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Editorial

C&RL’s New Editor

With this issue of College & Research Libraries—my twenty-first—I complete my term as editor and pass the mantle of responsibility to my successor, Charles Martell.

I am honored to have been asked to serve the profession in this capacity and have acquired from this service, among other things, a deep appreciation for the work that editors do, an appreciation that will inform my reading of librarianship journals in the years to come. Charles will put his own imprint on C&RL, and I look forward to lively reading from his editorship.

A word about this issue. The articles included offer different perspectives on a single theme—the impact of information and its associated technologies on academic libraries and librarianship. Arms discusses the convergence of function between the computing center and the library. Battin describes the structural changes in organization that universities face as the species library becomes a generic function. Stoffle and her colleagues discuss the role of the library in the microcomputer revolution and argue that the library is the most appropriate center for serving the revolutionaries. Matheson and Adams, in different ways, address the role of librarians and the book in the information age. In reviewing his father’s concern about librarians and books, Adams connects eras in a timeless and generic way. English enriches the discussion by reporting on a survey of administrators’ perceptions of librarians and faculty status. And finally, we have the report of the symposium at Cornell on collections.

An agenda of issues worthy of the best our profession can deliver emerges clearly from these pieces. Adams captures the essential notion when he concludes that “it is change we are dealing with. . . .” Indeed!
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theme of recent EDUCOM con-
ferences has been the merging
ternational areas which have
traditionally been separate. The
same is becoming true of scholarly in-
formation, but universities have been slow to
react to the need.

The problem is simple. A student writ-
ing a paper, a faculty member preparing a
course, or a scholar working on a research
project begins by assembling information
from many sources. These sources can in-
clude libraries, museums, photographic
archives, commercial services, computer
data bases, personal contacts, and private
files. The search may be on-campus or
world-wide. In some fields of study, as-
sembling information can form the major
part of a research project; in others it is an
essential building block.

Computing has the potential to improve
this process, but requires coordination.
Otherwise the various areas will continue
to develop services that fulfill parts of the
need but do not provide the links that
would allow scholars access to all the re-
sources of a modern university.

LIBRARIES

In the field of information, the pioneers
have been the libraries. Long ago they rea-
ized that merely to collect books was of
little value to scholars. Librarianship de-
veloped as a profession around the disci-
plines of cataloging and classification,
tools used to give information about li-
brary collections.

The principles of librarianship are care-
fully spelled out in documents such as the
Anglo-American Cataloguing Rules, and li-

rary schools have been established to
 teach these principles to new librarians.
Nobody claims that the classification sys-
tems or subject headings are perfect, but
they are in widespread use and provide a
reasonably effective way to find items in a
library.

Scholars often require more information
than can be found in an orthodox catalog.
Secondary information services exist to fill
this need. These provide information—
titles, keywords, or abstracts—about indi-
vidual journal articles. Most secondary
services are discipline-specific. Some are
huge. For instance, Index Medicus, Chemi-
cal Abstracts, and Lexis cover the entire
fields of medicine, chemistry, and law re-
spectively. Others are tiny.

When library computing developed in
the early 1970s, two major success stories
were shared cataloguing and on-line com-
puter searching of secondary information
services.

Shared Cataloguing

Cataloguing a book accurately is a
skilled and time-consuming task. Since
many libraries acquire the same books, it
is sensible for libraries to share their rec-
ords with each other. This is not an easy
computing problem. Bibliographic data is
extremely subtle, and an effective shared
cataloguing system requires an enormous
number of terminals to use a very large
bibliographic data base. The pioneer in
this area was OCLC under the direction of
Fred Kilgour. OCLC has been followed by
a number of other systems, most notably
the Research Libraries Group based at
Stanford University.

William Y. Arms is vice provost for computing and planning, Dartmouth College, Hanover, New Hampshire.
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OCLC was able to build on earlier work by the Library of Congress and the British National Bibliography in establishing an international format for exchanging catalog records between computer systems. This format, known as MARC, is supported by all major cataloguing services. Dartmouth was an early member of both OCLC and the Research Libraries Group. Over the past ten years shared cataloguing has allowed the library to improve the quality of its cataloguing and build up a large machine-readable database despite the recent budget pressures.

**Information Retrieval Services**

Large secondary information services produce so much material that searching them becomes a major problem. In this field the computer pioneer was the National Library of Medicine. The library had an early computer system to assemble the numerous items for printing in *Index Medicus*. As a result, the entire text was available on magnetic tape. The earliest medical search system, Medlars I, was a batch processing system which searched these tapes to find articles that matched specified search profiles.

When this concept spread to other disciplines, two requirements emerged. The first was a demand for online searching. The second was "standard procedure" for users. Secondary information services use a wide variety of approaches; indeed, the disciplines they serve are so diverse it is difficult to envisage any single standard satisfying them all. Yet it is important for library staff to be able to use them with a minimum of training.

Several commercial companies provide libraries with on-line searching of secondary information. The first was Lockheed, with the system now known as Dialog, followed by SDC and BRS. These companies acquire data bases from many sources, mount them on-line, and provide a standard search procedure. This is a competitive business and the companies use advanced methods for storing and searching huge data bases, including free text searching.

These two major achievements are now converging. Libraries are beginning to replace local card catalogs with on-line computer systems. These use both the MARC records produced through shared cataloguing and the methods of data base searching developed by the various bibliographic services. At Dartmouth, the Pew Foundation provided funds to load the MARC records developed on OCLC and Research Libraries Group computers onto a duplicate of the BRS search system. This was a convenient way to provide a generally available on-line catalog.

**NON-BOOK MATERIALS**

The success of library computing has led to extensions in a variety of areas. Some of these are traditionally housed within the university library: examples are maps and manuscripts. Others, such as artifacts and paintings, are likely to be found in the university museum. Some areas, such as films and photographs, have a variety of homes in different universities. Collectively these are sometimes called "non-book materials".

For a number of reasons computing progress has been slower in these areas than in libraries. One reason is that most of the materials are resources for the humanities, usually less well funded than the sciences. In addition scholars in the humanities have been less familiar with computing than their colleagues in the quantitative disciplines. Another difficulty is that library automation has made its contributions in sharing information about items that are held by many libraries; most manuscripts, paintings, and museum objectives are unique. Finally, no widely accepted standards exist for cataloguing and classifying most scholarly materials other than books and journals.

Despite these difficulties, numerous attempts have been made to develop information systems for museums and other non-book materials. Funding has been limited, but still much useful work has been accomplished.

Recently this work has received a champion in the J. Paul Getty Trust. The Trust has the prestige to coordinate many areas and the long-term funding to tackle some of the underlying problems. The Trust has projects in a wide variety of fields. One is to build a computer catalog of the collections of a group of museums and galleries, beginning with paintings. This will include several major national museums.
and two universities, Dartmouth and Princeton. Another project is to catalog several enormous photographic archives. Both these areas require subject indexes of visual objects such as paintings, vases, and architectural sites. This topic, known as iconography, is extremely complex with no established standards, yet is essential for success in these disciplines. Many of the finest collections are in Europe, which adds the complications of foreign languages and latent chauvinism.

DATA ARCHIVES

The discussion so far has been of computer systems that provide information about traditional scholarly materials such as books or paintings. In other fields, the information is more closely linked to the computer. Data archives were an early case. Perhaps the best example of a data archive is the U.S. Census; in fact, the Hollerith punched card was originally developed to tabulate census data. More recent censuses have released raw data on magnetic tape. This data is invaluable for studies in several social sciences, but extracting information from hundreds of reels of tape is so tedious that for the most recent census each state has set up a dissemination bureau and several universities have provided their own services. The cost of such service is so great that even universities the size of Harvard and MIT have found it cheaper to work together.

Several universities, most notably in Michigan, have centers whose task is to gather data archives and make them available for research. Project Impress at Dartmouth College, developed during the early 1970s, was a data base system for teaching students how to analyze such data archives, a large number of which are stored on-line. The value of Impress lies in the combination of data archives and good quality search software.

COMMERCIAL DATA BASES

Some academic disciplines use data bases from the commercial sector. These are varied both in quality and scope and have two types of origin. Some, such as the news services, began life as information services used internally by an organization which realized that outsiders would pay for access. Others, such as the services giving information to financial investors, are aimed at specific groups of professionals. By academic standards all these services are extremely expensive.

An interesting experiment in this area is The Source. This commercial company licenses a range of commercial data bases and mounts them on its own time-shared computers. A more or less standard user interface is provided so subscribers can teach a variety of information with minimal training. The Source, in its present form, is of marginal use to scholars, but in five years time such services may mature into more usable form.

COMPUTING INFORMATION

For many years librarians have been asking computing specialists for assistance. Unfortunately, assistance has not been forthcoming. The computing systems of our universities have become enormous collections of poorly indexed tools and resources. In the days that computing was restricted to a few specialists this was not important. When computer users were concentrated into terminal clusters, with many users sitting side by side, word of mouth was still an effective way of disseminating information. Now that computing has become widely distributed across campus, some better way is needed for scholars to learn of the riches at their fingertips.

Dartmouth, as the first university to place emphasis on universal computing, developed a set of indexes that were suitable for a single large time-sharing system. These include an enormous collection of files which can be read either with system commands or from within programs. In addition there are indexes to library programs and publications. Although few universities can rival the completeness of information available at Dartmouth, the system is still far from perfect. One problem is that many of the most useful programs are unknown to central staff. They are in departmental libraries or even in personal catalogs. Another problem is the variety of computer systems. A
user of Dartmouth College Time Sharing may be unaware of a program that runs under the UNIX System.* Finally, computing is always changing. As services are introduced or withdrawn, keeping information up-to-date is a perpetual problem.

INTEGRATION

The word integration is much used in computing, but rarely defined, and even more rarely achieved. Each supplier of scholarly information has a different vision of how to integrate specific areas. For example, libraries want to integrate their internal data processing, their services to scholars, and their links to other libraries. The aim is for a single description of each item to be used by all library systems.

A scholar has a different set of objectives. A faculty member or student using a library catalog through an on-line terminal is not interested in how smoothly that catalog fits with other data processing carried out by the library. However, after finding a reference in the catalog, the scholar demands follow-up services such as being able to copy the reference into a personal bibliography or word processor. At Dartmouth this problem has been partially solved by the fortunate accident of having a catalog system that runs under the UNIX system. UNIX is primarily an academic operating system and works well with other computers used for teaching and research.

The scholarly information system of the future will have the university providing central coordination of a variety of independent suppliers of information. These suppliers can be large or small, on-campus or off-campus. Since many of these suppliers will not be under the direct control of the university, providing smooth access to them all is not easy. Key aspects of this information system will be:

Quality Control

The university must identify major sources of information and ensure that information provided is accurate and current.

Terminals

A major assumption of computer planning for universities is that within a few years almost all scholars will have a small computer on their desks. One use of such a small computer is as a terminal to larger computers functioning as major information sources. The university must standardize a small number of different types of personal computers.

Communications

Computer planning for universities assumes the existence of campus networks, but Dartmouth is one of the few to have such a network in place. Any terminal or personal computer connected to the network has equal access to all computers on the network and is also able to make off-campus connections using services such as Telenet.

Currently, almost all information services are designed around low-speed serial communications. The future is likely to require much higher capacities, either digital or video, so images or complete documents can be transmitted.

User Interface

Since each information source is likely to have a different user interface, the only way to provide integrated service to the scholar is for the personal computer to translate procedures used by the various sources into some homogeneous user interface.

Today most information services assume that the service is being used directly by a human, either a scholar or a supporting professional. In the future, the user is more likely to be another computer. This requires agreement on application protocols.

Long-term Planning

New technology and new sources of information are going to become available

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*UNIX is a trademark of Bell Laboratories.
continuously throughout the next decade. The university must watch these developments, anticipate some, and consciously decide to ignore others.

Each of these areas require standards. One of the most valuable services a university can provide is an acceptable set of standards for computing and information. The difficulty is finding a balance between overstandardization, which restricts flexibility, and the chaos that results when there are no standards.

**CONCLUSION**

Scholarly information is too big a topic for universities to ignore. Moreover it has so many ramifications that leaving its planning to the library, or worse still the computer center, is unlikely to provide good balance. The only sensible solution is a coordinated plan in which many parts of the university work toward the common goal of providing faculty and students with the information they need for study and research.
As Franklin Wallin, the president of Earlham College, observed in a recent article in *Change*, "Universities have not moved much beyond amazement at the cost and power of the technological engines that drive this shift [from an industrial society to an information-based society], the computers and telecommunications that can come up with answers in nanoseconds and transmit them to everyone around the world in minutes. We struggle merely to keep up with this technology in our universities. We have scarcely taken time to understand the educational implications of the change or conceive what a university might be like in the context of an information age."

For at least a decade, librarians have been very much aware of the revolutionary impact of developments in information technology. But the expansion of computer capabilities occurred at a time when research libraries were experiencing, for unrelated reasons, serious obstacles in serving scholarly needs. The traditional bonds between scholars and librarians have been substantially eroded, and librarians’ efforts to reinvent the library in the electronic environment have often been actively opposed, widely misunderstood, or more generally, completely ignored by scholars and administrators. In addition, there appears to be widespread misunderstanding of the function of the research library in the process of scholarly communication and a pervasive misperception of the ‘library’ as no more than a storehouse for books. As often happens in academic institutions, symbols become enshrined in mythology and mortgaged to territorial jurisdictions, with the consequence that the basic function is obscured and overlooked.

