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Guest Editorial
Talking to Ourselves

Having been invited to contribute a guest editorial as a part of the celebration of College & Research Libraries' first half-century, it is bad form, I suppose, to use the occasion to complain. But in looking back over past issues, it is clear there's been a notable shortcoming on the part of academic librarians that this journal has failed to correct. As we push ahead into the next half-century it is high time someone does something about it!

How can I put this? Academic and research librarians do a splendid job of communicating what they're about—and C&RL reflects it admirably—but what we write is seen by almost nobody but other librarians. For all our meetings, conferences, and preconferences, our journals and yearbooks, are we any better understood by the clients in whose behalf we labor? By the senior officials who control our budgets and make information policy for our institutions? We talk too much to each other and not enough to them.

Surely I'm not alone in thinking that the view of the academic library from the administration building is no clearer today than it was when C&RL published Robert Munn's classic article in 1968. In fact, it may be even murkier. Dennis Carrigan, summarizing the "political economy" of academic librarians in an article published here in July 1988, reminded us that the administrators who control the institutional resources upon which the library depends are traditionally not major consumers of library services and can't be counted on to understand those services or to assess competently their quality or their importance. That is ominous as librarianship becomes more complicated and as the budgetary pressures on higher education move toward crisis proportions.

Interestingly enough, it was "the crisis in higher education and research" that supplied the note of urgency invoked by A.F. Kuhlman, the first editor of C&RL, in introducing this journal in 1939. In the very first issue he laid down eight objectives for the new venture; they included serving as the official means of communication within the association, publishing professionally significant articles and reviews, stimulating research and experimentation, and helping the ACRL develop into a strong and mature professional association. After fifty years we can give C&RL pretty good marks for achieving these objectives. But how about objectives four and five on Kuhlman’s list?

* seek to bridge the gap between these librarians and the faculty, college administrators, and research workers whom they serve
* integrate efforts of college, university, and reference librarians with those of kindred groups such as educational and research agencies and learned societies

Here we've no grounds for self-satisfaction. The gap between us and our administrations (and sometimes our primary clients) still yawns on many campuses; nationally, we have not only failed to "integrate" our efforts with those of many kindred groups, but our lines of communication are almost nonexistent. We know we have a vital role to play in higher education, but sometimes we become acutely aware that our colleagues beyond the library have a remarkably superficial notion of who we are and what it is we do.
Given our Ptolemaic view of higher education—with librarians somewhere near the center of things—it is both ironic and inevitable that we should be surprised and disappointed to find that our services are not always understood and appreciated by others. But it’s an old story. Recently someone handed me an article from The Oberlin Review, our student newspaper, entitled “What We Do at the Library.” Submitted anonymously by a library staffer, it begins:

When the library staff compare notes once in a while, they conclude that there is a vast amount of ignorance regarding their line of work. When they are asked, ‘Are you kept busy all the time?’ ‘Do you find much time to read?’ ‘What will you do when the work gives out?’ they think, How little you know about a library. Some perhaps see no need for so large a staff; that, however, is because they have little idea of the amount of work to be done.

The writer goes on to describe in detail the organization of technical services and observes that since most of the work of processing goes on “behind the scenes,” it attracts little notice from the majority of library users who concentrate their attention “on the person at the desk.” That person, too, the anonymous writer concludes, has plenty of things to do: “Her sole duty is not to hand out books, nor does she find time to read.”

As quaint as the language is—it was published, after all, on February 5, 1986—its basic message is no less valid in the much more sophisticated libraries of a century later. We cannot assume that what we do, and what it takes to support the kind of service we know is needed by our users, is self-evident, even to them. We must still work to “bridge the gap.”

What can C&RL do to achieve goals four and five on A. F. Kuhlman’s list? Figuring that out surely must be high on the agenda for the new editor Gloriana St. Claire, and her editorial board. Somehow we must find ways of reaching a wider audience. We’ve got to stop talking just to ourselves.

WILLIAM A. MOFFETT
Director of Libraries, Oberlin College
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Learning Resource Services in the Community College: On the Road to the Emerald City

W. Lee Hisle

This article discusses the community college environment in which learning resource services (LRS) programs exist. The history and growth of LRS programs are summarized and five major challenges for the future are outlined: focus, instructional involvement, adapting to technology, service to nontraditional students, and professional commitment and liaison. It is suggested that, even though the LRS program concept is widely accepted, these challenges must be met if academic excellence in LRS programs is to be achieved.

In 1939, Hitler invaded Poland. Sigmund Freud died in London at the age of 83. Albert Einstein wrote to President Roosevelt informing him that an atomic bomb was feasible. And MGM released The Wizard of Oz, a movie about a girl and her dog who, buffeted by the winds of change, discover they aren’t in Kansas anymore. In the same year that Dorothy and Toto traversed the yellow brick road in search of one who could make their wishes come true, the Association of College and Research Libraries (ACRL) was formed. During the ensuing fifty years, academic libraries have helped millions of Americans make their wishes for knowledge and academic achievement come true. One segment of academic libraries, the community college learning resource services (LRS) program, has come of age and now serves more undergraduate students than any other single segment of American higher education.¹ LRS programs are still following that mythical highway of yellow brick, and though many adventures lie ahead, Oz is much closer today than it was fifty years ago.

The past, present, and future of community college LRS programs correspond to the development of their parent institutions. Community colleges began in the early 1900s, yet they face serious questions about their direction and mission in today’s educational environment. During the 1960s and 1970s, they came through a time of tremendous growth and change; now they are being challenged to develop a cohesive presence to deal with educational problems in our society. The decade of the eighties has been called the turning point for American community colleges by some, while others have suggested that community colleges are in a “mid-life crisis” and are searching for new meaning.² As community college leaders question assumptions held from the early days, they are redefining the role and function

¹ W. Lee Hisle is Director of Learning Resource Services, Austin Community College District, Austin, Texas 78714.

²
of these colleges in the higher educational environment.

Community college LRS programs, reflecting their college environment, are in a similar state of redefinition. The too have had to deal with tremendous growth and change. They too are faced with questions regarding their role and function. While there is no longer a question in community college circles of the validity of the LRS concept, which combines library with media and often other educational support services, LRS programs face many problems in building a cohesive approach to service. (Even the name, learning resource services, is not standard, although for the purposes of this paper, LRS will encompass all variations.) Fortunately, as with any redefinition, LRS programs have the opportunity to become stronger, more adaptable, and better able to assist in achieving the community college mission.

THE COMMUNITY COLLEGE ENVIRONMENT

Background

To understand the problems, trends, and opportunities facing community college LRS programs, it is necessary to understand the context in which they have developed and in which they exist. Although community colleges began in 1896 at the University of Chicago, in the elitist vision of William Rainey Harper, who wanted to separate lower- from upper-division students, the movement owes its strength to the American sense of democracy. As George Vaughan points out, Thomas Jefferson called for the establishment of a college within a day's travel for all Virginians. Jefferson believed that talent and intelligence knew no social or economic barriers and even called for occupational training, along with courses for avocational pursuits, to be taught in the evening when working people could attend.3

The Morrill Acts of 1862 and 1890 established the land grant colleges and began a federally supported effort to educate working people without the barrier of restrictive admissions. For the first time, agricultural and mechanical courses were taught in a higher education sphere. They were even called "people's colleges," foreshadowing the role of community colleges in providing education to all citizens.4 The land grant colleges also pioneered the idea of communitywide service through their agricultural and general education extension programs. Access to education through extension programs increased enrollments and eventually led to the establishment of curricula reflective of vocations such as business management and journalism. Greater variety in programming led to increased diversity in student demographics, which led again to newer programs.5

In 1921, the American Association of Junior Colleges, later called the American Association of Community and Junior Colleges (AACJC), was founded to promote the community college movement.6 As early as 1936, A.D. Hollingshead suggested that junior colleges become more community oriented by providing programming designed to satisfy community needs: adult education offerings and recreational/vocational programs.7 By the end of World War II, these colleges were ready to integrate into the practices of higher education the democratic ideals for which the nation had fought.8

Two events in the late 1940s set the stage for the unprecedented surge in community college enrollments and the establishment of a permanent place for community colleges in the higher education landscape. In 1944, Congress passed the G.I. Bill of Rights, which provided to veterans the financial support needed for college expenses and, for all practical purposes, made their education seem an entitlement.9 Three years later, the 1947 President's Commission on Higher Education for American Democracy, known as the Truman Commission, strengthened the
future of community colleges when it called for open access to education two years beyond high school. This would be accomplished through locally controlled, commuting-distance institutions called community colleges. The commission suggested that the role of community colleges should be the provision of education for all the citizens of the community regardless of race, sex, religion, color, geographic location, or financial status.

Although community colleges grew in part from the demand for trained workers for the nation's postwar industrial plants, another significant factor was the drive for social equality. This drive complemented the expanding community college movement. Supported by the increase in fifteen- to twenty-four-year-olds, up by 68 percent between 1955 and 1970, community colleges became known for equal and open access. Many students, regardless of their academic backgrounds, came to view community college education as a basic right, not necessarily an earned privilege. Today, community colleges enroll approximately 43 percent of all undergraduates and 51 percent of all first-time entering freshmen, forming the largest single sector of higher education in the United States. They have been phenomenally successful at attracting students and gaining a central place in the American higher educational environment.

Problems

Success, however, has lead to problems. Although community colleges have sought excellence through providing open admissions to all students, open access with academic excellence has been a goal rarely achieved. For example, open access enrollments bring students who are unable to read, write, or compute on a basic level—a group now becoming a majority in some colleges. The open door for these students can become a revolving door, ushering students out as fast as they enter unless a different, more responsive curriculum, along with other intervention strategies, are provided. The time, energy, money, and leadership needed to establish these strategies are often lacking. The conflict between the democratic ideal of open access and the societal pressure for standards is thus intrinsic to the modern community college.

The overlap of transfer and technical courses has added to the complexity of understanding community college education. Other problems include accommodating the return to college of single parents, women who desire to reenter the work force, older students, and other nontraditional students outside the mold of the eighteen- to twenty-two-year-old stereotype. These students are typically, in the words of Edmund Gleazer, "ambitious toward ends but uncertain of the means by which desirable but vague objectives can be achieved." (As Barbara Moran points out, these enrollment trends are not totally unique to community colleges. However, community colleges enroll a greater percentage of these students than do other segments of higher education.) Leveling enrollments and increasing fiscal restraints, both internally imposed and forced on colleges by governing boards and legislatures, have increased the tension between dedication to a mission and the constraints of limited financial resources. New technology and its ability to deliver instruction and communicate information to distant locations permit new approaches to curriculum development. Inclusion of new technology in instruction requires a reconsideration of budgetary priorities as well. Gloria Terwilliger points out that "the adoption of large-scale high technology is straining the financial resources of our colleges and drawing funds away from existing instructional supports and technologies." All of these factors add to the difficulty community colleges have had establishing a distant, focused, institutional purpose.

"The open door . . . can become a revolving door, ushering students out as fast as they enter unless a different, more responsive curriculum, along with other intervention strategies, are provided."
and organizational identity. As Arthur Cohen and Florence Brawer assert, "Community colleges do not even follow their own traditions.”

New Direction

Over the last few years, a significant new direction has begun to emerge for community colleges. In 1986, the board of directors of the AACJC appointed the Commission on the Future of the Community College. The commission’s report, published in 1988, is entitled Building Communities: A Vision for a New Century. It signals a refocused, invigorated approach to the mission of the community college. The report says:

At their best, community colleges recognize and enhance the dignity and power of individuals. Students come to colleges to pursue their own goals, follow their own aptitudes, become productive, self-reliant human beings, and, with new knowledge, increase their capacity and urge to continue learning. Serving individual interests must remain a top priority of community colleges. But they can do much more. By offering quality education to all ages and social groups, community colleges can strengthen common goals as individuals are encouraged to see beyond private interests and place their own lives in larger context. Community colleges, through the building of educational and civic relationships, can help both their neighborhoods and the nation become self-renewing.

The report calls for “building communities” to become rallying points for all community colleges. It stresses, however, that outreach is not enough; rather, partnerships based upon shared values and common goals are essential. How are partnerships formed? Through excellence in teaching, for “at the center of building community there is teaching. Teaching is the heartbeat of the educational enterprise and, when it is successful, energy is pumped into the community, continuously renewing and revitalizing the institution.”

The essential challenge of LRS programs in community colleges is to participate and contribute to this new vision of the community college mission. Excellence in teaching must be a metaphor for excellence in reference services, for excellence in media production, for excellence in bibliographic instruction, collection development, and individualized instruction, and for the host of other activities that a LRS program contributes to its college environment. Partnerships must be formed with excellent teachers and administrators to provide leadership for the next fifty years.

DEVELOPMENT OF COMMUNITY COLLEGE LEARNING RESOURCE SERVICES

History of Neglect

As they matured more slowly than did the colleges themselves, excellence has rarely been a hallmark of community college LRS programs. In 1939, when the ACRL was founded, most community college libraries were only beginning to develop. Collections were small and other resources were scarce. Responsiveness to institutional needs was a goal, but one that was difficult to accomplish and in little evidence.

Mary Alice Webb recounts the history of neglect suffered by community college library programs from their inception until the mid-sixties. Joleen Bock substantiates this history while pointing out the few bright spots that were evident, including the work of B. Lamar Johnson. This early leader in the community college movement began as the librarian of Stephens College in Missouri (which was at the time a junior college). Johnson later developed the Community College Leadership Program at UCLA and founded the League for Innovation in the Community College. Propitiously, his seminal book, Vitalizing a College Library, was published in 1939. In it he called for community college libraries to become curriculum leaders with campuswide instructional responsibilities. Johnson’s efforts at creating mutually supportive relationships between the library and the classroom and his call to treat similarly all types of communications materials foreshadowed the development of the LRS concept in the 1960s.

Turnaround

During the sixties, library leaders in
"During the sixties, library leaders in community colleges began moving their libraries from being merely repositories of materials toward becoming increasingly involved in their college's instructional programs."

community colleges began moving their libraries from being merely repositories of materials toward becoming increasingly involved in their college's instructional programs. Armed with the 1960 Standards for Junior College Libraries, librarians "attempted to mold community college libraries into agencies of sufficient strength to meet the varieties of need in the community college." This effort was valiant but needed the impetus of three significant events during the late 1960s and early 1970s to propel community college libraries into a position of strength from which they could offer adequate service and develop into the often exemplary support programs they are today.

The 1960 Standards did not compel colleges to strengthen their library programs sufficiently. Indeed, some community college presidents were angered by the seemingly arbitrary recommendation about collection size. The stage was set for the first major event that began the turnaround toward excellence. In 1966, E. J. Gleazer, then the executive director of the American Association of Junior Colleges, wrote a pivotal article for College & Research Libraries, entitled "The Stake of the Junior College in Its Library." Gleazer, writing that "of all aspects of junior college development, less attention has been given to the junior college library than to any other part of the instructional program," heralded an awakened concern for the state of the library program in community colleges. Gleazer's reputation and position in the community college profession encouraged community college leaders, perhaps for the first time, to consider seriously the inadequacy of their colleges' library programs. His leadership in this area should not be underestimated.

Gleazer called for the development of "guidelines to encourage and support effective library services both for new and existing institutions." He went on to say, It is not enough to borrow the patterns and forms and procedures which may have worked well for other kinds of educational institutions with other assignments and missions. It may be a dangerous fallacy to assume that these will fit the role of the community college. They may or they may not. What is needed is an honest analytical examination of the kinds of library services required to give expression to the community college concept.

Gleazer's words could not have better reflected the redefinition then occurring in community college libraries. The influx of audiovisual materials and attendant technology found community college libraries expanding their role as these new types of materials and technology were woven into a program of service. Thus, the second major event to improve community college libraries, indeed to change them forever, was really more of a movement: the quickening shift toward a learning resources concept of service. The LRS embodied an organizational structure that included not only traditional library service but also audiovisual services, including instructional development and media production.

The LRS concept may have begun as early as 1928 when the Carnegie Corporation assisted colleges in acquiring phonograph records. The concept gained credibility when the first audiovisual course was offered by Louis Shores at George Peabody College in 1935. The idea of the "library-college," also developed in the 1930s by Shores, helped mold LRS philosophy. In 1939, the same year that the ACRL was founded, B. Lamar Johnson gave significant support to the idea. Bock reports that the term learning resource center was first used officially at a 1967 conference entitled Junior College Libraries: Development, Needs, and Perspectives sponsored by ALA, American Association of Junior Colleges, and the University of California at Los Angeles. (B. Lamar Johnson was at UCLA by this time.) Representatives from Monroe Community College in Michigan and the Dallas County
Community College District used the learning resources terminology to describe their evolving library programs. They called for libraries to become learning resource centers by embracing a concept of service in which libraries are not just for books but for all types of media. The interrelationship between LRS and the college instructional program was also emphasized. \(^3^6\)

The concept of LRS gained attention in the late 1960s through the mid-1970s as new community colleges were being founded at an extraordinary rate and the LRS philosophy was instituted in a college at its founding. A broad range of services became the norm rather than the exception and included, among others, library services, audiovisual materials collection, audiovisual equipment distribution, graphic and photographic reproduction, video production, audio- and video-learning laboratories, tutorial services, reprography, career information centers, and learning assistance centers. \(^3^7\)

Ruth Person points out that the community college library embraced the LRS concept due to

\[\ldots\] the pattern of initiation of services, experimentation, rapid change, tremendous growth, and struggle with challenges [which] characterized the two-year college and its library. The need to provide learning and informational materials to an enormous variety of students, combined with the lack of commercially-available materials to address different learning styles, educational needs and new subject areas placed a great burden on learning resources programs. \(^3^8\)

The movement toward the learning resources concept remains strong, although questions are arising regarding the optimal size and characteristics of LRS programs. Some individuals question whether LRS programs will or should expand beyond library and audiovisual services to incorporate such ancillary support services as microcomputer labs and college printing services. \(^3^9\) Such debate is essential as LRS programs mature and helps keep the LRS concept vibrant and healthy.

In 1972, the third major event in the development of community college libraries took place. Solidifying the LRS concept and satisfying some of the needs that Gleazer enumerated in 1966, the adoption of the 1972 Guidelines for Two-Year College Learning Resources Programs \(^4^0\) was an important step in the progress of community college libraries. The Guidelines reflected a change in philosophy for library programs, including provisions for the integration of library and audiovisual services, the inclusion of production in these services, and the involvement of learning resources in instruction. In addition, use of the term learning resources in the title of the Guidelines, reflecting the broad acceptance of the LRS concept in community colleges, indicated the growth and maturity of the service. \(^4^1\) Since the publication of the 1972 Guidelines, it has been less and less appropriate to speak of community college libraries. Most colleges and researchers in the field accept and use the LRS terminology or some similar variation. Today, in most community colleges the term library has become at the least a misnomer, if not altogether anachronistic.

Even with the importance of the title change, the 1972 Guidelines were most significant because for the first time standards were adopted simultaneously by the three national organizations most important to community college libraries: the ACRL, a division of the ALA; the Association for Educational Communications and Technology (AECT); and the AACJC. \(^4^2\) The 1972 Guidelines had considerably more influence on community college operations than earlier efforts and are in large part responsible for the success of community college LRS programs developed since their publication. The 1972 Guidelines were later supplemented by quantitative standards in 1979 and were revised slightly in 1982, but the essential concepts and philosophy remain unchanged. \(^4^3\)

New Standards

Of course, the 1972 Guidelines could not meet the needs of the profession indefinitely. The authors recognized that their work would require significant upward revision when community colleges and LRS programs reached new stages in their development. Greater numbers of re-
sources and greatly extended services would demand future revision. To accommodate the changes in LRS programs and community colleges over the past twenty years, new standards have been developed recently by a joint committee of the ACRL and AECT. Published in draft form in 1989, formal ACRL/AECT adoption should come in 1990.

The new standards will once again assert the importance of the learning resources concept, but with new emphasis on microcomputer and telecommunications technology. Among the changes will be the integration of (revised) quantitative figures into the textual discussion of qualitative standards. A significant, though symbolic, difference is that the term two-year college in the title will be replaced with community, technical, and junior college, reflecting the changing nature of student enrollment patterns in community colleges (i.e., rarely does a student spend two years in a community college). Also, among the many changes in quantitative measures, the new standards will call for a much more realistic LRS percentage of a college's educational and general expenditure budget. Unfortunately, the AACJC has not been involved in a formal way with the development of the new standards as they were in 1972. This is likely to have a negative effect on college adoption of the new standards unless some form of support can be obtained from the AACJC. It is hoped that the inclusion of the term learning resources in the title, as was done in 1972, will encourage all community colleges to adopt this designation. Consistent use of the term in all areas of the country is necessary if administrators and others are to understand and accept LRS programs as an integral unit within a college.

WHAT OF THE FUTURE?

Peter Drucker argues that the most important time to ask "what is our business?" is when an organization has been successful. The development of the learning resources concept over the past fifty years is evidence of LRS success and maturity. But there is another question Drucker insists be answered as well: "what will our business be?" The changes in the higher education environment will have an impact on the future characteristics, mission, and purpose of learning resources. Thus it is necessary to ask "what will we be?" to plan effectively for present and future services.

As community colleges are faced with new demands and considerations in defining their role and mission, LRS programs, the instructional resources support services in a college, are faced with questions about their role in a changing environment. Moran's comments about academic libraries are relevant here:

Today's academic libraries are facing a series of challenges that arise from factors both internal and external to the library itself. As libraries, the primary information resources on campuses, enter the so-called "information age," they face a number of common problems. Libraries' responses to these challenges will determine the shape of the academic library of the future.

Moran goes on to say that there is little group consensus on appropriate responses. LRS professionals may be viewing changes in a "dangerously passive manner—expecting new roles . . . will evolve and that the changes taking place will be evolutionary rather than revolutionary."

The development of the LRS has in part resulted from a collaborative relationship between instructional faculty and LRS staff. Instructional problems and their solutions have been a shared responsibility. However, Terwilliger reports that these relationships are breaking down as new technology requires new ways of delivering instruction. Carl Cottingham echoes her concerns, saying that new strategies and methods of teaching resulting from adoption of new technology have changed the ways learning resources are operating.

If old relationships are breaking down and new strategies are forcing redefinition, what will be the new roles of LRS programs in this changing environment? More importantly, what are the strategic issues facing community college LRS programs which will define these new relationships and roles?
FIVE ISSUES FOR THE FUTURE

The past, present, and future in academic libraries were ably discussed by Moran in an earlier fiftieth anniversary feature. Her research and insight are by and large applicable to the library aspect of community college LRS programs. I commend her excellent work to the reader. She, and others, have rightly pointed out that the difference between now and the future will likely be one of degree. With growth as the keyword, the problems that have beset us in the past will only loom larger in the future. Problems will not dissolve into some mist of new technological wonderment. Rather, we will struggle with many of the same weaknesses with which we tussle today. As Jonathan Fanton, president of the New School for Social Research, says,

"The advent of a new century does not imply a radical change, a sharp break with the past. Rather, it signals an intensification of the dilemmas we now face and an ever-mounting set of challenges, albeit ones that are not easily foreseen."

Looking at the community college LRS environment, however, there are five critical issues, five challenges, which must be faced if excellence is to be achieved. Not necessarily new, these issues nevertheless focus on what we must do—those areas of greatest importance—to provide LRS programs with a future as distinguished as its past.

Focus

The concept of LRS was clearly defined in the 1960s and 1970s when audiovisual services were added to library programs. Now, there is less consensus as to what an LRS program should encompass. For example, Terwilliger argues forcefully that microcomputing labs should be organized as part of LRS programs. Whether this new role will be a part of the LRS of the future is, however, undecided. Peggy Holleman's research indicates there is disagreement over which additional services are appropriate to LRS programs. My research, completed in 1988, indicates that LRS roles are clearly defined and accepted only for traditional library and audiovisual services. Whether it is appropriate to include emerging areas such as telecommunications and microcomputer support into LRS programs is much less agreed upon, not only by LRS directors/deans, but also by presidents and vice-presidents of community colleges.

Adding to the confusion, both the 1972 Guidelines and the draft 1989 Standards encourage a situational definition for LRS programs by accepting whatever is occurring at the local level as appropriate, so long as library and audiovisual services are represented. Over thirty roles are identified as possible LRS functions in the 1989 Standards, including college catalog production, college press, copy shop, public museum, and telecourse administration. The traditional LRS program, just as was observed about community colleges, seems to be one which has no traditions.

While local autonomy is desired, it is also important to have a degree of standardization in LRS programs. A clearer and more consistent definition will facilitate program comparison, foster better training programs for LRS professionals, and make easier the task of explaining to administrators, accrediting bodies, associated professional organizations, and legislative overseers what the LRS program does. Too many areas under the LRS umbrella may also reduce the focus on the cornerstones of the LRS program—library and audiovisual services. A consistent LRS mission would heighten the perceived and real importance of the LRS concept in the educational community.

Instructional Involvement

The key to the future success of any LRS program is the degree to which it is inte-
grally involved with the instructional program of its college. No more central issue exists, although sometimes this basic fact is overlooked as technological and administrative demands cloud our vision. Currently, there is evidence that instructional involvement is not seen as a critical need by LRS directors. Other research indicates that a paltry 38 percent of community college instructors use library resources in their instruction. John Lanning, though speaking from the standpoint of a university environment, makes arguments that are applicable to community colleges. He states that the current relationship between faculty and librarians is "distant, ineffective, and often driven by frustration." Role separation between teaching faculty and librarians can impede progress and, as Donald Ray says, "Political divisions—librarians do this, teachers do that—hobble the library in the most fundamental way." The most important way to achieve integration is through developing partnerships with teaching faculty and fostering a well-developed and heavily supported program of bibliographic instruction or, as it is often called in community colleges, library use instruction (LUI). LUI, integrated into the curriculum, can foster librarian/teacher partnerships in the instructional program of the college. LUI must be taught as a means and not as an end unto itself. LUI that offers "predigested information to be retrieved by prearranged procedures" is of little service to students who need skills for lifelong learning. Community college students in particular need a LUI program that incorporates the open-ended characteristics of the library's knowledge base in that it reflects real-world learning as distinct from classes, which may reduce learning to the assimilation of discrete bits of information.

