are infrequently used. This assertion is based on several well-known studies that found that about 20 to 25 percent of a university library collection will account for 80 percent of formal circulation within a given year. This pattern of usage also reflects the phenomenon identified by the Bradford-Zipf law.

A second dynamic of collection usage is highlighted by the data presented by Thomas Galvin and Allen Kent in what has become known as the "Pittsburgh studies." The work of Galvin and Kent suggests that even for a multiyear period, a sizable proportion of a research library's collection may not be used. Galvin and Kent's data showed that almost half of the collections in the Pittsburgh University libraries showed no evidence of formal lending over a five-year period. Although the specific findings of the Pittsburgh studies have been challenged by numerous researchers, most librarians do not challenge the central thesis that a sizable proportion of the collection showed little evidence of usage.

A third dynamic is that interlibrary lending accounts for a very small proportion of total lending activity in a research library, or conversely, roughly more than 99 percent of all lending is accounted for by intracampus activity. This pattern of usage has led some librarians to wonder whether there is a danger of spending a disproportionately large share of scarce resources to satisfy a very small portion of lending activity.

The University of California has committed millions of dollars to link its nine campus libraries through a union catalog. The objective of the university is to stimulate increased resource sharing. But even if successful, interlibrary lending/borrowing is unlikely to account for more than 2 percent of a campus library's total lending and borrowing. This points out an unmistakable irony that should not be overlooked. Libraries and their parent institutions appear willing to spend millions to double resource sharing from 1 to 2 percent of the total borrowing activity. But can the campus libraries afford to pay for the increased lending/borrowing traffic? Unrestrained interlending could add several million dollars in additional costs to services offered by the nine campus libraries. If the University of California libraries are expected to absorb these additional costs, other services such as reference, bibliographic instruction, and preservation would inevitably suffer. The California model sets forth the current dilemma most libraries face in attempting to balance the levels of service that librarians would like to provide against the economic realities of this period of fiscal constraint.

Rationalized interlending among re-
Research Libraries

Search libraries would be facilitated if each library carefully analyzed the dynamics of its current borrowing activity, identifying specifically which categories of publications are currently borrowed and for what purposes, e.g., work on thesis research. A sampling of interlibrary borrowing requests drawn from the borrowing transactions at the University of Michigan several years ago revealed a pattern of borrowing activities that probably typifies the patterns in libraries on both sides of the Atlantic. Most transactions fell into two distinct categories. In the first were the majority of requests, which included materials commonly held by libraries; these usually could be obtained more quickly and cheaply from a college library situated closer than the university to the requesting institution. In the second category were the requests for obscure journals, specialized monographs, and dissertations. These items are normally supplied by other large universities, national lending centers such as the British Lending Library Division and the Center for Research Libraries, or from the collection of a library in another country.

The difference in criteria one uses to judge the effectiveness of resource sharing is what distinguishes between these two categories. In the case of the commonly held materials, the customary indicators of performance are speed, cost per transaction, and reliability, whereas in the second category a higher premium is placed on retrieval than on cost per transaction. Although this writer is not able to assign precise proportions, he suspects that the vast majority of interlibrary borrowing traffic for all academic institutions falls into the first category and that only a minority of borrowing transactions truly requires the resources of national lending agencies or large research libraries.

If a specialized interlending system takes into account the way research library collections are normally used and the existing nature of interlending activities, it should be possible to create an effective and affordable interlending network that spans national boundaries. Thus the writer suggests that the research library community identify the categories of materials most essential to resource sharing among research libraries. These categories might include foreign dissertations, publications of the developing world, and publications commonly referred to as "gray" literature. Requests for journals and monographs easily obtainable from local sources should not be allowed to clog the channels of interlending, and thus these requests would be excluded through policy declaration.

NEW BASES FOR MEASURING PERFORMANCE

Objective assessment of existing interlending programs usually emphasizes how much is lent rather than evaluating what is lent. In a research library network, the emphasis might better be on what is borrowed rather than how much is lent. A philosophy that translates into "more is better" should give way to a philosophy that places emphasis on satisfaction rate, speed, and cost. Furthermore, in the context of research library consortia greater effort should be made to structure lending and borrowing policies so that each institution contributes its fair share to the effort. If, for example, long-term differences develop between lending and borrowing among consortium members, net borrowers have an obligation to reimburse institutions that are the net lenders, in other words, some mechanism to establish equity is necessary. The failure to strike an equitable balance may inevitably jeopardize any program that is based, not on equity but (although unintentionally) on parasitic relationships.

What conclusions can be drawn from the current state of affairs? Escalating costs, the growing concern over the physical deterioration of collections, and the limitations of document delivery need to be given prominent attention as the groundwork for national and supranational resource sharing is formulated. It should be possible to create effective interlending arrangements within the constraints cited if resource sharing among research libraries is designed exclusively to support the research efforts of faculty and
doctoral students. If resource sharing is limited to specialized materials—most of which fall into the category of unused or infrequently used materials (e.g., publications that often reflect a narrow focus of research, require specialized knowledge, or a language facility not widely held), then the volume of lending should remain at manageable levels. Thus the probabilities for the long-term success of resource sharing may be enhanced.

CHARTING A FUTURE COURSE

I will conclude this review by introducing briefly what may become the next major challenge to resource sharing and library cooperation: the coordination of collection development.

A recent survey reported by Judith Collins and Ruth Finer suggests there has not been a great deal of coordinated acquisitions planning on a national level. There have been exceptions such as the cooperative efforts funded by the Deutsche Forschungsgemeinschaft. In the United States considerable planning has been accomplished by RLG as evidenced by its collection conspectus project, but as yet very little coordinated collection activity has actually occurred.

Successful coordinated acquisition programs may elude libraries for many years. This type of activity, which seems so logical, raises a host of complicated political issues in the minds of faculty. National and institutional politics and the need for university librarians to respond to the requests of local constituencies are only two of the barriers to coordinated collection development that must be surmounted. For example, it would be difficult to explain to an irate historian why the library cancelled journals important to local historians but continued to subscribe to periodicals intended to support researchers at distant institutions. The goals of cooperative acquisition programs will be achieved only if we can alter the attitudes of those who use university library collections. The benefits of such cooperation must first be demonstrated before we can expect users to change attitudes and behaviors. And in order to demonstrate success, we will need funds earmarked specifically for the purpose of funding cooperative acquisitions.

Two recent conferences, attended by foundation officers, faculty, university administrators, and library directors, focused on the considerable challenge of cooperation in today’s political and economic context. The mandate exists to make materials available to scholars, but the necessary redefinition of cooperation has not been embraced nor the implications understood. Jim Haas describes the mandate as it was discussed at these conferences.

The principle of shared responsibility for building and maintaining comprehensive resources for research and the corollary of assured access by scholars to needed materials and information was assumed [by participants] without question. National distinction is the aggregation of institutional strength, and the issue for attention concerns the retention of strength in chosen areas by individual libraries in a setting of rising costs, growing quantities of recorded information in all forms, and dynamic demand. The key seems to be to create a national setting which will (1) provide more options for individual libraries, (2) provide access to more resources by more users, and (3) improve prospects for building and maintaining, nationally, unmatched resources for research.

Obviously the more difficult challenge will be to “sell” the consequences of this mandate, for it, to some extent, will require difficult decisions in determining the locus of collecting activity within a cooperative organization.

At the present time university libraries are trapped in a vicious circle. The ideals of cooperation are supported by the economic necessity but challenged by the political reality. We need the farsighted leadership of governmental officials and academic officers who are willing to follow the lead of the Federal Republic of Germany, which had the foresight to provide the incentives necessary to stimulate shared collection development as well as incentives for library users to accept a non-traditional approach to collection development among research libraries.

I believe the long range goal of univer-
University libraries in the United States and western European countries should be to enhance shared-collection development, expand bibliographic access, and provide efficient, affordable delivery of documents. To the extent these complementary objectives are met, we can gauge our profession's success at fulfilling the IFLA ideals of universal bibliographic control and availability of publications.

REFERENCES AND NOTES

1. For those not familiar with recent developments on the international scene, I can recommend the writings of Maurice Line, who has written extensively on the subject of interlending and resource sharing.
8. Briquet de Lemos, Descriptions of Interlibrary Lending in Various Countries and a Bibliography of Interlibrary Lending.
Thinking Big: A Commentary on the Research Agenda in Academic Librarianship

Paul Metz

Library-related research has not fully realized its potential, in part because of its narrow focus. A perspective that approaches the academic library from the patron's point of view may lead to better results. Fundamental questions with broad policy implications remain to be asked about our collections and their use, about costs, and about both the academic setting itself and the people who work within it.

New librarians dispute the potential benefits of library research. Research brings intelligence in both its meanings—as information about the environment, and as the application of wisdom and judgment to that information—to the task of libraries. One need not accept a faculty model for librarians in order to defend research: a look at the business world with its billion-dollar investments in product and market research should suffice.

Equally, few librarians will defend at length the actual benefits conferred by library research. Too often the same small issues have been reexamined in exacting methodological detail, imitating the social sciences at their worst. Alternatively, large issues are addressed ex cathedra, with little empirical substantiation. The result of these failures is a bimodal literature characterized at one extreme by the well done and trivial and at the other by relevant work that is merely anecdotal or hortatory.

The purpose of this essay is to refocus attention on substantive issues that can fully engage our best research efforts. I hope to emphasize the very good research, which has avoided both extremes described above, and to draw attention to possibilities for similar research in the future. The five areas in which I will discuss research that "thinks big" have little in common, but it may be notable that most of them represent the kinds of questions that outsiders, especially faculty and university administrators, tend to ask about libraries. This suggests that the key may be to forget a little of what we know in such detail and to step back so as to see our institutions from the outside.

LIBRARY COSTS

The dominant image of the library to academic administrators is often that of a cost center, a large factor in university overhead that consumes 2 to 5 percent of institutional resources while providing little instruction and less research. It is only natural that librarians' efforts to justify their budgets may lead them to regard cost reduction as an imposed agenda. Research on library costs has therefore been left chiefly to outsiders such as economists or accountants. This work has been generally competent, but even the best has inspired complaints that the techniques of li-

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brary processing have been misunderstood.¹

Research on all areas of costs is needed, from processing to reference assistance and document delivery. We need to know whether shared cataloging, participation in approval plans, and internal automation may be primarily justified on cost grounds, and, if not, what extra costs may be attributed to these activities. We need to know at what point large centralized libraries become so cumbersome that economies of scale give way to diseconomies of scale, if indeed there is a point at which this occurs.² Above all, we need cost attribution through the entire mill of processing, with special attention to the implications of key decisions on later outcomes. When selectors treat processing costs as an externality, as they almost invariably do, they tend to procure more esoteric materials for which cataloging costs are far higher. We need to know the costs associated with this practice before we can evaluate it.

In some cases, it is not the financial consequences of cost-motivated behavior that we need to know, but the service implications. For example, even if we can determine the savings associated with minimal-level cataloging, we can hardly make intelligent decisions without knowing the value to patrons of the access points normally omitted in minimal records and the resultant (admittedly intangible) costs of such omissions.

LIBRARY USE

Twenty-four years after the classic study by Herman Fussier and Julian Simon, we still don’t know enough about use, and what we do know still has had little effect on practice.³ Nearly everyone recognizes the 80/20 rule, but few practitioners can identify the materials that make up the “twenty,” either in their own libraries or more generally. One implication of my own research is that because they depend so heavily on the makeup of a campus community, use patterns across subjects may vary widely from one institution to another.³ This limits the generalizability of “bottom line” statements about use, suggesting that libraries that desire detailed and accurate data on collections use will have to do their own studies.

Even where we have relatively clear findings, our research is not as useful as it might be. There is considerable evidence that journal use is highly concentrated and that citation data have some value in deselection decisions. There is less evidence that this has affected practice. In part, this may have occurred because the research has been conducted largely by nonlibrarians.⁵

Traditional questions about use—what is used or not used according to subject, format, age, and language—have received useful answers. But we still know less than we should about how intensively patrons will use materials in alternate formats such as videotape. We also do not know how microformats affect the use of journals and other materials. The point has been made that special collections, especially those that contain no significant materials of more than local importance, have associated costs that exceed the benefits obtained, but we have no empirical basis on which to evaluate this argument.⁶

Likewise, the profession has been slow to investigate far more interesting and rewarding questions. For example, integrated systems with full information on the status and discipline of borrowers open up exciting possibilities for telling us who uses what. Although the answers have profound implications for the grouping of collections and services and for other policy outcomes, I know of only three research projects of this type. None has been able to exploit fully the potential of the MARC record.⁷ I have indicated elsewhere the research that remains to be done in this area.⁸

LIBRARY COLLECTIONS

We don’t know very well what we have or how our collections relate to one another. Experienced librarians understand why outsiders are naive if they expect us to perform inventories, but it is only in the past few years that real progress has been made in describing our collections in more summary, and more useful, ways. The current activity in describing collections
via the Research Libraries Group (RLG) Conspectus and via overlap analysis is encouraging, and one hopes that such progress will continue.

Yet, overlap analysis will be merely a fad of interest only to bibliometricians unless librarians understand the policy implications of such research. Hendrik Edelman shows an appreciation of these implications when he tells us that his faith in cooperative development is reduced by the realization that the large collections in any area do not begin to cover their fields comprehensively. Sarah Thomas demonstrates the potential of overlap analysis by using it to discover how many of the Center for Research Libraries' periodical titles are held by enough other libraries to call into question the center's role as a backup resource for those titles.

Related to the issue of collection overlap is the necessity of describing the political economy of interlibrary loan, or the net direction and proportion of lending traffic. Planning for networks and other cooperative ventures requires an understanding of this traffic in the typical case and in special cases such as Illinois, where planned interlibrary loan programs have greatly altered the total volume, the proportions between net lenders and net borrowers, and the transaction costs. Since overlap studies have shown many unique holdings in small collections, the means may be found to reduce greatly the disparities between net lenders and net borrowers.

HIGH EDUCATION

Are academic libraries large public libraries that happen to be located on campuses? Too often the literature of academic librarianship treats them as such. While the literature on bibliographic instruction has necessarily been sensitive to the respective roles of teaching faculty and librarians in the educational process, this sense of context is absent from research in other areas.

We need to pay equal attention to how librarians and other actors interact in library funding. We also need a better description of the informal ties that exist between librarians and faculty below the administrative level. We need research on the composition and role of university library committees and of search committees for library directors. We need to track changes in reporting structures now that a number of directors no longer report to the academic side of administration but rather to "information czars." For public institutions, system-wide library advisory committees have become significant forces in the environment, but this role has been all but ignored.

LIBRARY USERS

While we need to study higher education as an institutional and administrative setting for our work, we also need to learn more about the behavior of individuals as they pursue research and instruction. Many user studies have been conducted, and many are rich in their implications about what we do. The many studies on user frustration done in the 1970s are an example of one of the best themes of this research, in terms of both the quality of the work itself and the significance of the conclusions. But here too, our focus has been highly selective. We have studied only certain user behaviors, those that occur inside the library itself.