Traditionally we have defined the library as a storehouse where librarians “mark and park,” rather than as a place which has a scholarly information function within the university. The introduction of computer and communications technologies into the society were initially viewed as separate and distinct activities unrelated to the historic functions of the library. The traditional organization of the university into largely autonomous units further inhibited the recognition of the essential relationship between the new technologies and the information function of the library. In keeping with conventional organizational structures, university administrators departmentalized the function, establishing an organizational barrier between libraries and computer centers. For almost a decade, there was little recognition that advances in communication technologies were radically affecting the ways in which scholars communicate.

One of the most powerful deterrents to change in conservative institutions—and I think the educational institution is one of our society’s most conservative institutions—is the existence of strong autonomous vested interests and the fear of losing one’s empire. Universities are noto-
riously allergic to systematic, long-range planning efforts and have thrived for centuries on academic star-driven hiring practices and program development. Consequently, the capacity for the kind of substantial, integrated, long-range institutional planning required by the revolution in information and communications technologies is lacking in most institutions of higher education.

The weight of our historic traditions is such that we tend to find it very difficult to look at the future in terms of a vastly changed organizational structure. By asserting the need for continuation of historic entities, like the Library or the Computer Center or the Office of the Provost, the necessary creative vision is stultified. The challenge for us all is to look at the realities of the present and the forecast for the future from the perspective of disinterested, objective university officers and then to re-invent the university in the electronic environment.

I would like to analyze briefly the function of the library as we have known it historically, summarize some of the current activities in the library profession, and suggest the new capacities required by the modern university to continue to provide the essential level of scholarly information support. Such an analysis should provide an understanding of how best to organize the existing talents and strengths within the university to meet the new challenges.

The word "information" is a troublesome one. Academic librarians have always distinguished between "information" and "knowledge," and our basic philosophies and objectives have arisen from a commitment to the organization of knowledge and the support of continuing scholarship. Contemporary information managers and computer specialists tend to treat all information as data and are concerned more with the technical aspects of hardware and systems than with the substantive content of data and its influence on systems of organization, storage, access, and retrieval. I use the term "scholarly information" to define that subset of the information society which is vital to the university and to librarians as professionals historically concerned with providing scholarly support services.

TRADITIONAL ROLES AND SERVICES

Bill Ward, president of the American Council of Learned Societies, recently defined the ideal in library service from the scholarly perspective: "Scholars want what they want when they want it whether or not they know what it is they want." In the past, the university has sought to serve this fundamental need by maintaining bibliographically controlled archival collections of the printed record.

The traditional role of the librarian in the age of printed formats—books, journals, and microforms—has been essentially archival. The mission of the research librarian became the acquisition, recording, storage, and preservation of the intellectual record in printed form.

For over five centuries, the book has served as the uniquely useful method of storing and transporting text and images assembled by the mind of an author. For more than a hundred years in the United States, librarians and scholars settled into a comfortable framework of scholarly communication in which the library represented the essential link in the chain by mailing books available to scholars. The publication explosion, the rapid and inexorable expansion of knowledge and interdisciplinary research, the pressures of the "publish or perish" syndrome on the scholarly process, the demand for speed in information retrieval, and the radical changes in the financing of higher education, all combined two decades ago to begin to reduce the effectiveness of the traditional library in the scholarly process.

Traditional bibliographic services reflect the limitations of scholarly methodology of access to knowledge. In this era, the catalog served largely as the inventory of a specific collection of materials, and its records were linked to a specific location. Its usefulness as a scholarly tool depended upon the scope, size, and comprehensiveness of the collection it described.

The revolution in information technology has created, quite apart from difficulties caused by financial stringencies and publication explosions, totally new capac-
ities for generating, storing, and providing access to scholarly information—capacities which no longer represent or require links to physical objects in stationary collections. Communication among scholars has been liberated from the limitations of the printed page, and that liberation has brought with it the corollary demand for a new set of lifelines.

Universities are now faced with a dual challenge: we must provide new structures of access to knowledge in an increasing variety of formats and, at the same time, continue to preserve, manage, and make available scholarly information in the traditional printed formats with appropriate links between all formats.

It is essential to emphasize that the whole structure of our research activity in the United States, as we know it, is based upon the knowledge access structures conceived and built over the years by the library profession. Now it is quite possible that many of these activities are costly, outmoded, and do not deserve to survive the transition to the electronic age, but I think we must understand the actual function of libraries in the process of scholarly communication in order to insure a continuation of essential functions in the new environment.

The most striking feature of traditional academic organizations, and the one I believe is most misunderstood and ignored by our academic colleagues, is the virtual isolation of the library in the organization. Despite the rhetoric about it being "the heart of the university," the library and librarians have been for years isolated from the policy councils of most institutions. This isolation was possible because our present system of research support evolved from a tradition of autonomy, symbolized by the autonomy of the printed word. Public policies governing access to information and institutional structures implementing those policies reflect that autonomy. There is a kind of double-speak in this respect. The Library has been organizationally treated as an isolated, autonomous component of the institution. Yet, increasingly, its function is to provide integrated services on the local, regional, and national levels. The resulting tension between the functional expectations and the organizational realities have contributed to the current perceptions of ineffectiveness and impotence.

The new communications technologies require new collective approaches which in turn demand radically different organizational structures to create and support such enterprises. The extreme frustration of the library profession is matched only, I believe, by the frustration and undeserved disdain of administrators and scholars for the library profession's perceived inability to cope with the new demands.

In summary, we have built during the past five centuries a remarkable and successful educational and research establishment centered around the book as the primary medium of scholarly exchange. But, despite the age of our system, we really know very little about how this process actually works or what we need to assist us in the task of re-invention.

NEW COMMUNICATION LINKS

The needs of scholars always have transcended local barriers, and, for the past decade, the library profession has been engaged in developing new communications links between the disparate components of our decentralized "national library." Although the Library of Congress often acts unofficially as a national library, it is precisely what its name implies—the Library of Congress—and all efforts to establish it as a truly effective national library, responsive to the needs of the national scholarly community, have failed.

The American "national library" is a decentralized system composed of the Library of Congress, the National Library of Medicine, the National Library of Agriculture, and approximately one hundred private and public research libraries located across the nation. In the new environment in which the bibliographic machinery no longer represents a mirror of a physical collection, librarians' efforts have been concentrated on ways 1) to provide new structures of access to new formats of knowledge no longer bound by physical and geographic constraints, and 2) to link the multiplicity of scholarly resources,
both print and non-print, into an easily accessible system which will eliminate costly duplication and the unacceptable isolation of individual scholars.

The complexity of a decentralized private and public research library system in the United States is further compounded by the emergence of powerful corporations in the for-profit sector which are seeking control of the "knowledge industry" and introducing the concept of fee-per-use of information. The fact that our copyright laws do not adequately address the issues of copyright protection and the ownership of information in the electronic environment creates additional difficulties. Within this context, there are several major efforts now in progress to provide rational, affordable, computerized information services for scholars.

The Library of Congress provides, via its MARC tape service, the records of its cataloging in machine-readable form. The LC Name Authority File also is available online as are the bibliographic records from the Government Printing Office and the National Library of Medicine. There are three bibliographic utilities which distribute these machine-readable records to libraries across the country. In turn, the participation libraries, using varying standards, contribute bibliographic records with location symbols prepared for materials not yet recorded in the database. The phenomenal growth of these databases has resulted in a vastly increased capacity to share cataloging responsibilities and thus reduce local institutional expenses. The existence of these large data resources has revolutionized interlibrary loan capacities and made possible the potential for developing a coordinated national collection through new means of access to decentralized collections.

The two major bibliographic networks—OCLC and RLIN—provide information on a combined total of 18 million unique records for books, maps, manuscripts, periodicals, audiovisual materials, sound recordings, and music scores. OCLC maintains a large research and development capacity for the exploration of new technologies, primarily involving interaction between information seekers and computers (commonly referred to as "user-friendly" interfaces), electronic document delivery, microcomputer applications in libraries, and on-line catalog requirements. The corporation recently has announced its intent to commit a substantial portion of its research efforts to the development of a national communications service, including electronic mail and facsimile transmission capacities.

The Research Libraries Group (RLG) represents a focused effort by a number of research universities and their libraries to reshape information services for scholars. In contrast to OCLC, which is a mass-market driven enterprise, RLG derives its direction from the program needs of its owner-member research institutions. Perhaps its most dramatic achievement to date is the development of a computerized capacity to achieve bibliographic control of East Asian vernacular material. The development effort will permit computer supported creation, copy, amendment, search, display, and output of bibliographic records composed of East Asian characters. In addition to standard bibliographic services, RLG also maintains on RLIN several special data bases, including the Avery Architecture Index, SCIPIO (an index of art sales catalogs) and the Eighteenth Century Short Title Catalog. Plans are underway to create a special data base of bibliographic records for machine-readable data files in the humanities and social sciences.

At the present time, the utilities are not linked, thus creating serious access problems for scholars since institutional participation is usually limited to one utility. The Council on Library Resources, a privately funded foundation, launched some years ago a Bibliographic Services Development Program to help bring into existence a comprehensive, logically consistent, non-redundant data base of bibliographic records. To insure comprehensiveness, the data base must be built by a set of cooperating, contributing institutions adhering to a common set of standards. The element of non-redundancy requires the use of an authority file to record the entities that have been created according to the set of accepted rules. The
objective of this program is to create a widely available, cost-effective bibliographic record service that will incorporate the resources of the major shared cataloging services and provide access to a variety of bibliographic data bases in a manner transparent to library users.

For the past three years, the Library of Congress, the Washington Library Network, and the RLG have worked on a cooperative project funded by the Council on Library Resources to develop a standard network inter-connection which consists of a seven-layer communications protocol which will permit computer-to-computer communication. This project will be completed by the end of 1983 and represents an extraordinary example of library leadership in the application of communications technology for academic purposes. Plans are underway to develop the capacity to conduct bibliographic searches through the links with the ultimate objective of full-text transmission.

The relatively sudden availability of affordable personal computers promises another major revolution in research information services within the next five years. The new powerful microcomputers will have storage and retrieval capacities equal to the large mainframes of the past decade. Many American universities are planning the "wiring" of their campuses to support the demand by students and faculty for computerized information services. Both RLG and OCLC are planning technical architectures which will permit the orderly and effective decentralization of many currently centralized information services, and we are beginning to see the first efforts of the for-profit sector to market bibliographic information directly to the end-user, a phenomenon which transfers costs normally borne by the institution to the individual scholar on a per use cost basis.

But the technical systems represent only a capacity to communicate. The effectiveness of new systems of access to scholarly resources will depend upon the cooperative efforts of the university community to identify and develop the substance of new structures of access to knowledge, a process which will demand new organizational capacities in the university.

POLICY IMPLICATIONS

There are six major policy areas which will demand specialized and unprecedented attention from university officers during the next five years. In each of these areas, an organizational mechanism to draw together currently disparate components of the university is required for effective action.

1. Centralized financial and technological planning. The successful and cost-effective integration of the various information support services will require a centralized long-range planning capacity and a re-cast budgeting process to accommodate the following characteristics of the new services:
   a. the archival obligations of scholarly information support services, regardless of format;
   b. the introduction of high technology with its corollary built-in obsolescence;
   c. the magnitude of the capital costs required;
   d. the integration of services offered through book and journal collections, mainframes, microcomputers, and local area networks;
   e. the provision of access for local scholars to external knowledge data bases, networks, etc.

2. Integration of information services with academic programs and priorities. In contrast to other "information professionals," academic librarians have traditionally made substantial contributions to the organization of knowledge within the old structure of printed formats. The new formats will require similar efforts to build new access structures to knowledge and to work with scholars in identifying and defining the basic access structures in each discipline which must be mastered to enable informed judgments. More so than ever before, a university or college degree should certify a certain level of bibliographic literacy and competency in information sources in a particular discipline. There should be within the university a central capacity to assist the departments of instruction and research in the development of these skills.

3. Access to scholarly resources. As mentioned earlier, one of the major contributions of the library profession to scholar-
ship is bibliographic control over the printed record. A problem for computer data archivists today is the lack of attention paid to these issues during the early days of data collection by computer specialists and scholars.

The Roper Center estimates a five- to ten-year effort will be necessary to achieve the cataloging necessary to enable effective retrieval below a very broad descriptor level. We need to know a lot more than we do about the specific ways in which scholars will use on-line information sources, but we do know it will be essential to provide orderly and standardized retrieval mechanisms in considerable depth for archival collections in all formats. National agreement within the scholarly community on a variety of standards affecting cataloging activities, communications networks, and hardware capabilities will be essential to prevent both the unacceptable isolation of individual scholars and a generalized Tower of Babel.

4. Electronic publishing. The advent of electronic capabilities provides the university with the potential for becoming the primary publisher in the scholarly communication process. At the present time, we are in the untenable position of generating knowledge, giving it away to the commercial publisher, and then buying it back for our scholars at increasingly prohibitive prices. Universities have long served as publishers' distributors and warehouse and have served that role because of the perceived advantages in having a form of ownership control over purchased information.

The electronic revolution provides the potential for developing university controlled publishing enterprises through scholarly networks supported either by individual institutions or consortia. Increasingly, scholars are producing their work in machine-readable form. The lacking ingredient is the organizational capacity for on-line refereeing, editing, and distribution, as well as the necessary modifications in the process of assessing publications for promotion and tenure.

5. Copyright and ownership. Our present copyright laws essentially address the issues surrounding the ownership of printed formats. There will be substantial revisions during the next decade, with significant implications for educational institutions. Commercial publishers have been moving steadily during the past ten years to substitute a fee-for-use principle for our historic tradition of multiple uses of documents after their initial purchase. Computerized indexes and abstracts are now available both on a fee-for-use basis and in hard copy. When the publisher decides to discontinue the hard copy, the only access will be through the computerized service with monopolistic control over the fee structure held by the publishers.