An LRS partnership with teaching encourages faculty to look toward the LRS for help in developing new teaching methods and materials and for assistance on curriculum development. With knowledge of collection strengths and the range of services available from the LRS, librarians and other LRS staff must seek to serve on curriculum development committees as LRS advocates. As Mary Sue Ferrell, a former community college LRS director and now executive director of the California Library Association, says, "The teaching-learning process is the heart of the institution and the role of the library is to enhance this process by forming partnerships with faculty." Adaptation to Technology

Technology will remain a force within LRS environments for the foreseeable future. In many colleges, the use of technology to assist with the work of the LRS is commonly accepted and survival without its help is unthinkable. Advances in technology will continue and greater benefits from its use will be available. Even though, as Moran says, "The biggest unanswered questions related to the future of higher education is what impact the electronic information technologies will have on this nation's colleges and universities," it is the responsibility of LRS program staff to keep abreast of new developments, using technology to serve students, faculty, and staff effectively. The LRS program should also provide technological leadership to other areas of the college. Telefacsimile systems, electronic mail, and various forms of telecommunications should be familiar to LRS staff and be developed for other college departments.

One example of the way in which LRS programs have begun to use technology to improve services is in the area of resource sharing. As Richard Ernst, president of Northern Virginia Community College, says, community colleges cannot afford the luxury of dusty stacks. Consequently, he says, "We are dependent, and in our opinion appropriately so, on those institutions with larger and more in-depth resources to meet periodic special needs." The opinion that LRS programs should not maintain exhaustive collections but should rely on other institutions for in-depth support is not a radical one among community college presidents or LRS directors. In the future, however, LRS programs must guard against deterioration of local holdings even as they look to meth-
ods of accessing and developing resource-sharing opportunities. Eileen Dubin and Linda Bigelow point out that LRS programs are "transforming their roles as collection centers into centers for accessing information." This activity will become increasingly important as new methods of storage and retrieval are invented and perfected. Networking with other colleges to access little used but important CD-ROM-based indexes will increase. The success of linking community colleges with dissimilar institutions into multitype networks for resource sharing is likely to encourage continuation of the trend.

In the future, it will be essential for LRS programs to be proactively involved with networks, consortia, and other agencies as means to obtain unowned materials. Automation of LRS programs, especially the creation of local online databases for catalog access and other LRS processes, must be a college priority. This will enable LRS programs to become part of resource-sharing networks. Resource sharing is just one area in which technology has changed the nature of LRS programs. In the future, other areas in which the application of electronic information technology can improve operations must be developed. A measure of excellence will result when the application of technology to problems results in greater service to students, faculty, and staff.

Service to Nontraditional Students

Community colleges have a history of serving unique student groups, or what are commonly called nontraditional learners. These students will make up an increasingly larger percentage of student enrollment. A significant number of educationally disadvantaged students are enrolling in community colleges. For example, estimates indicate that over 50 percent of all students entering community colleges read at or below the eighth-grade level. The increase in adult learners, another nontraditional student group, has prevented the predicted decline in college enrollments from occurring. Enrollments in distance education programs, in which students typically receive instruction via telecommunications technology or through print-based independent study, have increased tremendously as the technology to deliver instruction to remote sites has become more varied and refined. Colleges are engaged in providing instruction to employees in the workplace and to students still in high school. All of these nontraditional student groups require innovative and planned approaches to service.

Educationally disadvantaged students, in particular, need the attention of LRS programs. Carol Truett has documented the lack of community college LRS programs geared to disadvantaged students. With its systems of complicated storage and retrieval procedures, the LRS can be a forbidding place to disadvantaged students. Specific programs designed to deal with both the affectionate and cognitive needs of these students are required if LRS programs are to serve this group of students more effectively. Instruction must be integrated into regular coursework, because these students in particular need to see the relationship between the library assignment and their achievement. The development of an affinity for the LRS in these students can be one of the greatest motivators for academic progress and can introduce them to the resources needed for lifelong learning.

Students enrolled in distance education also need special consideration in the provision of LRS services. Because they are not required to visit a campus or extension site to receive instruction, special information access, identification, and delivery routines must be established to provide them with the educational services they need. With creative and planned effort, students can receive not only print materials, but audiovisual programming (addressable cable TV channels); microcom-
puter support (circulating microcomputers with dial-access software); and index access (dial access to CD-ROM networks and/or the college's online catalog). Such access areas will be increasingly important in the future as enrollments grow.

**Professional Commitment and Liaison**

Excellence requires commitment. LRS leaders and staff must play a more active role in the higher education environment. Attending and participating in library association or educational technology association conferences must be a continuing part of LRS staff life. However, programming should be directed toward educational decision makers as well. For example, LRS programs should be represented in the AACJC annual meetings and on the programs of other meetings that draw community college administrators and teaching faculty. If the potential of LRS programs to serve their colleges with excellence is to be achieved, it will only be because presidents and other institutional administrators understand the difference between high- and low-quality LRS programs and are able to see the benefits of fully developed LRS programs.

Community college faculty and staff have never been required, nor particularly encouraged, to do research. This attitude must change if LRS programs are to achieve excellence in the future. Critical inquiry and thought are necessary to develop conclusions about quality service. The past must be analyzed and the future hypothesized. The direction and shape of LRS programs must be considered critically in order to have a planned and intended future. The questions that face LRS programs need debate and discussion so the profession can flourish. As Terwilliger has said, "We will shape our destiny by describing it."

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Yesterday’s Heresy—
Today’s Orthodoxy: An Essay on the Changing Face of Descriptive Cataloging

Michael Gorman

This article analyses four descriptive cataloging orthodoxies of the past—corporate authorship, uniform personal headings, the main entry, and the dominance of the card catalog—and contends that each has been overthrown, overtly or covertly. It contrasts the views of Cutter and Panizzi, mostly in the latter’s favor, and alludes to the pronouncements of nineteenth and twentieth century luminaries and committees on the matters under discussion. The ways in which the MARC format has influenced descriptive cataloging, for good and ill, are also treated. The article closes with a plea for reason and the application of utilitarian principles.

orthodoxy is my doxy; heterodoxy is another man’s doxy,” said Bishop Warburton to Lord Sandwich. Descriptive cataloging, that pleasant backwater of human endeavor, is as subject to the kind of situational ethics that the eighteenth century divine had in mind as is any other area of human thought. The good bishop thought of opinions and dogmas in terms of the frailties of the flesh (“doxy: a loose wench...sometimes: MISTRESS,” Webster’s Third New International Dictionary), which tells us a good deal about the Anglican Church in the bad old days. I think it is as valid to think about orthodoxies and heresy in terms of chronology. In the last thirty years, we who are involved in descriptive cataloging have seen heresies become dogmas and wild speculations become received opinions. I, as have many others, have changed some of my opinions and have seen some other opinions move from the fringes to embodiment in the very codes that regulate the largest and most influential body of descriptive cataloging—that of the Anglo-American tradition.

I seek in this essay to describe some of the changes that have occurred in descriptive cataloging of the Anglo-American tradition in the last fifty years. The most remarkable features of those changes are the way in which seemingly impregnable bastions of orthodoxy have been revealed to be as transient as sand castles and the way in which, on some occasions, the guardians of the descriptive cataloging establishment (the national libraries, the library associations, IFLA, and the rest) have proved to be as nimble as adagio dancers in adapting to the accommodation of pre-
viously abhorrent ideas.

CORPORATE AUTHORSHIP

Corporate authorship is as good a place to begin as any. The saintly and ingenious Sir Anthony Panizzi (the *fons et origo* of the Anglo-American cataloging tradition) rejected all but the smallest smidgeon of corporate authorship in his ninety-one rules. It was Charles Ammi Cutter who began the whole farrago with his breezy observation "I think that the American practice of regarding bodies of men as the authors of their own journals, proceedings, etc. . . . is preferable to the German practice of dispersing these works throughout the alphabet . . . ." (Note the two kinds of chauvinism so characteristic of the period.) He went on, in his *Rules for Descriptive Cataloging*, to state that "bodies of men are to be considered to be the authors of works published in their name or by their authority." It is interesting to see that the robust "bodies of men" (redolent of Kipling at his most strenuous) are not flatly stated to be authors but are merely to be considered to be such. However hedged his rule might have been, the fact remains that Cutter had begun to stir the witches' cauldron of corporate authorship.

The nineteenth century, the time of the single author giants of descriptive cataloging, was succeeded (with almost uncanny chronological neatness) by the time of the corporate creation of the Anglo-American cataloging codes. Since the committees that were responsible for those codes were corporate entities, is it any wonder that they espoused the concept of corporate authorship? That could be accepted as mere human frailty. What is almost excusable is the baroque indulgence with which they elaborated on the fundamentally silly idea. Cutter's "bodies of men" were succeeded by the Rube Goldberg elaborations of the distinctions between societies and institutions and the ultimate absurdities of (for example) rules for observatories located outside municipalities and for institutions located in several places. As the years whirled down the alleys of time (1908, 1937, 1941, 1949), the whole crazy structure of corporate authorship became less and less stable. What was needed was a dose of common sense to challenge the central idiocy of corporate authorship.

Cometh the hour, cometh the man (or woman). It was the great Seymour Lubetzky who dealt the first hammer blow. It was Eva Verona who finally demolished the whole thing. Lubetzky assailed the corporate complex and tried to introduce logic into the application of the idea of corporate authorship. The only problem was that the notion of a corporate body being "chiefly responsible for the intellectual or artistic content" of a work is, except in certain narrow and infrequent cases, inherently implausible. Even Lubetzky's powerful mind was incapable of pulling off the trick of rationalizing the absurd.

"The notion of a corporate body being 'chiefly responsible for the intellectual or artistic content' of a work is, except in certain narrow and infrequent cases, inherently implausible."

In the *Paris Principles* of 1961, a work that emanated from a conference that was dominated by Lubetzkyan reformist ideas, we find reference to "entry under corporate body" and provisions that are considerably less sweeping than they might appear to the casual reader. What this section of the Principles represents is a political compromise between the Anglo-American comprehensive view of corporate authorship and the much narrower provisions for corporate entry found in the descriptive cataloging codes of continental Europe. Corporate authorship is not mentioned in the Principles, but entry under a corporate body is allowed in numerous cases. The idea behind the Principles was that they were to form the basis for international standardization and that the future codes that took them as their bases would be in conformity. Alas, the looseness of their wording, which was made necessary by the political compromises that made the Paris meeting
"work," made it possible for new national codes to drive a coach and horses through the idea of international uniformity. Nowhere is this more apparent than in the use that was made of the section on corporate entry. The first edition of the Anglo-American cataloging rules (AACR), in both its British and North American manifestations, explicitly embraced the concept of corporate authorship while claiming to be based on the Paris Principles. At more or less the same time, European codes were published which did exactly the opposite while also claiming to be based on those self-same principles. But 'twas a famous victory!

The reaction was not long in coming. Seeing that the ambiguity of the Paris Principles had made it possible for national and international cataloging codes to remain far apart on a vital conceptual question, the IFLA Committee on Cataloguing encouraged Eva Verona to do a study of corporate headings (published in 1975 as Corporate Headings: Their Use in Library Catalogues and National Bibliographies: A Comparative and Critical Study) which espoused the Continental European idea that there is no such thing as a corporate author, though the limited use of corporate main entry headings in author catalogs may be justified. This distinction has the whiff of angels and pins that is characteristic of much of descriptive cataloging theory, but it did lead to an important theoretical and practical change in the second edition of the Anglo-American Cataloguing Rules (1978). For the first time since Panizzi, a major English language cataloging code abandoned the idea of corporate authorship and limited the application of corporate main entry to five (later six, see AACR2R, 1988) narrowly defined categories of works that (in the careful, if slightly otherworldly, term used in the code) "emanate" from corporate bodies.

Thus it was that the orthodoxy of corporate authorship was overthrown and the heretical "German practice" that Cutter decried reigned in its place. The ultimate irony is that one of the categories allowed main entry by AACR2 is probably the only true case of corporate authorship that has ever been. The provision to enter sound and video recordings and other works created by a performing group under the name of the group seems to me to be a recognition of a plain fact. That fact is that it is hard to dispute that, say, the Rolling Stones are the authors of sound recordings that contain songs that the group has written, performed, and produced. So, as corporate authors steal from the scene to be replaced by a few "emanators," modern society and technology have given us a type of material in which corporate authorship is indisputable.

UNIFORM PERSONAL HEADINGS

Charles Ammi Cutter was, in Paul Dunkin's phraseology, the Prophet upon whose dicta the Law of our cataloging codes was based. His most Mosaic utterance is to be found in his famous Objects of a dictionary catalog. Those few statements have been the cause of much that is good about the cataloging codes that took them unquestioningly as their basis. They have also been the cause of some persistent error and of some misunderstanding. I have never seen it pointed out that, for instance, the very first "object" makes little or no sense. It reads "To enable the reader to find a book of which . . . the author is known." The fact is, of course, that if one knows nothing of a book other than the name of its author, it will be impossible to locate that book with complete confidence. Even if, in such a case, one were to find only one entry in a catalog under the name of that author, how would one know with ontological certainty that that entry represented the only book in the world by that author? The first object should read "To enable the reader to find a book of which . . . the author and something else, preferably the title, is known."

The most serious flaw in the Objects, however, lies not in the first but in the fourth. This reads "To show what the library has by a given author." The way in which this object is to be achieved is stated to be "Author entry with the necessary references." In other words, the works of an author are to be gathered together under a standard heading in all cases—when an author uses different forms of his or her name or when an author uses two or more
different names. This ruling by the Prophet was among the most orthodox of the cataloging orthodoxies for nearly a hundred years. It caused a great deal of mischief. Works identified with one name were, until comparatively recently, to be found under other names in catalogs and, in American libraries at least—because of the infamous Cutter-Sanborn numbers—to be located on the shelves in a place other than that in which the average sensual library user would look for them.

"This orthodoxy—that all the works of a person should be collocated regardless of the inconvenience to the majority of library users—need never have happened."

This orthodoxy—that all the works of a person should be collocated regardless of the inconvenience to the majority of library users—need never have happened. That it did so is the product of two unfortunate happenings—neither of them, to my mind, the fault of the late C. A. Cutter. The first is that in this matter, as in so many others, we were following the wrong prophet. The pragmatism and intellect of Anthony Panizzi had come to a very different conclusion. In the forty-first of his ninety-one Rules for the Compilation of the Catalogue Panizzi stated, "In the case of pseudonymous publications, the book to be catalogued under the author's feigned name . . . " and, in the forty-second rule, "Assumed names . . . to be treated as real names." How much easier the life of the library user would have been had the cataloging profession followed the Italo-English prophet rather than the American! All the works of the multilnamed Ms. Hibbert and Mr. Creasey (not to mention Lauran Bosworth Paine, who is to pseudonyms what Argus was to eyes) would have been entered in the catalog and found on the shelves under the names by which those worthies wished them to be identified. "What of scholarship?" I hear the traditionalists cry. "What of the need for the researcher to survey all the works of an author in one place?" There are three answers to those questions. The first is that scholarship begins when the book is in hand and does not consist of or comprise the arduous searching for materials that is imposed on the would-be scholar by ill-organized library catalogs. The second is that the rules of Panizzi were followed for many a long year in the British Museum's General Catalogue of Printed Books—a work that a number of scholars have found to be a boon rather than an impediment to scholarship. The third answer is best put in the form of an existential question, "What is an author?"

This latter question leads to the second error that I believe to have bedeviled the question of the entry of persons using two or more names. When Cutter referred to "the works of an author," we seem to have assumed that he meant "the works of a person." I have always maintained that one person can be two or more authors. There is a well-known story of Queen Victoria being so entranced by the first of the "Alice" books that she begged the Reverend Dodgson to send her his next book as soon as it was issued. She was rewarded for her importunity, some six months later, by the receipt of a huge tome on symbolic logic or some such. This illustrates that she may have been asking the right person but was certainly asking the wrong author. Supposing Cutter had meant that distinction all along? That is unlikely because his own Rules follow the old orthodoxy on this question. However, prophets have been known to misinterpret their own prophecy and it could be that the Cutter who, shaman-like, promulgated the Objects was wiser than the less exalted Cutter who wrote his justly famous Rules.

The Paris Principles were the last statement of the old orthodoxy on multiple names. They flatly prescribed a single uniform heading for each person consisting of the name most frequently found in "his [sic] works." The 1967 AACR prescribed a single heading for such persons but gave alternative rule that allowed entry for each work to be under the name that the author used in manifestations of that work. This, though a tip of the hat to real-
ity, was of small utility in a time when standardization was rapidly moving from being an ideal to becoming a necessity. It was, after all, a scant year later that saw the beginnings of the MARC format and all the implications for cooperation that format represented. In 1978, AACR2 tried to wrestle with the problem anew. It revived the idea of a predominant name (thus consigning the works of the immensely serious Reverend Dodgson to the heading for the frivolous Lewis Carroll) but allowed as how, if no predominant name could be found, each work could be entered under the name found in its manifestations. This was superior to the AACR version because it prescribed only one rule and because it allowed multiple headings for certain persons. It did, however, still strive for a single heading when one could be found and it left a large grey area in which catalogers could contend happily and unendingly about whether a name was or was not "predominant." The 1988 AACR2R has taken a completely different tack—one that signifies the end, stated or not, of the old Cutterian orthodoxy. For the first time, a code recognizes that one person may have two or more bibliographic identities. For example, the poet C. Day Lewis is one bibliographic identity and the mystery story writer Nicholas Blake another, despite the fact that, outside their books, they were one and the same person. AACR2 also prescribes multiple headings for "contemporary authors" (a phrase of seductive ambiguity that could return to haunt us). Thus we see that, in the 148 years since Panizzi's ninety-one rules, we have gone from his multiple entries for persons using different names to the iron orthodoxy of the standard heading for each person to a code (AACR2R) that embodies the Panizziian heresy as the new orthodoxy.

**MAIN ENTRY**

I have so far identified two areas, corporate authorship and headings for persons using more than one name, in which, in my view, the good guys finally won and the unhelpful orthodoxies of the past have been swept away in favor of a more sensible and user-oriented approach. The next orthodoxy, that of the dreaded main entry, still lingers on as, in the family of catalogers, the mad uncle in the attic that everyone wishes would go away but stays, in apparent good health, as an embarrassment to one and all. It has been pointed out, time after weary time, that the notion of the main entry—that is, a heading that is the chief access point and, thus, of more importance than the other "added" access points—is one that belongs to a long-gone era of library technology. The book catalog has, to the sadness of some, gone the way of the dinosaurs. Like them, it was too large and slow moving to survive in a changing world. One can see the attractions of the main entry in such a context. In the time of homemade catalog cards, the weary task of typing or writing the cards is ameliorated if all the information is given on only one card, the others being quasi-references. (When bad librarians die, they are sent to a special bibliographic hell in which they type and file catalog cards for all eternity.) However, the Library of Congress has been supplying printed cards for nigh on a century and such have been available from other sources for all of the last half of this century. Why then do we persist in the foolishness of the main entry, devoting 72 pages out of the 677 (over 10 percent) of AACR2R to this perfectly absurd topic?

There are those, most notably Seymour Lubetzky, who base their support for main entry on philosophical grounds. There are those who drag in ancillary topics such as single-entry listings and, gawd help us, Cutter-Sanborn numbers (the only bibliographic feature more futile than the main entry). There are those who see the main entry heading as a useful organizing device in classified catalogs, shelf lists, and the like. I find none of these arguments persuasive and am perfectly certain that the main entry is a bibliographic ghost that haunts current and future machine systems. The true reason why the orthodoxy of the main entry still prevails is that it is required by the MARC format. People used to write articles called "Is the main entry dead?" The answer to that question is "Yes, but the MARC format has embalmed it." MARC, essentially, a
catalog card encoded for machine manipulation. This fact (disputed as it may be by revisionist historians) has had many sad consequences. One of them is that the hapless cataloger in the waning years of the twentieth century still has to decide which access point she or he is to put in the "100" field, and, therefore, needs those otherwise unnecessary seventy-two pages of the cataloging code.

Is the situation hopeless? I think not. Committees and catalog code editors may continue—boats beating against the current—to affirm the importance of the main entry. The crushing weight of the MARC establishment may forbid the kind of reconstruction of MARC of which the abolition of main entry is but a part. Like the Austro-Hungarian empire, however, the glittering surface is but a shadow and the realities press ever inward. In many existing online catalogs and, I would suggest, in all online catalogs to be, there is no operational distinction between a main entry "heading" and added entry "headings." Either will take the user directly, via a visible or invisible authority record, to the relevant bibliographic records. The online catalog is not content with the subversion of the idea of the main entry. The user can get to the relevant authority record and on to relevant bibliographic records, as she or he can in an even halfway-decent online system, from not only any type of access point but also from any form of an access point. This simple fact subverts most of the bases of our cataloging codes and of the MARC record that so sedulously apes the conventions of those codes. In the real world of the electronic catalog, there is no practical difference between main and added access points and there is no practical difference between an access point and a reference to that access point. This means that the whole of the second part of AACR2 is of only marginal relevance to the creation of records for online systems. It seems as though the old orthodoxy reigns, as though distinctions between kinds of access point and between forms of access point really matter. In fact, the biggest heresy of all is triumphant in all but the codes and the trapings of the cataloging establishment.

Ironically, bibliographic description, so long the poor relation of cataloging, has proved to be the most stable and unquestioned element of the cataloging process. At the same time, the assignment of headings, for so long the glamour area, has become more and more marginal, and this aspect of descriptive cataloging, which dominated all our codes up to AACR2, may be a small part of future cataloging codes. How are the mighty fallen!

"The assignment of headings, for so long the glamour area, has become more and more marginal, and this aspect of descriptive cataloging, which dominated all our codes up to AACR2, may be a small part of future cataloging codes."

CARD CATALOGS

How long will we go on pretending that the Emperor MARC II is fully clothed? It is hard to say; the ability of those involved in cataloging to ignore the patently obvious seems above the human norm, and the vested interests of the national libraries, the creators and peddlers of MARC-based systems, and of national cataloging committees are both numerous and powerful. It does seem, however, that no human system can live indefinitely with the kind of internal contradiction represented by the forms of MARC and the cataloging codes on the one hand and the realities of online bibliographic access on the other.
head cataloger (who had, utterly irrele­
vantly but to my fascination, been Piet
Mondrian's landlady during Hitler's war)
so that it produced metal plates with cata-
log records embossed on them. The good
lady actually pecked out the entries letter
by letter, a task that involved a lot of phys-
ical exertion. My job was to be the under-
strapper to another lady who produced,
on another alarming looking and inky ma-
chine, the requisite sets of catalog cards
for the main and branch catalogs. The
thing that struck me like a thunderbolt
was how clever it was to produce a lot of
standard entries and add the different
headings rather than to type out each card
in a set. I was at a very impressionable age
but it still, more than three decades later,
seems like a pretty good idea. The point of
these autobiographical ramblings is not
just to recall the dear dead days but to
point out how utterly everything has
changed about the physical form of our
catalogs. The orthodoxy of the period was
that the card catalog was the ne plus ultra
of catalogs and that advances in technology,
up to and including the MARC format,
would be devoted to the speedier and
more cost-effective production of those
3-by-5-inch cards. The only dissension that
I can recall came from those who, rather
than foreseeing new kinds of catalogs,
predicted a future in which catalogs (and,
indeed, libraries) would be irrelevant. I
forget which particular kind of "patent
double million magnifyin' gas microscope
of hextra power" was going to accomplish
this great feat, but the paperless society
boys were with us then as now.

"The card catalog orthodoxy has
been completely demolished."

The card catalog orthodoxy has been
completely demolished. Planning to
maintain a card catalog indefinitely in any
but the tiniest libraries is the bibliographic
equivalent of wearing spats. How could
this have happened in such a relatively
short time? The answer is, I think, twofold. One is that the computer revolution
has transformed almost all the practical as-
pects of life in the soi-disant First World.
This is inescapable but easily confused by
the easily confused. In our particular neck
of the woods, many, including some li-
brarians and almost all "information sci-
entists," are seduced by the transforma-
tion of the practical aspects of life into a
belief that the nature of things has
changed. They believe that the fundamen-
tals of librarianship are different when,
of course, it is the means of carrying out our
abiding mission that has changed. In the
case of cataloging, we have always
wanted to make our materials as accessi-
brle as possible in as speedy a manner as
could be. We have always wanted to cre-
ate huge cooperative union catalogs (a
concept as old, almost, as librarianship it-
sell). We have always wanted to share the
burden of cataloging with others. We have
always sought to standardize cataloging
procedures. The century and a half of
Anglo-American cataloging codes stands
witness to the latter. What has changed is
that we now have a technology that en-
ables us to do the things for which we
have hungered. The second reason for the
overthrow of the card catalog is luck. In
many ways we have blundered into the
future. By and large, our fortune is that
schemes toward one end have, happily,
ended up by producing another and better
result. The most obvious example of this
latter is the MARC format. Despite its
many shortcomings and despite the fact
that its true origin was the sustaining of
the Library of Congress' immensely prof-
table card service and, in Britain, maxi-
mizing the cost-efficiency of the produc-
tion of the British National Bibliography
and its cards, MARC has proved to be a
mechanism that has made the creation
and maintenance of online systems possi-
ble. This is not to say that it would have
been far better had we had a format that
was rethought to deal with the necessities
of computerized catalogs. It is merely to
say that MARC, the only available system,
proved, almost by accident, to be up to the
task.

Another example of backing into the
truth is the formation of the bibliographic
networks—most notably the OCLC
meganetwork—that were intended to provide shared cataloging (mostly via the provision of catalog cards) and have ended up being the providers of MARC tapes for local online catalogs; the providers of effective interlibrary loan services; the potential providers of CD-ROM catalogs and other high-tech wonders; and the only effective and current union catalogs in the whole history of librarianship. In the future they will, no doubt, provide hitherto undreamed of service to automated libraries (for example, direct connection to private sector indexing and abstracting services for libraries with online systems). I applaud all these present and future good things, merely pausing to remark that those who see in this progress the fulfillment of deep and prescient plans are surrendering to the human desire to believe that those in authority have been vouchsafed some wisdom to which we cannot aspire. The truth is that most of what has been predicted about the future of the catalog has proved to be wrong and that most of the advances in the technology of the catalog have been the result of happenstance and the ability of a strategically placed few to recognize an opportunity when it swims into their ken.