An obvious question—and a good example of one that is particularly obvious to outsiders—is how changes in academic research have affected needs for library resources. Charles Osburn's analysis of academic research—showing its increasing quantification in all fields, the drift in critical theory away from textual and historical problems toward sociological analysis, and an introspective critical theory that becomes an object of study in itself—should not be the only study we have that ties such large issues to questions of collection development.

Beyond Osburn's question of what it is that scholars care to know, we should be more curious about how scholars work in and out of the library. Stephen Sloan has carefully assembled scattered parts of our literature that suggest that scholars do not and will not rely heavily on the access tools we champion. Sloan argues instead that scholars' reliance on one another and on the self-indexing character of specialized literatures make them dubious about...
the potential of use instruction to convey a realistic notion of how libraries can best be used. His study is another example of work that should not hold the solitary place in our literature that it does.

Curiosity about how researchers work should not be limited to the possibilities of traditional library research. All around us, activity progresses toward the "scholar's workstation," which will furnish in one place some combination of the following capabilities: access to local and remote databases; electronic mail both on campus and, through such facilities as EDUNET, beyond the campus; text editing, including the editing of results downloaded from bibliographic databases; numerical processing capabilities through tie-ins to mainframe computers; personal scratch pads; electronic bulletin boards; and automated scheduling. Which of these capabilities will really be wanted when economic realities dictate that choices be made, and which data resources will be most needed? Of all the examples where technology may be transferred to libraries without due regard for what makes the library unique, this is perhaps the most urgent.

Not the least important thing we need to know about our users is how they think, especially with regard to the retrieval of information. The more closely the structure of library thesauri can reflect the cognitive processes by which humans encode, organize, and store information and the symmetrical strategies they use in attempting to retrieve it, the better these thesauri will work. Here we should enlist the assistance of psycholinguists. Suzanne Najarian's 1981 review of research on how human memory depends on hierarchical principles of organization, and on the implications of this finding for controlled vocabularies, is the third example I wish to cite of an item in our literature that should not be an isolate.

CONCLUSION

What do libraries have? Who uses them and how do they approach them? These large questions occur to faculty and administrators who are interested in libraries but are not obliged to consider library routines. Because they can break such global issues down into tractable research questions to which they can bring data, librarians can address such issues without excessive generality and platitude. By bringing what we know best to the concerns that occupy our clientele, we can move library research away from its extremes and can discover a middle ground of important questions that can challenge our best researchers.

REFERENCES

This article presents an overview of current public relations (PR) efforts in academic libraries. The results of a survey on the use and effectiveness of PR programs offer a series of interesting findings. The responses show that PR is regarded as important and can be effective in helping academic libraries to reach targeted audiences.

A library is not a luxury, but one of the necessities of life.—H. W. Beecher

Beecher's statement is particularly true in the United States, yet our libraries today are beset by the same budget shortages that threaten many other vital public service agencies.

Faced with financial woes, librarians have joined representatives from other types of institutions across the nation in telling their stories through public relations (PR) as a means for increasing public awareness of and support for their services. A review of the literature on library PR suggests that public libraries adopted this response to financial problems long before academic libraries. However, no surveys have been conducted to gather statistics that would support or refute this assumption.

In 1979 library PR consultant Alice Norton found only three college libraries with full-time PR positions. This situation may have reflected legislative restrictions against funding PR positions or campus structures assigning responsibility for academic library PR to existing public information offices.

In 1981 Sally Brickman cited three reasons for academic libraries to reach out for public attention: (1) to inform users about collections and services; (2) to demystify academic libraries and make them more user-friendly; and (3) to generate funding to meet the skyrocketing price of books and journals during a period of budget cutbacks.

Libraries are often considered the heart of the university. Even so, many campus communities are unaware of their library's resources and fail to challenge its potential. Citing the combined need to provide better user information, to build a positive image, and to project that image to users and potential support groups, Carroll urges academic libraries to join the communications era of the 1980s.

To fill the information gap surrounding library PR programs, a survey was conducted to characterize and determine the scope of the current state of academic library PR. Forty-eight library directors at universities with student enrollments of nine to twelve thousand were surveyed. A
questionnaire was designed to determine
• If the library had a PR program
• What elements comprised the program
• Who was responsible for its operation
• How effective it was
The conclusions of this study are based on
the results of the survey and a review of
the literature.

REVIEW OF THE LITERATURE
Two major tasks that face libraries today
are informing users of the resources avail­
able and maintaining adequate financial
support in the face of inflation and budget
cuts. Both require solutions to communica­
tion problems that result from out­
moded stereotypes of libraries as musty
storehouses for ancient tomes of little
interest to anyone except historians.

Academic librarians may no longer take
for granted the existence of a built-in sup­port group in the university structure. In
fact, most librarians recognize that li­
braries have no raison d'être unless they
are used. This has led to the increasing uti­
lization of marketing surveys as a basis for
matching library services to user needs.

Today, it is generally acknowledged
that academic libraries must join the PR
trend started by public libraries. Increased
public understanding of the mission and
value of academic libraries is important for
maintenance of quality higher education.
To increase this understanding requires
communicating effectively the role of the
library to the academic community—to
professors, students, and administrators,
as well as legislators and the general pub­
lic.

Ironically, part of the reluctance to use
PR in the competition for public attention
and funding comes from that very lack of
funds. PR programs cost money and in­
stitutions coping with a shortage of funds
often are unwilling to part with money for
items not viewed as necessities, such as
PR.

To understand PR’s history in academic
libraries, it is helpful to view the stages all
institutions go through. Daniel Carroll
calls this process organizational aging.
During their early years, organizations
are concerned with image and audience
appeal because acceptance means sur­vival. During this stage, considerable em­phasis is placed upon effective communi­cation with the public.

During the middle years, following the
initial period of success and rising con­fidence, public relations efforts tend to de­crease. Only a limited number of market­ing surveys are conducted and few user
education and information programs are available. But organizations communi­cating inadequately during these years will
find themselves on the defensive later,
fending off threats to their existence be­cause they have lost touch with their audi­ences.

Academic libraries appear to fall into the
category of elderly nonprofit organiza­tions whose value to society has not been
questioned in the past. Now, however, li­
braries, universities, and other educa­
tional facilities face mounting criticism.
Their role and value in a complex,
information-oriented society often is mis­
understood or underrated.

Whether academic libraries are middle­aged or elderly, their PR efforts appear to
have increased in recent years. Literature
devoted specifically to academic library
PR was nonexistent ten years ago. Since
then, the topic has received some atten­tion, although most books are devoted to
public library PR programs with only an
occasional chapter on academic libraries.

Recent articles recommend that PR ef­
forts should begin with and receive the
commitment of library administrators.
Directors are instrumental in gaining sup­port from all library personnel for the PR
effort and in developing understanding
and support for library goals among col­
lege officials and influential community
leaders. Thus, the director acts as the pri­
mary salesperson for the library and for its
PR program.

Of all user groups, teaching faculty are
perhaps the most vital. Faculty under­
standing of library resources and services
will have the greatest impact on their own
and student use. Alsmeyer outlined
methods for reaching faculty and commu­nicating vital information; these include
personal contact and the use of print and
broadcast media. He encourages use of
two-way communication with all user
groups to help stay in tune with their
needs. In spite of an increase in literature ad-
dressing the need for academic library PR
programs, little research could be found to
show whether college librarians agree on
the need for such programs. In 1977, Vre-
cenat conducted a regional study of 424 li-
brary PR programs, 16 of which were in
academic libraries, and commented that
few academic librarians participated in the
study and that many seemed unaware of
the possibilities available.

More recently, Frank Wylie, director of
public affairs at California State University
and ex-president of the Public Relations
Society of America (PRSA), completed a
national survey of library PR programs.
The results were presented at the Ameri-
can Library Association’s 1983 Annual
Conference in Los Angeles.

Academic libraries composed 34 percent
of the population of this study, which gen-
erated a 50 percent response rate. Results
show that public libraries are three times
more likely to have PR programs than aca-
demic libraries. The other results of the
study did not distinguish between aca-
demic and public libraries, but a review of
the statistics gathered gives a general pic-
ture of library PR today.

Of all libraries surveyed, 58 percent
have PR programs. More than two-thirds
of those programs were coordinated by li-
brary staff rather than through outside
sources or agencies. The survey did not
ask whether library staff meant PR profes-
sionals or librarians.

While 90 percent of the programs had
management backing, only 19 percent of
the respondents claimed to have a formal
PR program. Existing programs focus
two-thirds of the PR efforts on external
communications and one-third on inter-

Two major problem areas in library PR
programs emerged from this survey: ade-
quate planning, i.e., designing activities
to reach targeted audiences with specific
information, and evaluation of results.

Commenting on the survey results,
Richard Sweeney, director of public li-
braries in Ohio’s Columbus and Franklin

PR: The State of Public Relations 397
counties, said libraries need professional
PR practitioners.

Wylie’s review characterizes PR pro-
grams as being in the toddler stage in pub-
lic libraries, but still in their early infancy
in academic libraries. To provide direction
for current programs and future research,
more information on the number of uni-
versity libraries having PR programs
would be useful. Determining the amount
of interest in the topic and the problems
now being experienced will provide a ba-
sis for future research.

THE STUDY

For this study of the state of academic li-
brary PR, forty-eight state university li-
braries were surveyed. All receive state
and federal funding and have student en-
rollments between nine and twelve thou-
sand.

A questionnaire was designed to deter-
mine what elements academic library PR
programs have in common, who adminis-
ters them, how long they have existed,
how effective they are, and what the
results have been. These questionnaires
were sent to the directors of the forty-eight
academic libraries chosen. The results
necessarily reflect administrators’ opin-
ions on the usefulness of the programs.

Forty-one of the forty-eight directors re-
sponded. This resulted in a response rate
of 85 percent, extremely high for any sur-
vey.

Responses confirmed that planned PR
programs are still new to academic li-
braries. Only one administrator has had a
program for more than fifteen years
(thirty-three years). Three have had pro-
grams for more than ten years (eleven,
twelve, and fourteen years).

The rest fell below the ten-year mark,
with most indicating they never had a
planned PR program administered by one
person.

Of those who do, four are one year old,
four are two years old, two have existed
for five years, and four for ten years. It
may be assumed that the twenty who did
not respond to this particular question do
not have planned programs assigned to
one person or did not understand the
question (see table 1).
TABLE 1
PLANNED PR PROGRAMS ADMINISTERED BY ONE PERSON

<table>
<thead>
<tr>
<th>Years Program Has Been in Existence</th>
<th>Number of Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>13</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td>33</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>31</strong></td>
</tr>
</tbody>
</table>

*Ten respondents to the survey did not answer the question from which these data are derived.

The majority use library-trained staff and campus information offices, often in combination, to perform PR tasks (see table 2). Only five use staff with backgrounds in journalism or PR. Twenty-seven use “other library staff,” twenty-three use the campus information office, and eighteen use the two in combination.

Of the six “other” answers, two use committees, one depends on the director, another on both the director and assistant director, and two said their programs do not depend on one person or are not coordinated.

The favored channels of communication are through displays, exhibits, and posters, with thirty-six of the forty-one using these methods. Next in priority order are press releases, courses in using the library, complaint boxes or boards for library users, in-house publications, slide/tape shows, and receptions honoring faculty and donors (see table 3).

More direct forms of communication with targeted audiences, such as employee, faculty and student newsletters, speakers for community groups, radio and television, and interaction between library staff and Friends groups, are used less frequently. The five who checked “other” did list more personal forms of contact for targeted groups. One arranges monthly lectures by out-of-state guest speakers in the library. Another has tours, workshops, and speakers in the library, while two others listed informal coffees and memoranda to department chairs.

One library indicated a good response to a series of informal receptions for groups of community leaders. The first was designed for lawyers, and more receptions, as well as follow-up activities with interested guests are planned.

Overall, academic library PR programs were considered “very important.” This is particularly true when programs are for the purposes of informing users, increasing use, improving the image of librarians on campus, generating financial support, and increasing the library’s budget. Forestalling criticism of the library and recruiting first-rate library faculty and staff were rated low. Few rated PR programs as “not important” in any of these categories, although recruiting staff was rated the most unimportant purpose (see table 4).

Thirty-three academic library directors view their PR programs as “moderately” effective; only five rated them as highly effective, and two stated that their programs are not worthwhile.

Directors who gave high ratings to their programs commented as follows:
- “We’ve raised over $350,000 this year on our own. Good PR helped greatly.”
- “Our PR program has resulted in in-

TABLE 2
COORDINATED PR PROGRAMS

<table>
<thead>
<tr>
<th>Number of Libraries</th>
<th>Who Coordinates PR Program?</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Staff member trained in journalism and/or public relations</td>
</tr>
<tr>
<td>27</td>
<td>Other staff member in the library</td>
</tr>
<tr>
<td>23</td>
<td>Campus information office</td>
</tr>
<tr>
<td>18</td>
<td>Combination of library staff and information office</td>
</tr>
<tr>
<td>6</td>
<td>Other</td>
</tr>
</tbody>
</table>
TABLE 3

FAVORED CHANNELS OF COMMUNICATION IN PR PROGRAMS

<table>
<thead>
<tr>
<th>Number of Libraries</th>
<th>PR Program Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>36</td>
<td>Displays, exhibits, posters</td>
</tr>
<tr>
<td>34</td>
<td>Press releases</td>
</tr>
<tr>
<td></td>
<td>34 = campus-wide publications</td>
</tr>
<tr>
<td></td>
<td>34 = local newspapers</td>
</tr>
<tr>
<td></td>
<td>1 = state and national publications</td>
</tr>
<tr>
<td></td>
<td>12 = specialized publications (library journals)</td>
</tr>
<tr>
<td>33</td>
<td>Courses in using the library</td>
</tr>
<tr>
<td>28</td>
<td>Complaint box or board for library users</td>
</tr>
<tr>
<td>24</td>
<td>Other in-house publications (information leaflets, brochures, etc.)</td>
</tr>
<tr>
<td>21</td>
<td>Slide/tape or film presentation on the library</td>
</tr>
<tr>
<td>21</td>
<td>Receptions honoring faculty or donors</td>
</tr>
<tr>
<td>19</td>
<td>Newsletter designed specifically for faculty</td>
</tr>
<tr>
<td>18</td>
<td>Speakers from library staff to the community</td>
</tr>
<tr>
<td>18</td>
<td>Employee newsletter</td>
</tr>
<tr>
<td>13</td>
<td>Speakers from library staff on radio or TV</td>
</tr>
<tr>
<td>12</td>
<td>Public service announcements (PSA) for radio or TV</td>
</tr>
<tr>
<td>11</td>
<td>Friends of the Library program</td>
</tr>
<tr>
<td>5</td>
<td>Regular column in student newspapers</td>
</tr>
<tr>
<td>3</td>
<td>Newsletter designed specifically for students</td>
</tr>
<tr>
<td>1</td>
<td>Paid advertising</td>
</tr>
<tr>
<td>5</td>
<td>Other</td>
</tr>
<tr>
<td></td>
<td>Monthly lectures by out-of-state guest speakers</td>
</tr>
<tr>
<td></td>
<td>Informal coffees</td>
</tr>
<tr>
<td></td>
<td>Memoranda to department chairs</td>
</tr>
<tr>
<td></td>
<td>News stories in student newspapers</td>
</tr>
<tr>
<td></td>
<td>Tours, workshops, and speakers in the library</td>
</tr>
</tbody>
</table>

TABLE 4

IMPORTANCE OF ACADEMIC LIBRARY PR

<table>
<thead>
<tr>
<th>Points</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>110</td>
<td>Help library users by informing them of services, hours, etc.</td>
</tr>
<tr>
<td>100</td>
<td>Generate more use of services and collections</td>
</tr>
<tr>
<td>98</td>
<td>Make library faculty and staff more effective by strengthening their image on campus</td>
</tr>
<tr>
<td>86</td>
<td>Generate private financial support</td>
</tr>
<tr>
<td>82</td>
<td>Generate increased library budget</td>
</tr>
<tr>
<td>72</td>
<td>Forestall criticism of the library</td>
</tr>
<tr>
<td>62</td>
<td>Attract and recruit first-rate faculty and staff</td>
</tr>
</tbody>
</table>

Increased budgets, has protected funds during state-wide freezes in spending. It has made possible the purchase of more than 100,000 books in the last 10 years."