The implications of information ownership issues arising from the basic conflict of information as a commodity and information as a public good are serious. It will be essential for the university community to develop a capacity for thoughtful, critical analysis of the issues accompanied by significant influence on public policy.

6. Research and development in information technology. Universities are faced with the unprecedented requirement of basic research in the very substance of their existence—information technology. In the past, the existence or absence of the capacity for cutting-edge research in a particular field threatened only the survival of a particular department or discipline in the institution, rather than the institution itself. Now that information is valued as a commodity in the society, competition with the private sector is unquestionably beyond the financial capacity of individual institutions of higher education. To maintain control over their own scholarship and to avoid becoming a hostage to the for-profit sector, universities must find a way to create and support the capacity for continuing research and development in the application of information technologies. Otherwise, the university will continue to lag behind the for-profit sector in the very area of its raison d'être and be forced to adapt its research and instructional needs to the marketplace rather than control the application of appropriate technologies to support scholarship.

The Institute for Scientific Information is marketing a software package to provide individual searching of a wide range of bibliographic data bases. The software and companion data base management
package costs approximately $1000 per individual scholar and represents one such need. A university supported capacity to develop and maintain a variety of software tools for its students and scholars would be both cost-effective and enable the scholarly community to retain control over its information costs. In some ways, such a capacity is different only in kind from the long-standing traditional university production of textbooks and the card catalog; both are software aids for communicating and retrieving information. There are similar examples in the hardware field, where mass market appeal will drive the affordable availability of new technology.

The most important issue, to my mind, is the need for a cooperative, unified voice for scholarship—not just for science or humanities, or a voice for biomedical pursuits—but all scholarly endeavors. The new communications technologies will acquire an extraordinary and unprecedented cooperative effort to insure compatible, affordable, widely available access structures to knowledge, transparent to the users. The financial pressures on the higher education community will be intense as the for-profit sector seeks to gain control over ownership and dissemination of information as a commodity. If the scholarly community is to be effective in this unprecedented struggle for control over its life-blood, it must transcend its cherished autonomy and create organizational mechanisms which will support effective cooperative activities in its own best interests.

ANOTHER PERSPECTIVE

It may be useful now to review this analysis from a less objective perspective. It seems that modern information and communications technology have destroyed the viability of the traditional organizational structure of the university as a collection of largely autonomous units based on historic disciplinary definitions. Although it is true that the library has not been central to the academic institution in organizational terms, its function has always been central to research and instructional activities. The definition of the library and librarian may be obsolete, but the function is critical to the survival of the university.

The library is the organizational unit within the institution which contains the nucleus of talent, expertise, and conceptual understanding of the process of scholarly communication. The profession of librarianship, which must expand to encompass its new responsibilities, is the obvious choice for leadership. Substantial elements of the new capacities needed by the modern university exist within the traditional library organization. They need to be strengthened, expanded, and enriched by bringing together under a principal university officer for scholarly information the various talents and functions scattered throughout the institution.

I am not defending a vested interest; rather, I am seeking to vest a new interest. It is unfortunately true that the library profession has not reformed itself rapidly enough to meet the new challenges—but neither have the scholarly disciplines. Because the profession is viewed as one of low prestige and lower salaries, we have failed to attract the necessary talent in sufficient numbers. We must not become unduly dazzled by the wonders of hardware, software, and the wizards of high technology to the extent that we jettison a rich and productive tradition of scholarly support because that particular profession does not, at this point in time, command the necessary depth and breadth of talent and respect.

The new organizational structure would mean that we can draw into an existing strength the talents and expertise of individuals newly committed to the management and provision of scholarly information services and create an institutional capacity to re-invent the university in the electronic age.
Library Future Shock: The Microcomputer Revolution and the New Role of the Library*

Alan E. Guskin, Carla J. Stoffle, and Barbara E. Baruth

Dramatic advances in information-processing technology, especially in regard to microcomputer software and hardware, have broad implications for higher education in general and academic libraries specifically. This paper addresses the importance of planning for the integration of this technology into the campus and proposes a role for academic librarians that, if accepted, would bring academic librarians to the center of campus policy discussions in the future.

The future role of the library may be the most important issue for the present generation of educational leaders if the intellectual life of the university is to be adequately protected for this and future generations of students and faculty. University libraries are at a critical crossroads. Pressures emanate from a number of diverse sources: the financial difficulties of universities, the decay of physical facilities, the economics of book publishing, the inflationary cost increases in periodicals and serials, and the surge in computer technology that is changing the nature of information retrieval and information technology.

The academic library has in the past often been referred to as the center of the university. Yet the role of the library has been more symbol than reality for many years. Although it may be physically located at the heart of the campus or symbolically placed there in the words of the college catalog or even the university president, the day-to-day reality for libraries and librarians has been much different. On most, if not all campuses, the libraries are discussed in depth only when something goes wrong or when the realities of inflation continue to ravage a dwindling materials budget. The library is not a center of policy discussions and librarians are, on the whole, not an influential lot. Yet, it is possible that this will change given how information will be processed, retrieved, and disseminated in the immediate future. While it would have been desirable in the past for the library to be a central concern of academic policymakers, it will be essential in the future for libraries to be such.

One of the critical issues facing universities, namely, the difficult fiscal situation, will most certainly bring the library to the front and center of university policy con-

*A revision of a paper presented by Dr. Guskin at the dedication of the Bowling Green University Library.
cerns. Inflation continues to eat away at the core of the physical facilities and instructional equipment and materials, and this is nowhere more apparent than in university libraries. For example, from 1977 to 1981, the average cost of a book increased 32.6 percent. From 1977 to 1981, the average cost of periodicals increased an incredible 59.1 percent. Assuming a 60-40 ratio of periodicals to books, in order to purchase the same number of books and periodicals in 1981 that was bought in 1977, the library materials budget would have had to increase by 49 percent. In dollars, a university that spent $500,000 in 1977 would have had to spend $745,000 in 1981 to stay even. During this same period, many university budgets, excluding salaries, have, at best, been static. The result at many universities that pride themselves on having a good library is that even substantial increases in the library materials budgets have been inadequate. As a result, a decrease has occurred in book purchases. Also, periodicals and serials subscriptions have been carefully reviewed, some titles eliminated entirely, and others replaced in part by the introduction of alternative sources such as through computer retrieval systems (online bibliographic data banks and electronic publishing services), and in part by a heavier reliance on resource sharing. Because of fiscal problems and faculty outcry against periodical cuts, the library has become a serious concern of policymakers.

A second critical matter that university policymakers must face that will have a direct impact on the library is the microcomputer revolution and the increased demand for computer use. There has been a continuing increase in computer use over the last decade as faculty apply this technology to more and more research areas and as engineering and business schools grow in students, faculty, and use of the new technologies. Much of the increased computer use generally has been focused on mainframe computers and sophisticated users who, utilizing available computer power, figure out ways to work with their similarly hardware-oriented computer center colleagues to solve their computing needs.

The introduction of microcomputers has significantly altered these patterns; it has changed how people think about computers and how they can be utilized to fill their needs. Now unsophisticated users, who cannot program and who do not really understand the internal operations of a computer, are able to use the power of the new technology in ways unthinkable just three years ago.

It is not only the development of high-powered microcomputer hardware that has really made the difference. Rather, the major change is the result of what is called applications software, the programs on floppy disks that tell the computer what to do. Now even an unsophisticated user can place a disk in a disk drive, turn on the microcomputer and video monitor, and, with a little bit of self-education, use a sophisticated word processing system or a bookkeeping-type spreadsheet program for budget forecasting and continuous monitoring of budgets. It is no longer necessary to know how to program, only to follow instructions and to be willing to spend a little time practicing. The best analogy to reflect this change in the use of computers is the automobile. In order to drive a car, you don't have to know how an internal combustion engine works or how to fix the engine; what you must know is how to put the key in the ignition and how to drive the car—a skill that, while complicated at first, is easily learned by almost everyone. Similarly, with microcomputers, it is not necessary to know how to program a computer or to understand the computer's architecture. What the user must do is, after learning to turn the machine on, be able to identify an appropriate program, and to follow the instructions for operating the program.

A major issue for the university is how to respond to the microcomputer revolution. The effect of the fierce competition among microcomputer companies, the ensuing media coverage, and the increased sophistication of nontechnical faculty and students (that is, those who are not in science, engineering, or business) has put pressure on universities to respond in some way. The wonders of the microcomputer are proclaimed loudly and
widely. And there are wonders! But, as in all cases, the race to sell machines has created a sensational atmosphere that overestimates the potential benefits. Microcomputers can be exceptional tools in supporting the educational process as well as providing increased access to information for research, planning, and decision making. They are significant tools for universities. Policymakers should and must determine how best to utilize them. Should all students be required to learn how to program computers? How should universities provide students with access to microcomputers? Should all students be required to own them? Or should the university view the access to microcomputers like access to all other information technology?

Universities must come to terms with these questions and, in doing so, must involve policy-oriented administrators, faculty, and staff as well as sophisticated computer-oriented experts. Unfortunately, up to this point in time, many policy decisions have not involved universitywide constituencies and have not been based on the realities of the changing computer hardware and software, especially as it relates to microcomputers. The result has been that a growing number of universities have developed either a computer literacy requirement based on learning programming, or only offer students who are interested in learning about how to use microcomputers programming courses.

One outcome of these developments has been a massive increase in the number of computer programming courses. Another is that students who merely wish to use specific microcomputer packages are discouraged and/or dissuaded from further involvement because they do not have the skill or interest in programming to stick with the courses.

Yet, it is becoming clear to many that computer programming is a skill that will not be necessary or may not even be very desirable for all but sophisticated technical people. A recent Wall Street Journal article states that there seems to be a growing reaction against computer programming courses among university professors and quotes a Stanford researcher as saying the "educational establishment has overreacted." The column also quotes a professor at the University of Houston as saying that the "need for much of this [courses in programming] will disappear soon, and some of it is unnecessary now. Making computers easier for novices to use is one of the principal thrusts of computer design. As a result, in the future, less and less training will be needed to work with the machines." Sar Levitan, a labor economist and professor at George Washington University, states, "It doesn’t make sense when futurists say that we’ll all have to understand computers. We’ll need a few specialists, of course, experts to design them, technicians to repair them. But most people won’t have to know any more about computers than they know about telephones or x-rays. They’ll just use the technology." Finally, an information technology expert, Marc Tucker, concludes, "The computer is a powerful tool, and courses should concentrate on applications of the tool, in ways that extend the student’s intellectual power. Students need to learn how to use data, to use work processors, and spread sheets. Programming is not what it’s all about."

Today, microcomputers are not highly specialized pieces of equipment that should be accessible only to the expert. Because of their ability, through myriad software programs, to serve as powerful educational tools, they must be treated by educational policymakers as part of the academic support services of a university available to everyone, much as other resource materials are treated, e.g., videotapes, films, books, and periodicals. The question of how they will become integrated into courses—and they will become integrated into most—will be a decision of an individual faculty member who has become somewhat knowledgeable about how students can best use microcomputers to learn and apply course material.

Indeed, there is a real revolution in information technology that has been sharply accelerated by the introduction and rapid development of microcomputers. The information technology revolution not only can help assuage the twin
scourges of inflation and fiscal constraints, but offers libraries and librarians the opportunity to assume significant new roles of informational and educational leadership on their campuses. How does all this relate to our libraries and librarians?

1. The computer, especially the microcomputer, is an informational technology tool and it is the responsibility of libraries to provide information. Terminals or microcomputers acting as terminals provide ease of access and decentralized access to an increasing variety of networks of information. Microcomputers in combination with the vast storage potential of easily duplicated optical video disks promise to further decentralize access to information in electronic form. In addition, the microcomputer has the added ability to download information and data from such information sources, allowing a user to store, edit, and analyze it easily. Given the proliferation of commercial and academic databases, the library can become more active in linking users to data and thereby further enhance its historic role as the primary purveyor of information in the university.

2. Electronic publishing could become important to many areas of scholarly research where hard-copy publishing is becoming more and more unprofitable. The combination of easy access and the capability of making hard copies, where necessary, with high-speed printers at sharply reduced costs could lead to significant changes in future access to research reports, including a great improvement in time lag between research, publishing, and information availability. In fact, in these situations libraries themselves, particularly research libraries, could become the publishers of studies that have very limited readership. While this would be a wholly new function for academic libraries, it might evolve because of the needs of scholars. However, extremely important issues must be worked out: issues of peer review (refereeing), royalties, and how to develop the necessary networks between universities.

3. In the next few years, ability to utilize microcomputers in schools and workplaces may be almost as common as knowing how to drive a car. People will be able to learn how to utilize such powerful information technology in short courses. In fact, much more time will be spent selecting and learning how to use specific programs than learning about the computer itself. As a result, the library may very well, and some have already, become the center for short workshops on the use of microcomputer software applications, much as many libraries have become the primary instructional unit for teaching people how to utilize the numerous bibliographic and information resources available in the library. In addition, as faculty increasingly integrate the use of specific software applications in their courses, making these programs and microcomputers available in the library for classroom assignments will be the future equivalent of placing books on reserve.

The key to the proper application of the microcomputer as an educational tool, like that of a textbook, rests with the interest and knowledge of the individual faculty member teaching a particular course and with the training and time to learn available to faculty members. The library could be the primary focus for faculty development in this area. As librarians work with faculty in new information technology areas, such as online database searching, and in course-integrated bibliographic instruction settings, it is a natural extension for them to help faculty develop their skills in microcomputer applications.