THE FUTURE

It is my view, then, that the orthodoxies about, inter alia, corporate authorship, the treatment of persons using two or more names as authors, the main entry, and the forms in which catalogs are presented to the library user have been overthrown, either overtly or covertly. Does this mean that they have been replaced by new and equally foolish orthodoxies? I think not. It is my belief and my hope that we are in a time of realism in the field of cataloging—a time in which dogma and theory are being forced to yield place to the exigencies of the practice of librarianship in the electronic world of today. I am, in librarianship as in other aspects of life, a Benthamite. If one believes in the greatest happiness of the greatest number and applies that belief to the wonderfully democratic catalogs that modern technology has made possible, discussions of the arcanum of cataloging become less and less relevant, if no less absorbing to the surviving handful of cataloging mavens.

Cutter famously wrote of the passing of the golden age of cataloging (in 1904). I do not believe that age has passed or, in fact, has yet been achieved. The age of the petty discussion of petty aspects of the lore of cataloging may well have passed, but the age of the creation and maintenance of catalogs that meet the needs of the mass of people—catalogs based on utility rather than dogma—has only just begun. O'Shaughnessy wrote

... each age is a dream that is dying
Or one that is coming to birth

We can still be, in his famous words "the dreamers of dreams," as long as we remember that the death of orthodoxy can lead to freedom and to a new and better world.

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**IN JANUARY 1990 COLLEGE & RESEARCH LIBRARIES**

*The Paradox of Public Service: Where Do We Draw the Line?*
by Rebecca R. Martin

*Reviving a Retrospective Conversion Project: Strategies to Complete the Task*
by Jay Lambrecht

*A Social History of Madness; or, Who's Buying This Round? Anticipating and Avoiding Gaps in Collection Development*
by Paul Metz and Bela Foltin

*The Representational Rights of Academic Librarians: Their Status as Managerial Employees and/or Supervisors under the National Labor Relations Act*
by Ronald L. Gilardi

*The Serial/Monograph Ratio in Research Libraries: Budgeting in Light of Citation Studies*
by Robin B. Devin and Martha Kellogg

*The Do-It-Yourself Move for a 1.5 Million-Volume Library*
by Pauline S. Bayne
The Bottomless Pit, or the Academic Library as Viewed from the Administration Building

Robert F. Munn

Library administrators could adjudge their likely fortunes in the academic tug-of-war for funds if they understood more clearly the attitudes of institutional administrators toward libraries. Some view the library as "a bottomless pit"; all recognize that the library is unlikely to generate much political pressure for its own aggrandizement. Many young institutional administrators are coming to apply more sophisticated measures to their funding formulas than have been utilized in the past. Librarians therefore would be well advised to become more proficient in modern management techniques and program budgeting concepts.

Academic librarians worry a lot. One need only attend a convention or leaf through the library journals to be impressed by the range and intensity of their concerns. Some worry about recruitment, others about automation, and still others about interlibrary loans. There are even those who worry about the institutionalization of these ever-proliferating worries in the form of standing committees and round tables. There remain a few unifying themes, however, matters about which almost all academic librarians worry. Among the most important of these is "The Administration."

Directors of academic libraries are especially prone to worry about the Administration, and understandably so. For it is the Administration which establishes the salaries and official status of the director and his staff, which sets at least the total library budget, which decides if and when a new library building shall be constructed and at what cost. In short, it is the Administration—not the faculty and still less the students—which determines the fate of the library and those who toil therein.

While many academic librarians worry endlessly about the Administration, they usually know very little about it. Librarians are not normally part of either the administrative inner circle itself or the select group of faculty oligarchs and entrepreneurs whose views carry great weight. They are thus excluded from the real decision-making process of the institution. Indeed, librarians are often horrified and/or enraged to discover that decisions of crucial importance to the library have been made without their advice or even prior knowledge.

Much, though certainly not all, of this frustration might be avoided if librarians had a better understanding of how aca-
ademic administrators view the library. It is the purpose of this article to offer a few modest insights.

The most accurate answer to the question, "what do academic administrators think about the library," is that they don't think very much about it at all. There are amazingly few references to libraries in the vast and repetitive literature of higher education. Libraries are almost never discussed at the national meetings of presidents, provosts, deans, and other academic luminaries. This rather deafening silence cannot be attributed entirely to the faculty club view that all administrators are illiterate. There are other reasons, several of the most important of which are noted below.

It has often been observed that administrators devote most of their attention to matters at either end of the spectrum and have little time for those in the middle. In the academic world, the library is definitely in the middle. It is unlikely to be the cause of either a crisis or a coup. It will not, on the one hand, trigger a riot nor on the other hand will it bring in a multi-million dollar grant. In short, the library is one of those academic sleeping dogs which the harassed administrator is quite content to let lie.

Administrators also devote much time and attention to those units which consume a large portion of the institution's total budget. The library is not one of these. Most universities allocate perhaps 4 or 5 percent of the operating budget to the library. This is not only a relatively small percentage but is also a remarkably consistent one, varying little from year to year. As a result, many academic administrators tend to view the library budget as a fairly modest fixed cost and let it go at that. It is certainly the case that librarians worry vastly more about the high cost of libraries than do administrators. (A study of why this is so might reveal much about personalities of academic librarians).

Of course, academic administrators do give some thought to the library. After all, it is they who determine the library's budget. It may be instructive to note some of the factors which the Administration is likely to consider in determining how much of the institution's resources should be devoted to the library.

One important consideration is the fact that many academic administrators view the library as a bottomless pit. They have observed that increased appropriations one year invariably result in still larger requests the next. More important, there do not appear to be even any theoretical limits to the library's needs. Certainly the library profession has been unable to define them. This the Administration finds most disquieting. The science chairmen may request staggering sums for equipment, but at least they have a definite and perhaps even attainable goal in mind. It is possible to imagine that, with an assist or two from the National Science Foundation, the physics department might reach the point where it has all the equipment it wants; another reactor or accelerator would actually be in the way. Even the athletic director will admit, if pressed, that it would be assured to build a field house above a certain size.

Only the librarian is unable to place any limits on his needs. Research libraries are, after all, infinitely expendable. This being so, the Administration is understandably reluctant to devote a very great percent of its resources to the pursuit of an undefined and presumably unattainable goal.

The allocation of an academic institution's resources is influenced by many factors: truth, justice, wisdom—and pressure. While the library is the institution's official repository for the first three, it has never managed to accumulate much in the way of pressure. Almost everyone is in favor of more money for the library, but always at someone else's expense. Dean A and Chairman B will cheerfully support an increase in the library budget as a general proposition or even at the expense of some other unit. However, any suggestion that the funds should come from their budgets produces a reaction rather like that of a mother grizzly guarding its young.

In most institutions, a significant increase in the library budget is third or fourth on the priority list of most of the deans and chairmen—falling well below more money for salary increases and more
money for new staff. Depending on local circumstances, it tends to rank just above or just below more money for parking facilities. Indeed, only the librarian is likely to be intensely concerned about the library, and, as has been noted, he does not often carry great weight in the academic power structure. Thus the administrator who consistently favors the library does so largely because he happens to think it a Good Thing, and not because he is under great pressure to do so.

A third factor which the Administration is increasingly likely to consider in determining the library's budget is the advice of its own research staff. Until fairly recently few academic administrators had even heard of such concepts as program budgeting, decision matrices, and cost-benefit analysis. Now, however, almost all universities have established offices—often called the office of institutional research staffed by zealous young men learned in such matters. While they are doubtless disliked and even feared by many older administrators, the future is clearly theirs. Increasingly sophisticated attempts to achieve effective resource allocation are inevitable.

All this presents even the most "library-minded" administrator with a real dilemma. His long-held article of faith that the library is a Good Thing and somehow self-justifying is questioned. The young men are contemptuous of articles of faith. Even the fact that the prestige universities tend to have the largest libraries leaves them unmoved. They point out that this is simply a result of wealth, and that the prestige universities also have the best student psychiatric services.

In short, the conventional wisdom is simply no longer useful in the area of resource allocation. It does not, for example, help the Administration determine whether an additional $100,000 a year would be better spent on books or on the addition of new staff in the department of civil engineering. At the moment, neither do the analytical techniques developed by institutional research. The young men are hard at work, however, and their mere presence has forced administrators to think in terms of cost-benefit. Since nobody yet appears to have the slightest idea how to make a cost-benefit analysis of the contribution of the library, few administrators feel justified in straying far from the traditional percentage.

In summary, academic administrators devote little real thought to the library. Tradition, what other institutions are doing, academic politics, and the personal predilections of the officials involved tend to determine budget support. Such criteria may not seem very impressive, but at the moment they are about the only ones available.

The current pressure to introduce modern management practices into the universities will not leave libraries unaffected. Such techniques as program budgeting require a much more rigorous analysis of the balance of return against investment than has ever been applied to libraries. Just why should the library receive 3 or 6 or 1 or 10 percent of the institution's total budget? How should the claims of the library, the computer center, and educational television for budget support be evaluated? These and similar questions are certain to be asked. It might be prudent for academic librarians to have some answers.

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1. "The Administration," as all academics will know, consists of the institution's president, vice-presidents, provost, and their entourage of executive assistants, plus perhaps a few of the more powerful deans. On some campuses the Administration is referred to as "it"; on others as "they."
Patterns of Information Seeking in the Humanities

Stephen E. Wiberley, Jr., and William G. Jones

This paper describes how humanists in a small, interdisciplinary group seek information. The humanists confirm findings of previous research, although with significant variations. Humanists ignore online databases and seldom consult reference librarians, but they do rely on archivists and special collections librarians. They limit use of formal bibliography to one or two sources and employ it intensively only when exploring new topics. Often they disregard bibliography and find information by going to the person or location that can supply it. The paper concludes with questions for future research and suggestions for library practice.

Information seeking is a basic activity for all scholars. It is the aspect of scholarly work of most interest to academic librarians because academic libraries strive to develop collections, services, and organizational structures that will facilitate it. Yet information seeking is an activity about which we know less than we would like, especially for the humanities. A handful of recent studies have begun to dispel our ignorance of how humanists seek information, but we are still largely in the exploratory stage. A basic question these studies have asked is, “How do scholars identify what they will read?”

This question was very much on our minds when we began to participate as fellows in a year-long seminar in the humanities at the Institute for the Humanities (University of Illinois at Chicago). Our efforts were funded by the Council on Library Resources and devoted to addressing issues in strategic planning for libraries. Through our participation, we sought to learn more about how humanists find and use information in their work and, from this, to develop questions for further research and to suggest library services that can help these scholars become more productive. From earlier studies of scholarly information seeking, principally surveys, we had learned that scholars rely, first, on the references in publications they read; second, on communications from colleagues; third, on formal bibliography (defined later); and fourth, on librarians. Because most of this earlier research antedates the recent, and rapidly expanding adoption of computers by humanists, we also set out to explore whether the increase in machine-readable information and in the use of computers by humanists had affected the way the fellows sought information.

We proposed to take advantage of the small size of the seminar and the regular interaction among members to identify, through open-ended questions and unstructured discussions, issues and trends unreported by earlier surveys. Over the course of an academic year, we partici-
pated in all the meetings of the seminar, including several group discussions about how members carried on their work. We also talked for two to four hours with each fellow about how he or she conducted research. Since what we heard was generally in line with previous findings, the small group we studied may, in most respects, be considered typical, and what we learned that has not been reported in earlier research may well be corroborated by future research.

Our findings raise questions that deserve further exploration and point to areas of information seeking where scholars would benefit from consulting librarians more.

THE SCHOLARS STUDIED

It has been observed that of all scholars, humanists are most likely to work alone. The scholars in the seminar bear this out. All eleven were chosen for their year's fellowship based on projects that they conceived alone and were executing single-handedly. In this respect they were very much following their past practices. Of more than 172 publications claimed by the fellows, only eight were coauthored; all the rest were written alone.

The members of the seminar came from seven departments: anthropology (two), English (three), history (two), history of art (one), philosophy (one), political science (one), and women's studies (one). One member was an assistant professor, four were associate professors, and six were full professors. In 1987, when the seminar began, they were, typically, at what might be termed mid-career: the median number of years since obtaining the doctorate was seventeen and the average was fifteen, with a range of five to twenty-four years.

On the whole, then, see table 1, the seminar members were a mature group of scholars; almost all worked in traditional humanities disciplines. (Some historians see themselves as social scientists, but neither of the historians in the seminar did; nor did the professor from women's studies who was conducting historical research.) The three seminar members who came from fields usually classified in the social sciences—anthropology and political science—were conducting research that exemplified the recent trend for social scientists to return to the humanistic roots of their disciplines. All three were pursuing projects that entailed, to a significant extent, interpretation of documentary sources in a cultural context.

The fellows were very productive. It is difficult to make quantitative comparisons because data on publication rates are not available for humanities scholars. But comparison with academics from all disciplines suggests the fellows' distinctiveness. John Centra found that faculty from schools that put little emphasis on research typically publish fewer than two articles every five years. The average number of publications for faculty at schools that both did and did not emphasize research was fewer than three articles every five years. In contrast, for the five-year period prior to their appointment to the institute, the fellows averaged an equivalent of nearly eight articles.

The above average rates of publication of the fellows suggest great expertise in their fields. They have largely gained their expertise by reading. While some reported they read rapidly and others said they read slowly, all revealed that they read frequently. They had developed a set of habits that continually brought them into contact with secondary sources (what other scholars write) that they had not seen before. Regarding primary sources (those that embody the topic under study), while two fellows concentrated on visual images and seven gathered evidence by talking with people, all read written primary sources. Here the contrasts among physical scientists, social scientists, and humanists seem strong. While scientists spend much of their time with collaborators working with laboratory equipment and social scientists spend much time with coinvestigators planning and executing field work, surveys, and data analysis, humanists spend most of their time alone, reading.

Because academic libraries today are emphasizing the use of computers in information retrieval, we were interested in assessing the fellows' computer literacy. All reported using online public access
TABLE 1
SUMMARY OF BACKGROUND DATA AND INFORMATION-SEEKING BEHAVIOR OF HUMANISTS STUDIED

<table>
<thead>
<tr>
<th>Rank</th>
<th>Years Since Ph.D.</th>
<th>Years Publication Equivalent* (1982-86)</th>
<th>Coauthored Publications (Career)</th>
<th>Computer Use†</th>
<th>Role of Formal Bibliography</th>
<th>Essential to Current Project</th>
<th>Use of Geographic Approach</th>
<th>Use of Genealogical Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prof.</td>
<td>24</td>
<td>8.7</td>
<td>None</td>
<td>E-mail, Word Processing</td>
<td>X</td>
<td>X</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Prof.</td>
<td>21</td>
<td>2.0</td>
<td>None</td>
<td>None, Word Processing</td>
<td>X</td>
<td>X</td>
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*See no. 7 in References and Notes.
†All use online public access catalogs.

catalogs, although we had no way of assessing their proficiency. Four made no other use of computers. Seven used computers for word processing and two used electronic mail (E-mail). None had done an online search of a commercial database, although two had had searches done for them. Most of the fellows had begun to use computers recently, within the past two or three years—behavior much in line with national trends. But none reported that computers had transformed their work as has been the case for a few other humanists, many social scientists, and most scientists. Again, the contrasts among humanists, scientists, and social scientists are striking.

All of the fellows described in detail their use of information in their current work. Although several talked about use in past work, the description was usually briefer. We suspect (and in a few cases were told) that at sometime in their careers every fellow employed nearly all the approaches to information described in the following sections. But the account in this article of how the fellows identify what they read covers only their institute projects.

USE OF LIBRARIANS AND FORMAL BIBLIOGRAPHY

Given the individuality of humanists, it is not surprising that, instead of finding one or two patterns of use of libraries, librarians and formal bibliography, we found several, and the fellows combined these patterns in different ways. First, all seemed to rely partially or totally on library collections for their research, a pattern in line with other humanists who have been studied.11 Second, while fellows gave little or no evidence of consulting librarians in general reference departments, almost all who used archives or other special collections said they worked very closely with repository staff. Third, four fellows used one or two formal bibliographic tools regularly for current awareness, although not intensively, both to keep up with the literature and to advance their current research. Fourth, four reported that one or two formal bibliographic sources were essential for their current research. Fifth, four fellows recalled no regular or significant use of formal bibliography. Each of these patterns
All fellows reported using libraries without assistance to find books and journals they needed for research. Because most worked at more than one library, their success in this regard implies that they had some skill in using the varieties of public catalogs at American libraries. Although this skill may seem rudimentary to librarians, it is one of great power for the scholar. Key for the fellow is use of the public catalog to obtain conveniently, independently, and unobtrusively, almost all of the secondary literature cited in what he or she reads.

Self-reliance at finding books and journals may be one of the factors that makes it rare for fellows to consult librarians about matters relating to general collections. We were impressed by how many fellows told us they did not talk to librarians who worked in general reference departments. The fellows did not attribute their behavior to lack of confidence in reference librarians' abilities. (This finding contrasts with some, but not all, humanists who have been studied.12) Nor did the fellows ignore general reference librarians because they did not share the fellows' specializations. Instead, some fellows simply did not perceive a need to consult a reference librarian. Others reported that asking questions made them feel uncomfortable. One said he was hesitant to approach the reference desk because of his ignorance of many of the conventions of using the library. We speculate that because being knowledgeable is fundamental to the academic's sense of self, asking for information can be an unsettling experience. This may be particularly true in general reference departments where the materials used and their organization are comparatively well-known and are often taught in graduate school, college, or, in some cases, high school.

In contrast, almost all fellows who used special collections, particularly of archives and manuscripts, reported that they depended heavily on the staff of these repositories. They begin work in the special collection by describing their projects to the curator, asking what materials and findings aids they should examine, and then pursuing the leads offered. In other words, when using a special collection, the scholars are not reluctant to ask questions. Perhaps this is so because scholars and librarians share expectations about use of a special collection. Unlike the general collection and reference department, the special collection has unique finding aids and materials; no one, including the scholars themselves, would expect them to have prior experience or training in the use of such sources.

Four fellows regularly consulted formal bibliography for current awareness. By formal bibliography we mean a work in which the bibliographic entries, their organization, and aids of access to them are central. Any expository writing that accompanies or explains the entries is secondary. In contrast, bibliography in scholarly publication supports and is subordinate to the argument, or the prose of that work. One fellow who has an interest in a region of Europe always reviewed the bibliographic listing in the quarterly newsletter of the American scholarly group that focuses on that region and another quarterly listing in the journal of the national association in her discipline. A second checked the sections for the two countries he studies in a quarterly listing of articles produced by a major American learned society. Another scanned a listing of journal articles that appeared in the quarterly journal of the national historical association that covers his country of interest. A fourth fellow kept up-to-date by consulting an annual bibliography, commercially published, that covered interdisciplinary scholarship about the era in which he specializes. Common characteristics of these cases are that the bibliographies (1) cover the scholar's long-standing interest, (2) appear serially, (3) are generally published by scholarly associations, and (4) treat secondary sources. Also, we found that there was no urgency or intensity in use: the fellows did not think that the quality of their current research projects would suffer if they did not use these bibliographies. Such listings were a convenient way of staying abreast of the literature and complemented finding references both by reading the literature itself.
and by talking with other specialists.

In four cases, formal bibliography provided information essential to the scholar's research. In one case, the topic was new to the scholar, dealt with recent history, and was covered both by a periodical index that gave access to primary sources and by a specialized bibliography that gave access to the primary and secondary literature. In two other cases, the formal bibliography used gave access to primary sources. For one fellow, a bibliography identified authors of unsigned articles in periodicals published during the period under study. For the other fellow, a bibliography assisted him in identifying all instances of a type of art by artists of a particular country. In a fourth case, the fellow was studying a new topic and needed an entrée to the secondary literature (her principal primary sources were interviews). She sent her research assistant to search the subject catalog of the library and the major periodical index in her discipline for citations to writings about the topic. In short, bibliography was most important for scholars when they were investigating unfamiliar primary sources or secondary literature about subjects unfamiliar to them.

Four scholars did not report use of formal bibliography. The most extreme case was a philosopher who claimed that, except for studying a relatively few canonical works, most of which he owned, he read little in the secondary literature that related to the philosophical problems he wrote about. A second fellow was working on a topic that centered on a single written primary source that was new to her. She supplemented this source with interviews. She kept up with secondary literature by scanning journals, reading publishers' advertisements, and going to conferences. A similar approach was followed by a literary critic and a film critic. They scanned numerous books and book reviews and frequently read unpublished manuscripts. Both already were familiar with the primary sources they were interpreting.

**DISCUSSION OF USE OF LIBRARIANS AND BIBLIOGRAPHY**

The fellows relied more heavily on formal bibliography and librarians for access to primary sources than they did for access to secondary sources. The scholars' greatest dependence on librarians and archivists was in special collections, the traditional home of primary sources. Of the four fellows who found formal bibliography essential, two sought primary sources, one both primary and secondary sources, and one secondary sources. Of the four scholars who most ignored bibliography and librarians, one did not use primary sources (the philosopher) and the other three were working with primary sources already familiar to them.

When fellows did use formal bibliography to find secondary sources, they generally did so with less urgency than those who searched bibliography for primary sources. The bibliographies used to find secondary sources were not the most sophisticated and comprehensive abstracting and indexing services available for the disciplines in question. That is, *Abstracts in Anthropology, Historical Abstracts, America: History and Life, and the MLA Bibliography* were not used, but much less complex and more limited sources were. Sue Stone reports a similar pattern among a small group of humanists at Sheffield, and Deirdre Starn found art historians used sophisticated services less than simpler ones. We wonder if this pattern exists because the bibliographies used are more focused or because they are easier to use. Starn's findings suggest ease of use may be most important. It is also noteworthy that bibliography used to locate secondary material usually came from the scholar's learned society (three of four cases). Use of such discipline-based bibliography relates closely to the scholars' identification of sources by reading the literature in their areas of specialization and consulting colleagues in their fields.

In identifying what they would read, especially the secondary literature, the fellows usually employed a limited number of sources. Thus, four fellows regularly, if not intensively, used one or two serially issued listings of secondary sources. The four who used formal bibliography intensively also concentrated on one or two sources that they returned to repeatedly.
"Except perhaps for one fellow who apparently read at an extraordinarily rapid rate, all seemed sensitive to the fact that they had limited time to cover a virtually unlimited array of potentially relevant literature."

And most of the fellows who did not use formal bibliography scanned a particular set of journals to keep up-to-date. In no case did we find a scholar who systematically covered a number of formal bibliographies. Survey research has also found limited use of formal bibliography. Except perhaps for one fellow who apparently read at an extraordinarily rapid rate, all seemed sensitive to the fact that they had limited time to cover a virtually unlimited array of potentially relevant literature. Even if they systematically searched many bibliographies, they would have time to follow up on only a few of the leads they unearthed. Because each fellow had achieved success by using a limited set of sources to identify publications to read, none had reason to develop more comprehensive patterns of information seeking.

GEOGRAPHIC AND GENEALOGICAL APPROACHES TO INFORMATION

In addition to use of formal bibliography and librarians, the fellows employed two other approaches to information that, as far as we know, have not been identified earlier in the library and information science literature. These two approaches might be called the geographic and the genealogical. Both approaches can be better understood if we remember that the humanities study the creative activities of men and women. Evidence of these activities remains either at the scene or in a collection elsewhere, usually not too far from the scene. Thus, fellows who were studying the history or people of a locality usually went to that place to find evidence. When the place studied was small, the local government archive or library was the repository consulted. For a larger region, the scholar usually found the relevant sources in its political capital or in its leading universities’ libraries. The scholars in the seminar who were working on topics that had a geographic focus all went to the site of their topic and worked in the local, regional, or national repositories. Usually, the searching they did beforehand consisted of looking at a map or a telephone book to obtain the repositories’ addresses; if available, a published guide to the collection might be consulted. Once at the site, the scholars relied, as we have said, on the curators and local finding aids. This process brought them to relevant primary sources.

Since all of the topics our scholars investigated involved people, much of the information seeking entailed tracking documents about individuals, or what we call the genealogical approach. In one case, for political reasons, the papers of the relevant people were still in private hands. The scholar used the telephone book of the locality where the descendants of many of these subjects lived to find current owners of relevant papers. Another scholar used information about the provenance of a collection to identify descendants of his subjects. Through these he located descendants, he located more sources. Several scholars used interviews as sources. The names of the interviewees were traced in a variety of ways, especially through their friends and colleagues, who were often informants themselves, as well as through phone books or through contacts in the locale under study. The scholar would also search the finding aids of a special collection for the names of these people and then examine the documents and artifacts so identified.

To a smaller degree, the fellows applied the geographic approach to secondary sources. Key journals that they read focused on the places they were studying. Thus, journals published by local, regional, or national historical, literary, or folklore societies are very important. The fellows relied, too, on advertisements of book dealers from their places of interest to learn about the latest monographic literature. Such sources were particularly important for scholars working abroad. Fi-
nally, some found bibliographies that are arranged geographically very helpful.

**IMPLICATIONS FOR FUTURE RESEARCH AND DESIGN OF LIBRARY SERVICES**

Many of the findings of this study either corroborate previous research or do not contradict what has been established. Therefore it is likely that future investigations will find similar patterns of information seeking among humanists. At the same time, this article is based on conversations with only eleven humanists who publish more than most academics. It will be important to test on larger populations the findings of this study that break new ground. For example, will survey research confirm that humanists consult special collections librarians, including archivists, but almost never talk with reference librarians? Do humanists ignore reference librarians because of a reluctance to reveal a lack of knowledge about common library materials and systems or because they do not trust generalist librarians? Will the rapid rise in the use of computers by humanists and the development of databases and software lead to increased use of machine-readable bibliography and information by humanists? How widespread are use of the geographic and genealogical approaches to information? Do some disciplines within the humanities use these two approaches, while other disciplines do not? Given that humanists usually concentrate on one or two bibliographic sources, can we generalize that, similarly, their reading of secondary sources is also focused on a small number of journals and on the books of a limited group of publishers?

While it may seem premature to suggest practical applications based on a study that raises so many questions, we suggest at least two implications for library services. First, because humanists have well-developed habits for finding information in their specializations, they have little need for current awareness services that inform them of the latest literature in their areas of expertise. While they are not adept at finding information on unfamiliar topics, they can locate on their own as much and sometimes more than they need to know in their areas of concentration. Second, the humanists we studied had missed the opportunity to obtain valuable assistance from reference librarians. In particular, they could have used help from reference librarians, because they are unable and lack inclination to use machine-readable bibliographic databases. Their use of computers is so limited that they have not developed the habit, as have many scholars in other fields, of readily learning new computer applications. Furthermore, the fellows, like many other humanists, generally avoid complex bibliographic sources. Consequently, they are not ready to take advantage of the great power of computerized bibliography. For example, they are not taking advantage of such assistance as the verification of inaccurate or incomplete citations, the location of copies of needed sources, and the generation of bibliography on an unfamiliar subject. Reference librarians have the skill to manipulate machine-readable sources and the knowledge of databases to choose the best ones to search. By delegating tasks like those enumerated, humanists would not waste time tediously searching through printed sources; they would be free to devote their time to other aspects of scholarship.