- "Value received for dollars expended is very high. Very difficult to allocate optimum amount of financial support for this purpose. Competing demands for dollars prevent realizing full PR potential."

Those who rated their programs as moderately effective (see table 5) agreed that one of the major problems is lack of funds for PR staff:

- "Value of regular program is great, un-
fortunately it is very hard in the face of budget reductions to manage consistency.''

• "It is of great value in the library. Unfortunately, we don't have the personnel and resources to do much."

• "I believe PR programs are becoming increasingly essential parts of a library's program of activities."

• "We have too small a staff to assign the PR function to a single individual. Therefore, the burden falls on the director to prepare most of our press releases, newsletters, etc."

• "I am not aware of any academic library of any size with a coordinated PR program with a specially assigned staff member to carry out the program."

One director cautioned that PR should not promote services beyond the capacity of the library. Another stated that more is being done than in previous years, and still another expressed hope of doing more in the future.

CONCLUSIONS AND RECOMMENDATIONS

Three important trends surfaced in this study.

First, of the forty-one respondents, forty said their academic libraries are conducting some form of publicity, but less than half (seventeen) reported planned PR programs assigned to one person.

Second, the majority (thirty-three) see their programs as only moderately effective.

Third, the extremely high response rate seems to indicate high interest in PR programs among academic librarians.

While academic librarians are becoming more interested in PR programs, they have not adopted them wholeheartedly. From the comments, it seems that the reason for this is lack of funds for PR staff and programs, yet one of the most highly rated programs raised $350,000 in one year. The time has arrived for academic librarians to take a leap of faith. If partial PR programming is meeting with "moderate" success, academic librarians, to gain the most from their efforts, ought to seriously consider implementing complete, planned programs with professionally trained PR staff.

A planned program consists of four basic steps: (1) research into the particular communication needs of the library, (2) planning the most effective methods of meeting those needs, (3) communicating selected information to targeted audiences, and (4) evaluating each step's success in the PR program.

Planned programs insure that PR efforts are not wasted. Specific audiences are targeted, messages are sent directly to them, and results are evaluated so adjustments can be made to perfect the programming.

Public relations experts recommend emphasis on direct communications with targeted audiences. The personal touch should be used whenever possible for the best results. Whether or not academic libraries can afford a full-time PR professional, it is recommended that more effort be spent improving methods of communicating. By borrowing the best from the best, academic librarians can adopt PR programs that have been proven effective.

Effective academic library PR programs include communicating with employees, faculty, and students. Speakers sent into the classrooms and the community could also appear on radio and TV. Emphasis on Friends programs, receptions, and coffees may have more influence toward getting targeted audiences involved in academic libraries than any number of displays and news releases, although the latter should not be eliminated. Direct mail campaigns also have proven highly effective.

Good evaluation techniques improve the efficiency of PR efforts, insuring that precious time and money are not being wasted on fruitless activities. Evaluation techniques may be as simple as mention-
ing a book title in a campus newspaper and tracking the increase in demand. More complex methods compare donations from Friends and other community groups before and after specific campaigns.

If this survey accurately reflects changes over the past four years, then interest and activity in academic library PR have increased since Alice Norton discovered only three college libraries with a PR staff person.

But the greatest benefits are yet to come. With continued administrative support, trained PR professionals, planned programs, thorough evaluations, and more sharing of successful ideas and activities, public relations can help resolve some of the financial dilemmas faced by academic libraries.

REFERENCES

3. Ibid., p.337.
4. Ibid., p.337.
6. Ibid., p.137.
Academic Library Services: The Literature of Innovation

Judy Reynolds and Jo Bell Whitlatch

Innovation has the potential for increasing the effectiveness of information service. As a result of this interest in innovation, organizational theorists have begun to explore the effect of organizational design upon flexibility, creativity, and productivity of organizations. A review of existing literature, however, provides no comprehensive theory of organizational innovation. Research on organizational design and innovation in libraries could contribute to the systematic study of the impact of organizational structure. Studies by Howard and Luquire indicate that traditional library organizations may inhibit change as well as the reexamination of values and service. Further study is needed to determine how libraries can most effectively manage innovation in the rapidly changing environment ahead.

Concern over the future role of libraries is a constant theme in the library literature. The loss of a stable environment, such as declining budgetary support and rapidly changing information technology, has resulted in substantial interest in the planning and evaluation of library services. Libraries have borrowed from business theory and practice in designing, planning, and evaluating programs; but an area in business theory that has received relatively little attention is innovation in organizational design and its influence upon organizational adaptation and survival. Innovation has come into fashion within the last decade. As with all fashionable trends, it is advisable to ask, "Is innovation necessary?" and "Is innovation good?" While it is foolish to argue that all innovation is beneficial, or that continual change for its own sake is desirable, reports in the business literature provide evidence that innovation is often essential for survival. Librarians must read and use the literature of innovation as well as that of planning and evaluation if libraries are to survive in increasingly unstable times. The literature on innovation and organizational design has the potential for assisting libraries in providing effective information services in the rapidly changing environment ahead.

Several interesting studies on organizational innovation have been completed in the past two decades. Although the findings have improved our understanding of innovation, there is not yet a comprehensive theory. Innovation has been difficult to define. Gerald Zaltman's definition is commonly used in studies: "any idea, practice, or material artifact perceived to be new by the relevant unit of adoption." Other commonly accepted definitions are "the adoption of means or ends that are new to the adopting unit" and breaking away from established patterns. Lawrence Mohr uses Zaltman's definition but specifies that it must be limited to a successful introduction of an idea or practice that has been accepted and implemented by the organization. Thus he distinguishes between invention (bringing...
something new into being) and innovation (bringing something new into use). Raymond Radosevich suggests that innovation involves major realignments of human, financial, and physical resources of the organization. This is similar to Jerald Hage’s definition of “radical” innovations, which involve high risk and major alterations for the organization and are discontinuous relative to the existing technology. Such radical innovations occur infrequently. Consequently the focus in this paper will be on low-risk innovation, which is more common in libraries and hence of more concern.

Hage has observed that words such as change, innovation, and creativity are easy to use but not so easy to define or actually observe and measure. The three principal interrelated working definitions found in the literature are (1) first use, (2) adoption or nonadoption, and (3) extent of implementation. Moch indicates that studies of the adoption of innovation in organizations have suffered from inadequate definition and from failure to distinguish among types of innovations. Little research has been designed to study differential adoption patterns for various types of organizations. The inconsistent findings that research has produced may be attributed to a failure to take into account the type of innovation and to differences in defining and measuring centralization. Centralization is the “bringing together of operations or functions of similar types into a common grouping.” The resulting administrative design is a “system in which authority for directions, control, and management has become concentrated in the hands of a few persons or offices.”

Chris Argyris notes five common types of innovation: (1) products, (2) processes, (3) tasks, (4) persons, and (5) environmental variables. Zaltman has a slightly different list: (1) product or services, (2) production process, (3) organizational structure, (4) people innovations, and (5) policy innovations. Richard Daft divides innovations into those occurring in the operations area, where the basic production of services or products takes place, and those in the administrative area. Organizational and environmental variables may be associated with activity in one area but not the other.

This paper focuses on the effects of organizational structure upon innovations in both the technical operations and the administrative areas of the organization. Zaltman suggests that the essential variable determining how organizations react to their external environment is organizational structure. Daniel Katz and Robert Kahn also indicate that the direct manipulation of the various components of organizational structure is a powerful means of producing systematic change. Jerald Hage and Michael Aiken indicate that the structure of an organization may be more crucial for the successful implementation of change than the particular blend of personality types in the work place.

An organization can be defined as an adaptive system that must continually improve its performance to stay alive in modern society. Even the cumulative effects of minor change can be important in ensuring organizational survival. Most relevant to the study of innovation in libraries is Mohr’s definition of innovation—the successful introduction into an applied situation of means or ends that are new to that situation.

THEORIES OF INNOVATION

The theories of innovation presented in this section are based upon data gathered from the study of organizations. A summary of the major studies is provided in table 1; details of the experimental studies are also provided in the references cited in this paper. There is also an extensive literature that deals with innovation and organizational climate but does not focus primarily on organizational design. This aspect of innovation is outside the scope of this paper.

One of the earliest theories of innovation was proposed by James March and Herbert Simon. Innovations occur when a given program of activity no longer satisfies performance criteria. Dissatisfaction stimulates the organization’s search for alternative courses of action. Research indicates that the highest job satisfaction is not correlated with the highest innovation
TABLE 1

MAJOR STUDIES OF INNOVATION AND ORGANIZATIONAL STRUCTURE

<table>
<thead>
<tr>
<th>Author and Date Published</th>
<th>Major Conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burns and Stalker, 1961</td>
<td>The environment heavily influences organizational adoption of mechanistic or organic management techniques.</td>
</tr>
<tr>
<td>Hage and Aiken, 1970</td>
<td>The higher the organizational characteristics, such as complexity, centralization, formalization, and stratification, the lower the rate of innovation in organizations.</td>
</tr>
<tr>
<td>Zaltman, Duncan, and Holbek, 1973</td>
<td>Complexity facilitates innovation in the initiation stage, while higher formalization and centralization and lower complexity facilitate the adoption of innovation.</td>
</tr>
<tr>
<td>Hage and Dewar, 1973</td>
<td>Values of the organizational elite are more effective in predicting rates of program innovation than structural variables.</td>
</tr>
<tr>
<td>Mintzberg, 1983</td>
<td>Changes in professional training and norms lead to organizational innovation.</td>
</tr>
<tr>
<td>Howard, 1977</td>
<td>Findings generally support Hage and Aiken except in the area of complexity. Librarians' professional training was positively correlated with innovation, but the correlation with participation in professional organizations was negative.</td>
</tr>
<tr>
<td>Luquire, 1983</td>
<td>Organizational size was negatively associated with acceptance of innovation, but positively associated with professional training.</td>
</tr>
</tbody>
</table>

According to Michael Moch and Edward Morse, there is a identifiable cluster of characteristics that determine an organization's proclivity for adopting new techniques. In the theory developed by Tom Burns and G. M. Stalker, the environment has an important influence on whether firms adopt more organic management techniques. An organic structure is characterized by loose, informal relationships built upon mutual adjustment and the absence of standardization. The organization responds to its environment and adapts to changes in order to survive. While there is no one best model for organizing, a mechanistic form is more suitable when the environment is stable and fairly certain. A mechanistic organization operates like a machine and can only be stopped or broken. When the technical and market environment is changing and unstable, organic forms have an advantage due to their increased potential for gathering and processing information. Burns and Stalker note that when organizational outputs are services rather than manufactured products, the organization is apt to show more adaptiveness because there is reduced ability to standardize tasks. Aiken and Hage have found empirical support for the notion that the organic organization has characteristics that facilitate innovation.

Aiken and Hage have developed a major theory relating innovation to organizational structure. They have identified several organizational characteristics—including complexity, centralization, formalization, and stratification—that affect the rate of innovation in organizations. They hypothesize that the higher the formalization, stratification, volume of production, centralization, and emphasis on efficiency, the lower the rate of innovation. Innovative organizations also have more elaborate committee structures than noninnovative organizations. Central to their theory are propositions drawn from the writings of Max Weber's model of bureaucracy, Chester Barnard's stratification, and Victor Thompson's growth of occupational specialties. Hage and Aiken suggest that increased formaliza-
tion and higher degrees of job codification in an organization decrease the rate of innovation. However another study disputes their conclusions and proposes that it may be job autonomy rather than job codification that is associated with new programs. The scales for job codification, designed to observe and measure formalization, may not be measuring that specific construct.28

Using educational organizations as an example, Karl Weick has argued that the prevailing image of organizations operating through dense, tight linkages such as planning mechanisms is probably false. Educational organizations might be better described as loosely coupled systems. This characteristic of educational systems could promote more sensitivity to the environment and localized adaptation.29 Burton Clark suggests that the basic direction of change in the bottom-level operating units of the university is toward fragmentation and loose coupling. He indicates that the fundamental adaptive mechanism of universities and larger adaptive systems is the capacity to add and subtract some fields of knowledge and related units without much disturbance to others. The sources of change are the interests, ideas, and organization of each of these areas.30 The diversity and fragmentation of the units creates intense competition for scarce resources.