5. To facilitate campuswide access and use of the microcomputer, the library could and should maintain strong collections of microcomputer software and elaborate microcomputer labs that will enable students to use them as they would other instructional materials.

But why the library rather than the computer center? Answers to this question require an appreciation of the needs of information seekers, the role of librarians in fulfilling these needs, and the role of the new information technology. Basically, the principal role of the library, and especially the reference librarian, has been to
provide a link between the user and information resource. To accomplish this requires an ability to define the information problem, to understand and be sensitive to the needs of the individual student or faculty member, to be knowledgeable about available information sources, and to know how to gain access to them in a reasonable time period.

In the last decade many librarians, realizing through painful experience students' ignorance of bibliographic sources, have developed bibliographic instruction programs using materials such as workbooks at the freshman level to introduce students to the library and its bibliographic sources. Even more recently, programs and materials have been developed for specific disciplines to enable students to avoid the time-consuming trial-and-error method of learning how to search out needed information. In both these instances, reference librarians working closely with faculty have become instructors for a number of class periods in introductory English classes and research methods courses in the academic disciplines in order to facilitate a student's use of library resources. In providing these services, librarians have become an important component of the instructional process for developing skills in the use of new and old information sources. They, themselves, have developed skills in instructing students and faculty on these matters as well as having maintained their traditional roles of being primary information resources for faculty and students.

Further, librarians—at least the effective ones—in their efforts to serve the needs of faculty members and their disciplines, have developed an understanding of faculty information needs across the campus through interviews with faculty, working with faculty on collection development, performing online database searches, etc. In fact, it is probably true that the staff of the library have a better sense of the intellectual needs of the entire faculty, or any significant segment, than any other group on a university campus. This university-wide perspective has enabled them to plan the university's collection needs and will enable the library to effectively serve the university as the faculty become more attuned to the power of computer and microcomputer applications.

In the last few years, libraries and librarians have had to gain sophistication in the use of computers in order to provide access to the growing wealth of computerized databases and to automate library operations. Librarians have shown the potential to become the central campus resource for the new information and communication technology.

Beyond the above, librarians have developed specific skills that could enhance the library's role as the campus center for information processing. Among these are the following:

1. Librarians tend to be people-oriented and have professional experience in responding to the information needs of the faculty and students.
2. Librarians are skilled in information retrieval activities and changing technologies, even though they will obviously need additional training to become sophisticated in all aspects of computer searching and computer networking.
3. Librarians are information specialists, trained to be concerned with information acquisition, dissemination, and use.
4. Librarians are managers; they are involved in a host of administrative activities including purchasing, work-force analyses, and managing large numbers of part-time and full-time people. The library is the only campus unit organized to handle the information needs of a large number of users in an orderly, systematic way. The librarian's ability to manage will be important in administering new information technology and understanding staff needs.
5. Librarians tend to be responsive to changing university priorities.

The capability of the library to be an effective resource in information processing is further enhanced by the fact that it is a low-threat environment in which all students and faculty are continuously interacting to fulfill their information needs. By the placement of microcomputers in the library, it is conceivable that a relatively
high-threat educational tool can be neutralized and thereby become more accessible, especially to the nontechnical students and faculty.

Although the logic of locating a universitywide information function, albeit a new technological one, in the library is compelling, what about the logic of expanding the function of the computer center to meet the microcomputer revolution? While the staffs of computer centers are sophisticated about the technology itself, the orientation of most computer center professionals is to the use of hardware—to make sure it operates effectively and to provide machine links of the user to the mainframe. Such individuals are not concerned with training or practice in information dissemination and use, but are concerned with data—its storage and manipulation. Also, computer technicians tend to be not highly skilled in interpersonal relations, unconcerned about the application problems of unsophisticated users, and unknowledgeable about teaching users how to access or use outside information sources. In significant ways, the major revolution in microcomputer software applications, which has focused on the unsophisticated user, has left many professionals in computing on the sidelines. In addition, many mainframe-oriented computer centers (and highly expert computer-oriented faculty) have tended to resist the introduction of microcomputers for the general user.

The computer center, with its highly sophisticated and powerful mainframe computers and related equipment, is an essential component in the operation of a university; it is a utility that serves the data processing needs of faculty and students. It often serves as a central point in linking up the ever-increasing number of microcomputers to internal and external networks. But it does not seem to be the appropriate university unit for providing large-scale access to microcomputers, for instructing faculty and students about the potential applications of microcomputers, or for providing linkage between the information needs of the unsophisticated user and the available information source—whether that be a simple program, an internal computer network where data can be stored and processed or information obtained, or an external computer network.

Change does not come easily nor is it patently predictable, and the introduction of the powerful new information technology is no different. Inherent in the new technology are the human foibles of over-enthusiasm, straight-line projections based on limited experience, and the by-products of the fierce competition between commercial vendors. We are already experiencing projections of too much change, some of which smacks of the absurd, some of which is just plain overzealousness. No matter what the enthusiasts proclaim, there will still be numerous hard-copy books, for there still is money to be made in the publishing of books and convenience in using them. But just as obvious, limited-circulation scholarly texts will no longer be published in hard copy; it doesn’t make economic sense to the publisher or the library, nor is it particularly helpful to the scholar who would prefer having greater access electronically to numerous limited-circulation scholarly monographs than having limited access to a few hard-copy books that a publisher was somehow willing to print.

In closing, several issues need to be addressed. First, judicious use of the microcomputer must be made in the learning process. Educators must be cynical about its role as a panacea for educational problems and highly analytical in the best ways to use it as an educational tool. It is an important educational tool but it is just that. It must be remembered that the microcomputer should augment faculty-student relationships, not replace them.

Second, educators must be concerned about who controls information networks. This is one of the most critical issues that libraries and universities must face. How can open access to the world of information be maintained? Will commercial vendors stake out the domain before universities can? What implications do proprietary rights have for scholarly and bibliographic ventures that have traditionally been open to all through the role played by academic libraries? Will com-
mercial vendors balkanize the information networks? How will institutions and/or individual scholars be able to afford access? These and related issues must be dealt with very soon or universities will find themselves afloat in a commercially competitive world. Even though the cost of development may be great, the sheer power of larger computers and computer networking has made possible the accumulation of information inconceivable a few years ago. At the same time the presence of microcomputers of all shapes and sizes that can gain access to these information networks has created the potential for commercially viable information sources that could limit the freedom of access so common to academic life. The irony might be that just at the time that the technological tools have been created to harness the enormous growth of information of the last three decades, universities may lose the ability to offer open access to the information produced directly and indirectly by their faculty and staff. University educators, faculty, and librarians must be the watchdogs of the free flow of information.

Whichever way these issues are resolved, the library and the increasingly technologically sophisticated librarians can and should be at the center of the major developments in the use of the new information and communication technology in university life and, therefore, intimately involved in university policy development. The basic challenge for librarians is whether they are prepared to reeducate themselves, whether they are prepared to take the risks inherent in being at the center of major new developments, whether they are capable of entering into the political dialogue of university policy-making that will determine the allocations of resources regarding new information and communication technology. Some would say that it is safer to stay on the edges of the policy debates, to quietly learn about the new technology and slowly adjust to it, thereby avoiding new responsibilities inherent in being the primary instructional unit for microcomputers and the service unit for computers generally. It is safer but so is the quill pen. The problem is that if librarians take this attitude, events will pass them by. We need a strong academic library system with creative and energetic librarians who are willing and excited about taking the risks necessary to move the library of the future into a central role in the day-to-day life of the university. It is essential for the future health of our universities—and our libraries!

REFERENCES

2. Ibid, p.397.
5. Ibid.
6. Ibid.
7. Ibid.
Anyone who is not a professional librarian should, I think, come to this occasion with respectable alternative credentials. I am happy to submit mine for your review and appraisal. Being an administrator in a large state university surely gives one a varied perspective on the university library—its problems, its needs, and its hopes. At another level, I have served for several years on the Committee on Research Libraries of the Association of American Universities. Before that time I was a member of the board of the Center for Research Libraries, and since leaving the board I have continued to work with the center as chairman of a small Committee on Financial Resources Development. (The role of that committee, as its title will readily suggest, is to seek additional resources for the work of the center. This prospect is now greatly enhanced, I might say, by the recent appointment of a full-time development officer.) In several capacities I have been privileged to work with Jim Haas and the Council on Library Resources; two years ago, for example, I was involved in a small group advising on a future course for the council as it faced its second quarter-century. While I suspect Jim and his board could have designed the future without any guidance from our group, we were grateful for the chance to review and assess prospects for this remarkable organization.

What may be the most significant role, however, is one I have left until last in this enumeration. Any university professor with a legitimate claim to scholarship is, of course, a user of the research library. While the pressures of university administration leave regrettably little time for research, an occasional foray to the collections in one’s own discipline is a vital source of sanity. Moreover, anyone who uses a specialized or branch library, as I do in my role as law professor, quickly realizes the interdependence of collections across a complex campus. A law library by itself meets only a fraction of the research needs of an active scholar. Increasingly, in fact, my younger law faculty colleagues have interests, and therefore research needs, which transcend the traditional law library collections. They are not only historians and economists with extensive needs in the social sciences; they are also biologists, philosophers, linguists, and anthropologists for whom the core collection of legal materials within the law school building offers but the starting point for their research. So it is as library patron and user that I would offer the most cogent credential of all, and urge that my comments today be taken as much in that perspective as from the administrative vantage point, which presumably occasioned Carla Stoffle’s gracious invitation.

Let us suppose we might redesign—or design from scratch—the standards, and the process, by which libraries are judged. Surely if we could do so, we would frame a set of criteria that might differ rather substantially from the often implicit desiderata we now apply. Let me suggest in
somewhat random order several criteria I would propose if we were offered such a tabula rasa.

First, I would seek to appraise interinstitutional cooperation. It would be important to know what priority was given to complementary collection development—not only by each college or university as a whole but also by each branch library within a campus community. One might, for example, ask the kind of question that has now been twice asked in our surveys of the libraries of the University of Wisconsin System: How extensive is the duplication among collections, and what steps have been taken to reduce or avoid such duplication? (To my amazement, the initial report of our systemwide library survey several years ago revealed that there was no single edition of a particular work which could be found in every one of the libraries of the University of Wisconsin System. Moreover, the survey discovered a remarkably low ratio of duplication or overlap among the various university collections. A recently updated survey shows within the past three years a very slight increase in that index. The annual report which our Council of University of Wisconsin Libraries is about to present to the Board of Regents will summarize the current conditions in substantially greater detail.)

If interinstitutional cooperation is a valid desideratum, it should be measurable in positive as well as negative terms. Avoidance of duplication or redundancy is the least we should expect; we should also seek positive evidence of complementary collection development in regional and national terms. (During the work of the joint AAU/CLR Task Force on Resource Sharing two years ago we gave considerable attention to this issue. We found particularly useful the national indexes of relative bibliographic strengths developed by the Society of Latin American Librarians and wished that similar lists existed for other disciplines and specialties—as indeed they now may to a greater extent than was true two years ago.) Surely one would expect that major interinstitutional consortia—the Ivy League; the CIC in the Midwest; and the major California universities—would have been more aggressive in fostering interinstitutional cooperation in library and collection development than seems to have been the case. If one seeks an explanation for the relative lack of emphasis, perhaps it is that we have simply continued to assume each major research library can be essentially all things to all scholars. Clearly that is not the case, as librarians best understand. Yet the majority of university administrators have not yet accepted the urgency of the need, and thus have not mandated a degree of interinstitutional collaboration which any logical assessment of current conditions would warrant. Suffice it to say that this measure would surely rank high on our list of desiderata—if not in fact (as I would incline to place it) at the very top.

My second goal would be acceptance of new technologies. It would be presumptuous for me as one who yearns nostalgically for the wooden drawer and the familiar card catalog to criticize others for their rates of progress toward the inescapable era of online bibliographic catalogs and other research systems. Yet I have the uneasy feeling that many of us in university administration—sometimes reinforced by the misgivings of conservative faculty colleagues—put library automation low on our lists of equipment and capital priorities. We tend to assume that someone else will meet this need—through special state appropriations, foundation grants, or gifts from a yet unidentified private donor. What we should be doing is to give top priority to such needs both in our requests and in our allocations. If, therefore, we were to judge libraries alone on the rate of technological advance, we would do great injustice to those who administer them and have for years been urging higher support for modernization. Where that change has come too slowly and too late, the onus almost always falls upon administrators outside the library who have simply failed to heed the pleas of their librarian colleagues.

Let me mention a related concern under the heading of technology. Institutions must increasingly be judged by their total adaptation to new methods of scholarly production and information storage. New
technologies may, for example, profoundly affect the processes of faculty tenure, promotion, and other judgments. Here I might quote a pertinent paragraph from the recent report of the Rockefeller Commission on the Humanities: “The academic system of rewards will have to recognize the new kinds of scholarly achievement made possible by informational technologies. What impact technology will have on the quality of scholarship is under debate; by allowing speedier publication of large quantities of scholarly work, new technologies may also eliminate the process by which additions to humanistic knowledge have always been screened. Assuming adequate processes of review for scholarship published in new modes, committees of appointment and promotion must be willing to consider, say, an electronic printout as part of a scholar’s dossier. They should also view essays (published separately from their supporting data) as legitimate and sometimes preferable alternatives to monographs.”

Any such change in our evaluation of scholarly and creative activity will require significant adjustments within the academic community. And universities ought to be judged by their willingness to make that type of adaptation.