The reference service described here is available in virtually all academic libraries. The problem is that humanists do not seem to use it. Because humanists have little experience relying on reference, initially reference librarians will have to prove their worth by volunteering and demonstrating their services’ utility. A successful demonstration will help accustomed humanists to use reference services that will save them time and free them to work on the aspects of their scholarship that they alone can do. Assigning one specific librarian to a particular group of scholars might help build interpersonal ties that will foster continued use of service. Cost of such services, may, of course, be a serious problem.

Whether humanists will use reference services that are specially promoted to them and whether libraries can afford to subsidize such services are questions for
further research. So, too, it will be important to monitor changes over time in how humanists use computers so we can determine if services recommended here are still needed. Much remains to be learned about how humanists seek and use information. As librarians learn more, they will be better able to design library programs that contribute to the humanities.

REFERENCES AND NOTES


7. Publication here is the equivalent of an article, and we use the term publication because the figures for the fellows are based on other types of publications besides journal articles. The following equivalences were used: one book equals seven articles; an edited book equals one article; a chapter in a book equals one article; and an exhibition catalog equals one article; an encyclopedia article equals .33 of an article. Book reviews and translations receive no credit. Counts were based on the fellows' curriculum vitae, submitted at the time of application to the seminar (early 1987). Publications dated 1982-86 were counted.


15. Corkill and Mann, "Information Needs in the Humanities," p.84.
Evolution of Preservation Librarianship as Reflected in Job Descriptions from 1975 through 1987

Michèle Valerie Cloonan and Patricia C. Norcott

This article examines the job content of the field of preservation librarianship as evidenced in job advertisements culled from five major publications from 1975 through 1987. The authors consider factors such as qualifications, duties, reporting line, and salary—all of which show that preservation librarians function in a largely administrative role, possess the M.L.S. in many, but not all cases, and are being paid below the average salary for functional and subject specialists and department heads. The findings also show a considerable variation in the perception of the functions of preservation administrators.

In this study we examined the job content of preservation librarianship* as reflected in library placement advertisements from 1975 through 1987 in order to trace the development and growth of preservation as a specialty primarily within the library profession. Additionally, we hoped that the data would help us draw conclusions about the ways in which preservation positions were situated in various organizational structures.


The study considered the following questions:

1. When did the title preservation librarian first appear in job ads? What other job titles have been in use? Does the terminology in these titles accurately reflect responsibilities performed?

2. What are the required levels of knowledge, skill, and training for preservation librarians?

3. What are the responsibilities of a preservation librarian?

4. Did the number of positions for preservation librarians increase from 1975 to 1987 and, if so, what was the magnitude of the increase?

5. What types of libraries and other organizations are hiring preservation librarians?

6. To whom does the preservation librarian report? For which department of the library does the preservation librarian work?

*We use the term librarianship acknowledging the fact that preservation administrators also function in other institutional settings.

Michèle Valerie Cloonan is Preservation Librarian at Brown University, Providence, Rhode Island 02912. Patricia C. Norcott is Assistant Dean at Syracuse University College of Law, Syracuse, New York 13244-1030.
7. How do preservation librarians’ salaries compare with salaries in other areas of librarianship? A data-collection form made it possible to systematize the evaluation of the job advertisements. The number and type of institutions, the number of positions, and the number of positions listed in each periodical appear in figure 1.

The study revealed considerable variation in the advertisements. Although the ads clearly reflected an increase in the number of preservation positions during the period under study, there was little consensus as to what duties this position entailed or even what title the position should have. For example, of the 116 advertised positions, there were 68 variant job titles. For this reason, the data analysis in this study is qualitative rather than quantitative, consisting primarily of frequencies. Due to the small size of the sample, true statistical analysis was not possible. Thus, trends are identified rather than measured.

BACKGROUND

In a 1975 article by Gay Walker entitled “Preservation Efforts in Larger U.S. Academic Libraries,” the preservation activities of 86 large academic libraries (500,000 volumes or more) were reported. Of the responding libraries, 62 had preservation procedures, but only 4 had “independent preservation operations with one or more persons engaged in preservation activities of an organizational and decision-making nature.” While the level of preservation activity was rather low, awareness of preservation needs was clearly high. Just ten years later, the Association of Research Libraries (ARL) conducted a survey of its member libraries. For 1984–85, the 97 respondents spent a total of $38.5 million on preservation programs, although a high percentage of this figure went to contract binding and salary expenditures. Thirty libraries spent a combined total of $604,874 on contract preservation microfilming.

Although the Walker and ARL surveys asked different questions, thus precluding parallel comparisons, the ARL figures demonstrate that many large libraries have made considerable progress in moving from preservation activities to preservation programs. (The ARL Preservation Statistics Questionnaire, 1987–88 will demonstrate even more strikingly the in-

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FIGURE 1 Data Collection Summaries
"The field of preservation administration has grown substantially since 1975, and the literature has grown proportionately."
Evolution of Preservation Librarianship

ones sponsored by the Mellon Foundation have been ongoing rather than nonrecurring positions. Furthermore, these internships have influenced the field.

The terms preservation and conservation should be considered here. Although there has been a trend toward the use of the term preservation for the administrator's care of library collections in the aggregate, as opposed to individual conservation treatment of books at the bench, the term conservation is still used as part of some administrators' job titles. Job ads using either term were included in this study as long as the position advertised entailed the administrative duties described here.

By examining all jobs with preservation duties, it was possible to trace the development of full-time positions from 1975 through 1987. In three cases libraries that originally advertised for positions with some preservation duties later advertised for full-time preservation librarians. For example, in 1976 Princeton advertised for a curator of manuscripts with preservation duties and in 1980 for a binding and preservation librarian. SUNY/Buffalo advertised for a curator of poetry and rare books with preservation duties in 1979 and in 1984 for a conservation officer. In 1980 Northwestern advertised for a head of collection development with preservation duties and in 1984 for a conservation officer. These relationships were apparent because all of the job ads were examined. By 1981, however, there were enough full-time preservation positions advertised so that other positions with preservation duties appear with less frequency in this study.

All the institutions represented are American. Included are libraries, historical societies, one regional conservation center, state libraries, a few specialized libraries, and professional organizations such as the Society of American Archivists (see table 1).

LIMITATIONS OF THE STUDY

There are obvious limitations to a study such as this. Preservation positions have sometimes evolved from other positions in an institution and may not have been advertised. Therefore, some people who have been crucial to the growth of the preservation field hold positions that were never advertised, or perhaps were advertised only locally; these positions were not picked up in this study. Also, job ads reflect the ideal rather than the real. Candidates who possess all the qualifications listed in an ad may not exist. Nevertheless, the 63 institutions that advertised 116 positions (table 1) will at least allow us to identify trends.

INTERPRETATION OF THE DATA

Use of the Title Preservation Librarian; Other Job Titles; Levels of Responsibility

In our sample the title preservation librarian first appeared in a 1978 job ad for Harvard University. Since then it has been used with increasing regularity. The three other most commonly used titles are preservation officer, conservation officer, and conservation librarian.

"There is no evidence to suggest that the terms preservation and conservation consistently describe different levels of responsibility or even different areas of expertise."

There is no evidence to suggest that the terms preservation and conservation consistently describe different levels of responsibility or even different areas of expertise. Usage seems to reflect the preferences of individual libraries. However, two libraries stand out as having carefully differentiated the terms to reflect the nature of the work: New York Public Library (NYPL) and Columbia University. According to John Baker, at NYPL, the terms were always differentiated. Under James Henderson, conservation was used in the broadest sense to refer to all preservation and conservation activities. Since David Stam's tenure at the NYPL, preservation has been used as the broader term. The conservators treat the library materials while the preservation librarians are responsible for activities such as microfilming. John Baker's title is chief librarian for preservation.

At Columbia, starting around 1974,
### TABLE 1

#### INSTITUTIONS

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<td>University of Michigan</td>
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</tr>
<tr>
<td>University of Virginia</td>
<td></td>
</tr>
<tr>
<td>University of Wisconsin</td>
<td></td>
</tr>
<tr>
<td>Vanderbilt University</td>
<td></td>
</tr>
<tr>
<td>Yale University</td>
<td></td>
</tr>
</tbody>
</table>

Pamela Darling also used the term *preservation* to refer to administrative activities. Carolyn Harris, her successor, had the title head of the preservation department and later, assistant director for preservation. Darling’s views on usage of the two terms are expressed in articles as well as in a 1985 letter to the editor.  

### Required Levels of Knowledge, Skill, and Training for Preservation Librarians

A clear preference is indicated for the ALA-accredited M.L.S., which was required in 53 of the 116 ads. Eleven ads stated that an ALA-accredited M.L.S. was preferred. Six of the ads required a master’s degree but did not specify that it be an M.L.S. A conservative interpretation of the data is appropriate here; we know of at least five instances in which candidates without an M.L.S. were hired for these positions. However, it is clear from the data that most libraries would prefer to hire candidates who have at least an M.L.S. The perceived importance of the degree for a preservation librarian may have something to do with the administrative responsibilities entailed for the jobs advertised. The relationship between the M.L.S. and administrative responsibilities of preservation librarians will be considered in the conclusion.

Fifteen ads offered an alternative to the M.L.S. This can probably be explained by the fact that preservation administration requires more skills than can be taught in most library school programs. Some li-
libraries might prefer to hire someone who has training in the physical treatment of library materials, micrographics, chemistry, statistics, or whatever other areas best complement the needs of the particular hiring institution.

The phrase administrative experience appeared in 28 of the ads; preservation administration was listed only three times. In general, administrative skills dominated the experience portion of the job ads and included grant writing, preservation planning, and supervising staff. Experience in the physical treatment of library materials was called for in 30 of the ads. Although some libraries feel that experience in the physical treatment of materials is important, more libraries find administrative ability preferable.

Responsibilities of the Preservation Librarian

Planning appeared in 96 job ads, and development of policy and procedures in 66 ads. Supervisory responsibilities was the third most cited administrative task; 58 ads listed it. The high ranking of these three tasks can probably be attributed to the fact that most preservation positions require all of these skills, though planning and development of policy and procedures are certainly interdependent. Planning may refer to the development of preservation microfilming programs, disaster preparedness plans, staff education, and security systems—all of which ultimately require the development of procedures. One might also argue that the development of policy and procedures is a facet of planning. Similarly, planning and budgeting are interrelated. Does the separation of these tasks in the ads indicate a profession-wide confusion as to the role of the preservation administrator? Imprecise language often signals confusion on the part of the writer. In the case of the ads, it may indicate that some institutions are unsure either about what a preservation librarian does or what in fact the institution wants the incumbent to do.

A more positive interpretation of the variant tasks listed in the ads is that the duties and relative rank of preservation positions reflect differences in institutional goals and styles. For example, a preservation administrator might have consultative rather than supervisory or budgetary duties. At the same time this individual may be charged with developing library programs. The separation of duties in the ads may actually reflect the wide variety of duties that preservation administrators are currently assuming in diverse institutional settings.

One area of responsibility not often mentioned is grant writing. With the increasing pressure on libraries to obtain large grants, and with the increasing availability of grant monies for preservation programs, it is surprising that grant writing was not specified more than eight times.

"There were 2 positions advertised in 1975 and 21 in 1987, with a peak of 35 advertised in 1986."

Magnitude of Increase for Preservation Librarian Positions

There has been an unsteady increase in the number of preservation positions advertised from 1975 through 1987. However, the numbers before 1984 are so small that the magnitude of the increases and decreases is probably not significant. There were 2 positions advertised in 1975 and 21 in 1987, with a peak of 35 advertised in 1986. The years 1982 through 1987 represent the most striking increases, possibly due to such factors as the increased availability of grants for preservation programs, internships that grew out of the Columbia programs, and the expansion of preservation activities in professional organizations such as the ALA, ARL, and Research Libraries Group (RLG). Again, it is important to remember that not all positions are advertised, so the figures must be evaluated with this limitation in mind.

Types of Libraries and Other Organizations Hiring Preservation Librarians

Of the 63 institutions represented in this
study, 36, or 57 percent, are ARL-member libraries (table 1). Significantly, from 1975 through 1985, ARL libraries accounted for 27 of the 38 (71 percent) institutions represented. This indicates that preservation programs have been centered in large university and independent research libraries, though the figures for 1986–87 may signal a new trend. Conspicuously absent from the sample before 1986 were public and college libraries, with the exception of the NYPL which is an ARL member. Although preservation programs now exist in both public and college libraries, at the end of 1987 they still represented a small portion of the sample: 4 of 63, or 6 percent of the institutions. The appearance of these types of libraries over the past two years indicates that the field is expanding beyond its traditional boundaries.

The other types of libraries represented in the job ads were four historical societies, three state libraries, and five miscellaneous specialized libraries such as the J. P. Getty Center for the History of Art & the Humanities, and the New York Botanical Gardens Book Preservation Center.

In addition to libraries, professional organizations and other types of institutions have hired preservation administrators; these include the Society of American Archivists, Northeast Document Conservation Center, SOLINET, and RLG.

**Person to Whom the Preservation Librarian Reports; Department for Which the Preservation Librarian Works**

Fifty ads specified the position to which the preservation administrator/librarian would report. In 7 of the ads it was to the director, variously referred to as librarian, university librarian, director of libraries, and executive director and education officer. In at least 13 others, it was to positions one level down from the director (for example, assistant university librarian). It would be impossible to tabulate the exact number of these mid- to upper-level administrative positions without examining the organizational charts for each institution, because titles such as principal librarian [for] collection management and net-work services do not indicate the level of responsibility.

Only 34 ads specified the department in which the preservation librarian would work. Departments mentioned included conservation, preservation, custom binding and restoration, collection development, collection maintenance, serials, public services, and library development.

Interestingly, the positions to which the preservation administrators report, and the departments in which they work, represent the major library divisions: administration, technical services, public services, and special collections. Preservation programs have gradually developed in three of the divisions: technical services, public services, and special collections. The reasons for this are understandable. In some libraries attention to preservation problems first focused on the rare deteriorating materials, and so programs started in special collections departments. The earliest positions found in this study were for rare book departments.

In other libraries programs were started in the circulation department because brittle and/or otherwise damaged books were identified as they were returned by the patrons. For example, the preservation program at Yale originated in the circulation department and Walker mentions other libraries in which this was also the case. The focus in these libraries was on books in the general collections.

It is probable that most preservation programs started in cataloging and acquisitions departments where commercial and in-house binding operations are usually located.

In this study, the first collection-development-related position was advertised by Northwestern University in 1980. The job was for the head of collection management but the position included preservation administration responsibilities. The next collection development position with preservation responsibilities was advertised by M.I.T. in 1985. Since then, one other position with this emphasis has been advertised—head, collection development and preservation—at Indiana State University (advertised in 1987).
The variety of positions to which preservation librarians report probably reflects the different administrative styles and departmental structures of individual libraries.

**Preservation Librarians’ Salaries Compared with Salaries in Other Areas of Librarianship**

We wanted to find out how the salaries for preservation librarians compared with salaries for other professional library positions. Because 36 of the 63 institutions in this study are ARL libraries, it made sense to compare the salaries in the ads to the salaries in the three most recent ARL Annual Salary Surveys (1985-1987). The ARL statistics report the beginning and median salaries, salaries by years of experience, and salaries by specialty/function. An alternative source which provides salary figures by library type and level of position is the ALA Survey of Librarian Salaries, 1986. Only the years 1985-87 were considered. Salary data from the earlier dates would not be particularly meaningful.

The data were compared with average salaries for a functional specialist, a subject specialist, and a department head (cataloging) in ARL libraries (table 2) so that a relative ranking could be made for preservation librarians.

Our initial interest in salaries for preservation librarians was to compare them with the more established library specialties. Some preservation librarians possess highly specialized skills—for example, in the physical treatment of library materials or in a subject specialty—and yet do not always have a substantial amount of library experience, or even library degrees. Many institutions are still willing to hire candidates who do not hold M.L.S. degrees. What sort of premium is put on preservation skills? Although the data cannot answer the question precisely, they do indicate that most preservation librarians are being paid below the average salary for functional and subject specialists and department heads.

**Suggestions for Further Study and Conclusions**

Our study was based on the seven questions presented at the beginning of this article. Answers were found for questions one through five, and the data for questions six and seven were inconclusive.

Question one dealt with usage of the term preservation librarian. It first appeared in the job ads in 1978. A variety of other titles have also been used for job descriptions that encompass similar duties. The different titles do not appear to describe different responsibilities with any accuracy.

Question two attempted to find out the required levels of knowledge, skill, and

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**TABLE 2**

<table>
<thead>
<tr>
<th>SALARY DATA</th>
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<tbody>
<tr>
<td><strong>Average Salaries for Functional Specialist (all regions)</strong></td>
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<tr>
<td>---</td>
</tr>
<tr>
<td>28,270</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Average Salaries for Subject Specialist (all regions)</strong></th>
<th>1985</th>
<th>1986</th>
<th>1987</th>
</tr>
</thead>
<tbody>
<tr>
<td>29,119</td>
<td>31,150</td>
<td>32,283</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Average Salaries for Department Head (cataloging); (all regions)</strong></th>
<th>1985</th>
<th>1986</th>
<th>1987</th>
</tr>
</thead>
<tbody>
<tr>
<td>34,150</td>
<td>34,756</td>
<td>37,288</td>
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**Preservation Librarian Salaries 1985-86**

<table>
<thead>
<tr>
<th>Low</th>
<th>Mean</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base of scale (n=46)</td>
<td>16,000</td>
<td>23,325</td>
</tr>
<tr>
<td>Top of scale (n=17)</td>
<td>17,000</td>
<td>28,488</td>
</tr>
</tbody>
</table>
training for preservation librarians. The information was very diffuse, but the ads reflected a clear preference for ALA-accredited M.L.S. degrees (64 requiring and preferring) and administrative experience (28 requesting).

The responses for question three, about the responsibilities of preservation librarianship, indicated that administrative duties were central to these positions.

Question four concerned the increase of preservation librarian jobs advertised during the period of this study. There was an increase from 2 in 1975 to 21 in 1987, with a peak of 35 advertised in 1986. However the increase was uneven: only from the years 1982 through 1986 was it steady; in 1987 it dipped. It may still be too early to draw any conclusions about probable future increases.

Question five attempted to find out what types of libraries and other organizations were hiring preservation administrators/librarians. The majority were ARL libraries. Prior to 1986, the only public library represented was the NYPL, an ARL member. In 1986 and 1987, other public as well as college libraries appeared in the ads.

There were two parts to question six: to whom does the preservation librarian report (50 ads provided this information), and for which department does the preservation librarian work (34 ads indicated this). The answers to these questions were inconclusive because the data were so diffuse.

Question seven, which sought comparisons between the salaries of preservation and other librarians, can be answered tentatively. It appears that in ARL libraries, preservation librarians are being paid less than functional and subject specialists and department heads.

Some of the areas explored in this study deserve further attention. For example, a survey could provide more information about the role of the preservation librarian in the organizational hierarchy of the library. Although the ARL Preservation Statistics Questionnaire, 1987–88 will present data on reporting relationships, it would be interesting to find out not only where preservation departments are located in the organizational chart, but whether or not the preservation librarians surveyed feel that the reporting relationships have worked effectively. Organizational models for various libraries might be studied and evaluated.

More information could be gathered about the salary scale for preservation librarianship; a survey might be a better way to collect this information. If a survey was conducted, correlations could be made between salary and the M.L.S. For our study, such a correlation was not possible; there is no way to ascertain whether the candidate chosen possessed an M.L.S., nor what salary was ultimately paid. Additional information could also be gathered about salaries in ARL versus non-ARL libraries.

This study has several implications for the preservation field. There seems to be little consensus among library hiring committees about what qualifications preservation librarians should have. Yet there has been a sharp increase in the number of preservation programs being established in libraries as exemplified by the ARL Surveys described. Perhaps workshops that would focus on the hiring of preservation librarians should be organized by RLG, ARL, or the PLMS section of RTSD for libraries in the process of implementing preservation programs. Further, standardization of the terms preservation and conservation might also help to alleviate confusion.

Although this is the first study to focus on the job content of preservation librarianship, Ellen McCrady wrote a column about the increase of the number of job ads in the Abbey Newsletter. In a brief item entitled “Lots of Jobs,” McCrady cited an increase of 100 percent from 1983 (23 ads) to 1985 (55 ads). Her figures are substantially higher than ours because she included jobs for library and museum bench conservators as well as those for preservation librarians. Nevertheless, we concur that the preservation job market is presently healthy. At the same time, we hope that recognition of the growth of this field will lead to a reappraisal of the job content of preservation administration.
REFERENCES AND NOTES


3. ARL Pilot Preservation Statistics Survey, p.34.


7. The first issue of Conservation Administration News appeared in 1978; the first CAN advertisement used for this study was from a 1984 issue.


12. The preliminary data for this study—covering the years 1975–1985—was reported as "Preservation Administration Job Market Studied," Abbey Newsletter 10:92 (Dec. 1986).


14. Small special libraries are also developing preservation programs, though the impact of these programs is not yet reflected in the job ads of the periodicals used for this study. See Wesley L. Boomgarden, "Preservation Planning for the Small Special Library," Special Libraries 76:204-11 (Summer 1985).

15. Walker, p. 41.


BIBLIOGRAPHY


University Archives:
The Australian Scene

Nessy Allen

A recent survey of the development and administration of archives in Australian universities reveals similarities with those in North America and difficulties for units in both regions. While many of the Australian archives have been developed according to the special needs of a particular university and, in some cases, of the community it serves, they share with their United States and Canadian counterparts problems of finance, staffing, space allocation, placement, and management.

When institutions of higher education decide to establish an archive, as opposed to simply accumulating records, they must make decisions about matters common to all organizations planning a similar move. Such decisions include the physical location of the archive and the allocation of space to meet immediate and future needs; the specific functions of the archive and whether it is to serve only as a repository of the institution's records or whether it will also hold the archives of other organizations; the management of the archive and whether it will come under the supervision of the central administration or that of the library; and the financing of the archive for both its establishment and its future development. Some of these issues, as well as more technical ones, have been discussed by others and various models for dealing with them have been proposed. Data of general interest are set out in this article to show how such matters have been handled by Australian universities in setting up their archives; where appropriate, comparison is made with North American patterns.

DEVELOPMENT OF ARCHIVES AND THE UNIVERSITIES

The Australian higher education system developed gradually. In 1956 there were only nine universities in Australia. As undergraduate student numbers grew, however, colleges of advanced vocational education were established and new universities were set up. By 1976 nineteen of the twenty-one Australian universities had been established. The two not considered here were upgraded from college status after this study was completed. In 1977 the commonwealth government brought all postsecondary education under the control of one body, the Tertiary Education Commission (later the Commonwealth Tertiary Education Commission, CTEC), which advised the government after consulting with its various advisory councils established for the different tertiary sectors. Although the recommendations of the commission were not necessarily accepted by the government, the commission put into effect the government's subsequent decisions.

Although the nomenclature of institutions is similar in North America and Australia in that both have colleges and universities, and although there are parallels, the two systems are not identical. Until 1987, for example, there were no privately funded universities in Australia; and the status of an institution called a university was higher than that one called a college.

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In recent years pressure by the staff of colleges of advanced education has resulted in an upward trend, moving from college to university status; however, the first example since 1976 of such an upgrading occurred only in 1987.

The governance of higher education in Australia is clearly changing. In late 1987 the commonwealth government announced that CTEC was to be abolished and replaced by a Higher Education Council which will advise a National Board of Employment, Education, and Training. Soon afterwards the minister for employment, education, and training circulated a policy discussion paper on higher education which proposed the dismantling of the present binary system and the setting up of a unified national higher education system. The new system will affect not only existing archives and possibly their functions but also the establishment of any future archives.

As in the United States and Canada, the establishment of archives at Australian universities has been a relatively recent development, which began to gather momentum about thirty years ago. The first Australian university, the University of Sydney, was founded in 1850, followed shortly by the University of Melbourne in 1853. Appropriately enough, these two oldest universities were among the first to set up archives, albeit not 100 years after their founding.

In the United States, Harvard University, although it began compiling and keeping records in 1851, did not set up an official archive on a statutory basis until 1939. Only in the 1950s and 1960s did other universities and colleges in the United States begin their archival programs. A similar pattern emerged in Canada. Formal university archives were started there in the 1960s, when some of the older universities appointed professional archivists. In both countries, however, the rate of establishing archives has been relatively slow, and this is equally true of Australian universities.

Of the nineteen universities established in Australia by 1976, fifteen now have formal archives. The Australian National University (ANU), Griffith University, James Cook University, and Murdoch University have not yet begun archives, although they do, of course, keep university records. At all four of these archive-less universities there have been discussions about the establishment of archives.

The ANU is anomalous in that it keeps very extensive collections of business and trade union records. These collections were begun in the 1950s by academics in various departments who were interested in materials for their research. Within a few years, an archives unit was started in the Research School of Social Sciences to house and develop these collections. The ANU administration keeps material related to the establishment of its various schools and private papers of eminent people connected with the university. In other words, archival material is being conserved. There is no move, however, to systematize all the holdings in a central archive, although the university is well aware of the need. A committee exists to consider the matter, but it has not met for some years, and while the university budget makes annual provision for one salary for archives, the amount is subsequently struck out as a savings measure. It is ironic that this university, the only one in Australia that has an abundance of space for records—a vast underground storage area—has not yet been able to set up an official archive.

Since the other three universities without archives are relatively new, they find that their present needs are met by central registry records. One of them, however, set up a working party which in 1985 recommended the establishment of an official archive. For financial reasons, the recommendation has not yet been adopted. In fact, given current economic trends, it appears unlikely that any of these universities will be able to establish archives in the near future. But institutions anxious to have archives should not despair: in the
United States "...one university waited forty-three years before a recommendation to establish an archive was acted on!" 

The archives of the other fifteen universities were all established during the last 35 years. The first was in 1954; in the next decade, three more were set up; then five were established in the 1970s and the other six in the 1980s (the last in 1986).