The Zaltman theory treats innovation as a process and distinguishes between the initiation and implementation stages. A five-stage model of innovation is presented. The two major stages are (1) initiation and (2) implementation. The initiation stage is further segmented into three divisions, knowledge-awareness, formation of attitudes, and decision. The implementation stage is segmented into two divisions, initial implementation and continued-sustained implementation. Zaltman suggests that complexity of the organization may have both positive and negative effects upon innovation: positive in the more loosely structured proposal stage but negative in the more tightly structured implementation stage.31 The organizational characteristics facilitating innovation in the initiation stage are more complex but less formal and centralized. However, at the implementation stage organizational characteristics facilitating adoption are lower in complexity, but higher in formalization and centralization.32

Since the development of the original theory by Aiken and Hage, Hage and Robert Dewar have found that none of the structural variables (complexity, centralization, formalization) is as effective as the values of the elite inner circle of executives in predicting differential rates of program innovation.33 The elite inner circle is composed of the executive director and those managers who participate in strategic decisions about policies, programs, personnel, and promotions. Hage and Dewar find that the values of the elite inner circle are more influential than those of only the chief executive or of the entire staff, particularly if one uses a behavioral rather than a formal definition of elite values.34 Hage observes that centralization generally will be positively related to innovation rate if the values of the dominant coalition (those participating in strategic decision making) are pro-change.35 Argyris also studied the influence of top management upon organizational innovation and found the dominant coalition to be influential. He concludes that management with weak interpersonal skills will cause deterioration of innovation in the organization.36

Henry Mintzberg’s work on organizational structures is also of interest. Mintzberg defines innovation as breaking away from established patterns. Thus, the truly innovative organization cannot rely on any form of standardization for coordination. It must avoid all the trappings of bureaucratic structure, notably the sharp divisions of labor, extensive unit differentiation, highly formalized behaviors, and emphasis on planning and control systems.37 However, Mintzberg is talking about radical innovation. He does observe that existing programs can be perfected and standardized by specialists, but new ones usually cut across existing specialty boundaries.38 Mintzberg calls one organizational structure the “professional
bureaucracy." The organization allows for both standardization and decentralization. Coordination is provided by employees sharing a standard set of skills and knowledge that transcends organizational boundaries. The professionals use their skills in response to predetermined service categories. Clients are categorized in terms of the functional specialties the library offers.39 Change in the professional bureaucracy occurs through altering of the type of people who enter the profession, their norms, skills, and knowledge acquired in professional schools and in subsequent continuing education.40

Other researchers have also found professional contacts to be important. Daft reported positive associations between professionalism and innovation in the technical area.41 Professionalism can also have some negative effects upon innovation. Mayer Zald and Patricia Denton identify predictors of innovation as the breadth of organizational goals and the absence of a single dominating professional ideology.42 Aiken and Hage found that it is the current degree of involvement of staff members in extraorganizational professional activities, not the initial level of professional training, that is most highly related to successful implementation of innovation.43 In confirmation of this research, Katz found that isolation from sources providing evaluation, information, and new ideas is the most critical factor resulting in ineffective project performance.44 James Utterback’s work also indicates that the primary limitation on an organization’s effectiveness in innovation is neither costs nor technical knowledge, but the ability to recognize the needs and demands in its external environment.45

For Zaltman, the organization is an open system in continued interaction with its environment. The organization must determine which products or services will be most readily received by the end users and focus innovative efforts in those areas. The organization must also adapt its technology to produce these new products or services and monitor the environment for feedback to determine if the innovation is effective in meeting the demands of the environment.46

Hage and other theorists have concluded that innovation and efficiency are negatively related and appear to require opposing types of organizational structures. Efficiency is usually positively associated with centralization and formalization, and may be either positively or negatively associated with complexity. Yet organizations must be both efficient and innovative to survive in a changing world.47 Jon Pierce and Andre Delbecq suggest that the solution to this paradox probably lies in capital venture systems, matrix systems for initiating and varying the organizational design using project groups in the initiation stages and structured decision bodies in the implementation stages.48 The matrix system provides a dual focus when more than one orientation is critical for managing the organization.

An organizational structure, which Mintzberg terms the “adhocracy,” uses the functional and market bases for grouping in a matrix structure. The experts are grouped into functional units for normal purposes, but are deployed into project teams for the purpose of encouraging innovation.49 Mintzberg observes that even hospitals and universities, which are closest to the “professional bureaucracy” for their routine clerical and teaching work, are drawn to the “adhocracy” when they attempt truly innovative work. Specialists must join together in multidisciplinary teams to create new knowledge and skills.50 Figures 1, 2, and 3 illustrate the theoretical difference between typical hierarchical and less traditional structures in libraries.

**ORGANIZATIONAL STRUCTURE AND INNOVATION IN LIBRARIES**

Certainly innovation in itself is intrinsically neither good nor bad. Multiple views have been expressed on the value of a recent innovation in librarianship, the adoption of AACR2. Another innovation in library services, networking or resource sharing, also has both positive and negative attributes. Networking can increase access to resources but may result in the loss of local library autonomy in setting
FIGURE 1
Example of Traditional Hierarchical Structure

FIGURE 2
Sangamon State University Library Organizational Chart (April 1978)


FIGURE 3
A Schematic of Matrix Organization for the Reader Services Division of San Francisco State University
budgets, service priorities, and collection development policies. Bibliographic instruction and online database searching have also extended library services and enriched the interaction between the library and its environment. Some argue that provision of these new services reduces the resources available for the more traditional library services. Nonetheless, change is inevitable and the library that plans and encourages creativity is most likely to cope effectively.

Much of the literature on innovation in libraries is a call for its exercise and/or listings of possible areas of need or application. Connie Dunlap suggests that collegial or participatory staff organizations will increase staff interest in library-wide concerns resulting in greater productivity and adaptability. The more prevalent "bureaucratic organizations tend to produce conformity and generally stifle creativity." Victor Thompson states that a "well managed" organization "tends to define jobs and jurisdictions which lack variety and richness of cognitive inputs usually associated with creativity. The creative process is characterized by slowness of commitment, by suspended judgement, by refusal to grasp the opportunity and make quick decisions." He surmises that "it is very difficult for the person cataloging all day to be creative." As a public service organization, the library must constantly review its goals as an "open system" that is responsive to the public. Peter Drucker defines the public as: (1) "the people who depend on you," the library users, and (2) "any group that can in effect stymie you." In the latter case he suggests that modifying services to satisfy the patron will be difficult because staff may not wish to abandon established services in favor of new ones. He wagers, "that your really effective resources, both human and money, will be invested in defense of yesterday." Harvey Kolodny cautions against the apparent closed system that libraries have provided to the public. Management "must stop functioning like librarians that are waiting for people to come to them because they control the source of a particular skill or knowledge or discipline . . ." Mary Lee Bundy advocates the release of "powerful growth forces" to counteract tendencies toward conformity and restriction of service modifications. She proposes restructuring the organization into two areas: one would operate collegially in discipline units providing selection, indexing, and reference; the second area would be auxiliary services, governed by committees of professionals who would set policy for the purchasing, processing, and inventory units composed of support staff. This arrangement is similar to the innovative structure successfully implemented at Sangamon State University.

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Bundy proposes that support staff be compensated equitably for their work. The positive effects of collegiality and decentralized decision making upon the rate of innovation, which are predicted in the Hage and Aiken model, might be negated by excessive formalization, rigidity, and stratification in auxiliary services.

Robert Moran accuses academic libraries of maintaining an organizational design that "addresses only internal matters," hindering their response to the environment. He proposes an "outside surveillance" unit, specifically collection development, which would be decentral-
ized and informal. An advisory group of librarians would be formed to provide the director with insights gained from participation in external professional associations. The director would assume responsibility for attending to external matters as well as internal needs. Moran states that this modified bureaucratic model would offer a more responsive, open system. The organizational changes proposed by Moran are supported by Hage and Aiken’s theory, which predicts that decentralization and informality will increase the rate of innovation.

Karl Musmann observes that libraries have the same problems with structure and innovation that Mintzberg outlined. As agencies that are externally controlled for the most part, their structure is highly formalized, bureaucratic, and centralized. Musmann says this is “not conducive to successful survival in a dynamic environment nor is it especially suited to encourage innovative behavior.” The Booz, Allen, and Hamilton study of Columbia University in 1970-71 advocated restructuring the organizational design so that the library would be better able to function as an open system and effectively respond to the changing needs of the academic community. Lowell Martin believes that libraries should consider Peter Drucker’s basis of organization. Drucker states that organizational structure should flow from purpose and that the proper structure cannot be determined until the organization’s objectives are clarified. According to Martin, applying Drucker’s organizational ideas to a university library structure could result in two primary divisions: the instructional division and the graduate or research division. This structure would shift the organizational emphasis from the traditional functions, such as acquisitions, cataloging, reference, and circulation, to a focus on the library’s purpose and users. Academic library structures based upon undergraduate libraries and graduate research branches appear to incorporate the basic concepts embodied in Martin’s two-divisional design.

Another redesign suggestion comes from Gardner Hanks and James Schmidt, who feel that the professional model is deficient because it discourages change. They argue that it encourages members to defend a stereotype of acceptable client needs and professional responses, creating, in effect, a closed system. They recommend the replacement of the traditional functional organization with one based on the types of clients served. They do not consider the possibility of a matrix structure with attention given to both special services to clients and the need to maintain efficiency in the delivery of standard library services. Their recommendation is supported by Mintzberg’s model of the professional bureaucracy and Hage and Aiken’s predictions that formalization reduces the search for better methods of doing work. Hanks and Schmidt note that more emphasis in library schools on theoretical and applied sciences would help solve the problem by introducing to librarians an understanding of open systems. Librarians might then demand less formal, more responsive libraries. Joseph McDonald also observes that professionalism is a problem. He notes that organizational design, i.e., the division into functions such as reference librarian, archivist, and bibliographer, “dictates how the user must approach the organization for service and how the service is offered to him.” In the professional bureaucracy, the division of work into narrow specialized functions severely inhibits innovation and often creates difficulty in resolving routine matters requiring communication and cooperation between personnel in different functions. McDonald indicates that organizational design may be a key element in successful library services, but points to the problems of defining and measuring library effectiveness. Miriam Drake and Harold Olsen state that “innovation does not happen by chance.” It is a response to the external environment or an attempt to increase effectiveness. Fiscal pressures will force libraries into “increased reliance on consumer self-service as a primary mode of operation.”

Helen Howard cites several doctoral dissertations, all of which found few differences in formal academic library structures. The focus on investment of human
resources in bibliographic organization and the utilization of performance measures appropriate to a closed system have constrained libraries from adopting new, more user-oriented organizational designs. Charles Martell recommends an alternative to the traditional functional design that brings librarians together into small work groups allied with designated client groups in the academic community. Librarians would perform multiple functions within these units: advanced reference, collection development, online searching, and original cataloging. He indicates that this design bears some resemblance to the Booz, Allen, and Hamilton’s design at Columbia but has greater emphasis on client needs. Support for Martell’s design can be found in current popular works such as Corporate Cultures by Terrence Deal and Allan Kennedy and In Search of Excellence by Thomas Peters and Robert Waterman. Deal and Kennedy predict that managers of the future will structure and negotiate appropriate economic arrangements with workers banded together into semi-autonomous units. Freedom and autonomy will be gained when telecommunications networks and systems exist to provide many of the communication links now requiring coordination of people in large organizations. Culture will become the bond that holds these units together. This structure may also be more conducive to innovation.

In observing excellent companies, Peters and Waterman note that these companies are “better listeners.” They pay attention to their lead users, and most of their innovations come from the marketplace. Peters and Waterman also question the value of the matrix structure and note that it almost always ceases to be innovative after a short time. They suggest that the product division is probably still the best form around for providing the simple structural form and lean staffing so necessary for organizational flexibility at the corporate level. They note that this simple structural form can be reorganized around the edges, e.g., by creating experimental units. There is evidence that large library organizations do not facilitate the adoption of new technology. Musmann found evidence that the large size, complexity, and decentralization of power within the California State University and Colleges System contributed to an environment of slow decision making.

Thomas Shaughnessy warns that decentralization can deteriorate into an over-emphasis on specialization at the expense of overall organizational needs. Organizational redesign can be used to maintain the balance between specialization and attainment of overall goals. “Coordination by plan” is a mechanistic response, effective in stable situations where units have standard tasks, policies, and interactions. “Coordination by feedback” is an organic response to dynamic, changing situations. Shaughnessy sees the latter as becoming more prevalent through the employment of such devices as coordinator positions. Citing Alan Dyson’s study of library instruction programs, Shaughnessy recommends increased support for coordinator positions in order to make the library a more open system. Theoretical support for such a structure is provided by the Hage and Aiken model, which would predict an increase in innovation by decreasing centralization, formalization, and stratification.

Textbooks on library management usually have not addressed the design of an organization as anything but a given. The library organization is consistently divided into public and technical services and is hierarchical. One exception is John Rizzo’s text, which makes no attempt to review the literature of library management. Instead, Rizzo reviews the larger world of management theory and research for librarians, who are expected to make their own judgments on applicability. While the work devotes most of its attention to group dynamics and techniques, it does touch lightly upon aspects of organizational design as characteristics to be manipulated rather than accepted as permanent fixtures. Division of labor, task design, job enrichment, formality, centralization, organizational development, project teams, matrices and committees, the need to tolerate ambiguity, and equita-
ble representation are mentioned. The work of Burns and Stalker is noted: "their data show that organizations that cling to the formalized hierarchy when their environment becomes dynamic do poorly in the marketplace." Those that shift to more organic forms tend to prosper.76 Rizzo recommends further reading in this area, but provides no model or review of the limited research that has been done.

RESEARCH IN LIBRARIES

Helen Howard has done the most extensive research on the effects of organizational structure in libraries.77 She tested Hage and Aiken’s hypothesis in four academic libraries. Unfortunately, the study results may not be generalizable beyond these four libraries. Nonetheless, Hage and Aiken’s model was successfully applied, and Howard encourages other researchers to replicate the study to verify her findings. She defined innovation broadly as "the generation, acceptance and implementation of new ideas, processes, products or services for the first time within an organization."78 Howard found that the data largely supported Hage and Aiken’s hypothesis that innovation would be negatively related to the degree of centralization, formalization, and stratification, and positively related to complexity. In other areas Howard’s findings differed from Hage and Aiken’s. In their study of health and welfare agency workers, occupational specialization and professional activities were the two indexes of complexity most positively related to innovation. Professional training had a negative relationship. In her study of librarians, Howard found innovation to be more strongly correlated with professional training (total subject and professional degrees earned). Howard’s findings should be replicated since they do not support McDonald’s or Hanks and Schmidt’s beliefs that professional training serves as an obstacle to innovation.

Specialization and professional activities were only weakly associated with innovation. Howard suggests this may be because librarians have been conditioned to think of themselves as generalists. While librarians may possess such specific titles as "selector," "head of map room," or "East Asian bibliographer," these titles may not reflect much more than vague organizational structures and fuzzy roles. A librarian’s job title may not signify the clear distinction between occupational specialties found in another industry employing a wide diversity of skilled personnel with various professional degrees. The weak correlation between professional activities and innovation may indicate that the quality of professional activities needs to be strengthened in order to contribute to innovation as they do in the health and welfare professions.

In systems of higher education, Clark observes that change promoted by external influence comes about in largely unnoticed ways through boundary roles at the bottom level of the academic system. Professors engage in activities characteristic of boundary roles, such as information gatekeeping, transacting with other groups, and linking and coordinating with the inside and outside.79 Charles Bunge reports that two-thirds of the reference librarians in thirty-five libraries he surveyed relied on conferences and workshops to update their knowledge and skills.80 Howard’s study raises an important question: Are professional associations living up to their potential as catalysts for innovation?

Participation in decision making was another strong indicator of innovation in libraries. This supports Hage and Aiken’s hypothesis that decentralization encourages innovation. The scales used in developing the measures of centralization and formalization have recently been criticized by Robert Dewar, David Whetten and David Boje.81 Further testing of the instrument is recommended before use in another study.

Howard reports that 31 percent of the innovations were in organizational structure (reorganizations of major portions of a library); 25 percent in the production process (e.g., adoption of OCLC); 25 percent in people, (e.g., appointment of new occupational specialists, staff development); and 19 percent in products and services. Howard states that the "reorganization total (31 percent) supports the
literature, which gives the impression that all organizations are in a frenzy of reorganization whether they need it or not.\textsuperscript{82} This observation also coincides with Drucker's view that reorganization is often used as a substitute for getting at the real cause of problems, especially personnel problems.