Next on my list of priorities would be preservation. Here again, librarians can hardly be faulted for having muted the alarm. It is those of us in general university administration who have not heeded the alarm, and probably will not do so until each of us finds a treasured volume literally crumbling in our hands as we remove it from the shelves. This challenge was well stated in Patricia Battin’s essay in the recent New Directions volume; she observed in her concluding paragraph that “our national heritage is at stake.” There has been substantial awareness of the coming crisis within the library community. The Council on Library Resources has for some years given major attention to preservation. Yet it would be difficult to identify within college and university budgets nearly the degree of support for preservation that any rational assessment of the need would suggest—or in many cases any identifiable preservation funding at all. Any catalog of goals or objectives would thus surely give heightened attention to this issue.

Fourth, I would ask a clearer appraisal of the role of the library in the total educational process. I would include not simply the obvious correlation between the library collections and the curriculum, especially at the graduate level. We should also appraise the effectiveness of the bibliographic instruction program—chiefly for undergraduate students who have not had prior exposure to a research library, but also for graduate students and even faculty whose limited orientation may inhibit their full enjoyment of the intellectual resources potentially available to them. On this point I would simply note the timely observations which Carla Stoffle, Alan Guskin, and Joseph Boisse have advanced in their fine essay on the educational mission of the university library soon to appear in another New Directions volume. They have stressed the central importance of a bibliographic instruction program requiring as it does the active involvement of several sectors of the academic community. I will say no more, since one of the coauthors is a member of the panel and may well wish in his comments to elaborate.

Before leaving this theme of educational mission, some comment might be made about the contribution of libraries to nontraditional learning. Clearly the eighties will be a time of expanded emphasis for learning opportunities beyond the formal college classroom. Not only through new technologies, but also through greater willingness to take instruction to less mobile students, we are seeking ways to diversify the learning experience. What has not been fully addressed is the potential role of libraries in nontraditional learning situations. Those technologies, for example, which transmit the professor to the student’s home should also make library resources available to the immobile or physically remote learner. Indeed, if higher education is to meet the challenge of nontraditional learning in the eighties and beyond, the question of bibliographic access simply must be considered along with more obvious and more familiar challenges of extended learning.

Let me turn from education to gover-
nance. Clearly participation in decision making is a two-way process. On my list of goals, therefore, I would place both aspects—the role of the library in the governance of the university, and the role of faculty users in the governance of the library. The first dimension is relatively familiar and comfortable; the second is more sensitive. We might spend a few moments on each.

Much more could be done to enhance the involvement of librarians in general university governance. Faculty senates and councils should routinely include professional librarians either as a separate constituency or through established representative channels. The dean or director of libraries should, of course, participate in the central academic body of the campus. Librarians should have meaningful access to the university’s governing board—for example, in forums such as the annual report to our regents from the Council of University of Wisconsin Libraries. Committees which advise on fiscal and budget decisions should routinely have library membership, or at least provide ample chance for presentation of library perspectives. The review of both present and proposed degree programs must include an assessment of library resources and implications. In these and perhaps other ways, meaningful participation of the library in university governance can be enhanced. All this is relatively familiar and has been addressed more fully elsewhere.

The other side of the equation may cause greater concern. Librarians may be understandably uncomfortable about faculty library committees and their potential for interference in library policy matters. As one who has written extensively about the need to maintain maximum intellectual freedom in the selection and dissemination of library materials, I would be the first to resist improper intrusion—as much by user committees as by meddling administrators. Yet the full potential of teaching faculty committees may not be fully appreciated within the library community. Such groups are, for example, buffers between less sensitive colleagues across campus and the professional librarians who can never honor all requests for new monographs or journals. These groups can help to explain and justify library policies on faculty borrowing, access to studies and carrels, library hours, and many other sensitive issues on which the library administration should not alone be expected to bear the burden. In short, a reasonable criterion would be the receptiveness of librarians to the benign involvement of such groups—while insisting upon keeping such committees at arm’s length during decisions of only internal import.

Governance is, as I suggested earlier, a two-way process. Librarians legitimately seek—and should have—more extensive involvement in university decision-making processes. In return, however, they should be willing to accept a greater measure of faculty involvement in library decision making—including some of the most difficult decisions: to reduce serial subscriptions, to relocate certain collections in remote storage facilities, to change staffing patterns, and, of course, to automate both circulation and bibliographic systems. Only reciprocity in the matter of governance will ensure its effectiveness.

Finally, I would borrow from my own professional interests a goal which to librarians may seem so obvious as hardly to need separate mention: commitment to the protection and preservation of intellectual freedom. If the university as a whole should be a bastion of academic freedom and free inquiry, then the university library should be at the core of that commitment. Seldom, of course, are college and university libraries faced with crude censorship threats of the kind that increasingly these days beset school and public libraries. Censorship as such is seldom the issue for the university research librarian. Yet I wonder if those who enjoy the far greater measure of freedom in higher education might not take a more active role in protecting the acquisition and dissemination of controversial materials in other sectors. The American Library Association has within the past decade made a major commitment—through its Office of Intellectual Freedom, the Freedom to Read Foundation, and a major program of litigation on behalf of libraries and librarians. Some university librarians
have played a major part in these initiatives. But it seems to me the whole university library community might well make the cause of intellectual freedom at the elementary and secondary level, and in public library systems, a topic of greater concern and active support. Perhaps we do not always appreciate that censorship in the schools could in time jeopardize academic freedom in higher education as well. Recall, for example, the original Arkansas creationism law struck down by the United States Supreme Court in 1968. While originally aimed at the teaching of evolution only in the elementary and secondary schools, it eventually reached also the classrooms, laboratories, and libraries of the University of Arkansas and other publicly supported institutions of higher learning in the state. Loyalty oaths were not aimed only at elementary and secondary teachers, but came in time to include state college and university faculty—and in Massachusetts even purported to bind Harvard, MIT, and other private university professors as well. Some recent initiatives of the moral majority have looked initially at problems in the public school classroom but have not been wholly unmindful of possibly fertile ground in higher education as well. Thus, it seems to me, the university librarian disassociates himself or herself at some peril from the more vulnerable school or public librarian. It is for this reason that I would add the protection of academic and intellectual freedom at all levels to my list of criteria for the college and university library.

If these are the goals, how might a new system of evaluation better reflect them? Obviously I have no simple solutions. Perhaps, however, a few thoughts on our current judgment process might be helpful.

For one, I would deemphasize currently quantitative measures of library status such as the annual ARL statistical rankings. Such measures—useful though they are for some purposes—may not only fail to serve these goals; they may actually, if subtly, disserve our broader objectives. To judge the *quality* of libraries, for example, only by the number of volumes currently held or the number added each year may encourage the very competitive behavior which a commitment to interinstitutional cooperation and complementary collection development would deter. Moreover, to exalt the number of new acquisitions or the number of separate journal titles does little to encourage active preservation of current materials. Might there be some way in which the ARL surveys would include—even in their quantitative data—some measures of success in reducing duplication within and between institutions or improving preservation of existing materials? And beyond these obvious quantitative dimensions, could we not—perhaps through the regional and specialized accreditation process—give greater attention to *intangible* factors like governance, bibliographic instruction, professional service, and protection of intellectual freedom—all of which are as vital to the role of the university library as they are elusive of measurement?

This is clearly the place to post questions and challenges, rather than to provide answers. Moreover, those who may have the answers are those far more expert in library matters than I.
Administrators' Views of Library Personnel Status

Thomas G. English

A questionnaire survey elicited the opinions of forty-seven university administrators (nonlibrarians) on the issue of faculty status for academic librarians. An analysis of the survey results led the author to conclude that academic institutions may lack a clear rationale for granting librarians faculty status. This conclusion was based primarily on the fact that the opinions expressed by administrators tended to confirm the validity of two key suppositions: (1) that, presently at least, there are no substantive advantages to an institution for granting librarians faculty status and (2) that the terms and conditions of faculty appointments are largely unsuited to the day-to-day activities and responsibilities of librarians.

Is it to the advantage of an academic institution to place its librarians in the same personnel category as its regular teaching faculty? Is it to the advantage of librarians to have faculty status, as opposed to a professional or administrative classification? Are the traditional, primary faculty requirements for tenure—demonstrated effectiveness in teaching and research—appropriate to the regular duties and responsibilities of librarians? Answers to these questions were sought by the author through an analysis of opinions collected from university administrators of forty-seven academic member institutions of the Association of Research Libraries.

METHODOLOGY

The author first conducted an extensive search of the literature in an effort to determine if the views of college and university administrators on the subject of librarian status had been published. Finding only one relevant article, the author elected to carry out a survey designed specifically to solicit such views. Accordingly, a questionnaire was sent to the office of academic affairs, or the equivalent administrative office, in each of the eighty-nine U.S. academic member institutions of the Association of Research Libraries. Eventually, completed questionnaires were returned by administrators (nonlibrarians) of forty-seven different institutions—52.8 percent of the target group. Thirty-two of the respondents were from state institutions, and fifteen were from private institutions (see table 1). Librarians were reported to have faculty status in twenty-one of the institutions, and professional (nonfaculty) status in twenty-six (see table 2).

The original survey, which consisted of ten questions, was augmented by several short, follow-up surveys. Five of the original questions were directed at, and answered by, all forty-seven respondents. The other five questions were directed only at those institutions whose librarians had faculty status, so that, appropriately, only twenty-one respondents answered the latter queries. The purpose of the follow-up surveys was to obtain brief written statements from respondents in support of their answers to key questions. Thus, more than thirty supplementary statements were added to the initial ques-

Thomas G. English is assistant professor and head, Bell Museum of Natural History Library, University of Minnesota. The author is indebted to Victor D. Meskill and L. Drew Meskill, whose 1975 review article was the principal inspiration for this study.
### TABLE 1
LIST OF PARTICIPATING INSTITUTIONS

<table>
<thead>
<tr>
<th>State Institutions (32)</th>
<th>Private Institutions (15)</th>
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<tbody>
<tr>
<td>1. Arizona</td>
<td>1. Boston</td>
</tr>
<tr>
<td>2. California at Davis</td>
<td>2. Case Western</td>
</tr>
<tr>
<td>3. Cincinnati</td>
<td>3. Columbia</td>
</tr>
<tr>
<td>5. Colorado State</td>
<td>5. Dartmouth</td>
</tr>
<tr>
<td>7. Florida</td>
<td>7. Georgetown</td>
</tr>
<tr>
<td>8. Florida State</td>
<td>8. Miami</td>
</tr>
<tr>
<td>11. Indiana</td>
<td>11. Southern California</td>
</tr>
<tr>
<td>12. Iowa</td>
<td>12. Stanford</td>
</tr>
<tr>
<td>13. Iowa State</td>
<td>13. Syracuse</td>
</tr>
<tr>
<td>15. Louisiana State</td>
<td>15. Yale</td>
</tr>
<tr>
<td>16. Maryland</td>
<td></td>
</tr>
</tbody>
</table>

### TABLE 2
PARTICIPATING INSTITUTIONS LISTED ACCORDING TO THE PERSONNEL STATUS OF THEIR LIBRARIANS

<table>
<thead>
<tr>
<th>Institutions Reporting Faculty Status for Librarians (21)</th>
<th>Institutions Reporting Nonfaculty Status for Librarians (26)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Arizona</td>
<td>1. Boston</td>
</tr>
<tr>
<td>2. Colorado</td>
<td>2. California at Davis</td>
</tr>
<tr>
<td>3. Colorado State</td>
<td>3. Case Western</td>
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<tr>
<td>4. Florida</td>
<td>4. Cincinnati</td>
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<tr>
<td>5. Illinois</td>
<td>5. Columbia</td>
</tr>
<tr>
<td>7. Kansas</td>
<td>7. Cornell</td>
</tr>
<tr>
<td>8. Louisiana State</td>
<td>8. Dartmouth</td>
</tr>
<tr>
<td>10. Nebraska</td>
<td>10. Florida State</td>
</tr>
<tr>
<td>13. Oregon</td>
<td>13. Indiana</td>
</tr>
<tr>
<td>15. South Carolina</td>
<td>15. Maryland</td>
</tr>
<tr>
<td>17. SUNY at Albany</td>
<td>17. Michigan State</td>
</tr>
<tr>
<td>18. Tennessee</td>
<td>18. Northwestern</td>
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<td></td>
<td>22. Tulane</td>
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<tr>
<td></td>
<td>23. Utah</td>
</tr>
<tr>
<td></td>
<td>24. Washington (Seattle)</td>
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<td></td>
<td>25. Wisconsin</td>
</tr>
<tr>
<td></td>
<td>26. Yale</td>
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</tbody>
</table>

Questionnaire data. These statements, in the opinion of the author, greatly enriched the content of the final report.

**ADVANTAGES TO LIBRARIANS**

The first question of the survey asked whether administrators thought faculty status is an advantage to librarians. Overall, thirty-one of forty-seven respondents (66 percent) felt that faculty status was of "some" or "considerable advantage" to librarians. As might be expected, in those institutions whose librarians had faculty
status, an even larger majority (85.7 percent) were of the same opinion. In those institutions whose librarians had nonfaculty status, respondents were evenly divided in their views. Thirteen of these twenty-six respondents (50 percent) felt that librarians were advantaged by faculty status, while the other thirteen (50 percent) felt that faculty status provided "no advantage" to librarians.

**COMPARISON OF LIBRARIAN BENEFITS AND PRIVILEGES**

In table 3, the benefits and privileges of faculty librarians were compared with those of nonfaculty librarians in the institutions surveyed. The results indicated that faculty status does tend to provide more advantages to librarians than does nonfaculty status. At the same time, faculty status may impose terms and conditions of appointment on the probationary appointee that are neither advantageous nor desirable. This seeming paradox, whose roots lie in the difficulties encountered in the interpretation of faculty tenure requirements for librarians, is discussed later in the report.