The data in this paper were collected by interview, in person or by telephone, with the most appropriate person. Generally this was the archivist, but in some cases it was the assistant vice-chancellor, the registrar, the deputy registrar, or the central records officer as well.

Table 1 shows the dates of foundation as autonomous bodies of the fifteen universities under discussion, together with the year in which their formal archives were established.

No obvious pattern of development emerges from table 1. Appropriately, the oldest university in Australia was the first to establish an archive, followed by the second oldest. Interestingly, the third was a small regional university in New South Wales (New England), which established a unit only six years after its foundation. Two of the earliest and largest universities (Adelaide and Queensland) did not start their archives until the early 1980s, though of course they had been keeping records for many years. On the other hand, three of the newer universities (Monash, La Trobe, and Macquarie) established their archives within a relatively few years of their foundation, as did another (Newcastle) which had begun life as a university college. The last university to be founded (Wollongong) began its archive even before it became an autonomous university.

For the purposes of this paper, "old" universities are those founded before World War II. The "large" universities are Adelaide, Melbourne, Monash, New South Wales, Queensland, and Sydney, each of which has student numbers exceeding 13,000. Data are presented for old versus new and large versus small universities to determine to what extent, if any, age and size have influenced archival development. See table 2.

Archival needs cannot always be met by the number of staff universities are able to provide. Four of the fifteen universities (27 percent) do not have a full-time archivist but have a person who works between half- and four-fifths time. Of the others, six (40 percent) have a full-time archivist, two have in addition an archivist/assistant, and another two have extra part-time assistance. The remaining institution, the University of Melbourne, with seven staff members, is a special case. The University of Melbourne followed the example of ANU and began a program of collecting business records; at Melbourne, however, the success of the program stimulated the creation of the university’s official archive. Because of the extent of the support it receives from the business community, Melbourne’s unit has the most sophisticated facility of any in Australia, as well as having a bigger staff than any other university’s. Ian Wilson stated in 1977 that, in some Canadian universities, “the archival programme can be viewed as an extension of the archivist’s personality.” This is certainly true of Melbourne, which owes

### TABLE 1

<table>
<thead>
<tr>
<th>University</th>
<th>Archive</th>
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</thead>
<tbody>
<tr>
<td>Sydney</td>
<td>1850</td>
</tr>
<tr>
<td>Melbourne</td>
<td>1853</td>
</tr>
<tr>
<td>Adelaide</td>
<td>1874</td>
</tr>
<tr>
<td>Tasmania</td>
<td>1890</td>
</tr>
<tr>
<td>Queensland</td>
<td>1910</td>
</tr>
<tr>
<td>Western Australia</td>
<td>1911</td>
</tr>
<tr>
<td>New South Wales</td>
<td>1949</td>
</tr>
<tr>
<td>New England</td>
<td>1954</td>
</tr>
<tr>
<td>Monash</td>
<td>1958</td>
</tr>
<tr>
<td>La Trobe</td>
<td>1964</td>
</tr>
<tr>
<td>Macquarie</td>
<td>1964</td>
</tr>
<tr>
<td>Newcastle</td>
<td>1965</td>
</tr>
<tr>
<td>Flinders</td>
<td>1966</td>
</tr>
<tr>
<td>Deakin</td>
<td>1974</td>
</tr>
<tr>
<td>Wollongong</td>
<td>1975</td>
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</tbody>
</table>

### TABLE 2

<table>
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<tr>
<th>Type of University</th>
<th>Large</th>
<th>Small</th>
<th>Old</th>
<th>New</th>
</tr>
</thead>
<tbody>
<tr>
<td>One or more full-time members of staff</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Less than one full-time member of staff</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>
much to the vision and energy of its first archivist.

Three of the university archivists are not professionally trained; that is, they do not hold formal archival qualifications. This seems to be due partly to the relatively recent introduction of formal training programs and partly to historical accident. One university archive, for instance, was set up because of the enthusiasm and determination of a particular staff member who was not appointed for the purpose but who had a sympathetic administration.

Again, the Australian situation regarding staffing is comparable to that existing in North America where several surveys of college and university archives have been undertaken. The most recent survey deals with the United States in the early 1980s. The authors found that 30 percent of public institutions had no professional archival staff and that nearly the same percentage had only one full-time professional person. They compared their findings with those of a 1980 Canadian survey and identified a similar pattern there.

A leading archivist in the United States recommends the establishment in universities and colleges of an archives committee which, he says, "can be a valuable tool in educating faculty, students, and administrators to the role of an archives." It is doubtful whether archives committees in Australian universities serve this role. Nevertheless, at all the universities that have such a committee, the archivists have indicated that they find its advice and guidance useful. In the same context, another U.S. author advocates that the committee be formed because it can give special help in obtaining an adequate archival budget.

As can be seen from table 3, only six of Australia's universities have an archives committee; one of these, however, exists only in name, as it has never met. Of the others, two meet at irregular and infrequent intervals and the remainder meet between two and four times per year. At a seventh university, it is expected that a committee will be established in 1988. Membership on committees varies from five to eight. One committee, that of an archive with external commitments, has fourteen members, including four from outside the university. Given the general irregularity of meetings, it is unlikely that the few committees in Australia are influential in attracting funds; no archivist referred to a committee's having played any role in obtaining financial support.

**FINANCES**

Restricted finances are a major problem for all university archivists. In the United States, the level of funding varies greatly, depending on whether the institution is public or private and whether it is large or small. Large public institutions are funded much more adequately than small private ones. Wilson reports that the financial problems of Canadian university archives are exacerbated when the archive is administratively located in the library. For reasons of confidentiality, not all Australian archivists were able to talk about their budgets but it was clear that, with only a few exceptions, archives are not funded generously. See table 4.

The archives at seven of the fifteen universities surveyed receive a separate budget, though this statement requires qualification. In only two cases does the budget cover both salaries and materials; one archive is funded for salaries only and four are funded for materials only, in one instance just a few hundred dollars per year.

**TABLE 3**

<table>
<thead>
<tr>
<th>Type of University</th>
</tr>
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<tbody>
<tr>
<td>Large</td>
</tr>
<tr>
<td>Committee</td>
</tr>
<tr>
<td>No committee</td>
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**TABLE 4**

<table>
<thead>
<tr>
<th>Type of University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
</tbody>
</table>
Lack of space was the greatest problem reported by all North American archival institutions. No Australian archivist considered that the space at his or her disposal was adequate; although, of course, the statement is difficult to interpret consistently unless a definition of adequate is given. See table 5. Some Australian archivists stated that they are able to make do by weeding. One reported that only the refusal, because of lack of staff, to accept much of the material offered made the available space adequate. Comparisons are difficult because of the differences between archives in the range of materials being collected and the length of time for which they have been collected. Nevertheless, it can be stated that, at present, the space of eight of the archives is adequate; that is, there is provision at least for the immediate future. The space available to two archives is only just adequate. For another two it is not adequate, but the situation will improve with the allocation of new or extended space within a year or so. The space given to the other three archives is inadequate. In fact, from this author's personal observation, it is ludicrously inadequate, and there is no prospect of improvement for some time to come.

Most archives provided some space for researchers to work, even if, as in three cases, it was just a desk in the archivist's office. Only three universities provided no such facility. One of these, a new and small university, said there was not as yet sufficient demand by staff to warrant it. Six provided space for between three and five people. At two universities, research space was shared with the library, which in both cases meant sharing a special room accommodating more than twenty people. The university with the largest archive (Melbourne) was able to provide research facilities for sixteen people. In summary, nine universities (60 percent) provided adequate research space. This situation is similar to that in the United States where 40 percent of institutions reported having no separate room for research.

### COLLECTIONS

In Australia, university policies regarding the types of records to be collected in their archives vary. All keep the records of their central administration. Two do not accept departmental material, in one case due to a lack of space. Another archive keeps all university records, including departmental, but does not actively seek the latter. This archive also retains the records of bodies associated with the university (for example, student societies). In this respect, the Australian situation differs from that in Canada where, Wilson reports, some archives do not collect the records of their own institutions but only those of regional ones. Eight Australian universities have begun an oral history program related to the university, but none has progressed very far because of a lack of funding.

Whether or not an archive serves only as a repository for its university records or also undertakes a wider research role is also a policy matter, one which may have been determined even before the archive officially came into existence. Five Australian universities keep external records in addition to their own. The archives of three (Newcastle, New England and Wol-

### TABLE 5

<table>
<thead>
<tr>
<th>Space for Archival Collections</th>
<th>Type of University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adequate</td>
<td>Large Small Old New</td>
</tr>
<tr>
<td>Adequate for the time</td>
<td>2 3 2 3</td>
</tr>
<tr>
<td>being</td>
<td>2 1 2 1</td>
</tr>
<tr>
<td>Only just adequate</td>
<td>2 1 1 1</td>
</tr>
<tr>
<td>Inadequate at present but</td>
<td>2 2</td>
</tr>
<tr>
<td>will soon become adequate</td>
<td></td>
</tr>
<tr>
<td>Inadequate</td>
<td>2 1 1 2</td>
</tr>
</tbody>
</table>

### TABLE 6

<table>
<thead>
<tr>
<th>Person to Whom Archivist is Responsible</th>
<th>Type of University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>Officer</td>
</tr>
<tr>
<td>-------</td>
<td>---------</td>
</tr>
<tr>
<td>1985</td>
<td>Registrar</td>
</tr>
<tr>
<td>1987</td>
<td>Registrar</td>
</tr>
<tr>
<td></td>
<td>Librarian</td>
</tr>
</tbody>
</table>
longong) serve a regional function by keeping records of the local area such as papers relating to the farming community, station records, employee ledgers of local properties, business archives, and trade union archives. One archive, New England, serves as the regional repository for the state archives on a permanent basis. The two oldest universities keep large collections of nonuniversity records. Approximately 25 percent of the holdings of the University of Sydney’s archive comprise personal and private papers. A full 83 percent of the collection of the archive at the University of Melbourne consists of such papers together with the records of certain large companies and business organizations which, as has been mentioned, contribute in great measure to the funding of the archive. All five universities, as well as ANU, intend that the resources of their archives be available for research.

"'Discouragement and frustration for archivists are inherent in their relationship with university libraries,' according to Wilson."

CONTROL

Appropriate arrangements for the control of archives, in particular whether or not archives should be administered by libraries, have long been debated in Australia. Thinking in other countries has varied, too. Some argue for placing the archive under the library, while recognizing the advantages (mainly financial) of central administrative control. Others argue forcefully against such an arrangement. "Discouragement and frustration for archivists are inherent in their relationship with university libraries, according to Wilson." In Canada, most archives were situated in and responsible to the library, but the trend in the late 1970s was to separate them. In this regard, the situation in Canada may differ from that in the United States where 90 percent of college and university archives were located in the library, though not all of them were responsible to the library administration. Nicholas Burckel has stated fairly dispassionately the advantages and disadvantages of both alternatives—placing an archive under the supervision of the university administration and locating it under the library.

In Australia, it has recently been argued, the real debate on the administrative control of archives took place in the 1950 and the arguments put forward at that time by both sides have not changed but have only been reasserted. Some of the participants in the debate, particularly archivists, were against library control. Others, like R. C. Sharman, who were in favor at the time, have since revised their views: "Relationship with a library had its importance in the pioneering days, but these days are now past." By 1979 it could be stated that "the archives institutions and the archive profession in Australia are developing along their own lines and with a distinct identity." The placement of university archives up to 1985 tended to confirm this observation. Since then, however, as indicated in table 6, responsibility for the archives of two of the oldest and largest universities has been shifted from the administration to the library.

As shown in table 6, in 1985, twelve archivists were reporting to the registrar (or other officer of equal or higher rank in the administration) and only three to the librarian. The three universities that have always had their archivists responsible to the librarian are all small and relatively new. Perhaps it is not strange that two of them, whose archives were established in the 1960s, elected to place them in the library. The other, however, was not established until the mid-1970s, a fact which, given the widespread discussion that had taken place and the trends that seemed to be emerging, made the choice of library control more surprising. On the other hand, these are the three regional New South Wales universities referred to earlier, which keep community as well as university records in their collections, a factor
which could well have influenced the choice.

THE FUTURE FOR ARCHIVES

Given the economic climate of the past few years, the fact that on average a university archive has been established every year for the past ten years or so is encouraging for archivists. It is promising that only four of the nineteen universities under discussion do not yet have one. The tertiary education sector represents an expensive endeavor, and funding for higher education has been scrutinized more and more closely in recent years. Calls for accountability, not just from the government but from the community as a whole, have become more frequent and more vociferous. As the cost of staffing constitutes more than 80 percent of the cost of higher education, the emphasis has been on this much more than on other areas of expenditure. It is significant that no CTEC report since 1979 has mentioned archives.

Government plans to fund institutions within the proposed new system of higher education do not preclude the funding of an archive if a particular institution wishes to do so. The amount of funding, however, is likely to be so low that it will discourage universities from spending scarce resources on archives. As the Canadian survey pointed out, "In Universities . . . archives are seldom seen as central to their operating objectives or to their efficient management."26 If, as seems likely, this comment may be applied equally to the Australian situation, the mooted developments in higher education do not augur well for the creation or further development of archives in Australian universities.

On the other hand, the Australian government has indicated that it will encourage closer cooperation between tertiary education institutions and the private and business sector, a relationship that could include the business community funding some aspects of university operations. One instance of such cooperation which involves archives was described at the University of Melbourne. Whether other Australian universities will decide to adopt this model remains to be seen. Many universities may need to rethink the purpose and function of their archives if the archives are to survive and grow in a less buoyant economic climate. The proposed restructuring of the higher education system in Australia, however, may well create new opportunities for greater flexibility and lead to academic innovations encompassing many areas, including archives.

REFERENCES

16. For example, Miriam I. Crawford, "Interpreting the University Archives to the Librarian," in Colleges and University Archives, p.58-67.
The citations in 187 articles on bibliographic instruction published in thirteen library science journals were analyzed to determine the extent to which authors cited sources from library and information science compared to sources from traditional subject disciplines. The results suggest an insularity of user instruction literature not only from other subject disciplines but from the larger field of librarianship as well.

In 1979 Deborah Lockwood urged instruction librarians to "begin reaching beyond the library field," to "start thinking in broader terms than individual programs," and "to develop a philosophy and a concept" of bibliographic instruction that would appeal both to professional librarians and to library users. Related sentiments had been stated a year earlier by Jon Lindgren, who decried the librarian's lack of a "discoverable" body of theory and a methodology—necessary foundations for the advance of user instructional efforts. Lindgren repeated those concerns in 1982, calling for proponents of bibliographic instruction to communicate how access to reference and bibliographic sources relates to the "intellectual and not mechanical" processes of library research and library use. Lindgren's later study was one chapter in a book that signaled the growing sophistication of instruction librarians, Theories of Bibliographic Education, a collection of essays intended to "remedy the absence of theory-based instruction literature." Five years later this issue found expression in Conceptual Frameworks for Bibliographic Education, another collected work.

A desire for the literature to reflect stronger conceptual underpinnings seemed almost implicit in Hannelore Rader's introductions to her annual bibliographies of publications about user instruction. Yet, in reporting on the literature for the period from 1980 to 1985, she goes one step further by nurturing the perception that a change in the nature of the literature has been occurring. She chronicled an apparent advance by noting in 1981 that although many publications provided only program descriptions, a growing number were theoretical. A year later she detected the dominance of program descriptions coupled with a concern for evaluation and theoretical frameworks, an observation repeated again the following year. In both 1984 and 1986 Rader wrote that the number of publications dealing with theory and research was increasing and that these publications were appearing in...
discipline-oriented journals and resulted from librarians’ closer association with other professionals and professional associations.

With the comments by Lockwood, Lindgren, and Rader in mind, the authors analyzed the literature of bibliographic instruction to find out to what extent authors in this field were reaching beyond their own subfield to make use of sources in traditional subject disciplines. Although our interest in a stronger theoretical base has stimulated our inquiries, we have not assumed that the mere citing of a publication from a subject indicates the presence of successful theory construction. We have assumed, however, that the use of a source from these or other disciplines indicates an interest in a relationship that would ultimately serve the educational purposes of the discipline and honor the professional commitments of instruction librarians.

Additional objectives included the development of a core list of journals to which practitioners and educators would automatically turn in search of the latest trends. Our findings are displayed to show readers which journals have established themselves as more or less dependent on scholarship from the subject disciplines, as well as which journals tend to rely on more current (or comparatively more retrospective) sources in articles they accept for publication.

A final objective was to determine which contributors to the literature of bibliographic instruction are cited most often. In some instances we suggest why an individual is cited with a high degree of frequency. The presence or absence of a strong core of heavily cited personal authors is an important factor in understanding the characteristics of professional literatures. According to writings on citation analysis, a frequently cited publication is a measure of the utility of that particular publication, not a judgment of its importance or impact. 6

**REVIEW OF THE LITERATURE**

The tendency of library science authors to cite their own literature (a tendency that Penelope Earle and Brian Vickery define as “self-citation”) and cite less frequently disciplines outside the field has been widely observed and largely interpreted as indicating the insularity of library science from outside influences. In an analysis of articles in the *Journal of Education for Librarianship* for the period 1960 through 1970, Donald Lehnus noted that 64 percent of cited works were from the literature of library science, while 14 percent were from education and 22 percent were from outside both library science and education. Tim LaBorie and Michael Halperin discovered that over half (58 percent) of the references in 186 doctoral dissertations in library science completed between 1969 through 1972 were to library and information science literature. They concluded that the pattern of self-citation suggests that research in library science was “less interdisciplinary than that within the social sciences in general.” They also found that the fields of history, geography, and anthropology contributed 13.7 percent and education contributed 7.9 percent (p.276). Observing that the percentage of citations to works outside a particular discipline indicates the extent to which that discipline is “open to influences from other fields,” Bluma Peritz found that 78 percent of the citations from research articles appearing from 1950 through 1975 in a core list of thirty-nine library science journals were from the field of library and information science. Peritz judged this “a very high value, which seems to indicate very little interaction with other fields,” adding that “it seems fair to conclude—at least tentatively—that there is, in this literature, no trend towards opening up to outside influences.”

In analyses of 3,655 citations from 317 articles from the *Journal of Education for Librarianship* from the period 1960 through 1984, Alvin Schrader anticipated that researchers in library science education would “look to the literature of education for pedagogic theories, philosophies, principles, and practices,” but in fact found that “JEL authors cited 22 education journals about four times each,” or only about 2 percent, and further noted that “no other field provided more than one or two journals for citing except psychology with 11 titles which re-
“Pierce argues that because professionals, like librarians, focus on their own problems, they draw from ‘a much narrower range of subject literatures’ than researchers in the sciences.”

Received 37 citations,” or about 1 percent (p.288-95).11

Most recently, Sidney Pierce suggests that library science authors are largely insular in the materials they cite. Pierce argues that because professionals, like librarians, focus on their own problems, they draw from “a much narrower range of subject literatures” than researchers in the sciences.12 Lehnus could identify only ten authors whose works were cited six or more times in the same period. William Brace observed an absence of a substantial core of personal authorities in an analysis of 202 dissertations.13 Only 2,419 of 8,474 authors were cited more than once. The American Library Association was the most frequently cited author (2,152 citations). Schrader pointed out that “less than one percent of all 1,950 cited authors received nine percent of all citations, while 70 percent received only one citation.” Similar to Brace, Schrader found that the most frequently cited author (corporate or personal) was the American Library Association, “receiving twice as many citations as the next ranked author (p.294).”14

**METHODOLOGY**

This article began by identifying articles that Hannelore Rader described as dealing with bibliographic instruction either in all areas of librarianship or in academic librarianship exclusively. The articles appeared in eleven American and two European library science journals, including American Libraries, College & Research Libraries, College & Research Libraries News, Journal of Academic Librarianship, Journal of Librarianship, Library Journal, Library Trends, Libri, and RQ, which are generally recognized as “core journals” of library science.

S. Nazim Ali noted that 72 percent of the Illinois librarians responding to his survey indicated a preference as well as a dependence on familiar and readily available practitioner-oriented journals for information on research in this field.15 Rader also listed a number of articles published in Catholic Library World, Research Strategies, Reference Librarian, and Reference Services Review. From this core list of thirteen journals, we identified a total of 312 articles, after excluding 107 articles, or 33.4 percent, that had no footnotes and 18 more that were bibliographies and opinion columns (such as those regularly appearing in the Journal of Academic Librarianship and RQ). We submitted 187 articles to citation analysis. These analyzed articles contained 2,882 citations to specific sources and 2,988 citations to personal authors, exclusive of corporate authors. The citations were categorized by subject or discipline of the work cited, type of work cited, and author(s) cited. Multiple authors were given equal value with individual authors.

**RESULTS**

As demonstrated in table 1, authors of articles on bibliographic instruction cite publications in library science about three times as frequently as they cite publications from other fields. Of the 2,882 footnotes listed in 187 articles, 2,145 (74.43 percent) cited library science sources while the remainder, 737 (25.57 percent) cited sources in disciplinary and interdisciplinary subjects. Following library sci-

**TABLE 1**

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>NUMBER OF CITATIONS</th>
<th>PERCENTAGE OF TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library science</td>
<td>2,145</td>
<td>74.43</td>
</tr>
<tr>
<td>Education</td>
<td>403</td>
<td>13.98</td>
</tr>
<tr>
<td>Interdisciplinary subjects</td>
<td>85</td>
<td>2.95</td>
</tr>
<tr>
<td>Psychology</td>
<td>56</td>
<td>1.94</td>
</tr>
<tr>
<td>English</td>
<td>36</td>
<td>1.25</td>
</tr>
<tr>
<td>Information science</td>
<td>30</td>
<td>1.04</td>
</tr>
<tr>
<td>All others combined</td>
<td>127</td>
<td>4.41</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>2,882</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

*Based on citations from 187 footnoted articles about academic library use instruction published in twelve journals from 1980 through 1985. Subjects listed separately are those receiving at least 1 percent of the total.
ence was education with 403 (13.98 percent)—a natural choice given the nature of bibliographic instruction as an educational process. Citations to publications in interdisciplinary fields were, generally speaking, those easily recognized as interdisciplinary, for example, history and political science, religion and philosophy, education and sociology. Two disciplines that were cited more than 1 percent of the time were psychology (1.94 percent), defined to include psychiatry, and English (1.25 percent), defined to include English and American literature produced in the Americas, Australia, India, South Africa, and the United Kingdom. Information science, cited with 1.04 percent frequency, was separated from library science as the former has established its own professional, academic, and bureaucratic identity apart from schools of librarianship. Literature in the broad areas that encompass library and information science is, for purposes of this paper, defined as the literature of library science only. All other disciplines combined were cited with 4.41 percent frequency. These include art, communication, computer science, economics and management, geography, history, law, medicine, music, philosophy, political science, religion, sociology, and technology.

Table 2 ranks journals publishing five or more articles about bibliographic instruction in the years from 1980 to 1985 according to the frequency with which their authors cited disciplinary and interdisciplinary sources. During the period covered in this study, Catholic Library World published eleven articles that collectively included seventy-one citations, thirty (42.2 percent) of which represented sources from a subject discipline. Placing second behind Catholic Library World was Research Strategies, a relatively new journal devoted to library concepts and instruction, that published forty-nine papers containing 372 citations from its inception in 1983; of the 372 citations 149 (40.1 percent) were drawn from subject and interdisciplinary sources.

Only one other journal, College & Research Libraries, showed a figure higher than our average for nonlibrary science citations of 25.57 percent. It published twenty-three papers containing 432 citations of which 136 (31.5 percent) were drawn from subject and interdisciplinary sources. Other journals in table 2, ranked according to percentages of nonlibrary science citations in bibliographic instruction articles, are Journal of Academic Librarianship (21.8 percent), Reference Librarian (19.5 percent), RQ (19.1 percent), Reference Services Review (17.8 percent), Library Trends (17.5 percent), and Libri (12.8 percent). While the overall figure in table 1 identifies 2,882 citations, the data shown in tables 2 and 3 are based on a total of 2,769 citations, since the latter tables exclude articles published in journals that issued fewer than five bibliographic instruction papers during the period studied.

Table 3 illustrates the concern of bibliographic instruction authors to cite the most current literature available. Assum-

---

**TABLE 2**

<table>
<thead>
<tr>
<th>Journal</th>
<th>Articles/Citations</th>
<th>Library Science Citations</th>
<th>Disciplinary/Interdisciplinary Citations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catholic Library World</td>
<td>11/71</td>
<td>41</td>
<td>30</td>
</tr>
<tr>
<td>Research Strategies</td>
<td>49/372</td>
<td>223</td>
<td>149</td>
</tr>
<tr>
<td>College &amp; Research Libraries</td>
<td>23/432</td>
<td>296</td>
<td>136</td>
</tr>
<tr>
<td>Journal of Academic Librarianship</td>
<td>23/243</td>
<td>190</td>
<td>63</td>
</tr>
<tr>
<td>Reference Librarian</td>
<td>19/323</td>
<td>260</td>
<td>53</td>
</tr>
<tr>
<td>RQ</td>
<td>30/293</td>
<td>237</td>
<td>56</td>
</tr>
<tr>
<td>Reference Services Review</td>
<td>77/107</td>
<td>88</td>
<td>19</td>
</tr>
<tr>
<td>Library Trends</td>
<td>14/834</td>
<td>688</td>
<td>146</td>
</tr>
<tr>
<td>Libri</td>
<td>5/94</td>
<td>82</td>
<td>12</td>
</tr>
</tbody>
</table>

*Journals publishing five or more articles about academic library use instruction from 1980 through 1985.
**TABLE 3**

DISTRIBUTION BETWEEN ARTICLE AND OTHER SOURCES
(RANKED BY THE CURRENCY OF THE LITERATURE IN THEIR ARTICLES*)

<table>
<thead>
<tr>
<th>Journal</th>
<th>Citations Number</th>
<th>Other Sources Number</th>
<th>Article Sources Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference Librarian</td>
<td>323</td>
<td>50</td>
<td>273</td>
<td>84.5</td>
</tr>
<tr>
<td>Journal of Academic Librarianship</td>
<td>243</td>
<td>50</td>
<td>193</td>
<td>79.4</td>
</tr>
<tr>
<td>Library Trends</td>
<td>834</td>
<td>185</td>
<td>649</td>
<td>77.8</td>
</tr>
<tr>
<td>Reference Services Review</td>
<td>107</td>
<td>24</td>
<td>93</td>
<td>77.6</td>
</tr>
<tr>
<td>RQ</td>
<td>293</td>
<td>71</td>
<td>222</td>
<td>75.8</td>
</tr>
<tr>
<td>Libri</td>
<td>94</td>
<td>24</td>
<td>70</td>
<td>74.5</td>
</tr>
<tr>
<td>College &amp; Research Libraries</td>
<td>432</td>
<td>115</td>
<td>317</td>
<td>73.4</td>
</tr>
<tr>
<td>Research Strategies</td>
<td>372</td>
<td>109</td>
<td>263</td>
<td>70.7</td>
</tr>
<tr>
<td>Catholic Library World</td>
<td>71</td>
<td>26</td>
<td>45</td>
<td>63.4</td>
</tr>
</tbody>
</table>

*Journals publishing five or more articles about academic library use instruction from 1980 through 1985.

ing that journal literature is more current than other sources, including monographs, the most current literature cited by authors of user instruction papers appears in the Reference Librarian. Some 273 (84.5 percent) of the 323 citations in this publication identified journal articles while only 50 (15.5 percent) cited books, collected works, dissertations, and other sources. Other periodicals whose contributors relied heavily on journal articles were Journal of Academic Librarianship (79.4 percent), Library Trends (77.8 percent), Reference Services Review (77.6 percent), RQ (75.8 percent), Libri (74.5 percent), and College & Research Libraries (74.3 percent).