Maurice Marchant measured patron, faculty, and staff evaluations of academic libraries as an end product of an open system. His findings suggest that participatory management ultimately results in faculty and staff perceptions of better service.\textsuperscript{83} Further investigation is warranted to determine if the correlation Howard found between innovation and participation does indeed produce improved or more effective services. One should keep in mind Jane Flener's observation that in most libraries less than 50\% of the staff seemed interested in participating in management.\textsuperscript{84}

Beverly Lynch concludes that the technology of library work, as defined by employee perceptions, appears to vary in degree of difficulty or sophistication fairly uniformly across different libraries. She defines technology as "the actions that an individual performs on an object, with or without the aid of tools or mechanical devices, in order to make some change in that object" and bases her study on measures of technology developed by Charles Perrow.\textsuperscript{85} Lynch found that professional work, as defined by functional departments such as reference and cataloging, appears to be at a higher level than those that are largely support staff functions such as acquisitions and circulation. This measure should be verified against a careful analysis of skill, effort, and responsibility, such as that done at the San Jose Public Library.\textsuperscript{86} Research results could be compared with Howard's work to see if variations in the highly centralized, formalized, and stratified institutions, such as those Lynch studied, demonstrate increased innovation when the organizational structure is redesigned into a less traditional form.

Wilson Luquire provides us with a study of technical services librarians' perceptions of an innovative system, OCLC. He finds that acceptance of the innovation correlates positively with participation in decision making, variety and interest in the work, professional training, and amount of preparation for the system. Luquire's results support the predictions of Hage and Aiken: organizational size correlates negatively with acceptance, which corresponds favorably with the hypothesis that centralization will have negative effects. However, larger libraries are more likely to have problems with the introduction of shared cataloging systems, as they are more frequently the contributors than the benefactors, and may have a greater need for higher levels of cataloging that will distinguish between editions.

**FUTURE RESEARCH NEEDS**

Only limited study has been made of relationships between organizational design and innovation in libraries. The present accounts in the literature on the positive effects of adopting a collegial management structure are limited in application. Based upon her experience at a small library, Dickinson College in Carlisle, Pennsylvania, Joan Bechtel says, "the creativity and flexibility generated by our new library organization have yielded maximum results in efficiency and staff satisfaction."\textsuperscript{88} Research is needed to verify her assertions and determine if this system will function in a library with more than seven librarians.

Many questions remain to be investigated. Louis Kaplan suggests several questions for study. For example, can top management "surrender its policymaking responsibility in a heteronomous, service-type agency?"\textsuperscript{89} Is it the situation or the manager that is participative or autocratic? To what extent will employees be willing to assume responsibility in a shared authority system? And when and why do managers use decision sharing?\textsuperscript{90}

One of the greatest barriers to the investigation of organizational design in libraries is that it is difficult to measure effectiveness. If innovation is desirable, it should be beneficial and in some proportion to its cost. Rosemary DuMont proposes an open systems approach that focuses on process rather than product. A
library will be effective, she suggests, if (1) the employees affirm its goals; (2) it responds to environmental changes; (3) it provides timely, relevant and accessible services; and (4) it monitors user needs.91

What has been investigated so far and what do we know? Additional research based on organizational behavior theories and models would permit us to judge whether the results of innovation theories and studies of business firms can be generalized to libraries. More study needs to be done to determine the effects of centralization, complexity, formalization, and stratification upon innovation. These studies need to compare libraries of various types, sizes, and levels of wealth, private and public institutions, and those with common and divergent goals. These organizational variables must be measured against the different types of innovation characteristics: cost, time required, impact on work group, administration, and users, compatibility with organization and employee goals, technicality, and payoff. Although Howard and Luquire have measured some of the organizational variables, no study has been done measuring the different characteristics of innovation. And these studies are a "snapshot in time," as it were, and do not purport to investigate the process of innovation: the initiation, introduction, adoption, and diffusion. Does the same innovation take on various hues when viewed from different employee points of view? How will resource sharing affect innovation when institutional boundaries are transcended? How does one define success or effectiveness, and is it the same across institutions?

CONCLUSION

There is no comprehensive theory of organizational innovation to provide significant insight beyond the boundaries of our own field. Library research could contribute to the systematic study of organizations and provide information on innovation and organizational design. It is imperative that libraries take the initiative in times of limited funding. Richard Dougherty warns, "If innovation activities are sacrificed in order to preserve existing activities, librarians will eventually force their organizations into operational straightjackets."92 The operational straightjackets provide a closed system for libraries which could be devastating to their survival as organizations. Hage recounts an instance when Burgess at Columbia attempted to get the library to order new books for his courses and to be open for more than two hours a day. When the librarian refused to support his attempts to introduce innovative new courses, Burgess went to the Board of Regents and obtained permission to start an entirely new library.93

Recognition of the need for innovation is becoming more widespread. Carlos Cuadra provides an excellent summary of the need for librarians to understand and investigate how library organizations can encourage innovation:

It is in no way necessary or inevitable that librarians shift the balance of their holdings and services to include microforms, digital information, videotapes, holograms and other trappings of advanced technology. It is not necessary that libraries shift their concept of operations from circulation to outright distribution. It is not necessary that libraries invest in computers and other paraphernalia to provide users with a higher order of access to reference materials. It is not necessary that libraries become elements of networks for the raised identification and provision of materials to users, regardless of geographical location. However these functions are going to take place and if the library does not bring them about, some other type of agency will. That agency will then occupy the central role in the information business—the role that was once occupied by the library.94

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416 College & Research Libraries September 1985

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Circulation Service Desk Operations: Costing and Management Data

Pat Weaver-Meyers, Duncan Aldrich, and Robert A. Seal

The University of Oklahoma Libraries' Department of Access Services conducted a cost study of circulation service-desk operations. Service-desk tasks were flowcharted to identify important components. Work sampling observations were used to determine the percentage of staff time occupied in particular tasks. Observations were made at random by uninvolved observers. Using the percentages obtained, pay rates, indirect costs, and overhead, total costs were computed on a task-by-task basis. Also, several tabulations of the same data were used to identify idle time and peak-use periods. This information then served as a basis for reorganization of work assignments and revision of staff scheduling. Improved efficiency and service, without any staffing increase, were the result.

In an academic library public service desk is typically the scene of a variety of activities involving both patron interaction and processing. Whether circulation, reference, or some other function, these service points must be staffed at all times the library is open. The cost of each activity and the amount of time spent on each are of interest since such analyses can provide managers with information for planning and change, with an ultimate goal of improving service and the efficiency of operations. The circulation department, with a high degree of routine, repetitive work, and a variety of tasks, is ideally suited to work sampling analyses. The present study attempts to determine the cost of operating the main library circulation desk at the University of Oklahoma, focusing in particular on determining the costs of each major task and the proportion of time spent on each by various levels of staff.

This paper begins with a brief review of the literature, examining costing and other quantitative methods that have been previously used to analyze circulation operations. Following is a description of the methodology used in the present study along with an analysis of the results. The departmental reorganization that resulted from the cost study is discussed.

LITERATURE REVIEW

As a preface to the discussion of the present cost study, it would be useful to review important efficiency and cost studies done previously in order to place our study in context with other research. This should also provide a brief comparative review for those interested in duplicating the study for their own purposes.

As early as the mid-1960s, basic work measurement was being applied to circulation operations. Kozumplik called for the use of quantitative methods and applied them to standards of production and goal setting. He cited an unexpected esprit de corps associated with the study of production levels. In his 1970 review of quantitative management, Fred Heinritz felt that librarians, mostly with backgrounds...
in the humanities, greatly underutilized the potential of these measures in all aspects of library operations. Top-down costing, a breakdown of cost by department from library-wide budgets, has been used for years by administrators in budget justification. A well-known example is the Stanford study first completed in 1965. Cost-benefit analysis is another type of costing sometimes applied to circulation. It is a method of allocating resources most efficiently when numerous departments are competing for the same budget dollar. This analysis may require the use of sophisticated techniques.

Budget justification appears to have been a major motivation in the trend to use more specific costing measures in circulation during the 1970s. When turn-key and in-house automation of circulation gained in popularity, librarians attempted to justify the purchase of such systems through costing. Some of the first cost studies were comparisons of manual versus automated systems via time studies that provided specific task information. These studies generally found automation to be more expensive than manual systems—a fact that forced administrators to pursue a more sophisticated rationale, such as efficiency, effectiveness, and service quality.

A new trend toward modeling of circulation systems has become popular in the last five to ten years. Manpower needs and loan dynamics are just two of several topics for which models have been proposed. Throughout the development of these strategies for examining circulation operations, public libraries have continued to apply costing analysis. One unusual application contrasts types of patrons and determines which patron should bear the burden of circulation costs. Another study compares loss rates with the elimination of overdue fines and the cost effectiveness of such a policy in conjunction with paperback versus hardback use.

It is also important to note that quantitative measures have been applied to a number of other circulation concerns not involving costs, but relating instead to the effectiveness of the circulation department. Specifically, optimal loan periods and their effect on book availability have received much attention.

Even though much has been done to apply costing and other quantitative methods to circulation, a study by David Kohl on the use of and need for management data by circulation professionals indicated that such analyses are deemed important, but data provided by others is considered more important than self-generated data. Kohl further points out that such findings may be the result of lack of training in data analysis skills—the same conclusion reached by Heinritz in 1970! This widespread lack of self-study is reinforced by the fact that information on what it costs another library of similar size and makeup to charge a book is not readily available. Although exchange of in-house reports indicates some circulation cost data is available, it does not appear that circulation services costs are included in such reports, except in the broad context. Task-specific data on circulation is scarce.

Since public service activity can be varied and not routine, quantitative measurement is more difficult than in technical services. Stella Mosborg's application of random observation to circulation activities is one of the first studies in which staff time spent on specific tasks was determined in this manner. Previously, some time studies were done, but this type of study does not account for a variation in the type of staff performing the procedure—a factor that varies in the public service setting. By random observation, Mosborg was able to show how much time different staff contributed to the same task. The same technique was used in the present study, with added computations that provided specific costing per task. It is this specificity that allows close scrutiny of department operations. Such examination is the only means of providing a public service manager with data so specific that a single task or procedure might be targeted for manipulation or elimination for reasons of efficiency. Not only can the task itself be broken down, but also the amount of time expended on that task by staff members with widely divergent salaries.
Finally, random sampling is a very simple methodology that is subtle enough not to affect service. An observer can easily monitor service, unseen or rarely noticed by staff. Handily, observation also provides additional useful management data for scheduling and work flow changes that can be used for practical, action-oriented solutions to efficiency shortfalls. Therefore, both the administrator and the middle manager can benefit from the data.

A brief description of the circulation desk situation and the calculations used in the study follow.

BACKGROUND

The University of Oklahoma's main library circulation desk is open for service approximately ninety hours per week. Student assistants make up the regularly scheduled staff. Backup staffing and supervisory support are provided by full-time staff and faculty. (Hereafter, "staff" refers to full-time non-student employees.) Four full-time staff members perform stack maintenance and circulation supervision, billing, and reserve duties. These same staff, along with the department head, provide backup to student workers until 10:00 p.m. The main library collection primarily addresses social sciences, business, humanities, and biological sciences, while "hard" sciences and fine arts are served by branch libraries on campus. Therefore, the borrowing population is comprised of faculty, staff, students, and courtesy borrowers with these fields of interest. Circulation for the 1982-83 fiscal year was about 150,000. Reserve materials are also circulated from the desk and is a pickup point for interlibrary loan. In addition, the desk is the patron consultation area for billing complaints and, due to its location, provides substantial directional information to users. Circulation of monographs and reserve materials is automated on the DataPhase ALIS II system, while bound periodicals circulate manually.

METHODOLOGY

Initially several methodologies for costing services were reviewed. Although a time study was found to be a proven methodology,\(^\text{15}\) it was not adopted. Rather, work sampling was selected as a previously successful method that appeared less invasive of normal work flow than a time study. Work sampling has been successfully used in a number of library studies of work analysis\(^\text{16}\) and has proven useful in the costing of some procedures such as interlibrary loan.\(^\text{17}\)

Work sampling methodology made it simple to limit the study to observation of service desk personnel and to catch unscheduled backup personnel in the act of providing services. This also made it easy to target circulation desk operations, excluding back-office functions that support the front desk. Additionally, there was interest in determining the cost of specific tasks such as charging or discharging an item. In work sampling, specific tasks and personnel can be readily observed and tallied, easily providing the basic information necessary for costing particular activities.

In preparation, all the routines normally performed at the circulation desk were flowcharted. The flowchart made it easy to identify those components that were of major interest: charge, renewal, discharge, online inquiry, etc. These tasks were then divided into component parts to allow scrutiny of the efficiency of procedures for possible future streamlining. Some additional categories were identified, but not broken down into steps. All the identified tasks were then incorporated into a recording chart used by observers. It should be noted here that the simple creation of the recording chart can be a valuable exercise. The self-examination required may reveal problems or bottlenecks before the study even begins. Figure 1 is an example of the chart used to record observations.

In recording observations, codes were used to specify the type of worker engaged in providing the service. Although the desk is primarily manned by student workers, a fair proportion of staff time is spent assisting student employees when business picks up or when problems demand supervisory input. One of the goals of the study was to find out how much time was spent by staff in this backup role.
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Further, considering the higher cost of staff service, compared to that of student assistants, it was felt that the cost figures would be more accurate if staff time was calculated. Also, management was interested in the direct-service time requirement and how that compared to the proportion of time spent by staff in back-office duties. A comparison of the time each staff member spends at the desk relative to the work for which they are normally responsible can give a manager specific information about unstructured work time. If the billing supervisor, for example, spends 50 percent of her time interacting with patrons, the manager might conclude that she needed additional clerical assistance for back-office paperwork.

Most observations were made by staff or student supervisors. Before the study began, the methodology was discussed at a weekly staff meeting, and all workers were informed of the project’s intent. A special effort was made to inform everyone that only worker types were going to be recorded, not individual names. It was hoped that this explanation, along with assurances that some idle time was expected, would prevent workers from deliberately improving their efficiency for the duration of the study.

To assist in the sampling process, an inexpensive digital alarm watch was purchased and attached to a clipboard with the observation charts. Using a random timetable, each projected observation time was recorded on the charts each day. At the beginning of each day, the first observer would set the watch alarm to ring for the first observation time. When the alarm went off, the observer would proceed to the circulation-desk area, record the activities of all the staff present at that instant, and reset the alarm for the next observation time listed. While recording, the observer would pay special attention to the student work schedule. Those individuals actually scheduled for desk service would be noted. If an individual was taking a break or was otherwise absent at that moment, he or she would be recorded in the idle-time category. Since the concern was solely with what occurred at the front desk, staff not regularly scheduled were recorded only if they were involved in front-desk activity when the alarm sounded. The observations would continue throughout each day in the same manner until closing. During lunch breaks or in the evening, the clipboard would be passed on to another observer familiar with the procedure.

The study was conducted in October, specifically because it was a moderately busy time of year. About fifty samplings were made each day, and the study period encompassed nine days including one weekend. During any one observation, from two to five workers could be engaged in front-desk service. In all, 1,267 observations were made.

A test sample of one day’s observations was conducted prior to the actual sampling. This test provided a base from which estimates could be made of the percentage of time workers were involved in any one task. Also, any shortcomings in the recording chart could be discovered and corrected before the actual sampling began. The percentages revealed were then used to set the sample size at 1,290, using a table designed for that purpose. This sample size has an accuracy between 2.5 percent and 3.0 percent with a 95 percent confidence level.