**ADVANTAGES TO THE INSTITUTION**

As for advantages to the institution of granting librarians faculty status, the majority of administrators held a more negative view. Only three of forty-seven respondents (6.4 percent), all from state institutions with faculty librarians, were of the opinion that faculty status for librarians was of "considerable advantage" to the institution. Sixteen respondents (34 percent) indicated "some advantage," while twenty-eight respondents (59.6 percent) felt that faculty status for librarians was of "no advantage" to the institution. Several respondents who indicated "some advantage" to the institution also added marginal notes such as "little" or "very few." And one respondent noted that "while there are some advantages to the institution, there are more disadvantages." Even more revealing, perhaps, was the fact that eight administrators—representing institutions with faculty librarians—thought that granting librarians faculty status was of "no advantage" to the institution.

Substantive advantages to the institution—measurable benefits or gains that could only be achieved by librarians with faculty status—were not readily discernible, either in the literature of librarianship, or in the data collected in the survey. Any advantages that may have once been gained by an institution in recruitment (e.g., during the 1960s) would appear to be largely nullified in the diminished 1980s job market. But in the past at least, some institutions evidently believed that the ability to offer librarians faculty appointments tended to give them an edge in the recruitment of once-scarce personnel. Data showed that fourteen of twenty-one respondents (66.7 percent) felt that competition in recruitment was of "some" or "considerable importance" in the institution's original decision to grant librarians faculty status.

**TABLE 3**

<table>
<thead>
<tr>
<th>Benefits and Privileges of Faculty Librarians Versus Nonfaculty Librarians (by Number of Institutions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institutions with Faculty Librarians (21)</td>
</tr>
<tr>
<td>Faculty rank</td>
</tr>
<tr>
<td>Indefinite tenure</td>
</tr>
<tr>
<td>Pension</td>
</tr>
<tr>
<td>Research funds</td>
</tr>
<tr>
<td>Travel funds</td>
</tr>
<tr>
<td>Research leave</td>
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<tr>
<td>Sabbatical leave</td>
</tr>
<tr>
<td>Tuition break</td>
</tr>
<tr>
<td>Option of nine-month appointment</td>
</tr>
</tbody>
</table>
PERCEIVED ADVANTAGES

Statements provided by administrators fell into two categories: (1) statements of perceived advantages to the institution, and (2) statements of perceived disadvantages to the institution of granting librarians faculty status. In listing their perceived advantages to the institution, administrators focused on chiefly psychological factors, with a good deal of conjecture about the probable (desirable) influence of faculty status on librarian conduct and performance. The result was a rather idealized portrait of the librarian as a faculty member. Analysis of the statements revealed the following: (1) faculty status allegedly attracted a "better qualified, more academically oriented professional to library service"; (2) faculty status was believed to improve the morale and self-esteem of librarians, giving them "a closer feeling of belonging to the institution, rather than second-class citizenship"; (3) faculty status was purported to prompt the acceptance of librarians "as professional peers by faculty members in other disciplines"; (4) faculty status was thought to motivate librarians to "act responsibly," exhibit a "professional attitude toward the position," and to "develop research programs"; and (5) faculty status was believed to open the way for librarians "to participate on university committees," to "participate in all faculty curricular deliberations, and thus understand the course and direction of university academic policy."

If it is true, as suggested in some of the aforementioned statements, that it is to the institution's advantage to encourage librarians to develop research projects, to serve on faculty committees, and to participate in curricular deliberations, etc., it does not necessarily follow that these goals can only be achieved by granting librarians faculty status. On the contrary, in some of the institutions surveyed, it was found that the lack of faculty status did not deter librarians from participating fully in the academic enterprise:

Librarians at . . . University have many of the same rights and privileges as faculty. . . . They can achieve tenured status. . . . They have sab-

batical leave opportunities; they participate in the same fringe-benefit system as faculty; and they are represented on the Faculty Council and participate fully on many faculty committees.

Librarians at . . . University are provided opportunity for librarian/instructional staff interaction and consultation through membership in the University Senate, election to the Senate Assembly, and the Senate Advisory Committee on University Affairs, and all committees established by this governance structure. Librarians are also encouraged to develop research projects and to contribute to other original scholarship.

Librarians at . . . University are placed in an "academic librarian" classification (nonfaculty). However, they are eligible to serve on the University Senate (two positions are reserved for the libraries), and on university standing committees, either by election or by appointment. Currently, a librarian is serving on the Senate Executive Committee. Also, librarians in this institution are eligible for academic leave with pay, so that they may have additional opportunities to carry out original research.

PERCEIVED DISADVANTAGES
OF FACULTY STATUS

Statements of perceived disadvantages to the institution for granting librarians faculty status were nearly uniform in singling out the unsuitability for librarians of the traditional faculty requirements for tenure—demonstrated effectiveness in teaching and research. These traditional tenure requirements were thought by administrators to be inappropriate for librarians because (1) librarians have "different basic responsibilities" from the regular teaching faculty; (2) their "work and traditions are different"; and (3) "the degree of freedom and independence afforded librarians is much less than for the faculty."

As a consequence:

Librarians have difficulty in meeting common standards of teaching and scholarship.

—vice-president for academic affairs

Only a very few of the academic librarians can meet faculty requirements for tenure.

—associate vice-president for academic affairs

It is inappropriate to place librarians under the same evaluation criteria. They are not faculty.

—assistant provost

Promotion and tenure decisions are difficult be-
cause the criteria for librarians are different than for faculty generally.

—provost

APPROPRIATE CLASSIFICATION OF LIBRARIANS

The next two items of the survey sought administrators’ opinions regarding the most appropriate classification for academic librarians. Only eleven of forty-seven respondents (23.4 percent) were of the opinion that librarians were appropriately classed as faculty, while thirty-six respondents (76.6 percent) were of the opinion that academic librarians were more appropriately classed as nonfaculty. All twenty-six of the administrators from institutions with nonfaculty librarians (100 percent) felt that librarians were more appropriately placed in a nonfaculty category. In contrast, administrators from institutions whose librarians were faculty were in considerable disagreement on this question. Ten of these twenty-one respondents (47.6 percent) expressed the view that librarians in their institutions—who had faculty status—would be more appropriately classed nonfaculty.

LIBRARIAN SATISFACTION

Data revealed that the great majority of administrators felt that librarians in their institutions were satisfied with their personnel status. Only two of forty-seven respondents (0.43 percent) indicated that librarians in their institutions were dissatisfied with their present personnel status. At one university, according to the respondent from that institution, librarians in their institutions were dissatisfied because “a significant number of librarians, at least, want full faculty status, but without scholarship or publishing requirements.” At another university, whose librarians were reported to have nonfaculty status, librarians were apparently situated in a hybrid of faculty and professional status that tended to require case-by-case interpretation for each new question that arose.

DIFFICULTIES WITH TENURE REQUIREMENTS

The final four questions of the survey were directed only at those institutions whose librarians were reported to have faculty status, so that, appropriately, only twenty-one respondents went on to complete these items. The questions were designed to prompt administrators to compare librarian activities and responsibilities with those of the regular teaching and research faculty and to consider if the terms and conditions of faculty appointments were appropriate for librarians. None of the twenty-one respondents (0 percent) felt that there was a “strong similarity” between librarian and faculty activities and responsibilities. Nine respondents (42.9 percent) felt that there was “some similarity,” while twelve respondents (57.1 percent) were of the opinion that there was “little similarity” between faculty and librarian activities and responsibilities.

Administrators were then asked if the institution had ever been required to relax or amend the traditional, primary faculty requirements for tenure in order to grant tenure to librarians. Two respondents (09.5 percent) indicated “no” to this question, but nineteen of twenty-one respondents (90.5 percent) indicated “yes” that the traditional tenure requirements—demonstrated effectiveness in teaching and research—had been relaxed or amended in order to grant tenure to librarians. As a follow-up to this question, those respondents who had indicated “yes” were asked to provide a brief statement explaining why the faculty criteria were altered or given a different emphasis for librarians. Thirteen administrators furnished statements. An analysis of the statements revealed a rather striking ambivalence toward librarians as faculty members. All thirteen respondents had earlier acknowledged that librarians in their institutions had been accorded faculty status. But the tenor of their statements strongly suggested that probably none of them actually perceived librarians to be faculty—at least not in the traditional sense of the word. Rather, librarians tended to be characterized in the statements as a unique professional group, separate and distinct from the regular teaching and research faculty. To begin with, librarians were seen to play a negligible role as classroom teachers, as the fol-
lowing extracts from the statements attest:
Librarians at our institution do not teach . . .
. . . teaching effectiveness [of librarians] has
not been considered . . .
No teaching required of librarians . . .
. . . librarians do little or no formal teaching . . .

Moreover, the respondents appeared to
expect little from librarians in the way of
scholarship and research, as evidenced by
the following excerpts:
Librarians have never been required to demon­
strate scholarship or research . . .
Less rigorous requirement for original scholar­
ship and publication.
. . . nor do they [librarians] conduct research as
it is conventionally viewed . . .
Librarians . . . simply are not trained well
enough to even approach the level of research
we expect and get from the basic disciplines . . .

The role that these administrators did per­
ceive for librarians tended to emphasize
traditional librarianship, with its attain­
dant concern for professional competence
and service:
Librarians are judged on criteria of service to li­
brary users, community service, technical
knowledge and competence.
Less emphasis on teaching and research, more
upon professional expertise, service, and im­
provement of library resources.
More emphasis upon university service and
professional activity . . .

The next survey item asked respondents
to compare untenured librarians with un­
tenured members of the teaching faculty,
in regard to their relative capability to
meet the traditional faculty requirements
for tenure. Fourteen of twenty-one re­
spondents (66.7 percent) were of the opin­
ion that if the faculty performance criteria
were applied evenly and stringently for all
untenured faculty, untenured librarians
would find it "considerably more diffi­
cult" to meet the traditional criteria than
would untenured teaching faculty. (Sev­
eral respondents added the word impos­
sible.) Three respondents (14.3 percent) in­
dicated that librarians would find it
"somewhat more difficult," while four re­
spondents (19 percent) felt that librarians
would find it "no more difficult" to meet
the traditional criteria.

TERMINATIONS
In his earlier study, the author found
that faculty librarians up for tenure or pro­
motion were characteristically required to
meet two distinct sets of performance cri­
teria: one set designed to measure compe­
tence in librarianship; the other set de­
digned to measure effectiveness in
teaching and research. Moreover, the ear­
erly study uncovered a case in which a
"superb reference librarian" had been ter­
ninated for failing to meet faculty teach­
ing and publishing requirements.3

Prompted by his knowledge of that inci­
dent, the author sought to document
other cases in which faculty librarians,
who were judged to be performing effec­
tively as librarians, had been terminated
for failing to meet the traditional faculty
requirements for tenure. Indeed, the
results revealed that such terminations
had occurred in five of the twenty-one re­
porting institutions (23.8 percent). Details
of these terminations were not revealed in
the data returned, so that the weight given
the faculty criteria relative to the weight
given the professional criteria in these sit­
uations could not be determined. What­
ever the case, the incidence of such dis­
missals does draw attention to the
double-bind difficulties confronting li­
brarians who are required to meet two sets
of performance criteria—particularly
when the primary faculty criteria are rigor­
ously applied.

SUMMARY OF FINDINGS
Administrators tended to perceive aca­
demic librarians—including those with
faculty appointments—to be a distinct,
professional (nonfaculty) group, with du­
ties and responsibilities different from
those of the regular teaching and research
faculty. Evidently, the term faculty status
was not considered by administrators to
be synonymous with the word faculty.

Only eleven of forty-seven respondents
(23.4 percent) felt that librarians were ap­
propriately classed as faculty, while the
great majority (76.6 percent) were of the
opinion that academic librarians were
more appropriately placed in a profes­
sional (nonfaculty) personnel category.
Sixty-six percent of the respondents
were of the opinion that librarians were advantaged by the provision of faculty status. At the same time, however, 59.6 percent were of the opinion that granting librarians faculty status was of no advantage to the institution. Difficulty with the interpretation of faculty tenure requirements for librarians was most often cited by administrators as the principal disadvantage—both to the institution and to librarians—of granting librarians faculty status.

In attempting to list perceived advantages to the institution of granting librarians faculty status, administrators appeared to focus chiefly on psychological factors, with a tendency to indulge in conjecture about the supposed uplifting effects of faculty status on librarians' attitudes, conduct, and performance. But none of the stated advantages to the institution were felt by the author to be substantive. At one time, the ability to offer librarians faculty status was apparently thought to give the institution an advantage in the recruitment of once-scarce library personnel, e.g., during the 1960s. But such an advantage would seem to be largely nullified in the diminished job market of the 1980s.

More than 90 percent of the respondents from institutions with faculty librarians answered "yes" that the institution had been required to relax or amend the traditional, primary faculty requirements for tenure—demonstrated effectiveness in teaching and research—in order to grant tenure to librarians. Moreover, 81 percent of this group of respondents felt that if institutions were to apply tenure requirements evenly and stringently for all their probationary faculty, untenured librarians would find it more difficult to meet the requirements than would untenured members of the teaching faculty. And, finally, 23.8 percent of these respondents reported that there had been cases in their institutions in which librarians—who were otherwise performing their jobs satisfactorily—had been terminated because they did not meet faculty tenure requirements.