Interestingly, those journals whose contributors were most likely to use disciplinary and interdisciplinary sources were those least likely to rely on current literature. Thus, the three journals ranking the highest in nonlibrary science citations, Catholic Library World, Research Strategies, and College & Research Libraries, ranked lowest—precisely in reverse order—in their tendency to cite articles rather than monographs, collected works, or other sources. Stated differently, the journals ranking highest in library science citations cited the more current literature and the journals ranking highest in a mixture of disciplinary and interdisciplinary citations used comparatively more of the older monographic and other types of literature.

Citation analysis has long been recognized as a tool for understanding something of the influence of particular authors. According to table 4, contributors to the bibliographic instruction literature tend to cite prominent practitioners and, to a lesser degree, theorists and critics in the field. Approximately 1,324 personal authors accounted for a total of 2,988 citations, and 843 (64.7 percent) were cited once, while another 481 (36.3 percent) were cited two or more times each. Analysis of the latter group revealed that members of a discrete group of 51 personal authors (3.9 percent) were cited ten times or more each for a total of 927. Thus, 51 individuals accounted for about 31 percent of the citations. Indeed, 1 percent of the total number of personal authors comprised 13 percent of all personal author references; in other words, more than one of ten personal author citations referred to Thomas G. Kirk, John Lubans, Raymond G. McInnis, Patricia B. Knapp, Pauline Wilson, Mary W. George, Sharon A. Hogan, Larry L. Hardesty, Anne K. Beaubien, Nancy Fjallbrant, William A. Katz, Anne F. Roberts, or Topsey N. Smalley.

**DISCUSSION AND CONCLUSION**

The results indicate an incidence of self-citation in the literature of library user instruction that corresponds to previous findings for citations in library science literature in general. We found that 74.43 percent of the analyzed citations referred to sources in the field of library science, while 25.57 percent cited sources outside the field. Comparison of our results with previous studies of the incidence of self-citations to library science suggests a general increase rather than a decrease in self-citation over a period of time. Lehnus
found a 64 percent incidence of self-citation in library education literature from 1960 through 1970, while Schrader found an incidence of approximately 90 percent in the same kind of literature for the period 1960 through 1984. Similarly, LaBorie and Halperin’s study of library science dissertations indicated a lower incidence (58 percent) of self-citation than Peritz observed in the literature published since 1960. After this date, Peritz noted, the percentage of citations outside librarianship remains in the vicinity of 20 percent, with self-citation at about 80 percent. Our results indicate that the user instruction literature is almost as prone to self-citation as that of library science in general. The strong pattern of self-citation in the literature of the user instruction subfield merely reflects patterns observed in the literature of librarianship generally.

We anticipated that the user instruction literature would draw substantially from the literatures of education and psychology. These assumptions were confirmed. Frequencies of citations from sources in education (14 percent) and psychology (2 percent) were observed. This was similar to previous findings. Lehnu found a 14 percent incidence of education citation, while LaBorie and Halperin found 7.9 percent. Schrader observed that sources in education and psychology were the most frequently cited subject disciplines outside library science. Our findings suggest that one in six references cited sources from one of these two subjects.

While our results in the patterns of self-citation were similar to those of previous studies, our results in personal author citations were considerably different. Indeed, we found a core group of fifty-one personal authors—nearly all practitioners in library science—upon whom the literature was largely dependent. These individuals accounted for almost one-third of all citations to personal authors in the period 1980 to 1985. On the other hand, the sole personal author representing a subject discipline outside library science in
this group—R. M. Gagne—was cited only eleven times. The cumulative citation of personal authors in this group dominated the literature of user instruction. This dependence on particular personal authors in the field of library science identifies user instruction as a subfield and suggests an insularity of its literature not only from other subject disciplines but from the larger field of librarianship as well. On a more positive note, self-citation conforms to the pattern that characterizes the literature of a highly developed profession.

"The most frequently cited individual from 1980 to 1985 was Thomas G. Kirk, who qualified as both a practitioner (through his instruction activity at Earlham and Berea colleges) and a researcher."

The most frequently cited individual from 1980 to 1985 was Thomas G. Kirk, who qualified as both a practitioner (through his instruction activity at Earlham and Berea colleges) and a researcher. Kirk reported the results of his master's thesis, "Comparison of Two Methods of Library Instruction for Students in Introductory Biology," in College & Research Libraries (32:465-73 (1971)). John Lubans is known largely as an editor of collected essays but also as a journal author and as a practitioner/researcher from his years at the University of Colorado. Raymond G. McInnis was recognized for New Perspectives for Reference Service in Academic Libraries (Greenwood, 1978), a thoughtful monograph with serious implications for bibliographic instruction programs.

Because bibliographic instruction authors are sensitive to the most vocal critics of user instructional efforts, they have cited Anita Schiller, Pauline Wilson, William A. Katz, and Topsey N. Smalley with some frequency. Both Schiller and Wilson presented cogent, well-defined critiques in papers published in Library Quarterly: "Reference Service: Information or Instruction," (35:52-60 (1965)) and "Library as Teachers: The Study of an Organization Fiction," (49:146-62 (1979)), respectively. Katz was cited for the dim view of instructional programs he has taken in successive editions of his textbook on reference work and Smalley was cited for "Bibliographic Instruction in Academic Libraries: Questioning Some Assumptions," a timely essay that summarized a number of the concerns of contemporary practitioners, in Journal of Academic Librarianship (3:280-83 (1977)).

Finally, Richard Hume Werking and Arthur P. Young were cited for having produced evaluative summaries of some of the research literature of user instruction. Although the results of substantial research about this topic were relatively sparse, they gained recognition and appreciation among instruction advocates.

Our experience in academic librarianship and our knowledge of the literature of user instruction led us to expect that certain individuals would exert a more profound influence on the literature than they actually have. Among these were practitioner/authors Robert B. Downs, Louis Shores, and Harvie Branscomb (the last two of whom have known few peers in the history of bibliographic instruction), library science theorists S. R. Ranganathan and Patrick Wilson, educators Benjamin Bloom and Jerome Bruner, and psychologist Jean Piaget. Educational theorist R. M. Gagne is the only individual outside the profession to have been cited at least ten times.

Identification of a group of user instruction journals within the recognized core of library science journals, much like the pattern of personal author citations, further underscored tendencies toward insularity. About one-third of the literature lacked footnotes and was excluded from further analysis. These articles were concentrated in American Libraries, College & Research Libraries News, Library Journal, and Journal of Librarianship—all journals that are heavily used by practitioners. Many research articles on library user instruction were, in fact, found to appear in two journals that are not as yet widely recognized as core journals—Research Strategies...
and Reference Librarian—as well as in College & Research Libraries, Journal of Academic Librarianship, and RQ. Sources outside the field were more frequently cited in Catholic Library World, Research Strategies, and College & Research Libraries. These journals also more frequently cited nonjournal sources. The ten other titles from our core of thirteen reflected higher frequencies of citation from the library science literature and current periodical literature.

RECOMMENDATIONS FOR FURTHER STUDY

The literature devoted to bibliographic instruction has been in print for more than a century. In that respect it roughly parallels the growth of library science literature in the United States. A citation analysis of earlier writings would indicate something of the origins and development of both literatures. Moreover, the present study deals only with the journal literature. Other monographs and collected works could be analyzed and compared with the journal literature. Of greater value are concerns about the inherent quality and purpose of the literature of bibliographic instruction, in particular, the presence or absence of research content. The importance of research to user instruction efforts is an issue that Rader continually raises in the introductions to her bibliographies. A study of the instruction literature, similar to that conducted by Caroline Coughlin and Pamela Snelson in their examination of papers presented at the first national ACRL conference, would, if conducted from a longitudinal viewpoint, either confirm or deny Rader’s perception that such publications are increasing in number.77

Studies of randomly selected articles and monographs could be equally fruitful. Additional studies might consider the relative conformance of bibliographic instruction literature to the literature of librarianship and the professional and intellectual implications for librarianship if differences or similarities continue over several years. The instruction literature might profitably be compared to the literature of reference, cataloging, and other library functions. These studies should inform the dialogue that relates to the growing expertise and specialization of various interests within librarianship as compared to the negative aspects of the same trend, a diminishing sense of community and an increasing intellectual isolation within a rapidly splintering profession.

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Economics of the Scholarly Journal

David W. Lewis

This paper considers the economic nature of the scholarly journal from a theoretical perspective and concludes that it is what economists call a natural monopoly. Natural monopolies exist when the average price of the good falls over the range of demand, and unless a subsidy is provided the good will not be produced in the quantity that provides the most social benefit. The natural monopoly model of the scholarly journal sheds light on the issue of dual pricing and explains how scholarly publishing can be a highly profitable enterprise. Because subsidies should be easier to implement in electronic systems, this alternative may provide a more effective means of scholarly communication.

Librarians and the publishers of scholarly journals have a long history of disagreement over prices. Librarians feel exploited, and publishers misunderstood. Neither side seems to be able to see the other's point of view. This lack of comprehension occurs, at least in part, because librarians are not knowledgeable about the economics of scholarly journal publishing. If librarians are to make reasoned and reasonable policy decisions on the distribution of scholarly information, the situation must change. The scholarly journal is only one means of distributing scholarship, but if we understand its economics, we can apply our insights across the board. This article will explore the economics of the scholarly journal and along the way will consider dual pricing and the changes electronic systems may bring.

We will begin by examining the scholarly journal's production characteristics and the nature of the scholarly journal's demand as a product in the marketplace. To do so, we will use a simple example to explore these characteristics and the interplay that results among libraries, scholars and publishers. As is the case whenever simple models are used to portray a complex reality, some of the detail and texture will be lost, but in compensation we will be given the opportunity to see clearly relationships that might otherwise elude us.

SUPPLY

Different goods are made in different ways. To describe the differences, economists develop production functions that explain how, for the particular product, inputs are turned into outputs. The production function for scholarly journals is twofold. There is a large, up-front fixed cost—what publishers call the "first copy cost." This expenditure is necessary to select and edit articles, to lay out pages, and to maintain subscription lists and a distribution system. It must be paid regardless of how many copies of the journal are sold. The cost of printing and distributing each unit after these setup costs have been paid is relatively small. Let us assume for our example that the fixed costs for a year of production of a hypothetical journal are $10,000 and that the per-unit costs are $10 per subscription. The total cost of produc-
ing between 10 and 1,000 units of this jour-
nal are shown in table 1. Also shown are
the average cost—the total cost divided by
the number of subscriptions—and the
marginal cost. The marginal cost is the ad-
ditional cost of producing one more unit of
output; in our example, the marginal cost
is for printing and distribution and is al-
ways $10. The same information is shown
graphically in figure 1. Note that the aver-
age cost drops rapidly as the volume of
production increases; the more units pro-
duced, the closer we come to the relatively
low marginal cost. But the average cost
never falls below the marginal cost. The
importance of this attribute of the produc-
tion function will become clear shortly.

DEMAND

Scholarly journals have two markets, li-
braries and individuals. These markets
differ in important ways. Libraries are
generally willing to pay more than indi-
viduals for journals. They are also less
likely to place or cancel their subscriptions
because of changes in prices, and price, al-
though a consideration, is rarely the pri-
mary factor in determining whether to
purchase a title. Usually a library will de-
cide which journals are important and
purchase as many of them as it can afford.
Once a subscription has been placed it is
usually continued without serious review
unless there is a fiscal crisis. When prices
rise libraries will cancel a subscription
only hesitantly, even when this means
buying fewer books or making other
budget cuts. For libraries, price changes
have relatively little effect on purchasing
behavior. In the language of economics,
library demand for scholarly journals is in-
elastic. An often-cited textbook example
of inelastic demand is kidney dialysis. Li-
braries, like the kidney patient, may com-
plain about prices, but they pay them
nonetheless.

Another important aspect of library de-
mand is the limited substitutability be-
tween scholarly journals. Foreign Affairs,
Orbis, and Foreign Policy are all important
journals covering international relations,
but a library will rarely substitute one for
the other solely on the basis of price. From
the library's point of view, these three ti-
tles are different goods. Importantly, this
implies that in the library market scholarly
journals are monopoly goods and pub-
lishers have monopoly power. As Edward
Dyl deftly points out, all publishers of
copyrighted works are monopolists. This
view is, however, simplistic. The titles
noted are distinct goods not because they
are copyrighted, but because academic li-
brary users, especially faculty members,
who have much to say in these matters,
will not generally accept an article from
Orbis when what they seek is an article
from Foreign Affairs. This point is critical.
One can argue as Malcolm Getz has that
"the possibility of new titles by other pub-
lishers entering the journal marketplace
defines an upper limit on journal prices." New
scholarly journals do enter the mar-
ket and in some cases they replace other
scholarly journals. But it is my contention
that the general case is more like the one
that Getz goes on to describe: "To the ex-
tent that a particular title achieves a dis-
tinctive editorial position and reputation
for important essays . . . new entrants
may pose little threat." Sandra Moline
found a large variance in journal prices,
even when the number of characters pub-
lished was considered. These findings,
which at first may seem puzzling, are eas-
ily understood when scholarly journals
are seen as monopoly goods. The impor-
tant point is that for scholarly journals,
reputation and distinctive editorial posi-
tion, once gained, are lost very slowly. It is
this fact that makes them distinct goods
and provides their publishers with mo-
nopoly power.

Popular journals are different. For ex-
ample, a library might decide to subscribe
to one magazine about Macintosh com-
puters; it could be MacUser, MacWeek, or
MACazine. Price will probably be an im-
portant factor, and should the chosen title
suddenly double in price, there would be
little hesitancy in canceling that title and
subscribing to a cheaper one. Here there is
substitution, even of copyrighted mate-
rial, and elastic demand. What results is a
more competitive market that relies on ad-
vertising to help finance publication.

Individuals, at least in part because li-
braries provide them with an alternative
to ownership, have lower limits of the top price they are willing to pay for a journal; they are more likely to adjust their purchases when prices change. Individual demand for scholarly journals is more elastic than the library demand. 7

For the sake of our example, let us assume that in the library market there are 250 possible subscribers and the most any of them is willing to pay for our journal is $250 per year. To make things easy we will assume that the demand is linear function. The equation for this function will be

quantity purchased by libraries = 250 - price charged libraries

This is the function that describes the line ABC in figure 2. If we similarly assume that there are 750 possible individual subscribers and that the most any one of them would be willing to pay is $25 per year, and that once again the demand is a linear function, personal demand could be represented by the function

quantity purchased by individuals = 750 - (30 \times \text{price charged individuals})

This is the equation for line DE in figure 2. If we combine the two demand curves to find the demand for the total market, we will have a curve that is linear but that has an elbow. Above a price of $25, the curve is the library demand curve since above $25 no individuals will purchase the journal. Below $25, the library and personal demand curves must be added together. The combined demand function is

if price is greater than $25, then quantity purchased = 250 - price
if price is less than or equal to $25, then quantity purchased = 1,000 - (31 \times \text{price})

This is the equation for line ABF in figure 2.

**SUPPLY AND DEMAND**

When we bring together the supply and demand curves, we can begin to understand the nature of the scholarly journal
market. This is shown in figure 3. In a competitive market, an equilibrium is established at the point where the marginal cost curve intersects the demand curve. At this point, the cost of production will be equal to the willingness of the consumer to pay. This results in marginal cost pricing. The amount produced at this point is the efficient quantity and the price charged is the efficient price. Production at this point and at this price provides the greatest benefit to society. In our example, with a marginal cost of $10, the demand will be 690 subscriptions. There is, however, a problem. At this point the revenue from selling 690 subscriptions will be $6,900—$10 per subscription times the 690 subscribers. The cost of producing this number of subscriptions will be $16,900—the $10,000 fixed costs and the $10 variable cost times 690. There will be a loss to the publisher of $10,000.

Economists call this situation a natural monopoly. A natural monopoly occurs when the average cost falls over the entire range of demand; it is a common occurrence where there are large up-front costs, low per-unit costs, and limited substitutability. This is the case for scholarly journals. An important implication of a natural monopoly is that, without a subsidy, no for-profit firm will undertake the publication of the journal and price it at marginal cost. In fact, even if a price above marginal price is charged, there will be a loss. For example, if the subscription price were $20, there would be 380 subscriptions, revenues of $7,600, costs of $13,800, and a loss of $6,200. A profit can be made, but only at a price where the average cost curve is above the demand curve. In our example this break-even point is a subscription price of $64 and 186 subscribers. This is a long way from the efficient price and the efficient quantity.

The fact that scholarly journals are natural monopolies explains a great deal. We see why there is a strong incentive to keep...
the up-front costs low and to find ways to subsidize publication. To do this, editors volunteer their time and authors are not paid for their efforts. Both editors and authors are willing to undertake this free labor because, in addition to contributing to knowledge, they assume a long-term increase in academic reputations. The pressure to keep costs low may also limit the number of pages that can be published, which may in turn lead to more rigorous review and acceptance policies. Finally, if wide distribution is the goal, a way to subsidize publication must be found; often support comes from an academic institution or scholarly society. If not, the shortfall can be made up by accepting advertising. What is important to understand is that the nature of the production and the demand for scholarly journals creates this situation. Publishers' greed is not the fundamental cause, although as we shall see later, there are opportunities for the greedy to exploit the situation.

It is important to avoid another fallacy. Inelastic library demand is not all that causes high journal prices; it is the interaction of this demand function with the production function of the scholarly journal. Even if libraries somehow managed to change the nature of their demand so that it was more elastic, scholarly journal prices would not come down; rather, journals would go out of business. Because scholarly journals are natural monopolies, they require subsidies if they are to produce at the efficient quantity. Without the inelastic library market, they would not be published at all. The important and difficult question is how best to provide the required subsidy.

SURPLUS AS A MEASURE OF SOCIAL BENEFIT

Before going on, we need to better understand natural monopolies. One might suspect that natural monopolies, which price at marginal cost, would be rare because no profit can be made. Why would we want or even accept a price and production level at the efficient quantity? Why would we want a venture that always operates at a loss? The answer is simple: not all the benefit gained is measured by the profit or loss of the producer. We all understand this and have little trouble supporting, with our tax dollars, public works projects from bridges and subways to public libraries. None of these ventures, even those that charge fees or tolls, breaks even. They all operate year after year in the red with continued public support. Even though there is no profit, society as a whole is better off when these projects are undertaken. Economists call the societal benefit in excess of cost, surplus. A closer look at this concept and its flip side, deadweight loss, provides important insights into the inefficiencies of the current scholarly journal system and the policy dilemmas we face in trying to change it. It is important here to keep two issues distinct. The first is the amount of surplus, and the second is who gets it. We need to consider both the size of the pie and how the pieces are divided.

There are two types of surplus, producer surplus and consumer surplus. Producer surplus is the easier to understand. It is the difference between the cost of producing and the revenue received; it is the producer's economic profit or loss. In our example, at marginal cost pricing the producer surplus is negative. Consumer surplus is less clear-cut. It is the difference between the demand curve and the consumer's cost for the product. One way to think about this is to consider the one library subscriber who is willing to pay $250 for our sample journal and assume that this $250 is reflective of the value this journal has to the library. But because the price is based on marginal cost, the library is only charged $10. The difference, $240, is the measure of benefit the library receives but for which it does not pay. If we look at all the consumers who place a value on the journal above the price they are charged, we have the total consumer surplus. In our example, at marginal cost pricing, this is the shaded area in figure 4. By comparing figure 3 and figure 4, it should be clear that the negative producer surplus of $10,000 is offset by a larger consumer surplus. This surplus turns out to be $32,175. In our example, even though there is a loss to the publisher, society as a whole benefits. The measure of this benefit is the total surplus.
FIGURE 3
Natural Monopoly Marginal Cost Pricing

FIGURE 4
Consumer Surplus with Price at Margin Cost
surplus of $22,175. As it turns out, marginal cost pricing creates the greatest total surplus. This is why the quantity produced at this point is called the efficient quantity.

This general principle explains bridges and subways. But scholarly journals are different. Public works are provided by a government. Put simply, the government’s role is to collect enough money in tax dollars from those who receive the benefit, or society at large, to make up for the loss in providing the good. The government is the transfer agent that makes it possible for a natural monopoly to operate with marginal cost pricing. To the extent that universities and scholarly societies publish scholarly journals, they can play this role. Grant-supported page charges are another subsidy mechanism. But where commercial firms dominate the scholarly journal system, the operation functions largely without a transfer agent.

Before we end our consideration of surplus, we need to introduce another concept—deadweight loss. Deadweight loss is the measure of lost societal benefit, that is, of how much the pie has shrunk. To calculate the amount of deadweight loss, we begin with the amount of surplus at marginal cost pricing and then subtract the amount of surplus under another pricing scheme. The result is deadweight loss.

DUAL PRICING

As we have seen, it is a losing proposition for a private firm to produce a scholarly journal and sell it at or near marginal cost. Therefore, it is easy to understand why publishers look for alternatives. One option in a market like that of the scholarly journal is price discrimination. Librarians usually refer to this practice as dual pricing.

Producers can discriminate on the basis of price if they have monopoly power, if there are two or more distinct segments of the market with different demands, and if it is possible to restrict deals between the two groups. The scholarly journal market meets these conditions. There are two market segments with different demand functions and resale deals are limited. Ironically, it is libraries that create the greatest barriers to deal making. Library procedures and the need for reliable receipts make deals difficult, and operating efficiencies are usually considered more important than the savings on subscription prices.

To show how price discrimination might work, consider a publisher who uses marginal pricing for individuals, charging them $10. But this publisher has decided to charge libraries $100 for a subscription (see figure 5). At a subscription price of $100, there will be 150 library subscriptions. As before, an individual subscription price of $10 will bring 450 personal subscriptions. There will be a total of 600 subscriptions, 90 fewer than with marginal cost pricing. The production costs are $16,000 and revenues are $19,500. The publisher earns a profit of $3,500 and substantially improves the long-term prospects of the journal. The consumer surplus is $14,625, much less than under marginal cost pricing, but the producer surplus has risen by $13,500, from negative $10,000 to $3,500. The total surplus is $18,125, and deadweight loss is $4,050 or about 18 percent.

A variation of this pricing scheme is worth noting. Assume the publisher is a scholarly society with a goal of maximizing the number of individual subscriptions and with a need only to break even financially. The price of the journal for individuals could be cut in half, to $5, and if the $100 library rate was maintained, costs would just be covered. There would be 750 subscriptions: 600 to individuals, 150 more than with the $10 price, and 150 subscriptions to libraries. Costs would be $17,500 and revenues would be $18,000. The producer surplus would be $500. The consumer surplus would be $17,250 and the total surplus $17,750. The deadweight loss would be $4,425. This situation is interesting because while consumer surplus is increased, and it might be argued that society is better off because the knowledge contained in the journal is more widely distributed, the deadweight loss is greater than when the individual price is set at $10 and there are 150 fewer individual subscribers.
If, on the other hand, the goal of the publisher is to maximize profits, prices would be set differently. A monopolist seeking to maximize profit will produce the quantity where the marginal revenue equals marginal cost. That is, where the costs of producing the last item is equal to the revenue earned on the last sale. If this is done in the two markets, the library price would be set at $135, which would bring 115 library subscriptions. The individual subscription price would be set at $22.50 and there would be 75 individual subscribers. There would be a total of 190 subscriptions; cost would be $11,900 and revenues would be $17,212.50. The publisher would realize an economic profit of $5,312.50, which is also the producer surplus. The consumer surplus would be $7,893.75 for a total surplus of $13,206.25. There would be a deadweight loss of $8,968, a full 40 percent. From the point of view of the consumer and of society at large, this is the worst case we have yet considered, but it is the best for the publisher. The alternative pricing strategies, the quantities produced in the two markets, and the profits that result are shown in table 2. Table 3 shows the surplus generated in each case.

If we take a broad view of the process of scholarly communication, we might find the first two examples of price discrimination acceptable. Libraries subsidize individuals, but the result is a widely distributed journal that has the wherewithall to continue on sound financial footing. In the latter case, we would probably react differently. Again libraries provide the means to make the journal successful, but this time, rather than achieving the broad distribution of scholarship, only a few can afford to subscribe. The benefit of the enterprise goes to the publisher, not to the academic community. There are indications that both strategies are used by scholarly journal publishers. Dyl’s study of business and economics journals found
that private publishers were more likely to discriminate and that their price differentials were greater than university presses' or professional associations'. A broader and more systematic study by Patrick Joyce and Thomas Merz found similar results across a number of disciplines.

**THE DILEMMA**

What is important to note from these examples is that it is the goals of the publisher and the way in which the price discrimination is applied that should concern us, not simply the fact of price discrimination. When we look at price discrimination we must be clear about what our goals are for the scholarly journal system before we leap to judgment. We may wish to maximize total surplus or to maximize consumer surplus. If we hold stock in the publishing company, we may wish to maximize producer surplus. A position on the middle ground would be to maximize the amount of surplus that at the same time allows publishers to stay in business. We need also to understand that because we are dealing with a natural monopoly, and because many producers are private firms, we cannot have it all at once. The market does not have the means to make the transfers necessary both to maximize surplus and to maintain viable private publishing ventures. This is the fundamental cause of the scholarly journal dilemma.