RESULTS

The data gathered from the observations were analyzed using SAS (Statistical Analysis System) frequency procedures. In SAS, frequency procedures tally every variable loaded by category. This provides the frequency with which any particular procedure was observed. Coupled with the other notations made on the recording chart (variables), SAS can manipulate the data to produce cross-tabulations. Each observation included the following variables: staff type, procedure, time of day, day of the week.

Since each observation included four variables, a variety of tables could be produced. For example, a frequency table of “staff type/procedure” was used to compute the particulars of costing by task. “Procedure/time of day” and “procedure/day of the week” tables were used by the circulation supervisor to adjust
scheduling so that coverage during the busiest times of the day was adequate. Of course, several other permutations are possible. Clearly, one random observation study that includes the recording of several characteristics can provide data for numerous management needs.

The table of "staff type/procedure" (see table 1) is a consolidated version that collapses forty-one separate tasks into ten procedure categories. As mentioned earlier, several of the major procedures were broken down into component tasks for indepth analysis of the work flow. For the purposes of costing, though, only the ten major procedures were examined.

This particular table, which displays nine of the twelve staff types, allows examination of the time contributed by support staff and faculty. Since no faculty or full-time staff are formally scheduled at the desk, the amount of time they contributed to desk operations was not clearly evident until the sampling was complete. In table 1, under the column headed Circ. Super., one can see that the circulation supervisor contributed 2.14 percent of all the staffing at the desk. Since the supervisor works a forty-hour week and the observation period spanned seven weekdays and one weekend, he could have worked a maximum of fifty-six hours at the front desk. From the table, two questions were answered:

1. How many of the possible fifty-six hours of the supervisor's time were spent assisting at the front desk?
2. How much did the circulation supervisor's salary rate contribute to the increased cost of providing service at the front desk?

In order to compute the amount of the supervisor's time spent at the desk, the following formula was used:

\[ S = \frac{N}{A} \times H \]

where:
- \( S \) = Number of hours supervisor was at the desk
- \( N \) = Total number of observations of supervisor at the desk
- \( A \) = Total number of times the observer answered the alarm
- \( H \) = Number of hours desk was open during observation period

Dividing by 56, the number of hours of supervisor time, gives \( \frac{8.26}{56} = .15 \), or 15 percent of the circulation supervisor's time is spent providing service at the front desk. Also, from table 1 it can be seen that 44.44 percent of his contribution at the desk is spent in miscellaneous activity. It appears that most of the supervisor's time is spent in other activities rather than providing charge/discharge services.

Considering the higher salary of the circulation supervisor, it is more cost-effective if his time is spent in supervisory rather than in desk activity. It is less expensive to have that task performed by a student assistant. This concept is clearly illustrated by figure 2, in which the direct labor cost per hour for the charge procedure has been computed. As shown, the percentage of time a particular staff type was observed in charge/renewal is multiplied by hourly salary (including fringe benefits) to obtain the cost per hour per type for all staff observed in that procedure. The final total then is $4.11 per hour of direct labor costs associated with charge/renewal.

In this example, the student assistants, class 1, contribute the greatest personpower to the procedures of charge/renewal. Student assistants, class 1, make up 57.26 percent of the personpower devoted to this procedure. Consequently, direct labor costs for this procedure are relatively low, since this group is the lowest paid of all staff types.

Table 2 shows all the broad task categories and the cost per hour associated with each task. When the cost per hour, computed by the same procedure illustrated in figure 2, is multiplied by the percentage of staff time devoted to the procedure, the resulting overall service desk cost per hour is tabulated. This overall average of $4.18 (see table 2) can then be compared to each individual cost per hour per task to determine which is the most expensive service to provide and which task contributes the most to the overall average expense. For example, charge/renewal accounts for $1.28 of the overall average,
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while billing contributes only $.05 to the average even though billing service costs $.38 more per hour to provide.

Thus far, we have discussed only that portion of the data which pertain to direct labor costs. Obviously, a complete study includes indirect costs as well. Figure 3 is an itemized tally of the direct labor costs determined by the methods described and of the indirect costs attributable to the circulation desk. Multiplying the average salary per hour by the total hours worked at the desk per year produces a total direct labor cost. Since the hours worked at the desk in a year include both the scheduled student assistant time and the unscheduled full-time staff support time, the following computation was used to determine those hours:

397.55 hours worked at the desk in the nine-day observation period = 44.17 hours per day.

44.17 x 350 days open per year = 15,459.5 hours worked at desk per year.

However, the October observation time made the number of hours worked per day higher than the yearly average. The following adjustment was then applied:

4,025 hours open annually in 350 days = 11.5 average hours open per day throughout the year.

11.5/13.1 hours open per day during observation = 0.8779

0.8779 x 15,459.5 hours per year = 13,571.9 adjusted hours per year.

The direct labor costs so computed were used to estimate the supervisory support within the department and to apportion the supplies and maintenance costs dedicated to the service desk operation. This subtotal was then used to find the percentage of the total library operating budget that the desk comprised. This 2.51 percent was then used in determining the portion of the university administration, computing services, etc., that needed to be considered. Operation and maintenance calculations were based on 1983-84 budget figures provided by the university's Office of Grants and Contracts. Student support services costs are not included in the indi-

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**EXAMPLE CALCULATION OF COSTS FOR CHARGING/RENEWAL DIRECT LABOR**

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**EXAMPLE FOR CHARGE**

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<th>% of total hours devoted to charging</th>
<th>Books charged during observed period</th>
<th>Composite $/hr.</th>
<th>Direct labor cost/each book charged</th>
</tr>
</thead>
<tbody>
<tr>
<td>(397.55) x .2903</td>
<td>4,804 x $4.11</td>
<td>= 10¢/book</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FIGURE 2**
Cost/Hour/Task

**TABLE 2**
AVERAGE SALARY/HOUR/TASK

<table>
<thead>
<tr>
<th></th>
<th>Direct Labor Cost/Hr.</th>
<th>Percent Staff Observed at Task</th>
<th>Overall Direct Labor Cost/Hr./Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charge Renewal</td>
<td>$4.11</td>
<td>31.17%</td>
<td>= 1.28</td>
</tr>
<tr>
<td>Billing Consult.</td>
<td>$4.59</td>
<td>1.19%</td>
<td>.05</td>
</tr>
<tr>
<td>Discharge</td>
<td>$4.07</td>
<td>11.31%</td>
<td>.46</td>
</tr>
<tr>
<td>Idle Time</td>
<td>$4.08</td>
<td>20.02%</td>
<td>.82</td>
</tr>
<tr>
<td>Interlibrary Loan Paging</td>
<td>$5.43</td>
<td>.55%</td>
<td>.03</td>
</tr>
<tr>
<td>Inquiry</td>
<td>$4.43</td>
<td>4.59%</td>
<td>.20</td>
</tr>
<tr>
<td>Miscellaneous Including Sort Room</td>
<td>$4.31</td>
<td>14.24%</td>
<td>.61</td>
</tr>
<tr>
<td>Pat. Assistance (Information)</td>
<td>$4.73</td>
<td>2.29%</td>
<td>.11</td>
</tr>
<tr>
<td>Reserve</td>
<td>$4.01</td>
<td>6.80%</td>
<td>.27</td>
</tr>
<tr>
<td>Other</td>
<td>$4.50</td>
<td>7.73%</td>
<td>.35</td>
</tr>
<tr>
<td>Avg. $/Hr.</td>
<td>4.18</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 3 incorporates both the direct and indirect costs to complete the task/task costing of the ten broad categories. Computations are summarized across the top of the table.

In summary, based on charge/renewal and discharge statistics during the observation period, average costs of $.24 per book for charge/renewal and $.22 per book for discharge were calculated. These figures exclude idle time, which is computed as a separate category. Complete circulation of an item includes overdue notices, billing, etc. That portion of expenses will be addressed in future department-wide studies.

**ANALYSIS**

Unless librarians are able to analyze cost data and use it in problem solving or in instituting change, the time and effort spent gathering such information will be wasted. Many library managers simply do not know how to use cost data to their advantage. Statistical packages such as SAS or SPSS (Statistical Package for the Social Sciences) can help in the analysis of data and do not require extensive programming knowledge. They can be run on nearly all campus mainframes from remote terminals. The availability of microcomputer statistical software is likewise making it easier for the librarian to manipulate and analyze cost and other data. The problem of circulation professionals being unfamiliar with data analysis, as pointed out by Kohl, is solved with these tools. Therefore, even the statistics neophyte can readily manipulate data. The information gathered is department-specific and can provide indicators for reorganization and comparison not found in the literature.

How can the cost data be used in a circulation or other library department? Three possible uses are described below:

1. to identify inefficient/ineffective procedures,
2. to provide levels of current performance against which later performance can be measured, and
3. to assess the performance of any institution in light of research done elsewhere.

The third point should be done with restraint, however. According to Charles McClure, the internal organization and goals may differ drastically between institutions, making comparison difficult and
The following are examples of the three uses of data and how they were applied to organizational change at the University of Oklahoma. Included is a discussion of other management tools that enhanced the change.

The identification of an inefficient procedure was made simple by establishing idle time as a separate category. This revealed a relatively high percentage of idle time, 20.02 percent for front-desk personnel—mostly in the evening. Due to this high percentage of available "free" time, management examined the department organization. As a result, sort-room duties, normally part of stack maintenance responsibilities, were transferred to front-desk personnel. This task was chosen because it could be performed in the front-desk area and permitted personnel to move quickly to the desk to service patrons when heavy traffic required additional help. The problem could have been solved by reducing staffing at the desk, but the ability to serve a sudden influx of patrons would have been hampered.

This solution also proved quite advantageous to the stack maintenance unit. Relieved of sort-room responsibilities, stack maintenance personnel were able to increase their shelf-reading time by more than 100 hours per month. In purely monetary terms, the additional staff time available as a result of the reorganization would have cost the library about $4,800 annually. Yet without additional investment of funds, the condition of the stacks improved and service to patrons at the desk did not suffer.

In-house costing can also mark the level of performance from semester to semester. Ideally, costs for charging material should increase only in proportion to salary increases and inflation of maintenance, supplies, etc. If a comparison of costs can be made from repeated sampling studies, increases or decreases in cost can be noted and attributed to changes in procedure, implementation of automation, etc. Of course, the data for such efficiency analysis must exist. Therefore, plans have been made to repeat the sampling procedure at least once a year. This study will then serve as a bench mark to which fu-
ture findings can be compared. For example, a major change in procedures, such as the reorganization of sort-room duties described earlier, should make a measurable change in the idle-time category and the costs associated with it.

Another method of comparing performance with other activities in a benchmark fashion was done by comparing cost results with discharge accuracy. Returned interlibrary loans are sampled monthly to determine if they have been discharged correctly. This simple quality control measure can assist in monitoring any changes. It can warn of an increase in operator error; even changes arrived at by quantitative means may result in unwanted and unforeseen reductions in quality, and this discharge quality control measure provides a check against such a mishap.

The percentage of time support staff spent at the desk providing backup assistance is one result that can be compared to other research. John Beecher and Francesca Anstine have completed an in-depth study of professional and support staff activity via random work sampling. Although their study observed overall library staffing, some comparison can be made. Anstine states “Support staff spent more of their time in circulation activities during the fall and spring than in any other area.” Interpretation of the percentage of support-staff activity at the University of Oklahoma should probably take this into consideration, particularly since the observation period was during the fall. Assuming the Anstine analysis can be applied, it seems reasonable to conclude that our circulation supervisor would spend a lower percentage of time assisting at the desk during the summer. If this conclusion is then correlated with data on discharge accuracy kept in the department, some feel for the “right” percent of time a circulation supervisor should be providing support can be deduced. Specifically, if supervisor support dropped below 10 percent and discharge accuracy was then observed to drop several percentage points, it could be reasonably concluded that more supervisory time was required at the desk to insure discharge consistency. Too much supervi-

DISCUSSION

Regardless of its origins, organizational change cannot be accomplished without cooperative attitudes among staff or without additional management tools that can help minimize stress. The study itself can often provide a backdrop for change, particularly if all staff are included in planning. For example, the transfer of duties described earlier was enthusiastically initiated by the circulation supervisor because of his integral involvement in the study. Typically, though, when a study reveals needed change, there can be considerable resistance. Coping with resistance to change can be a challenge with several possible solutions, all of which may serve to enhance efficiency of everyday operations. The key to truly effective and practical change based on study data is the use of management data in operations. If use of study data is understood to be a part of the normal course of events, the response of staff to study results will be less defensive.

At the time this study occurred, several management tools that no doubt assisted the transition were in place. Supervisor evaluations have been done for the last two years. This provides an alternative channel for feedback from student workers and probably contributes to the cooperative attitude department-wide. This feedback loop gives students more opportunity to suggest change, based on their viewpoint of work flow and, as a result, changes in procedures take place more readily.

Procedure review was another management tool in effect at the same time. An ongoing revision of procedure manuals has been an important department goal. This review forces staff to scrutinize how a procedure is performed and how it can be pared down to the simplest description. The review is just another situation that makes staff realize that the department is a dynamic and changing entity—again minimizing their resistance to change.

Annual staff evaluations also contributed to the successful reorganization. By
including the formulation of unit goals in the evaluation process, staff are again forced to examine overall department needs. When such goals are based on sound study data arrived at with staff participation, they are certainly pursued more enthusiastically than goals with seemingly arbitrary or vague origins. The three "tools" described above are just a few of the many possible approaches to management that coordinate well with quantitative measures such as work sampling.

Practicality is another major consideration in implementing change based on quantitative study results. Many of the shortcomings revealed in a work sampling are quite practical in that they often do not require additional funding. Reassignment of duties, changes in procedures, and cancellation or promotion of an underutilized service are simple, everyday solutions that can pay off. Although there is no substitute for a good, observant supervisor, subjectivity can be a problem when intuition or the desire to protect staff positions is a part of the analysis. Quantitative measurement provides an objective yardstick to support supervisory analysis.

The tables generated by SAS on "procedure/time of day" and "procedure/day of the week" are good examples of supervisor analysis that can be enhanced with sampling data. When these tables were analyzed by the circulation supervisor, the student work schedule was revised. Staffing for several periods of the day that had previously been intuitively scheduled as busy periods was reduced when the study indicated such heavy staffing was unnecessary.

Costing data like this may also serve as a rationale for more unusual solutions to stringent budgets. The idea of discouraging circulation and encouraging in-house use is not typical for librarians who usually use circulation statistics as support in funding requests. However, as Richard DeGennaro suggests, quality rather than quantity is now playing a more important role in such arguments than in the past. As a result, the additional costs of take-home circulation compared to in-house use may prove to be appealing rationale. In addition, the current trend in preservation lends additional weight to this viewpoint. Visualized even further, a circulation desk in a library with a vital public relations campaign encouraging in-house use might conceivably save more dollars by operating part-time.

All this points to a definite need in circulation departments, usually employers of a large number of staff, for repeated sampling and analysis. The large size of most circulation staffs also creates more flexibility when budget constraints force reductions. Under those circumstances, quantitative statistics might be the best resort for a circulation librarian arguing to retain workers. Whether or not such comparisons are significant, library administrators still appreciate the importance of figures on book charge/renewal that show a reduction in cost or a favorable comparison with other institutions. This kind of study provides the information necessary for such comparisons.