CONCLUSIONS

An analysis of the opinions of forty-seven university administrators (nonlibrarians) suggested that academic institutions may lack a rational basis for granting librarians faculty status. To begin with, an interpretation of the opinions provided led the author to conclude that, presently at least, there are no substantive advantages to an institution for placing its librarians in the same personnel category as its regular teaching faculty. Indeed, the survey results tended to support the view that librarians with professional (nonfaculty) status—given equal opportunity and encouragement—can probably serve the needs of the institution as effectively as librarians with faculty status, with few, if any, of the inherent drawbacks. Moreover, taken in toto, the opinions expressed by administrators suggested that the terms and conditions of faculty appointments are largely inappropriate to the principal activities and responsibilities of librarians: librarians were seen by administrators to play a negligible role as classroom teachers; and administrators seemed to expect little of librarians in the way of scholarship and research contributions. The role that administrators did seem to consider most appropriate for librarians tended to emphasize the duties and functions of traditional librarianship. Thus, professional competence, technical expertise, and service were seen by administrators as the principal concerns of academic librarians.

REFERENCES

andolph G. Adams was never accused of being dull. Brash, impudent, and rambunctious, yes. He loved to create excitement, or, to use his phrase, "stir up the animals." He enjoyed the success of "Librarians as Enemies of Books," and the notoriety the five reprints brought to him. He wrote it in the spirit of the old story of the mule skinner who hit his most intelligent and docile mule over the head with a two-by-four to get its attention. Choosing five themes he, briefly and with a broad brush, highlighted certain library practices and trends that had become of increasing concern to lovers of the book everywhere. It was not a diatribe on the spur of the moment, as indicated by the authorities he cited from Gustave Flaubert to Louis Round Wilson. Indeed, Adams makes it clear that the idea came from Victor Hugo Paltsits, Keeper of Manuscripts at the New York Public Library. The continued, if dubious, place the essay occupies in library literature suggests that it said some things that some people wanted to hear. But did it really make any difference? Is the status of the book any different than it was forty-six years ago? I should like to offer a response to these questions.

Recently, important segments of the library profession have become concerned with the matter of "The Book." Deterioration of paper has made conservation a buzzword. The rising prices of antiquarian books have created a new bureaucratic term—deaccessioning. The increasing importance of electronics in recording, storing, manipulating, and presenting data is seen as posing a threat to the existence of the very thing from which librarianship takes its name. The plight of the book is being addressed from the points of view of the librarian who administers them, the curator who cares for them, the printer who makes them, the publisher who promotes them, the bookseller who distributes them, the collector who treasures them, the trustee responsible for the institution that houses them, and, last but not least, the author who writes them and the reader who uses them. Each, to varying degrees, has expressed views about the dilemma: what should we be doing about the book in our changing world? There is, however, one constituency, if I may call it that, that has not been heard from (the one which both William Blades in Enemies of Books and my father were talking about), that is, the book itself, a physical object vulnerable to hazards and mistreatment. It is from this point of view that I propose to approach my subject. To do so I shall be talking about how books relate to librarians and to libraries. By looking at the way in which books have functioned within the framework of American librarianship, I hope to point up the way in which administrative practices have responded to the needs of the book.

Photography is taken for granted today as a normal part of the life of a library. First used in the making of books in the 1840s, it was not until the 1930s that microphotography became a viable force in library affairs. In the 1950s electrostatic printing carried it one step further, reducing the

Thomas R. Adams is John Hay professor of bibliography and university bibliographer, Brown University. This paper was read at the ACRIL Rare Books and Manuscripts Section meeting on July 2, 1983.
processing of reproduction from hours or days to seconds. This history is so familiar that there is a tendency to forget its impact on the relationship between the book and librarians. For years the information contained in a book and the book itself were treated as inseparable. That unity has now been shattered, and in the process something fundamental in the librarian's responsibilities has emerged in full view. The primary concern is for information, it is that which has first claim on the librarian's administrative and management abilities. As long as information and books were embodied in the same object, books received the full benefit of the librarian's attention. Today that is not necessarily true. To understand change rationally and accept it emotionally are different things. It takes time to fully realize that old assumptions have lost their validity. With librarians this has been particularly difficult because it was a feeling for books that drew so many of them to the profession in the first place. Management skills, cost-effectiveness, an acute awareness of the bottom line are now major considerations. Anything that distracts from filling the needs of the users in the most efficient way possible becomes an amenity, acceptable only so long as it does not interfere with the principal business at hand. Among the amenities is the librarian's feeling for books.

The realities are, needless to say, a good deal different from that rather stark description of how library policy operates. For one thing, in the foreseeable future books will still be the most effective vehicle for transmitting certain kinds of information. For another, few librarians are all head and no heart. They are as susceptible to the appearance of the printed page as anybody else. The point is that when the librarian is, in a military sense, "On Duty," professional responsibilities require that information receive first priority and that the book, if necessary, be sacrificed. It is important to recognize this revolutionary development that separated the book from the text it contained if we are to understand what is happening to rare books and those who are devoting their careers to them.

Lying at the bottom of the complex structure that makes up the relation of books to libraries is the first event in that relationship, the acquisition of the book. Or, more to the point, why one book was acquired rather than another. For present purposes the motivations that lead libraries to build a particular kind of collection can be divided into three groups: libraries attempting to fill all the needs of everyone in a particular geographical area—normally the free public library; libraries devoted to filling the needs of a self-selected part of society—in its most developed form, the university research library; and libraries devoted to collecting a particular subject or subjects—in its earliest form, the historical society. In practice, these three overlap and the picture is further blurred by a fourth element: private collectors who acquire books for their own satisfaction. Rough as these divisions may be, they will help focus attention on the basic element in the relationship, the reason why books are gotten in the first place.

The youngest of the three groups is the free public library, with its evangelical zeal to serve all the needs of the community. The older tradition of the private circulating library was deemed undemocratic and outside the mainstream of American librarianship. A library dedicated to everyone should make its books available to everyone. But books are among the most cantankerous objects created by man. There are always some that refuse to fit even the most generously conceived scheme. From the beginning, public librarians violated their own canons and locked up certain books out of the reach of the normal reader. They included naughty books, expensive books, books prone to mutilation, even books that the librarian, personally, could not bear to see damaged by indiscriminate circulation, and, finally, material that was awkward to store. Thus, at the start there were exceptions, and exceptions are awkward things in something as structured as a library. These exceptions increased in size until they began to present a special problem and they began to be called collections.
groups, i.e., a small minority of the community who wanted the library to make an extra effort to fulfill their special needs (e.g., business interests) and did not want to go to the expense of creating their own reference collection. This was further complicated by the private collector seeking a permanent resting place for the results of his work, usually with restrictions. The addition of these things to the operation of public libraries sometimes masks the fact that the basic need to serve the ordinary user remained unchanged. Except in places like the New York Public Library, which began with important collections, special collections emerged late in public libraries and sometimes grudgingly, unless, of course, special funding was available.

The first libraries that addressed themselves to a self-selected social group were the eighteenth-century college libraries. Their purpose was to fill the needs of an elite group, the faculty and students. Until the end of the nineteenth century, their function was to respond to what was taught in the college. This function began to expand when the faculty added to their teaching the responsibility for scholarly research. The emergence of scholarship as a recognized profession and the growth of graduate education pushed libraries to add books to meet these new needs. In the early days, scholars concentrated on the study of history, in its largest sense. The libraries responded as best they could by getting books on the subjects on which the faculty was currently working. In the case of European history, this was not always easy, so some faculty members formed seminar collections, many of which later went to their university. Withal, the acquiring of books was still a response to specific needs. The next step came when American scholars had the experience of mining the great collections in the older libraries of Europe. Here were books that inspired inquiry into hitherto unsuspected aspects of history. With the optimism and self-confidence of the nineteenth century, Americans began to try to create the same thing by buying books on a large scale, books for which there was no immediate need but which stimulated scholarship. The most notable achievement was what Archibald Cary Coolidge did for the Harvard College Library. One result was that Harvard (and other universities like it) became a national resource in addition to being a local one. This became notably apparent when scholars from all over the country began to spend their sabbaticals in Cambridge. An interesting aspect of Coolidge's approach was that he used the term special collection to describe subject collections as they stood on the shelves. Treasure room was used for the place where books were locked away. Compared to public libraries, this department emerged fairly early. The earliest rare book collection recorded is at the University of Michigan in 1899. The elitism of scholarship soon attracted private collectors, particularly those who, with ample resources, knowledge, and dedication, had built collections of distinction. The creation of rare book collections in university libraries did not demand the same kind of compromise with basic purpose required in public libraries. But they did not change that basic purpose—serving the needs of the faculty and students. One need look no further than the restrictions frequently placed on the use of a university library by those outside the university. It is worth noting however, that these restrictions are, in some cases, not applied or are relaxed for the rare book collection, a recognition of the obligation such collections have to scholarship as a whole.

Libraries concentrating on a subject or subjects took their earliest form in historical societies. Working on the assumption that until the sources have been assembled the historian cannot do his work, these societies collected as much original material as possible. In addition to books, there were manuscripts, archaeological artifacts, paintings, prints, maps, furniture, household goods, or any other object that could help illuminate the past. Ostensibly this was done in the name of the society, but it was in fact done because of the needs of the subject and was intended for the use of those working in the field. Unlike the public library or the university library, scholars had no inherent right to use the collections. They were guests of
the society. Out of this early form, there evolved other libraries and collections whose primary concern was one or more subjects. Some were the work of private collectors such as the Pierpont Morgan Library. Others, such as the Houghton Library, were created by taking existing collections and accumulations and molding them into a coherent whole offering outstanding research opportunities. Still others were older libraries with rich collections that, like the Library Company of Philadelphia, having outlived their original purpose, turned themselves into research libraries. The corporate form can vary all the way from complete autonomy, as in the case of the Henry E. Huntington Library, through a semiautonomous association with an institution, as is the case with the John Carter Brown Library, to being an integral part of the library system, as with the Lilly at Indiana. The subjects they embrace can be restricted, such as books printed in the United States before 1786 (the American Antiquarian Society) or as broad as all the humanities (the Newberry Library). Varied as the origin, organization, and fields of collecting may be, all have one thing in common. They collect originals. Facsimiles and reprints are present, but they are clearly understood to be unsatisfactory substitutes that do not foreclose obtaining the original if the opportunity presents itself.

The role of the private collector has been to strengthen and increase the ability of libraries and collections to provide resources for original research. Some do so by adding to already existing fine collections, as Albert E. Lownes did when his books on natural history were added to Brown University’s already excellent collections on the history of mathematics and the physical sciences. Others stimulate work in neglected fields, as did James Ford Bell for the early history of commerce in the collection that bears his name at Minnesota. Fellowship programs and publication programs are the usual expression of the desire to see a collection expand scholarly activity. On the other hand, private collectors have not been willing to entrust the results of their work to the service-oriented philosophy of librarianship. They are frequently hedged about by restrictive conditions to protect their books from indiscriminate use or loss of identity. Finally, like historical societies, the private collector acquires books as objects, so it is not surprising that steps are taken to protect them.

In this country, then, we have two distinct basic library policies. The dominant one is to collect books (and today, other media) for the purpose of bringing together information so that it can be organized, ready for a summons from the constituency being served. The role is fundamentally a passive one: ready to answer questions. The other kind of libraries have no constituencies as such. They address themselves to abstract subjects or themes. They acquire books to ask questions.

The status of those who run rare book collections is as varied as the organization and contents of the collections themselves. However, the existence for almost twenty-five years of ACRL’s Rare Book and Manuscript Section indicates that things are better than they were forty-six years ago when the group was made up of a few entrepreneurs who scorned the American Library Association and did business over three-martini lunches at Longchamps in New York.6 We are all conscious of the growing interest among scholars in books, as indicated by your 1980 conference, “Books and Society in History.” We have long been aware of the growing attention being paid to books as aesthetic objects, significant because of their design and craftsmanship; and we all somehow sense that as a monument to a major achievement in Western civilization, books are growing to have a symbolic value in their own right. Yet our individual careers could not be more diverse.

At this meeting it would be perfectly possible for an authority on fifteenth-century typefaces to be sitting next to an expert on the deterioration of nineteenth-century paper, or a cataloger next to an archivist who isn’t a librarian at all. Some curators draw attention to their collection; others do so by a kind of glorified “show and tell” designed to draw attention to the needs of the whole library. Control over
what is added to the collection may be in
the hands of the staff or those decisions
may be made outside the collection. The
head of the collection’s place in the table of
organization can be anywhere from near
the top to well down toward the bottom.
Some head librarians are enthusiastic
about rare books; others find them a
bother inherited from the past and wish
they would go away. All of us feel that we
have something in common; but it isn’t
necessarily librarianship.

One is reminded of George Bernard
Shaw’s quip about England and America
being two countries separated by a com-
mon language. Patron is used among li-
brarians for people who use the library.
Rare book people use it for people who
support the library. Use is a positive word
indicating the ultimate objective, or it is a
negative word connoting wear and tear.
Conservation includes microfilming, and
then throwing away the original, which is,
of course, destruction. The word edition
means something different to someone
working with AACR2 cataloging rules
than to someone working with the guide-
lines of Gregg, McKerrow, and Bowers.
Subject is a category into which books are
fitted for cataloging purposes; in rare book
collections, it is the topic being explored
by someone doing research in an area for
which no categories yet exist. Cooperation
to a rare book person means to be
“coopted”; the preferred term is coordi-
nate, with the implication of working to-
gether as peers. I’m sure all of you can
think of other situations where on the sur-
face we appear to be doing the same
things, but in fact are doing them in pur-
suit of different goals. We catalog a book
primarily to describe a physical object;
normal cataloging does so to tell what is in
it and where it is on the shelf.