**X-INEFFICIENCY**

While there are clear examples of journal publishers who are in the market to maximize profits, it is equally clear that there are many who have more noble ends. But even those who are primarily concerned with the wide distribution of scholarly information are affected by mar-

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<th>PRICING STRATEGIES, SUBSCRIPTION LEVELS, AND RESULTING PROFITS</th>
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<th>PRICING STRATEGIES AND RESULTING SURPLUS</th>
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<td>Marginal Cost Price</td>
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ket conditions. In exploring how this is so, it is useful to employ the economic concept of x-inefficiency. X-inefficiency results when a product is produced at greater than least possible cost. This occurs when a firm has monopoly power and in the usual example is caused by managers who give themselves unnecessary perquisites such as expensive lunches or mahogany desks in corner offices. As we have already noted, scholarly journals, at least in the library market, have considerable monopoly power, but as we have noted, most scholarly editors and authors work for little or no pay. Where then are the unnecessary perquisites? We must look more closely at the goals of scholarly publishing.

One purpose of the scholarly journal is the distribution of scholarly information and, through libraries, the creation of an archive of the cumulative knowledge of humankind. But there is a second and, to many, more important purpose. As we briefly noted previously, publishing is one of the primary means by which scholars achieve the recognition of their peers. This recognition in turn brings promotion, tenure, and financial reward. It is this latter purpose that provides the incentive for x-inefficiency.

There is no question that scholars are pressured to publish, nor is there much doubt that a sizable proportion of this publication is redundant or of less than outstanding quality. Many decry the situation, but it continues and, if anything, grows worse. How can this be given refereeing systems and peer review? The answer is simple. The same inelastic demand for scholarly journals in the library market that can allow a profit-maximizing publisher to reap large profits allows an editor who wishes to maximize the number of papers published in his or her journal to do so. Profits do not go to the bank; rather they are used to increase the size of the journal. The larger journal provides more

![Figure 6: X-Inefficiency](image-url)
academic prestige; the editor can publish more papers by friends, former students, or simply those who share his or her academic views. The result is larger, higher-priced journal with a smaller distribution. To the established scholars who manage much of the journal system, it is the journal’s role as bestower of academic recognition that is paramount, not its role as distributor of scholarly information. For the latter, the established scholar relies on other means: conferences, preprints, and a network of colleagues.

To illustrate, consider the library market for our sample journal. We showed that the break-even point was at a price of $64 where 186 subscriptions would be sold. There was no producer surplus and the consumer surplus was $17,298. We will use these figures as a base point. Consider now that rather than charging $64 the editor decides to print more pages, and to do so raises the price to $120. This change in turn leads to 130 subscriptions. Again there is no producer surplus and the consumer surplus is now $7,800. The deadweight loss is $9,498. Figure 6 illustrates the situation. But something is not quite right. Deadweight loss implies that society has lost, but in this case at least some of the surplus that we have counted as lost has gone to the editor and the authors. This is the darkly shaded area in figure 6. Not all of this benefit was lost, but because some of the articles are marginal, this is clearly not the best way for society to use its resources. The black area is different; this is deadweight loss, plain and simple, as a result of 56 libraries not purchasing the inflated journal.

THE UNDERGROUND ECONOMY

So far we have looked at the formal system of scholarly communication and have seen that it is a natural monopoly that produces far from the efficient quantity. Society as a whole seems to be a big loser. Why then is it only librarians, and to a lesser extent publishers, who are up in arms? The answer is obvious. Most scholars operate largely outside the formal market. Their transactions are underground; that is, scholars rely on personal networks, the invisible college, to provide much of the information they need. This network has a different set of demand and production functions, and different prices are faced by the individuals in it. For scholars, subscriptions are only one means of adding journal articles to their personal collections. Often they receive preprints or reprints from colleagues. They can always go to their local library and make a copy of the required article, or more likely, they can send a graduate student. It is important to note that in both of these cases the prices faced by the scholar are different from those of subscribing to the journal. The price paid by the scholar is the time spent writing for the reprint or going to the library to search out the article and a few nickels for the photocopier.

The only costs the scholar faces are marginal costs. The up-front costs are not considered. Copyright, the mechanism that is meant to provide the publisher a return on investment to cover first-copy costs, is ignored. Copying practices have been justified by the doctrine of fair use. For the scholar, the journal system is like a public works project. Scholarly societies and university libraries finance the system much the way the government finances bridges. In doing so, they create a public good that is scholars’ to use at will. Scholars work in ways that mitigate the dysfunctions of the above-ground scholarly journal market.

The important question is whether the inefficiencies of the current system—the combination of high journal prices and the underground acquisition of journal articles by scholars—are great enough that society would be better off providing the subsidy necessary to price the journal at marginal cost in the first place. There is no easy way to know, but clearly the costs of using university libraries can be great in both time and trouble; this part of the underground economy is expensive. Most studies of document availability indicate that the average user of an academic library has only a 50 to 60 percent chance of finding the item for which he or she is searching. Even though scholars have made adaptations that may help them in using it, the scholarly journal system as it exists today is far from efficient.
"What is important to note from these examples is that it is the goals of the publisher and the way in which the price discrimination is applied that should concern us, not simply the fact of price discrimination."

WILL ELECTRONIC SYSTEMS HELP?

Our understanding of the economics of the scholarly journal is important when we look toward the future, for there seems to be a common assumption among librarians that the advent of electronic scholarly communication will solve the scholarly journal problem. John Lubans, Jr., is typical when he writes:

In my simple thesis, electronic journals mean that libraries would no longer pay an up-front subscription cost: we would pay as we use the information in publishers' data banks. Considering the cost of computer inputting and storage, it is unlikely that publishers would maintain extensive back files or "inventories"... Furthermore, publishers might even be motivated to "publish" only genuinely new information and reject that which does not make an obvious contribution.18

After contemplating his vision, however, Lubans comes to the conclusion that there will be few gains. "Ultimately, electronic publishing may enable us to make gains in space, but not in budgets; publishers will not give up earnings regardless of how many fewer 'pages' they may 'publish' in some giant computer."19

While the pipe dream of the great database in the sky and the cynical view of the forever exploited are easy answers, they both ignore the fundamental economics of the distribution of scholarship.

What can we say about the economics of electronic information? To begin with, online systems, at least as they are currently conceived, will have a cost structure similar to that of scholarly journals. The up-front fixed costs to do the editorial work and promotion will remain but are likely to decrease as authors provide copy in machine-readable forms. In addition, there are fixed costs of maintaining the distribution system, the computer, and the communication network. The variable costs associated with the production of each unit of output will likely be less than the printing and distribution of a journal issue today. At most, the cost will be a few seconds of central processing unit (CPU) time and communication costs. Like scholarly journals, online information systems will be natural monopolies. The only way that a private firm will be able to exist in this environment will be to charge prices well above the efficient price and thus limit access to the few who are willing to pay a great deal. There may, however, be opportunities to improve the situation. As editorial costs fall, the amount of subsidy required to produce at the efficient quantity also falls. More importantly, universities already possess large computers and support communications networks. Such support constitutes an easy and effective subsidy.

The expectations of users of electronic systems will also change; scholars will see only the small marginal cost, not the up-front cost. They may not understand why online access to commercial information is expensive. In an electronic environment the marginal cost of distributing scholarly information may approach zero, and scholars might expect that the access to this information should be provided as a public good. They will want access to the whole universe of knowledge through their personal computers.

Another predictable effect of digital information will be that the underground information economy will be even more widespread than it is today. As Theodor Nelson, the father of hypertext, has said:

Once material goes out to the user, there is no telling what becomes of it. The user may read it on a screen, print it out or save it on a disk, and there is no reasonable way of preventing this or telling that he has done so. Thus we must live with the fact that there is no controlling the output, or its use, once it exits the wire.20

This prospect frightens publishers, and their fears may be justified. In the past, copyright has provided exclusive rights that have allowed publishers to recover
their up-front costs. When copying becomes impossible to stop, copyright will be less important a protection for intellectual property than restricted access. But can any reasonable restriction be effective? After all, the point is to sell information, not to hoard it. The ease with which digital information of all types can be reproduced suggests that if high prices for information continue in the legitimate marketplace, an underground electronic information economy will flourish.

Another scenario suggests that publishers and libraries may not be necessary. A scholar-to-scholar network that combines electronic mail and bulletin boards may create a wired version of the invisible college. In the extreme case, each scholar becomes his or her own publisher; they pay the cost of putting their own material onto the network and they receive royalties directly each time their material is used. The costs of computers and communications will still need to be paid, but as noted, subsidy mechanisms already exist. Although there is concern about refereeing in such a system, it is easy to imagine a system that would incorporate peer review.

Electronic media may lower production prices and to some extent cut publishers and libraries out of the loop, but the real advantage of electronic systems will be to allow institutions to create marginal prices for their members by subsidizing information services internally. In its electronic form, scholarly publishing remains a natural monopoly, and especially when commercial firms are the producers, pricing and distribution patterns will be similar to those of the scholarly journal. What changes with electronic information is that subsidy mechanisms are much easier to implement. A library, if it chooses, will be able to redistribute the information within its parent organization at the marginal price. The trick for libraries has always been to find the means to acquire expensive information and to make it widely available to its users at a low cost in both time, trouble, and dollars. In a paper world this was a difficult, if not impossible, task. In an electronic world the task is much easier to imagine. It will require the development of a technical infrastructure, the negotiation of redistribution arrangements with publishers, and the development of internal pricing structures and accounting systems; while difficult, all of these requirements are possible.

**CHOICES**

As is often the case, understanding the economics of a problem does not provide easy answers; rather, it clarifies the alternatives. There will still be conflicting interests and different beneficiaries of different policies. But at least we have a better idea of what the choices are and where the benefits fall. As we have seen, the distribution of scholarship is a natural monopoly. This means that unless there is a subsidy, the system will not work efficiently. There are then two important questions. First, is information distribution important enough to justify the subsidy? And if it is, how and to whom is the subsidy provided? If we answer the first question affirmatively, we will confront political battles that can only be won if we have carefully considered our answer to the second question.

Even if libraries make considerable changes in their demand for scholarly journals, which is unlikely in the short term, the production function of scholarly information will mean that the market structure and prices will remain much as they are now. The most efficient solution is to provide subsidies for the distribution of scholarship, but without fundamental changes in government information policy this will not happen. In a paper system there are ways to reduce the cost of distributing information within an organization. We can make libraries easier to use or provide document delivery and selective dissemination of information services. But because print is by nature cumbersome to copy, and because copyright issues are still largely unsettled, the possibilities are limited.

Electronic information will provide greater opportunities for organizations to redistribute information internally. Subsidy mechanisms will be much easier to implement so that surplus inside the organization can be maximized. The acquisitions of funds for subsidizing information
services—the tax problem—will remain a difficult task. The argument that needs to be made is one of increasing institutional surplus through a subsidy to information infrastructure and services. The importance of the natural monopoly model of scholarly communication is that it makes the benefits of such an investment clear. If we fail to make this case, we may end up perpetuating the inefficiencies of the scholarly journal.

REFERENCES AND NOTES


5. Ibid.


7. Dyl makes an interesting point in this regard. In both the library and the personal markets, it is the faculty member who makes the purchasing decisions. The difference is that in the personal market the faculty member is using his or her own money. In the library market, the money belongs to someone else. Given this situation the differences in elasticity between the two markets is understandable. See Dyl, “A Note on Price Discrimination,” p.162. White’s study provides some empirical support for this contention. See White, “Factors in the Decision by Individuals and Libraries,” p.298-300.

8. In fact, subsidy is not the only means of providing production at an efficient quantity. Taxes or government regulations are alternatives, but because the scholarly journal market is international and because of concerns for academic freedom, these solutions are probably neither practical nor desirable.

9. It is important to note that a profit, as we normally think of it, as return of investment, is included in a firm’s cost of doing business. Economic profit is profit above and beyond profit in the normal sense.

10. In an interesting study of the mineralogy and related literature, journals with high bibliometric ratings (based on citation counts) received more papers that were grant supported. These journals tended to be published by societies, to have higher circulation, and to have lower prices. Perhaps this is an indication that this form of subsidy could be effective. See Paul H. Ribbe, “Assessment of Prestige and Price of Professional Publications,” American Mineralogist 73:449-69 (May/June 1988).

11. Although this example is made up, it is not beyond belief. The individual (member) subscription price of Physical Review Letters in 1988 was $70; the institutional (nonmember) price was $625. For Tetrahedron the 1988 special price for individuals was DM 278; for institutions the price was DM 4,700. Sex Roles: A Journal of Research cost individuals $25 in 1988; institutions faced a subscription price of $168.50.

12. A recent study, commissioned by the Association of Research Libraries, of costs and prices of several major commercial scholarly publishing firms indicates a strong tendency toward profit-


16. Moline’s finding that categories of journals that had higher costs per thousand characters printed also printed more pages supports this theory. See Moline, “The Influence of Subject, Publisher, Type, and Quantity Published on Journal Prices,” p.18.


19. Ibid., p.181.

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Research Notes

Learning Styles of Academic Librarians

Jin M. Choi

Characteristics of learning styles of 140 academic librarians in public and technical services were examined based on Kolb's Learning Style Inventory. The most common learning styles among academic librarians were found to be the assimilator (38.6 percent) followed by the converger (27.1 percent), indicating librarians' strengths in abstract conceptualization. Contrary to folklore in the field, the learning styles of technical and public services librarians show no statistically significant differences. In addition, the relationships between learning styles and other variables such as sex, age group, undergraduate major, and length of professional experience are discussed.

As the social and technological environment of libraries changes rapidly, so also has the nature of library services and professional practices changed. Development of new information technologies seems to be the single most important agent of change and to have had profound impact upon library and information professionals. Although we do not have empirical data to assess the impact of such change, nor to predict the future of our profession, what seems evident is that the current situation requires reorganization in libraries and changes in staff and demands new knowledge and skills from professional librarians. Continuing education seems to be the most logical coping mechanism for such change.

Unfortunately, in attempts to manage this change in libraries through professional development, library administrators seem to operate on rules of thumb rather than on solid knowledge of the individual needs of the professionals. For example, it is frequently mentioned in the literature that the application of technology—such as integrated library automation—will alter the traditional division between technical and public services. At the same time, it is asserted that "individual librarians are not as interchangeable within libraries as most administrators would like to assume." In addition, there has been a long-standing belief about the dichotomy between technical and public services—the "backroom/frontroom library mentality." Many assume that librarians in technical services are "different" from those in public services in that those in technical services tend to be more analytical and oriented toward things while those in public services...
are more oriented toward people. These assumptions, however, have never been tested, and library administrators do not seem to have adequate knowledge about whether there are any real differences between these two types of librarians.

We simply do not know how to accomplish the most effective match between individuals and work assignments in order to fulfill both individual and organizational needs. Nor do we know how to provide avenues of career development that promote utilization of human resources in the most effective way within the profession. Perhaps it is time for us to take a close look at individual differences in learning styles or cognitive styles to determine if such knowledge could provide meaningful insights or valid guidance for the effective match between individuals and work assignments, as well as for career development within the profession.

A literature survey of the last twenty years demonstrates that research interest in cognitive and learning styles in the field of library and information science has increased gradually. Research interest in this area has been drawn from two perspectives: One group of researchers, for example, Tefko Saracevic and Paul Kantor, Christin Borgman, Trudi Bellardo, H. Elkerton and R.C. Williges, S. Sitton and G. Chmelir, and N. N. Woelfl, investigated cognitive styles or learning styles as a way to understand individual differences in performance in using computers. The other group of researchers, for example, B. L. Stein and others, Stein and H. L. Totten, S. J. McIntire and C. L. McIntire, D. H. Jonassen and G. G. Hodges, Kerry Johnson and Marilyn White, and Jana Varlejs, examined cognitive styles or learning styles of students enrolled in library and information science programs concerning career counseling. However, knowledge about the learning styles of practicing professional librarians still seems to be inadequate.

In this context, the purposes of this study are (1) to identify the predominant learning style of academic librarians working in public and technical services; (2) to determine if the learning styles of academic librarians working in public services and those in technical service are significantly different; and (3) to assess the relationships between learning styles and other variables, such as sex, age group, undergraduate major, and length of professional experience.

THEORETICAL FRAMEWORK: KOLB’S EXPERIENTIAL LEARNING THEORY

The theoretical framework of this study is based on David Kolb’s experiential learning theory and his Learning Style Inventory. Kolb’s model conceptualizes the learning process as a four-stage cycle and identifies four different learning styles. Kolb’s learning cycle includes concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE), which suggests that one learns from concrete experience, then concrete experience forms the basis for observation and reflection, which in turn leads to formation of abstract concepts and generalizations. This formation of concepts and generalizations then guides the choice of new experiences. Kolb, however, recognized two dialectic dimensions of the learning process: the concrete/abstract (AC-CE) and the active/reflective (AE-RO) dimensions. According to Kolb, in the process of learning, we tend to resolve this dialectic tension by accentuating one ability over the other. Thus, learning styles represent an individual’s learning preference between these two dimensions. As a result, there are four learning styles (or learning style quadrants). They are the converger, the diverger, the assimilator, and the accommodator, as shown in figure 1.

To be specific, the converger tends to prefer abstract and active learning modes. Kolb found that convergers tend to have strengths in the practical application of ideas and they tend to be unemotional, preferring to deal with things rather than people. This learning style is typical of individuals with engineering and physical science backgrounds. Diversors are the opposite of convergers in that they tend to prefer reflective and concrete learning modes and they tend to be emotional and interested in people. This style is charac-
CONCRETE EXPERIENCE

ACCOMMODATOR
- Getting things done
- Risk taking
- Leadership

CAREERS IN ORGANIZATIONS
- Managers
- Managers/Accountants

CAREERS IN BUSINESS
- Marketing-Salesperson
- Government-Politician

DIVERGER
- Imaginative ability
- Understanding people
- Brainstorming

CAREERS IN ARTS
- Literature, Artists

CAREERS IN SERVICE ORGANIZATIONS
- Social Work
- Psychology

ACTIVE EXPERIMENTATION

CONVERGER
- Problem solving
- Defining problems
- Deductive reasoning

CAREERS AS SPECIALISTS
- Economics
- Engineering

CAREERS IN TECHNOLOGY
- Medicine
- Computer Science
- Physical Science

ASSIMILATOR
- Planning
- Defining problems
- Developing theories

INFORMATION CAREERS
- Education-Teacher/Librarian
- Sociology

CAREERS IN SCIENCE
- Mathematics
- Physical Science
- Biology
- Researcher

ABSTRACT CONCEPTUALIZATION

FIGURE 1
Four Learning Style Quadrants

Characteristic of people with humanities and liberal arts backgrounds. Assimilators prefer abstract and reflective learning modes, and they are less interested in people and are less concerned with the practical use of theories. Kolb found that individuals with science careers or information careers, such as teacher, librarian, minister, or college professor, tend to have the assimilative learning style. Accommodators are
the opposite of assimilators in that their strengths lie in concrete experience and active experimentation. Accommodators are good at carrying out plans, tend to take risks, and are commonly found among people with business and management background.

Interestingly, however, Kolb pointed out that learning styles are adaptive. They can be modified and accentuated in a way to match individual characteristics and environmental demands. Kolb further stated that such matches come about in two ways: either environments tend to engender changes in individual characteristics to fit them, or individuals tend to select themselves into environments that are consistent with their personal characteristics. Based on this conceptual framework, Kolb devised an instrument called the Learning Style Inventory to map one's learning style into the learning style quadrants (i.e., converger, diverger, etc.). Basically, Kolb's study led him to generalize that individuals who are in a similar career tend to have a similar learning style and that deviation from the career path takes place if there is a mismatch between individual characteristics and career environment. One of the underlying implications of Kolb's theory is that one can identify the predominant learning style of a group of people in a certain field and use this information as a basis to guide career choice, career development, and instructional design.

METHODOLOGY

The Learning Style Inventory 1985 (LSI) and a supplementary questionnaire were used to obtain data on learning styles and other individual attributes. Survey instruments were distributed to 200 librarians working in technical service and public service (100 for each group) of twenty member-libraries of the Association of Research Libraries. A total of 148 (74 percent) of those surveyed returned the materials.

The LSI generates six scores: four basic scores and two combination scores. The four basic scores are the sum of ranking scores (between one and four) for each of the four categories, that is, concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE). Two combination scores reflect one's preference on the two dialectic dimensions and are obtained by AC-CE and AE-RO. Learning style quadrants were determined by plotting the two combination scores on the learning style grid.

Data on demographic variables such as sex, age, undergraduate major, and length of professional experience were obtained by the supplementary questionnaire.

RESULTS

Profile of Respondents

Of 148 respondents, 8 returned either incomplete or unusable LSIs and were subsequently eliminated. Of 140 accepted returns, 73 (52 percent) were from technical services and 67 (48 percent) were from public services (table 1). All in all, the major characteristics of the respondents were as expected (table 2): they were female, between thirty and fifty years of age, had a varying range of professional experiences, and had majored in the humanities.

Predominant Learning Style among Academic Librarians

The most common learning style among the academic librarians surveyed was found to be the assimilator (38.6 percent), followed by the converger (27.1 percent), the diverger (19.3 percent), and the accommodator (15 percent). As stated, assimilators tend to prefer reflective and abstract modes of learning and convergers prefer active and abstract modes of learning. Thus, one can safely state that a ma-

| TABLE 1
| SURVEY RESPONSE |
|------------------|-----------------|------------------|
|                  | Number Distributed | Number Returned | Number Completed |
| Technical services | 100 (50%)         | 73 (51%)         | 73 (52%)         |
| Public services    | 100 (50%)         | 75 (49%)         | 67 (48%)         |
| Total              | 200 (100%)        | 148 (100%)       | 140 (100%)       |
TABLE 2
PROFILE OF RESPONDENTS

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>48</td>
<td>34.3</td>
</tr>
<tr>
<td>Female</td>
<td>92</td>
<td>65.7</td>
</tr>
<tr>
<td><strong>Age group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;30</td>
<td>13</td>
<td>9.3</td>
</tr>
<tr>
<td>30-40</td>
<td>54</td>
<td>38.6</td>
</tr>
<tr>
<td>40-50</td>
<td>54</td>
<td>38.6</td>
</tr>
<tr>
<td>&gt;50</td>
<td>19</td>
<td>13.6</td>
</tr>
<tr>
<td><strong>Length of experience</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5 yr</td>
<td>40</td>
<td>28.6</td>
</tr>
<tr>
<td>5-10 yr</td>
<td>25</td>
<td>17.9</td>
</tr>
<tr>
<td>10-15 yr</td>
<td>32</td>
<td>22.9</td>
</tr>
<tr>
<td>&gt;15 yr</td>
<td>43</td>
<td>30.7</td>
</tr>
<tr>
<td><strong>Undergraduate major</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humanities</td>
<td>101</td>
<td>72.1</td>
</tr>
<tr>
<td>Social science</td>
<td>31</td>
<td>22.1</td>
</tr>
<tr>
<td>Science</td>
<td>7</td>
<td>5.0</td>
</tr>
</tbody>
</table>

Majority of academic librarians tend to prefer or have strength in abstract conceptualization. Kolb described assimilators as individuals who are "best at understanding a wide range of information and putting it into concise, logical form, and they are less focused on people and more interested in abstract ideas and concepts."24

Given the nature of the profession, it is not surprising that academic librarians tend to have assimilative and convergent learning styles. The fact that the assimilative learning style is the most common among academic librarians is consistent with Kolb's finding. What is interesting and contrasts with Kolb's generalization (i.e., the undergraduate major is one of the most influential factors determining one's learning style and individuals with a humanities and liberal arts background tend to have a divergent learning style) is that the majority (72.1 percent) of the respondents had a humanities or liberal arts background; yet their learning styles do not seem to conform to the expected norm (i.e., divergent learning style). Instead, they showed strong preference toward convergent or assimilative learning styles. It is difficult to speculate on the reasons for such discrepancy based on the given data. However, if indeed Kolb's generalization is valid, one could speculate that among the respondents, one of two things might have happened: either the individual left the field of their undergraduate major and chose librarianship among alternatives since it is consistent with their learning style, or the nature of the profession, once they entered it, tended to stress abstract conceptualization (which is the common denominator of assimilators and convergers). Thus, the individual learning styles were modified toward a match with the learning ability emphasized by the profession. Yet, it is only a speculation and requires further investigation. What is evident is that academic librarians seem to prefer or have strengths in abstract conceptualization.

**Difference among Learning Styles of Academic Librarians in Technical Services and Public Services**

In contrast to widely held beliefs in the field, public services librarians and technical services librarians showed no statistically significant difference in their learning style distributions. These two groups seem to be quite homogeneous and showed a great deal of similarity in their learning style distributions. As shown in tables 3 and 4, both the chi-square test on the distribution of learning style quadrants and the one-way ANOVA test on the mean LSI scores by specialties yielded no statistically significant difference between the groups. It is rather puzzling in that Kolb25 and others26-27 found that learning styles do differ among the specialty groups within the field as, for instance, in medical science or business. Again, what accounts for this inconsistency is not clear. However, two explanations are possible: one is that academic librarians are indeed a homogenous group; the other is that Kolb's LSI might not be sensitive enough to detect the differences between subgroups, although it is able to differentiate groups that are profoundly different, as also indicated by Roger Wunderlich and Craig Gjerde.28

If Kolb's theory holds true, then the accommodators in this survey would be the most likely group to find conflicts between their choice of career and their learning styles, and an ideal solution would be to guide their career development more toward administration or managerial assignments. However, the question is open and requires more in-depth study.
What is clear is that academic librarians in technical and public services are similar in terms of the distribution of their learning styles—a finding that contradicts the popular perception of the dichotomy between the groups. Thus, one might safely assume that individuals could probably work well in either speciality, provided that appropriate knowledge, skills, and attitude are acquired and updated.