In summary, a variety of information was garnered from a simple random observation study. The techniques for this type of study can be easily mastered and are readily accessible in standard texts. Several comparative studies, cited earlier, already exist in the literature and have assisted in these formulations and analysis. Therefore, a continuing annual study in any circulation department would be relatively simple and could prove most useful in work-flow analysis, efficiency comparisons, and overall examination of department organization.

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Letters

To the Editor:

"Inventory Costs: A Case Study," by Clifford H. Haka and Nancy Ursery (March 1985), begs the essential questions: why should an inventory be performed, and if performed, how complete should it be? The authors' A Guidebook for Shelf Inventory Procedures in Academic Libraries (Washington, D.C.: Association of Research Libraries, 1985), unpublished at the time of this letter, may help to answer these questions. A short explanation in the article, however, would have helped to place the purpose of this case study in perspective.

The purpose of the inventory should be to locate materials that library users are likely to seek out, not to find materials for which no one was looking. Before conducting an inventory, a pilot project should determine the loss rate based upon a random sample of the general collection. Recognizing that some of the lost items will not be sought, the gross loss rate should be reduced by a factor to yield a probable net "effective" loss rate.

Prior to the pilot, criteria should establish what will constitute an acceptable loss rate; if the losses are at that level or lower, then the cost/benefits of a complete collection inventory would not be indicated. Establishing an acceptable loss rate before evaluating the pilot data will ensure that a complete inventory will not be conducted simply because any loss will be unacceptable.

In the case study in the article, a complete inventory was performed on an old Dewey collection to which little had been added in fifteen years, and from which a decreasing amount doubtless had circulated. The loss rate was only 3.29%. Performing a complete inventory of the Library of Congress collection, with a loss rate of 0.8%, seems even more dubious. If there were good reasons to conduct either of these complete inventories, they cannot be evinced from the article.

The authors conclude that "If a sample inventory at a library is confusing and expensive (slow), it probably indicates that a complete inventory is badly needed." The converse could lead to the conclusion that the author's simple and fast inventory must not have been necessary. A slow and cumbersome inventory indicates poor planning or poor supervision. The need for an inventory should be indicated by a pilot study, not by a now-it's-too-late statement that "This inventory was confusing and slow, so it must really have been needed!"

ARNOLD HIRSHON
Associate Director for Technical Services and Automation,
Virginia Commonwealth University Library

To the Editor:

In Paula Watson's C&RL (July 1985) article, "Production of Scholarly Articles by Academic Librarians and Library School Faculty," the calculation of "per capita productivity" in table 2 does not provide information on two aspects of the data collected that bear on "productivity": (1) the number of individual librarians responsible for the publications at each institution and (2) the range of the number of publications among those individuals. These data would be most useful to help assess the relative productivity of librarians, as a faculty group, at each of the institutions cited.

WILLIAM J. CROWE, Assistant Director for Technical Services,
Ohio State University
To the Editor:

Joseph Dagnese, Director of Libraries at Purdue, has brought to my attention that there is an error in table 2 of my article "Production of Scholarly Articles by Academic Librarians and Library School Faculty" published in the July 1985 issue of C&RL. In column 2, the per capita productivity of librarians at Purdue should be .24 and not .13. This raises Purdue to the third rank in per capita productivity.

PAULA D. WATSON, Assistant Director of General Services,
University of Illinois at Urbana-Champaign

To the Editor:

I read your editorial in the July 1985 C&RL with interest, and am moved, in spite of the reputation enjoyed by writers of letters to the editor, to send you my comments. Much of what you say is talked about in similar ways by many other librarians, I believe. Perhaps on this basis my remarks may have some general applicability. While I wholeheartedly agree that academic librarians—all librarians—must raise new questions and challenge old assumptions, they must do it in ways that do not introduce further unexamined assumptions and ideas, as I am afraid your comments tended to. Let me take your four final points (p. 294) one by one.

1. Books, records, films, videotapes, even computer memories, are not "containers," and words, ideas, information, and knowledge are not "contents." The members of the second group are inseparably linked with those of the first which happen to convey them. Did you ever spill the "contents" of a book? Do you throw away a film after viewing it because it is "empty"? This metaphor is false and misleading, and ought to be disposed of forthwith.

2. Apropos of number 1 above, librarians cannot help but be in, to use your metaphor, "the container and contents business simultaneously. The characteristics of the medium affect the message it conveys, sometimes in subtle, and sometimes in obvious ways. To be effective, a librarian must understand both to the best of his or her ability. There is no dichotomy.

3. What are "static" and "dynamic" here, except terms that convey an attitude about the thing labeled. In our culture "static" seems to be bad, and "dynamic" good, but beyond that they tell us little. Indeed, one could argue that all information and knowledge are static, and that it is really the reader, the user, the thinker who manipulates them who is dynamic. But they are merely neutral terms, and not praise or blame.

4. Sure, why not. But this is another false dichotomy. The one does not exclude the other, and both, as well as other techniques, may be applied to the particular needs of particular knowledge seekers. The current Librarian of Congress, Daniel Boorstin, has amply demonstrated in his books that the trend of modern technology is towards a plurality of solutions. The new does not replace, but rather supplements and extends the old. We should expect this in libraries, too.

Librarianship needs a vigorous debate on its purposes and techniques. But, as I suggested before, it is important to examine new questions as vigorously as old answers.

PHILIP A. METZGER, Special Collections Librarian, School of Medicine, Southern Illinois University

To the Editor:

I was surprised and delighted, when going through my mail after returning home from my tenth year as a volunteer leader at the Creative Problem Solving Institute, to read your editorial in July College & Research Libraries. I was especially pleased to see you cite Min Basadur's study as a reference. Min was one of my first teachers at Creative Problem Solving Institute. His interest in training for creativity has extended from his position at that time in Proctor & Gamble to his present empirical research. I couldn't agree more that we need increased emphasis on creative behavior in our libraries and in our professional organizations. With the legitimate need for "structure" and order in libraries it is especially
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important that we retain our flexibility and openness of perspective. This, of course, is especially important in the 80's, with the rafter-rattling changes that technology presents. Thanks so much for bringing this need to the attention of the library world and through the respected editorial page of your journal.

SUSAN P. BESEMER, Associate Director of Library Services, State University College at Buffalo

To the Editor:


Albeit one of the greatest skills of the ancient Romans was the adaptation of the best of other cultures and especially the Greeks', they did manage to have a few inventions and customs which were completely their own. The god Janus had no Greek counterpart and was an old Italian deity. While it is fitting that the committee on collection development at California State University at Sacramento be called JANUS, let us give proper credit to the Romans. Janus was one of the more important of the Roman deities, in prayer and sacrifice, his name was invoked first, the first month of our year is named for him, and the doors to the temple of Janus in the Roman forum were closed when Rome was at peace but open during a time of war. Given the warlike nature of the Romans, only three times were the doors ever closed—in the time of Numa, after the First Punic War, and after the battle of Actium. It is only fitting that I now invoke your peace and close the doors on this subject.

NANCY BIRK, Associate Curator Special Collections, Kent State University

To the Editor:

For some time I have been wondering what criteria you are using in selecting books for your "Other Publications" section. At first I assumed that this compilation was intended as a kind of addendum to the book review section: i.e., titles of professional interest that were not being reviewed. It is true that books of this sort are included, but I am somewhat puzzled by the seemingly random inclusion of miscellaneous books on scholarly topics (e.g., Thailand: A Short History, Yale Univ. Pr., 1984). And I am completely mystified at seeing titles such as Photographing Your Baby, The Art of Buffet Entertaining, and Boating Cost Guide. My current theory is that you are simply listing any books anyone happens to send you. Please enlighten me if I am wrong.

JACK RAY, Assistant Director, Loyola/Notre Dame Library, Baltimore, Maryland

Editor's Note: You are right. All books received but not reviewed are listed in "Other Publications."

To the Editor:

I have enjoyed reading College & Research Libraries. As its editor you are to be commended. I too work in the area of publications and am pleased to hear from people who get something special from reading an article I have worked on.

Recently I felt something beyond the ordinary when I saw Carlton Rochell's "The Knowledge Business" in the January C&RL. It was a sense of déjà vu, because I edited the same article in Bibliographic Services and User Needs, the report of a conference sponsored by the Council on Library Resources. The conference, where Dean Rochell presented the paper, took place in December 1983; the proceedings were published in March 1984.

I remember the paper well because it had been spit out by a word processor that did not distinguish between upper and lower case, used four periods at random between words, and was paged incorrectly. It's hard to forget a wild child you have tamed, but I did not expect this child to show up again with new clothes.
I see a few revisions in wording, but the paper is virtually the same as the one given in 1983.

For bibliographical accuracy's sake, I was taught, a paper or article previously published or presented should be cited as such. In other words, there should have been a note indicating that this was not the first time this paper had been published. Don't you agree?

PAUL PETERSON, Reference & Special Projects Librarian,
Linda Hall Library

Editor's Note: I certainly agree. I was unaware that Carlton Rochell's article appeared in the March 1984 proceedings. Nonetheless it should have been cited as a paper presented at the December 1983 conference sponsored by the Council on Library Resources.
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BOOK REVIEWS


As the title indicates, this paperbound volume contains the papers, addresses, and discussions presented at the third national conference of the Association of College and Research Libraries. With the publication of these proceedings we should pause and reflect on the accomplishments of the ACRL national conferences. After three conferences there should be some assessment of how well the academic library profession has achieved what it set out to do in 1978.

The first national conference seemed like an idea whose time had come. Other professions had national conferences, and certainly we also should have one—perhaps in part to confirm our membership among the professions. Without a doubt much of the academic library profession was caught up with the excitement of a national conference just for academic librarians where scholarly papers were to be read and discussed. What better way to celebrate the fortieth anniversary of ACRL?

By most accounts the first national conference was a success. More than twenty-six hundred librarians attended. The proceedings contained seven theme papers and sixty-six contributed papers. A few participants complained they did not have the opportunity to hear all the papers they wanted, and some commented that speakers read through their papers with little regard for audience interest. Nevertheless, with the passage of time the Boston conference has achieved Woodstock-like status among academic librarians.

After the enthusiasm generated by the first conference, inevitably the second national conference would be anticlimactic. Some eighteen hundred participants braved the brisk Minneapolis fall weather. Perhaps the decrease in the number of participants from the first conference reflected the austerity among libraries often discussed at this conference. The publishers of the conference proceedings, however, evidently did not believe that academic libraries shared the economic austerity of the rest of the country. They published the 5 theme papers and 56 contributed papers in two volumes with the combined price of $125!

Before the third national conference, a few academic librarians expressed serious doubts as to the "success" of the national conferences. Certainly there had been a few minor grumblings about the quality of the papers, the missed sessions, and lack of delivery style among the speakers. Now, however, two librarians publicly expressed their concerns about the success of the national conferences as a form of scholarly communication. Coughlin and Snelson, writing in The Journal of Academic Librarianship (March 1983), titled their critique of the conferences "Searching for Research in ACRL Conference Papers." These authors concluded that more than two-thirds of the papers presented at the first two conferences were not research re-
ports. They called for a fifty-fifty split in research and scholarly papers for the third ACRL national conference and an exclusion of the "how-I-done-it-good" paper.

Was progress made at the third national conference? The answer is a qualified "yes." First, the conference organizers made a concerted effort, through their instructions to contributors and a workshop session at the previous ALA Midwinter Meeting to ensure the effective delivery of the contributed papers. They requested that accepted contributed papers be submitted "copy-ready" for duplication, to reduce printing costs. The reduced costs should ensure wider distribution of the proceedings. In fact, the conference participants received a free copy. No longer did participants have to rely on microfiche readers or pay exorbitant prices to read the papers they missed at the conference.

How well has the third national conference served as a forum for scholarship among academic librarians? By 1984 it had become "conventional wisdom" among academic librarians, as pointed out by Sharon Rogers in the wrap-up session, that conference papers presented at Boston and Minneapolis had not been cited. It is still too early to determine the citation pattern for the third conference. The lack of citations should not be surprising. First, one suspects that most librarians, like most members of other professions, reserve their best efforts for the journals. Second, the proceedings of the conferences are not as widely distributed as articles in the more prestigious journals are. The reduced costs of the Seattle proceedings should encourage wider distribution and, thus, increased citation. Finally, the proceedings of the conferences have not been indexed, as are contents of library journals. Library Literature should index the ACRL national conference proceedings as it does library journals.

Unfortunately, the conclusion that the contributed-papers aspect of the conference is not working is firmly implanted in the minds of many librarians. The number of contributed papers has been steadily reduced at each succeeding conference. Sharon Rogers and Robert Pesek, however, pointed out, in their carefully prepared analysis in the proceedings of the third conference, an increased sophistication in the papers presented. They described the primary format of the Boston and Minneapolis conferences as "author as biographer," through which the author describes systems in various stages of development. They described the single most common format of the Seattle conference as "author as analyst," through which the author performs primary research and discusses issues. Rogers and Pesek found encouraging movement from the earlier conferences to the third conference in the areas of "conceptual theory" and "analytic science."

This volume contains 47 contributed papers, 6 theme papers, and the papers from four alternate-format sessions. The theme papers are also published in the September 1984 issue of College and Research Libraries. These papers represent, as described in the preface, the best of the 166 papers submitted for review to the 118 reviewers. The acceptance rate of 28 percent is respectable and comparable to many journals. This does not mean that a few questionable papers did not slip through, but the reviews had to be done hastily to meet deadlines. With the large number of reviewers involved, some variation in judgment is inevitable.

The result is a collection of papers that ranges considerably in quality and subject and contains something for everyone. There are a few solid research pieces, which unfortunately do not necessarily lend themselves to oral presentations but make interesting reading in the proceedings. In addition, there are the ubiquitous "how-I-done-it-good" papers, which appear even weaker in print than when heard. To the chagrin of some of the more research-oriented librarians, many librarians voted their preferences with their feet, and the "how-I-done-it-good" papers often had larger audiences than the more methodological, rigorous papers. Nevertheless, before we engage in too much self-flagellation, such papers—in the form of well-developed case studies and similar scholarly activities—deserve some place at a conference largely attended by practitioners. The establishment of a "position
papers' category for the fourth conference is a recognition of the interest in "locally implemented experiences," as the organizers of that conference euphemistically have described "how-I-done-it-good" papers. Finally, although not reported in the proceedings, some of these papers were subjected to rather probing questions from the audience. Librarians interested in presenting such papers at future conferences should keep in mind that they will have to defend their work.

Are the conferences worthwhile? Are they more of an opportunity for librarians to speak than listen? Certainly there is a notable downward trend in attendance: fewer than fourteen hundred librarians attended the Seattle conference. For most of the hard questions about the conferences, it is too early to have definitive answers. If Rogers and Pesek are correct, the conferences may foster increased sophistication in scholarly activities among academic librarians. Given the widely publicized call for papers, many librarians who had never thought of submitting an article to a journal may have submitted a paper for presentation at a conference. In addition, several hundred librarians, many of whom would never have otherwise had the opportunity, had the experience of refereeing their colleagues' papers. Finally, literally thousands of librarians shared in the give-and-take of the scholarly process as papers were read, discussed, criticized, and defended. Is there room for improvement? The answer is "yes, of course." Not everything lived up to the ideal, but practice is almost always essential for improvement.