**Relationships among Learning Styles and Other Variables**

As shown in table 5, chi-square tests of learning styles by sex, age group, length of experience, and undergraduate major were performed. Although Kolb found that learning styles differ by sex, age group, and undergraduate major, no statistically significant differences were found between the learning styles by gender, age group, length of experience, or undergraduate major. The data hint, however, that more female respondents (25 percent) tend to have a more divergent learning style than do male respondents (8.3 percent). The data also indicate that as the length of experience increases, the convergent learning style tends to strengthen while the divergent learning style tends to weaken. Again, it might be that the nature of the profession shapes one’s learning style more toward abstract conceptualization and less toward concrete experience. In other words, the profession seems to demand strengths in abstract conceptualization, so an individual librarian’s learning style is modified in

---

**TABLE 3**

**COMPARISON OF LEARNING STYLE QUADRANTS BY SPECIALTIES**

<table>
<thead>
<tr>
<th></th>
<th>Diverger</th>
<th>Accommodator</th>
<th>Assimilator</th>
<th>Converger</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technical services</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency</td>
<td>11</td>
<td>11</td>
<td>30</td>
<td>21</td>
</tr>
<tr>
<td>Percent</td>
<td>7.9</td>
<td>7.9</td>
<td>21.4</td>
<td>15</td>
</tr>
<tr>
<td><strong>Public services</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency</td>
<td>16</td>
<td>10</td>
<td>24</td>
<td>17</td>
</tr>
<tr>
<td>Percent</td>
<td>11.4</td>
<td>7.1</td>
<td>17.1</td>
<td>12.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>27</td>
<td>21</td>
<td>54</td>
<td>38</td>
</tr>
<tr>
<td>Frequency</td>
<td>19.3</td>
<td>15.0</td>
<td>38.6</td>
<td>27.1</td>
</tr>
</tbody>
</table>

Chi-square = 7.815 (critical); degrees of freedom = 3; p = 0.05.
Chi-square = 1.807 (observed).

**TABLE 4**

**COMPARISON OF MEAN LSI SCORES BY SPECIALTIES**

<table>
<thead>
<tr>
<th></th>
<th>AE</th>
<th>CE</th>
<th>LR</th>
<th>AC</th>
<th>AE-RO</th>
<th>AC-CE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technical services</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>31.9</td>
<td>23.4</td>
<td>29.7</td>
<td>34.2</td>
<td>2.2</td>
<td>10.9</td>
</tr>
<tr>
<td>S.D.</td>
<td>8.5</td>
<td>8.6</td>
<td>7.5</td>
<td>9.4</td>
<td>12.6</td>
<td>15.4</td>
</tr>
<tr>
<td>(N=73)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Public services</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>31.5</td>
<td>24.6</td>
<td>29.7</td>
<td>32.9</td>
<td>1.8</td>
<td>8.3</td>
</tr>
<tr>
<td>S.D.</td>
<td>9.1</td>
<td>7.8</td>
<td>8.2</td>
<td>9.3</td>
<td>15.7</td>
<td>15.3</td>
</tr>
<tr>
<td>(N=67)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>31.7</td>
<td>24.0</td>
<td>29.7</td>
<td>33.6</td>
<td>2.0</td>
<td>9.7</td>
</tr>
<tr>
<td>S.D.</td>
<td>8.8</td>
<td>8.2</td>
<td>7.8</td>
<td>9.3</td>
<td>14.1</td>
<td>15.4</td>
</tr>
<tr>
<td>(N=140)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>0.13</td>
<td>0.71</td>
<td>0.00</td>
<td>1.51</td>
<td>0.79</td>
<td>0.06</td>
</tr>
</tbody>
</table>

N = sample size; X = Mean; S.D. = standard deviation.
F = 3.841; degrees of freedom = 1, 137; p = 0.05.
TABLE 5
COMPARISON OF LEARNING STYLE QUADRANTS BY SEX, AGE GROUP, LENGTH OF EXPERIENCE, AND UNDERGRADUATE MAJORS

<table>
<thead>
<tr>
<th>Learning Styles</th>
<th>N</th>
<th>Diverger</th>
<th>Accommodator</th>
<th>Assimilator</th>
<th>Converger</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>48</td>
<td>4 (8.3%)</td>
<td>9 (18.8%)</td>
<td>23 (47.9%)</td>
<td>12 (25%)</td>
</tr>
<tr>
<td>Female</td>
<td>92</td>
<td>23 (25%)</td>
<td>12 (13%)</td>
<td>31 (33.7%)</td>
<td>26 (28.3%)</td>
</tr>
<tr>
<td>Chi-square = 7.005; p = 0.072; 3 d.f.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Age group</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;30</td>
<td>13</td>
<td>3 (23.1%)</td>
<td>2 (15.4%)</td>
<td>5 (38.5%)</td>
<td>3 (23.1%)</td>
</tr>
<tr>
<td>30-40</td>
<td>54</td>
<td>9 (16.7%)</td>
<td>7 (13%)</td>
<td>21 (38.9%)</td>
<td>17 (31.5%)</td>
</tr>
<tr>
<td>40-50</td>
<td>54</td>
<td>14 (25.9%)</td>
<td>8 (14.8%)</td>
<td>19 (35.2%)</td>
<td>13 (24.1%)</td>
</tr>
<tr>
<td>&gt;50</td>
<td>19</td>
<td>1 (5.3%)</td>
<td>4 (21.1%)</td>
<td>9 (47.4%)</td>
<td>5 (26.3%)</td>
</tr>
<tr>
<td>Chi-square = 5.266; p = 0.811; 9 d.f.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Length of experience</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5 yr</td>
<td>40</td>
<td>11 (27.5%)</td>
<td>6 (15%)</td>
<td>15 (37.5%)</td>
<td>8 (20%)</td>
</tr>
<tr>
<td>5-10 yr</td>
<td>25</td>
<td>4 (16%)</td>
<td>3 (12%)</td>
<td>10 (40%)</td>
<td>8 (32%)</td>
</tr>
<tr>
<td>10-50 yr</td>
<td>32</td>
<td>6 (18.8%)</td>
<td>3 (9.4%)</td>
<td>14 (43.8%)</td>
<td>9 (28.1%)</td>
</tr>
<tr>
<td>&gt;15 yr</td>
<td>43</td>
<td>6 (13.4%)</td>
<td>9 (20.9%)</td>
<td>15 (34.9%)</td>
<td>13 (30.2%)</td>
</tr>
<tr>
<td>Chi-square = 5.542; p = 0.785; 9 d.f.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Undergraduate major</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humanities</td>
<td>101</td>
<td>18 (17.8%)</td>
<td>18 (17.8%)</td>
<td>37 (36.6%)</td>
<td>28 (27.7%)</td>
</tr>
<tr>
<td>Social science</td>
<td>31</td>
<td>8 (25.8%)</td>
<td>2 (6.5%)</td>
<td>11 (35.5%)</td>
<td>10 (32.3%)</td>
</tr>
<tr>
<td>Science</td>
<td>7</td>
<td>1 (14.3%)</td>
<td>1 (14.3%)</td>
<td>5 (71.43%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Chi-square = 8.873; p = 0.449; 9 d.f.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Chi square = 7.815 (critical); degrees of freedom = 3; p < .05.
Chi square = 16.919 (critical); degrees of freedom = 9; p < .05.

TABLE 6
COMPARISON OF MEAN LSI SCORES BY SEX, AGE GROUP, LENGTH OF EXPERIENCE, AND UNDERGRADUATE MAJORS

<table>
<thead>
<tr>
<th>Learning Style Scores</th>
<th>N (%)</th>
<th>AE</th>
<th>CE</th>
<th>RO</th>
<th>AC</th>
<th>AE-RO</th>
<th>AC-CE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>48 (34.3)</td>
<td>30.8</td>
<td>24.0</td>
<td>28.4</td>
<td>36.0</td>
<td>2.4</td>
<td>12.0</td>
</tr>
<tr>
<td>Female</td>
<td>92 (65.7)</td>
<td>32.2</td>
<td>24.0</td>
<td>30.4</td>
<td>32.4</td>
<td>1.8</td>
<td>8.4</td>
</tr>
<tr>
<td>F</td>
<td>0.6</td>
<td>0.0</td>
<td>2.2</td>
<td>4.2*</td>
<td>0.1</td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td><strong>Age group</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;30</td>
<td>13 (9.3)</td>
<td>33.7</td>
<td>22.2</td>
<td>30.6</td>
<td>32.8</td>
<td>3.1</td>
<td>10.6</td>
</tr>
<tr>
<td>30-40</td>
<td>54 (38.6)</td>
<td>31.8</td>
<td>25.1</td>
<td>28.3</td>
<td>34.0</td>
<td>3.4</td>
<td>9.0</td>
</tr>
<tr>
<td>40-50</td>
<td>54 (38.6)</td>
<td>31.5</td>
<td>23.8</td>
<td>30.6</td>
<td>33.2</td>
<td>0.8</td>
<td>9.4</td>
</tr>
<tr>
<td>&gt;50</td>
<td>19 (13.6)</td>
<td>30.3</td>
<td>22.3</td>
<td>30.3</td>
<td>34.0</td>
<td>0.6</td>
<td>11.7</td>
</tr>
<tr>
<td>F</td>
<td>0.3</td>
<td>5.3*</td>
<td>0.9</td>
<td>0.2</td>
<td>0.3</td>
<td>0.2</td>
<td></td>
</tr>
<tr>
<td><strong>Length of experience</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5 yr</td>
<td>40 (28.6)</td>
<td>31.3</td>
<td>26.8</td>
<td>29.4</td>
<td>31.5</td>
<td>1.9</td>
<td>4.8</td>
</tr>
<tr>
<td>5-10 yr</td>
<td>25 (17.9)</td>
<td>31.4</td>
<td>23.2</td>
<td>27.6</td>
<td>36.8</td>
<td>3.8</td>
<td>13.6</td>
</tr>
<tr>
<td>10-15 yr</td>
<td>32 (22.9)</td>
<td>31.8</td>
<td>23.0</td>
<td>29.6</td>
<td>34.4</td>
<td>2.1</td>
<td>11.4</td>
</tr>
<tr>
<td>&gt;15 yr</td>
<td>43 (30.7)</td>
<td>32.2</td>
<td>22.4</td>
<td>31.2</td>
<td>33.0</td>
<td>1.0</td>
<td>10.6</td>
</tr>
<tr>
<td>F</td>
<td>0.2</td>
<td>2.2</td>
<td>1.1</td>
<td>2.0</td>
<td>0.2</td>
<td>2.1</td>
<td></td>
</tr>
<tr>
<td><strong>Undergraduate major</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humanities</td>
<td>101 (42.1)</td>
<td>31.6</td>
<td>24.1</td>
<td>29.0</td>
<td>34.2</td>
<td>2.6</td>
<td>10.0</td>
</tr>
<tr>
<td>Social science</td>
<td>31 (22.1)</td>
<td>33.8</td>
<td>23.4</td>
<td>30.4</td>
<td>32.3</td>
<td>3.4</td>
<td>8.9</td>
</tr>
<tr>
<td>Science</td>
<td>7 (5.0)</td>
<td>26.4</td>
<td>24.2</td>
<td>36.0</td>
<td>28.7</td>
<td>-9.6</td>
<td>4.9</td>
</tr>
<tr>
<td>F</td>
<td>2.2</td>
<td>0.1</td>
<td>2.8</td>
<td>1.5</td>
<td>2.7</td>
<td>0.5</td>
<td></td>
</tr>
</tbody>
</table>

F = 3.841; degrees of freedom = 1, 137; p < .05.
*Statistically significant.
that direction over time. Table 6 is a summary of mean LSI scores by sex, age group, length of experience, and undergraduate major.

When one-way ANOVA tests were performed, the mean score of abstract conceptualization varied significantly by sex and the mean score of concrete experience varied significantly among age groups. No significant difference was found between mean LSI scores and length of experience or undergraduate major.

DISCUSSION

It is quite common for most professional schools to use some sort of inventory for the purpose of career counseling. And the prerequisite for that is to collect data to identify a predominant cognitive style or learning style that typifies the group of practitioners in a field. This study identified the predominant learning style of academic librarians to be the assimilative learning style, followed by the convergent learning style. The study also showed that academic librarians in public and technical services have similar learning style preferences. However, since several aspects of the study contradict Kolb’s generalizations, further in-depth examination of the sensitivity of the LSI is needed. Until then, Kolb’s theoretical construct and the LSI seem to have limited practical implication due to their failure to discriminate factors involved in career choice and development and their lack of explanatory power.

REFERENCES

17. Jana Varlejs, “Learning Styles of Librarians and Satisfaction with Continuing Education Activi-
24. Kolb, Learning Style Inventory: Self-scoring Inventory and Interpretation Booklet, p.7.

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To the Editor:

Recent articles such as those by Whitlatch and Douglas have discussed the use and appropriateness of unobtrusive testing of reference services. Unobtrusive testing, like any other methodology, merits rigorous review and assessment. The purpose is to better understand situations in which a particular methodology is most appropriate, while at the same time identifying and addressing, where possible, methodological weaknesses. Unfortunately, misconceptions about, and incorrect attributions to, unobtrusive research persist.

Unobtrusive testing is only one of many possible research/evaluation methodologies. Articles suggesting that unobtrusive testing is an inferior technique for evaluating "reference services" distort the research record. First, unobtrusive testing only examines specific aspects of reference service. Although data resulting from unobtrusive testing can provide useful diagnostic information regarding a range of other reference service activities, the method focuses attention on reference staff responses to factual and bibliographic questions.

Second, Murfin and Gugelchuk and Benham and Powell, among others, have used other methodologies to assess staff responses to reference questions. The findings of these studies have supported those resulting from unobtrusive research.

Studies that apply unobtrusive testing or any other methodology must incorporate standard research practices. The Hernon and McClure study as well as the work of Crowley and Childers provide specific information about the criteria guiding the development of test questions and about the steps taken to ensure the collection and analysis of quality (reliable and valid) data. These reliability and validity controls were carefully implemented and reported in the studies. In fact, Hernon and McClure summarizes these methodological refinements.

In contrast, the Douglas study provides no information about the reliability and validity of the data he reports. Similarly, Whitlatch gives no information on the reliability and validity of her obtrusive data. Rather, the reader must assume that there is reliability and that the research design permits the drawing of conclusive and widely generalizable findings. Whitlatch's discussion of content validity misses the point. Obviously, factual and bibliographic reference questions do not represent all reference questions received at the reference desk. It might be noted that content validity can be viewed from other perspectives.

An informed discussion and assessment of unobtrusive testing necessitates careful attention to methodological issues and questions centering around reliability, validity, and (perhaps) utility of the data and findings. Neither Douglas nor Whitlatch referred to the article "Quality of Data Issues in Unobtrusive Testing of Library Reference Service" by Hernon and McClure. In fact, that article discusses a number of their concerns. Thus, recent criticism of unobtrusive methods and quality of data issues tends to be simplistic and repetitive and ignores existing research on the topics.

Additional examples of misunderstandings about, and incorrect representations of, unobtrusive research dot the literature. And, despite some problems, Whitlatch's piece is a
good example of exploring some of these issues in a constructive manner. However, contrary to her assertion, the literature already contains examples of constructive uses of unobtrusive testing in specific libraries, for example, Stephan and others and Williams and Wedig.

The key issues with unobtrusive testing are to (1) advance knowledge and the discourse regarding the evaluation of various types of reference services, (2) increase the profession’s awareness of evaluation overall and within specific library organizations, and (3) develop strategies for improving the quality of reference services.

Our experience suggests that while there is much discussion about the evaluation of reference services, actual formal evaluation (regardless of type of evaluation), overall, occurs much less frequently. Thus, we are pleased that unobtrusive testing has increased professional attention on issues related to the quality of reference service, “correct answer fill rates,” and techniques for assessing the quality of various aspects of reference services.

Such discussions, however, are better served when the participants are fully informed on the issues; when they carefully craft their studies to address specific research questions, especially if they attempt to prove/disprove a particular hypothesis; and when they describe indicators of reliability and validity for the data they report.

PETER HERNON, Simmons College
CHARLES R. McCLURE, Syracuse University

REFERENCES


In an essay published shortly after his death, Jesse H. Shera wrote: "Twenty years ago, I thought of what is now called information science as providing the intellectual and theoretical foundations of librarianship, but I am now convinced that I was wrong" [Jesse H. Shera, "Librarianship and Information Science," in The Study of Information: Interdisciplinary Messages, ed. Fritz Machlup and Una Mansfield (New York: Wiley, 1983), p.383]. Librarians in Search of Science and Identity is Bennett's attempt to discover why librarianship was drawn to information science in the first place, and then why Shera withdrew his support for the convergence.

A reprint of Bennett's Ph.D. dissertation, this book is not for the casual reader. Reading it is reminiscent of peeling an onion: each time you think you have reached the core you encounter deeper layers and have to revise your expectations. The onion effect has to do with Bennett's approach to his subject. Eschewing a strictly historical treatment, Bennett instead adopts a complex method known as hermeneutics. This method is familiar to some people as a basic tool of Biblical exegesis, but it has also come to have a more generalized meaning as the interpretation of texts. In its generalized application, hermeneutics is used by literary scholars, philosophers, and sociologists, among others.

To oversimplify things drastically, hermeneutics is a dialectical or "circular" approach in which the investigator moves back and forth between text (a written product of some sort) and context (which may include historical findings or the results of sociological analyses) in order to achieve understanding of the text. In the present work, Bennett applies hermeneutics to Shera's 1983 essay (the "recantation" of information science). The context is provided under the aegis of the sociology of knowledge (how have librarians understood themselves?) and the sociology of science (how did information science develop?).

Bennett's hermeneutic circle is evident from the organization of his book. He sets the stage in the first chapter with a dialogue between himself and an interlocutor named Ishmael to present the problem and to introduce the concept of hermeneutics. Chapter 2 is a further methodological elaboration. In chapter 3 he identifies Shera's essay and various contemporaneous works by other persons as central to his query and selects from these works certain themes to pursue (the names library science and information science, how the two disciplines developed in relation to each other, theory versus pragmatism in librarianship, professionalization and the quest for status, and so on). By tracing citations and in-text references, Bennett determines that the origins of these themes derive from writings produced by librarians and documentalists (information scientists) prior to 1950. In chapter 4 he examines the pre-1950 historical contexts of librarianship and docu-
mentation (information science). Chapters 5 and 6 move the analysis of texts, historical events, and sociological interpretations forward to the 1970s. Ishmael reappears in chapter 7 for a final dialogue which reveals how Bennett’s original expectations about the problem and his understanding of hermeneutics have been affected by the trip through time.

Bennett has, in effect, organized his dissertation in such a way that careful examination of the structure leads to greater understanding of the hermeneutical method. The structure itself instantiates (i.e., provides an example of) the investigative tool, so that both structure and substantive findings (textual and historical analyses, etc.) shed light on the research question. Needless to say, this is not an easy thing to pull off, but Bennett has done it very well indeed. Furthermore, he is—at least to this reviewer’s knowledge—one of the few librarians, if not the only, to attempt this method. Most of our existing literature relies on more widely practiced forms of historical, sociological, or textual analysis.

Persons interested in the origins of library and information science, questions of social reproduction, professionalization theory, or education for librarianship should read this work not only for its methodological sophistication but also for the substantive findings that it presents. Some of the findings uphold work done by other investigators, for example, the sense of subordination common to the library profession. Other findings—for example, the fleshing out of Shera’s gradual move over the course of a lifetime toward his “recantation”—represent a fresh understanding of perennial professional questions and are worthy of further study by others.

Normally a review of a Scarecrow Press dissertation-turned-into-book either begins or ends with a snide remark about the Scarecrow format and/or about authors who do not take the trouble to translate their theses out of “dissertationese” into the common tongue. Consider the remark made and immediately set aside as unimportant in the face of Bennett’s achievement.—Patricia Ohl Rice, Pennsylvania State University, University Park.


Who controls the affairs of charitable organizations? Most would say trustees. However, according to James Baughman, trustees are only managers of a charitable institution’s resources, which ultimately belong to the public. As trustees are charged with the task of running the charitable organization for the public good, he says, in the final analysis they are accountable to the public. Yet, occasionally in the past, trustees have demonstrated that neither they nor the public are aware that trustees are accountable to the general public for their actions.

Baughman says that nonprofit institutions constitute a remarkable 11 percent of the national wealth of the United States. Their direction is of great importance and concern to the whole of society because their failure would be of great consequence. Furthermore, he reminds his readers of part of a past court ruling which states that every dollar a charitable institution saves in tax levy becomes another dollar that other taxpayers must pay.

Baughman, who is a professor at the Graduate School of Library and Information Science at Simmons College in Boston, has written a lucid account describing the responsibilities trustees of charitable organizations have as found through various court cases. Having won the Research Roundtable’s Research Competition Award for his work on knowledge control for interdisciplinary research, Baughman should be applauded once again for stepping beyond the usual bounds of librarianship. Writing in an easily readable style, the author cites court cases dealing with the fiduciary responsibilities of trustees in charitable institutions.

Baughman devotes separate chapters to such charitable ventures as hospitals, colleges and universities, museums, and school and public libraries. In each, he recounts events surrounding certain situations and cites data from court records and cases, newspapers, professional literature, and significant interviews to deter-
ACQUISITION PERSPECTIVES

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Baughman allows the rulings of court cases to define the role of trustees rather than relying on traditional perceptions. He cites one case in which the trustees, on the advice of the president, attempted to close a college. The court ruled that the trustees' actions were neither necessary nor legal.

Although predominantly a serious and thought-provoking book, Baughman makes the rash comment that the trustee should know more than the "pedantic" professional administrator. This is an unjustified and unsubstantiated misrepresentation of that group. It is likely that trustees will often know less about the specifics of an organization than professional administrators, which is all the more reason for trustees to remain committed and alert, always expecting adequate information.

Baughman has taken what could be a very dry subject and turned it into an engaging study. It is obvious from the quality of the book that a great deal of work has gone into both the research and the writing. The book is of interest not only to trustees and administrators of nonprofit organizations but also to librarians, many of whom work for charitable nonprofit institutions and can be directly affected by the involvement or lack of involvement of trustees.

As a result of his investigation, Baughman establishes that although trustees are given great discretion in the management of their institutions, they must realize that they serve as guardians and managers of the country's richest treasures which are designated exclusively for the public good and must be administered according to the donor's wishes. The author concludes his work with a very helpful set of guidelines for board members of nonprofit organizations.—Daniel A. Savage, Redeemer College, Ancaster, Ontario, Canada.

This monograph is a compilation of five tutorials dealing with evaluation that Robbins and Zweizig prepared for a continuing education course that appeared in American Libraries between October 1985 and February 1986. Included as well are seven companion pieces that were required readings for participants in the course.

The text is broken into five lessons, the first of which is a basic introduction to the purpose and process of evaluation. The four subsequent lessons each take one aspect of library operations—collections, reference services, service programs, and personnel—and show how the evaluation process can be applied. Supplementing each lesson are previously published articles that discuss the particular topic and evaluation, although not necessarily the same process advocated by Robbins and Zweizig.

Because of the format of the course, the lessons are relatively brief; they run about seven pages in length and only give an introductory overview. Nevertheless they are clear, informative, and as thorough as can be expected under the circumstances.

The title “Are We There Yet?” is the question the authors feel should be asked as opposed to “How good is it?” when applying the evaluation process to an activity. To them their “question sees evaluation as a process of checking on a regular basis to determine how much progress has been made towards a stated goal” (p.1). Evaluation, they feel, is an essential tool in the administrative function of a library and provides for better decision making and improved operations. Therefore, a library needs to have a planning model (or process) by which it can focus its direction and make necessary evaluations along the way.

Having laid this foundation, they then provide a seven-step evaluation process which can be utilized in a variety of instances for library operations. As noted, the remaining lessons show how the process can be applied.

The supplemental readings help to enhance the material the authors provide,
but not surprisingly, these vary in tone and quality. They range from a brief overview of evaluation by Mary Jo Lynch entitled "Measurement of Public Library Activity: The Search For Practical Methods" to a long survey article entitled "Evaluating the Collection" by George S. Bonn. Also included is a particularly good work called "Personnel Evaluation as an Imperus to Growth" by Ernest R. De Prospo.

Because the intended purpose of the course was to provide an overview of evaluation to a wide audience of practitioners, efforts have been made to show applications in a variety of library settings: public, academic, and school. As such, some of the examples may appear less appropriate than others. This shouldn’t deter the reader, however, because the authors have done a good job of presenting their information in an appropriate and very readable format. They have taken a complex process and made it understandable to the general reader.

Unfortunately poor proofreading mars this otherwise admirable effort. Numerous errors occur, the worst of which is missing or altered wording making some sentences totally unintelligible. It is too bad that some of the same thoroughness advocated for the evaluation process couldn’t have been applied to the production of this work.—Robert Logsdon, Indiana State Library, Indianapolis.


As the title indicates, this report is an update of the earlier title, Research Library Trends, 1951–1980, published in 1965. The original data spanned the years 1951 through 1964 and were the foundation for forecasts of selected trends through 1980. The Purdue studies (p.xii) also updated the statistics through 1972. This volume presents some estimates of future trends through 1990.

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The introduction (p.1) states: "library growth is described as rapid, accelerating, daunting, and destined to remain that way," but "the statistics used to measure growth are not well-defined and hence, their results cannot be trusted." Following this ambiguous beginning is a discussion of American college and university library statistical studies dating back to a book published in 1940 and ending with articles printed in 1986. This study was published in 1987 and therefore was timely. However, trends in current research libraries are changing more quickly than ever before due to automation, proliferation of information, funding or the lack of it, and so on, and even 1986 statistics are of limited use in 1989.

"The principal study results describe 35 years of growth and change in library holdings, gross volumes added, professional and non-professional staff size, and in three expenditure categories—salaries, materials and binding, and total, as well as university/main campus total and graduate enrollments, and Ph.D. degrees awarded" (p.iii). Rapid growth in many areas is shown from 1951 through 1970, but very different trends surface beginning in 1971. To illustrate, gross volumes added tripled between 1951 and 1970, leveled off or dropped through 1982, and increased every year since; this information was presented in the report's abstract and would be very difficult to find either through scanning the List of Tables or List of Figures.

The text and interpretations with the statistics are very brief, and few readers/librarians will spend the time necessary to understand and use the mass of information. The correlational analyses may be valuable, but they are difficult to locate and understand. In general statistical jargon, fifty pages of graphs and abbreviated terminology (table 2) tend to lose and confuse anyone. More time devoted to analyzing and summarizing the statistics is required.
called for rather than presentations of data in tables and graphs.

Suggestions for further research are included in the discussion section (p. 111). In addition to further research, more explanations of the data presented in a readable fashion would make the publication more widely consulted. A good list of references is included. An index would help readers locate information in the text. Library statistics are always useful for forecasting trends and planning future needs in addition to supporting expansion of facilities, increased staffing levels, and more. If research library statistics are needed, this report may help.—Susan C. Awe, Northern Arizona University.

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