This relatively inexpensive volume offers the reader a wide variety of information covering a full range of contemporary academic librarianship. Often the papers are only loosely related to the theme of the conference (does anyone really take the conference theme seriously when writing contributed papers?), but this should not be a concern. Not every paper will capture the attention of the reader, but there are enough to merit the purchase of this volume. Those seeking a complex mystery novel with an intricate plot and multidimensional characters will be disappointed. This is a collection of short stories and the reader can skim through picking favorites to read. Some are good and some are not. Some will encourage the reader to search for additional information in other sources and some can be quickly dismissed.

The reviewer will exercise the privilege of identifying a few of his favorite papers: Gresham Riley, president of Colorado College, enthusiastically articulated his support for bibliographic instruction in his theme paper. In a second theme paper, Bill Moffett, director of libraries at Oberlin College, described the frustrations of college librarianship as "life in the minor leagues." Finally, in a contributed paper, Gary Lawrence provided an excellent analysis of the economic realities of "Financial Management of Online Catalogs," which librarians should keep in mind as they seek to use the computer to solve their problems and provide better service. Purchase of the conference proceedings as well as attendance at and participation in future ACRL national conferences are highly recommended.—Larry Hardesty, Eckerd College.


This is an ambitious survey book describing organizational aspects of public, school, academic, and special libraries. Lowell Martin, a distinguished library administrator, has integrated his considerable practical experience with a careful review of contemporary library and management literature, producing a succinct, mostly cognizant comparison of the structures, relationships, and trends of these several enterprises.

The book begins with an examination of the evolution of management thought and practice generally. While many such summaries are available elsewhere, Martin's keen observations and pointed focus make his unique. He notes that whereas library management practice in general mirrors that of other types of organizations, it suffers from a significant time lag in the use of current concepts. Worse,
there is very little experimentation and constructive adaptation of experience from other organizations. Thus interest in "scientific management" or "quality circles" trickles down to library organizations some time after the principles have experienced a revision or redefinition. Martin posits that the answer to this deficiency is more systematic preparation of library managers—including required study of classical and contemporary management thinking—and therefore has devoted roughly a third of this volume to building a conceptual background.

A central conclusion of Martin's examination is that libraries should be viewed as complex social institutions interacting with a dynamic environment rather than as rigidly defined bureaucratic structures. Successful functioning of library organizations requires leadership and group processes that effectively incorporate complex roles and relationships, rather than a neatl y defined job-task hierarchy.

There are few management principles that can be applied blindly by libraries, but there are lessons that may be exploited. The remainder of the work systematically examines specific library organization issues within this all-important philosophic framework. Martin begins with an overview of library service patterns employed by school, special, college, research, and public libraries, including a description of the external relationships so critical to the success of any organization. At this point, a major shortcoming of the author's survey approach becomes apparent. In his references to academic libraries, Martin's lack of understanding of their nature and function constitutes a rather significant shortcoming in his generally astute perceptions. For example, his view of the college library as a supply agency simply acquiring books needed to support the courses offered is a glaring oversimplification. The author states the following: "College libraries can in part be thought of as extensions of high school libraries"; "the academic librarian is more accurately referred to as 'the keeper of the book'"; large research libraries "strive for self-sufficiency"; and "in academic library administration, this is a time not for the builder but for the conservator." These inaccuracies compromise an otherwise insightful overview.

Martin proceeds to review the coverage of management topics in the professional literature, the relationships of libraries with external agencies and the public, and the internal organization of different types of libraries. These summaries are thoughtful and well done although inaccuracies regarding academic libraries continue to creep into the review (e.g., the author states that the library directors at the Universities of Utah and Texas are vice-presidents).

Finally, Martin provides chapters dealing with the several distinct levels of staff positions that exist in libraries, patterns of supervision and management, and administrative functions of direction and coordination. Throughout this coverage, he contributes a seasoned and broad perspective on the comparative practices of these various types of libraries. The excellence of this coverage is only limited by an incomplete understanding of the current practices of academic libraries. While this volume is therefore not the definitive text on library management, it is a useful survey of management practices within the profession.—Duane E. Webster, Office of Management Studies, Washington, D.C.


The authors of the second edition of the Anglo-American Cataloguing Rules sought to avoid some of the shortcomings of the previous code by providing the user with copious examples of rule interpretations.
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Despite the great improvements in this area the new code has given rise to a number of interpretive companion volumes. Two very different examples are LC and AACR2 and Cataloging Government Documents.

AACR2 provides a theoretical framework for the cataloging of various types of materials and is considered to be especially strong in its descriptive section. Nevertheless, a cataloger on many occasions will come across particular questions which are not dealt with in the examples given in the code, and a question of rule application arises. The practice of the Library of Congress is generally regarded as authoritative, but it is not always an easy matter to locate the LC rule interpretation that will apply to the situation at hand. In some cases there is no specific interpretation, and the cataloger turns to analogy for the solution.

LC and AACR2 is quite descriptively subtitled An Album of Cataloging Examples. It consists almost exclusively of reproductions of LC catalog cards arranged by AACR2 chapter and rule number, with the specific rule in question highlighted on the cards. A brief preface and two indexes make up the remainder of the work. The examples are heavily weighted toward monographs and serials. Those working with other types of materials will not find it of much help, though it is often in the nonbook areas, where little MARC cataloging is available, that some of the greatest difficulties are encountered.

The major drawback of LC and AACR2 is that it is destined to be incomplete, as the nature of cataloging makes it impossible to gather an example for every contingency. The compilers caution that some examples may already be outdated, and because of photo-reduction the few blank spaces provided for expansion are too small for a 3-by-5-inch proof slip. Some users will question the wisdom of including a twenty-four-page author/title index to the cards reproduced and may wish the pages had been used instead for explanatory text or for more examples. Few catalogers will argue with the utility of LC example, however, and the format could hardly be simpler to use.

With these limitations in mind a cataloger may wish to add a copy of this work to the department’s stock of ready reference works. While it will not answer some complex questions, nor provide a theoretical basis for certain decisions, LC and AACR2 is a reliable source of example for a variety of problems. Its major advantage is in presenting in one place a large number of potential solutions to frequent cataloging dilemmas.

Cataloging Government Documents: A Manual of Interpretation for AACR2, produced by the GODORT Documents Cataloging Manual Committee, is a very different approach to cataloging. It is another of the rapidly growing number of special cataloging aids for interpretation and application of AACR2 to various classes of materials ranging from maps to microcomputer software. The general introduction states that the purpose of this manual is to “clarify” unclear AACR2 rules regarding documents cataloging, to “address” special problem areas, and to “interpret these features in a manner consistent with the spirit of AACR2.” It is further stated that “no new rules or additions to AACR2 are proposed,” and that the manual is designed for use in conjunction with the cataloging code. The latter point is very important, for the thorough treatment of the chapters may tempt some users to neglect double checking both the code and LC rule interpretations.

The manual concentrates on items most likely to be cataloged by those working with government documents: books, serials, and cartographic materials, plus brief chapters on microforms and machine-readable data files. One somewhat surprising omission is the lack of coverage of the laws and treaties sections of chapter 25 on uniform titles, though both are mentioned in chapter 21. Like AACR2 itself, this guide is evenly divided between description and access. An index is provided.

A notable feature of this work is its prescriptive tone. Whereas cataloging guides such as LC and AACR2 do more than sup-
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ply LC example, Cataloging Government Documents is an attempt to fill a void in cataloging practice. The authors often advise catalogers of what they should do in a given situation. While this tone is very appealing to a newcomer or student, it also becomes a weakness of this work, for one can never be certain of the source of this prescriptive tone. The preface states that the GODORT Documents Cataloging Manual Committee "worked closely with the Library of Congress, the Superintendent of Documents, and the Federal Library Committee to develop rule interpretations that would provide the best treatment of documents." A hasty reading of this, coupled with the many references to LC and GPO in the text, might lead the unwary to accept this work as quasi-official policy of the Library of Congress. Instead, the book must be read as an informed commentary on AACR2 and LC/GPO policy as interpreted and augmented by the committee.

The layout of Cataloging Government Documents is attractive; it is presented as an annotated version of those sections of AACR2 applicable to documents. However, a reader will find difficulty in distinguishing between material that is quoted and that which has been paraphrased or edited. For instance, the definition of the chief source of information for a cartographic item given under 3.0B2a appears to be taken verbatim from AACR2, but actually is an expanded version of the definition appearing in the code. (The reader would be alert for this possibility only if the specific chapter introduction had been read.) Likewise a reader must be aware that indented material introduced by the phrase "LC rule interpretation says" is not always an exact quote. In the latter case lack of CSB citation numbers often makes it cumbersome to locate the issue being quoted for comparison.

The rule interpretation cited for 21.1B1 is an illustration. In the first paragraph on p.124 following "‘colloquium,’ etc.,’’ the interpolation "are some examples; the particular word is not important" has been added to the CSB statement. The named/unnamed conference examples given at the end are from CSB18, while part of the interpretation is from CSB22, minus its last four paragraphs. While a cataloger using this or a similar manual will always need to consult CSB to see if there is a later rule interpretation, here the lack of specific citations makes use of the section more difficult than it should be.

The full range of problems presented by this style is illustrated in section 24.4C1. In this four-page section, which appears to the casual reader as an exact reproduction of LC rule interpretation, closer examination reveals that two CSB paragraphs have been omitted and that, while most of the interpretation is taken from CSB18, some wording is retained from CSB15. Furthermore, there are eight instances of minor insertions or rewordings of LC text, several typos, and words that are left out. The example given for qualifying "Center for Materials Science" is an incorrect alteration of the proper AACR2 form given in CSB18.

There are other cases where the authors appear to contradict LC or AACR2 policy, as in the contradictory statement of responsibility examples given under 1.1F and 1.1F7. The former includes the authors' position titles and separates corporate affiliation with a comma, while the latter LC example omits titles and separates with parentheses. On p.37 there is a directive that statements of responsibility appearing on bibliographic data sheets "are to be regarded as prominent in all cases." This is contrary to the policy stated in CSB16 that "no special exception for these data sheets" be made.

Such problems detract from the potential usefulness of this work. A rule-by-rule guide for the application of AACR2 to government materials could be a great help both to catalogers who deal extensively with documents and those who catalog them only occasionally. The last paragraph of the general introduction, with its note that "complex materials call for complex cataloging," is an admirable summation of the difficulties encountered in this area. The chapter introductions all contain valuable overviews on their topics and despite the problems touched on above,
there is a great deal to be learned about documents cataloging in this book. The user will also find information on diverse topics not readily available in one source, such as a definition of "star prints," information about SUDOC and NTIS numbers, and how to compute scale on maps.

Cataloging Government Documents must be approached with caution as a cataloging aid. The user should be aware that LC rule interpretations are sometimes edited, and that the examples given are often not from AACR2 or CSB. Closer proofreading of examples and text would be desirable, as typographical errors always loom large in a cataloging work such as this. No errata sheet is currently available. Departments that do full AACR2 cataloging will certainly want to take advantage of the GODORT committee's experience and efforts but, given the shortcomings mentioned above and a price of $50, general academic cataloging departments are unlikely to make this book a priority for their collections.—Gunnar Knutson, University of Illinois at Chicago.


In a review written some years ago of volume 8 of the same title, I made the claim that Advances in Librarianship is one of the few places in library literature where one finds literate, comprehensive, and brief overviews of advances in the field. This statement still appears to be true.

The latest volume of Advances covers a very wide range of topics, from management information to information systems and library automation in Latin America to collection development and management. There is something in the eight sections of this short volume for librarians of most tastes, persuasions, and interests.

Those of us who struggle with a sometimes overwhelming amount of information will appreciate the systematic approach suggested by Charles R. McClure. He presents a good overview of how various forms of organizational information processing, e.g., MIS and DSS, might be applicable to libraries. In so doing, he also presents a good review of the literature that has appeared since 1975.

Nancy Williamson raises and discusses many of the issues involved with information storage and retrieval but especially that of subject access to online systems. One of the main issues at present appears to be whether online access should be constructed from the top down or from the bottom up. Williamson claims that the needs of the future need to be more completely assessed and that more research is necessary.

Public libraries have often been at the forefront of library innovation. John Durance discusses one of these innovations, community information services, specifically the provision of local information, information and referral, and public policy information. In an era when community information services could be flourishing, poor communication seems to have re-
sulted in many libraries not adapting such services.

Two articles discuss developments in international librarianship. In the first, Robert Vosper traces the growth, in the recent past, of library associations, both national and international, much of it due to IFLA. This growth has seen a corresponding increase in programs: universal bibliographic control, national bibliographies, and universal availability of publications, to name a few.

The second article by Marietta Shepard argues that "Notable advances have been made in the last decade in Latin America in the development of library and information services" (p.152). Computers share much of the responsibility for these advances along with other factors such as developmental programs of UNESCO and OAS, greater communication among educators of the region, demand for greater information by scientists and industrialists, and better-trained librarians and information specialists. Among the advances are national library and information systems and subsystems, regional information systems, and the employment of a whole host of library practices including authority control, automated cataloging, and the like.

The assertion made several years ago that "collection development is one of the most discussed and still least well-known areas within librarianship" (p.196) may still be true, though papers like the next three go a long way toward making it less so.

Marcia Pankake argues that book selection has changed substantially since the late nineteenth century and has become part of a larger and more complex system—collection development. The early days of selection were characterized by certainty and confidence in the value of the book, in the principles of selection, and in directing readers to suitable materials. While the certainty and confidence are gone—it might be more accurate to say that they are inappropriate—they have been replaced by a "spirit of inquiry and a need to seek objective evidence" (p.206). Selection is now subsumed under collection development along with evaluation, management, budgeting, and a number of other intellectual processes; collection development is best characterized by planning, control, and system.

Evaluation is often an important first step and certainly a powerful tool in collection development. Mosher's paper "represents a selective treatment of recent trends in research, methodology, and practice relating to collection evaluation" (p.212). Beginning with a brief historical overview of the literature prior to 1970, Mosher moves on to more recent studies. The evaluation methodologies described include classification—curriculum relationship, analysis of subject literatures, statistical compilation, analysis by collection characteristics, citation studies, overlap studies, and use studies. It is pointed out that care must be shown in the application of research results to real library situations and that more than one type of study should be employed to insure confidence in conclusions. Finally, Mosher raises some issues requiring further study, e.g., the difference between felt and unfelt needs.

The final paper by C. D. Hurt is an examination of the two major methods employed to identify the important literature of science, the qualitative (historical) and the quantitative (bibliometric). The historical approach stresses only those scientific events that are successful and suggests that science is both rational and linear. Bibliometrics, the application of mathematical methods to media, on the other hand, suggests that scientific progress is nonlinear and not entirely rational. Though Hurt focuses primarily upon the bibliometric approach, especially citation analysis, he points out that both methods have their respective strengths and weaknesses and that a combination of the two might be helpful.

Like the previous volumes of Advances in Librarianship, this volume presents papers high in the quality of scholarship and writing. It is simply the best source of overviews of what is going on in the field. As such, it would be an excellent buy for any library staffed by librarians who wish to keep abreast of advances.—William E. Hannaford, Jr., Castleton State College.
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