The one thing that seems clear to me
from all this is that we are on the fringes of
the library world. Our first concern is the
book, not information. Asking questions
is more important than answering them.
We serve history, not people. With these
different priorities, it seems unlikely we
will ever be anywhere else but on the
fringes if our present connection with the
library profession continues as it is.

Should we not be thinking about another
arrangement within which to carry out
our work?

In looking around for a "place of our
own," it is natural that the two areas with
which we share common interests, schol-
arship and museums, should come to
mind. We resemble faculty in that re-
search and writing are properly part of our
work. We differ in that the faculty teaches
and we care for our collections. I am not
proposing that tired red herring "faculty
status," which confuses form with sub-
stance. On the other hand, a large propor-
tion of us work in universities and have
more in common with the faculty than
with librarians. Somehow our position
within the university ought to reflect this.

One of the most meaningless library
sayings is "Libraries are not museums.",
Meaningless if by museum you mean the
modern museum with its educational pro-
grams, its research, its publications, and
the scholars who are on its staff. Like mu-
seums we collect the original object in or-
der to find out more about what it means.
Perhaps our place should be somewhere
between libraries, museums, and the his-
tory profession. We partake of some of the
characteristics of each and add to them our
own conviction of the importance of
something that stands by itself, the book.

Assuming that there are those who can
accept the reasoning that led up to the pro-
posal that has just been made, I am sure
that they would be quick to point out that
as a practical matter it leaves a great deal to
be desired, particularly if I were proposing
it as grounds for immediate action. Such
was not my intention. It would not be ap-
propriate for someone who has become an
inactive member of the rare book profes-
sion to try to outline what you, who will be
carrying on, ought to do in the years to
come. However, there are two develop-
ments that I feel will have to take place: a
more closely knit structure for those in
rare books and a looser structure in the or-
ganization of the library profession. These
are hardly original observations, but be-
fore closing I would like to make a few
comments about them.

Work with rare books as a professional
activity stands on its own foundation. It is
Tailored to meet the needs of today's library and information science specialists

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AN OPEN LETTER TO THE LIBRARY COMMUNITY

The essential characteristics of society in the information age are instant availability of news and access to the gargantuan amount of information.

The information age is here, but we have just begun to take advantage of the transformation, or even explore the opportunities available to us.

How does a library participate effectively in the information age? How does a library remain as one of the primary stakeholders of information?

We can't depend on "business as usual." In the absence of a national consensus for libraries, we have become overdependent upon past concepts of what a library is supposed to do, and the role a library is supposed to play in society.

The absence of a new role and a new vision for libraries leaves the community with no visible reasons why libraries should increase their budgets, be upgraded and remain the guardians of information.

Libraries can't accept a no-growth future—a future, where their importance fades away just as the typewriter has given way to the word processor.

We can't accept the weakening of the libraries' role in the community, the disintegration to second-rate information providers or the redistribution of information access to the wealthy or advantaged.

We must guarantee that every person has equal opportunity to access information, equal access to the retrieval of information, and equal access to the use of information.

The idea that the future holds less promise than the past for libraries is unacceptable.
The best insurance against that happening is community demand for the library to play a dominant role in the future. It requires that libraries illuminate the future by becoming more relevant and of greater service and importance to the community.

What do we need?
- New vision...expanded charter
- New ideals and ideas
- New technology (patron access)
- New approaches to meeting the community
- Imaginative leadership
- Dynamism
- Creativity

To identify with the role of libraries in the future, it is necessary to think about it, to visualize it, and to bring that visualization to fruition.

Data Phase is committed to help invest in, implement, and create demand for a new realization and relevancy of the libraries' capabilities and role in society. Data Phase is committed to enhancing the libraries' role in society making sure that there is equal information access, learning opportunities, and technological dissemination, to everyone in the community, not just the privileged few.

Democracy is based on information access for all, information liberty, and information transference. We intend to play whatever role we can to guarantee that the library community comes to the forefront and is on the leading edge of the information age.

We don't mean this to be the last word on the subject, or even the first word. It is our desire to initiate a dialogue. We would like to know whatever people would like to say.

We value your ideas and your partnership. We intend to use this space in the future to publish the responses we receive so that we can continue the dialogue. Please address your correspondence to Steve Weiss, Senior Vice-President, Data Phase Corporation, 9000 West 67th Street, Shawnee Mission, Kansas, 66202.

We look forward to hearing from you.
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related to, but different from, conventional librarianship. In our attitude toward ourselves and our work, we must make it clear that dedication to books and the fields of study they represent are as important as the library profession’s dedication to information and to service. Our position cannot be that of a supplicant seeking permission to do the things we know need to be done. Rather, having decided what ought to be done, we should go ahead and do them. Consultation is essential if both sides are to benefit because we will always have much in common, but contact should occur only when it is to our mutual benefit. Such an approach may, and probably does, seem arrogant. But it is essential if we are to be seen in the world beyond libraries as a force in our own right. It is to the larger world that we must, in the end, address ourselves if we are to establish what we are doing as truly viable.

Scattered as our resources are in terms of the kinds of books we deal with, the administrative structures under which we live, it is obvious that nothing is to be gained by advancing along a broad front. Instead, the process should be a series of local skirmishes, each of which will deal with individual and local matters. But these must be done with a common sense of unity in our dedication to a common goal.

We already have a number of resources that, if drawn together effectively, can assist. Bibliography, in the largest sense of that word, provides a growing scholarly and academic base. Journals, such as the Papers of the Bibliographical Society of America and Printing History, published by the American Printing History Association, are among many periodicals devoted to aspects of our subject. Those two societies are only two of many organizations that share our interests. Others include book collectors’ clubs, Friends organizations, and antiquarian booksellers’ organizations. These and other elements need to be connected in a way that will enable them to forcefully help further our interests.

What has just been said may seem antagonistic and combative. A closer look at the library profession today suggests an unsettled state. The explosion of information, the increasing complexity in the ways it is created, stored, and communicated has drastically modified the function that used to be associated primarily with libraries. They no longer occupy the central place they once did. The concept of one central clearinghouse for all library matters is breaking up. As has been true of historical scholarship for some time, we are in a period of specialization, but one in which the specialties work across conventional boundaries to work with other specialties without going back to some central authority for its endorsement. Fluidity is the key to the future. Each element must be freer to make its own decisions about professional education, career goals, and conditions under which work is carried out. The best analogy I can think of in trying to see what the future might hold is what happened to the British Empire.

During the seventeenth and most of the eighteenth century, it was assumed that the mother country and the colonies shared the same interests. Colonial wars and isolated disputes suggested some differences, but it was felt best to leave the power to govern in the hands of the king and Parliament. All went well until 1760, when Britain found herself coping with an enlarged empire with a system of government whose primary interest was, and would continue to be, the United Kingdom. Initially the people in Westminster did not grasp their inadequacy and attempted to treat the original thirteen colonies as if nothing had changed. After much agonizing and soul-searching, a group of strong-minded leaders were able to convince enough people to try to go it alone. The decision by Britain to resist this by force of arms was not one agreed to by all Englishmen. There was a vocal element, both in and out of Parliament, which argued that the colonies should be turned loose. But unlike the arguments used by the colonists, theirs had little to do with theories of government. Instead they took the position that the colonies caused more trouble than
they were worth, and, if given their independence, Britain stood to make more money out of them, which in fact turned out to be the case. Having learned from this mistake, Britain evolved during the next century into the British Commonwealth of Nations, a system so flexible and so decentralized that each part of the empire was allowed to develop in its own way. At the same time, the remaining connections are something more than a matter of form. The attachment to the crown has allowed the former colonies and the United Kingdom to continue the advantages of connection as long as they are useful. It seems to me that this provides a reasonable model that deserves to be looked at as the world of librarianship and the world of rare books begin to make arrangements for the future.

I would like to close by coming back to the question posed by my title, Are librarians enemies of books? The answer is clearly no. To the library profession, books are incidental, their first responsibility is the control of information. As for being "enemies," both Blades and my father misused the word. The desire to injure or to do something harmful is necessary before one can become an enemy. In no way can these words be applied to a profession as honorable as librarianship, either in 1937 or today. If books have an enemy, at all, it is change. It is change we are dealing with, and it is up to us to see that books not only do not suffer, but rather that in this new environment they flourish as they have never before.

REFERENCES AND NOTES

1. The two question marks were used on impulse. It was not until after the paper had been delivered that I discovered among my reprints a short piece by my old friend Rudolf Hirsch using only one question mark: The Rub-Off 12, no.3 (May-June 1961), published by the Art Guild Bindry, Cincinnati, Ohio.
2. The Library Quarterly 7:317-31 (1937). The offprint was reprinted five times.
3. Louis Round Wilson, 1876-1979, at the time the dean of the Graduate Library School, University of Chicago.
6. Located at Madison near 58th, it was a popular gathering place for book people working in and around the New York Public Library.
his talk might be considered about documents and their availability. But its topic is really the relationship between data and the recipient, and the library and its institutional information systems. We need to keep in mind that information is not a property of documents, or of bibliographic records, but the relationship between data and the recipient. Increasingly, the burden and the responsibility of libraries in the Information Age is to deal with that relationship.

In her letter of invitation, Lynch proposed that I share with you my vision of the future role of academic libraries. In the course of preparing for this lecture, perhaps in a vain effort to improve my vision, I ran across an anecdote about Winston Churchill that says nearly all I have to say about the future of libraries. After World War II and his stint as prime minister, Winston Churchill was invited to give the commencement address at his old school, Harrow, and decided he ought to oblige. So he went, weathered a lengthy and mandatory introduction, got to his feet and said to the graduating class, “Nevah give up!” and sat down.1

I would emulate Mr. Churchill, but I, alas, was asked for a lecture, not an address. An address, according to the current edition of the Random House College Dictionary, is “a statement.” A lecture, on the other hand, is a “discourse read . . . especially for instruction or to set forth some subject.” If I were more like Winston Churchill, I would say that the future role of academic libraries is what we are prepared to make of it in the next three to five years and sit down. As I have few of his talents, for the next thirty minutes you will hear some more or less connected thoughts about the deinstitutionalization of libraries and what we might do in the next three to five years to shape the future role of academic research libraries.

I plan to draw examples from the sciences, including medicine, because of their greater intensity of experimentation and change in information management. But I hope you will look beyond the particulars to the essence, to the application of the principles and concepts to your setting and specialty. Also let me insert here a caveat about the remarks to follow.

These opinions do not in any way, directly or indirectly, reflect any thinking or planning within the National Library of Medicine with respect to the present or future roles of libraries generally, or itself particularly, as a national library. On the other hand, the National Library of Medicine is committed to supporting the development of at least four prototype integrated academic information management systems based on the concepts and principles described in the report prepared by the Association of American Medical Colleges titled, Academic Information in the Academic Health Sciences Center.2 Through its grant program, it is also strongly encouraging research and development of a variety of efforts to bring about a paradigm change in the roles of libraries in health information dissemination and management.

It is important to know that the interdisciplinary committee, whose thinking formed the basis of that AAMC report, had in mind no single vision and no single model. Neither the length of the path, the

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detours, nor the end of the road is known. In many respects, all of us working in information are on a voyage of discovery, and we need to remember what André Gide observed in one of his novels about voyages of discovery: a condition of setting out to find new lands is that you agree to lose sight of the shore for a very long time.

These are very interesting, turbulent, ambiguous, and very disturbing times to be a librarian. One reason is that much information is being deinstitutionalized and dematerialized. Many of the sources for the most up-to-date information have lost their static, immutable qualities and have become interactive and permutable. You don’t have to go to a library to read a journal article, and you don’t have to copy, cut and paste, and rekey characters to make a new text. Another reason is that communications networks have made possible individualized access to information, independent of institutional, organizational, or professional affiliations. You don’t have to be a doctor to have online access to health information or be a broker to see the latest market quotations. A third reason is that because more occupations and activities are perceived as information intensive, it is more apparent that work quality and productivity depend increasingly on work stations that can access and use data from multiple sources. You don’t have to have huge data processing centers; you have instead data management tools, the automated office, the wired campus, and the home communication centers. Information appears to be joining food and shelter as one of Maslow’s basic needs. A fourth reason is that videodisk technology to store and retrieve text and images in enormous quantity, cheaply, is at hand. We are within a few years of having a physician’s working library on a videodisk in his/her office. A fifth reason is the microcomputer and the imperative of computer literacy. No one who expects to do serious professional work in the next five years can be without one at home. It is becoming as basic a tool as the telephone itself.

Most of us here are likely to be well acquainted with the ideas of Bell, Drucker, Toffler, Naisbett, and Rifkin. We know that there is a total restructuring in progress of who, what, and how information is created, owned, and shared. We librarians, no less than steelworkers, will be out of work unless we, like them, reexamine our basic assumptions and develop new strategies for staying in business. Our situation is not quite as desperate as that stated by James Baker, General Electrics vice-president. At a recent White House conference on productivity, he characterized the choices of American industry to be one of three things: automate, emigrate, or evaporate. But our situation is serious. Libraries are automating, but the key question is what are we automating for. Unfortunately, most of the time, it is to do the same thing better and faster rather than to do new things.

Drucker says in his book Managing in Turbulent Times that public service institutions must “slough off yesterday” through systematic abandonment of certain assumptions and mind-sets. We must think the unthinkable. Drucker gives the social worker as an example. Social workers, he says “will always believe that the failure of efforts to get a family off welfare proves that more effort and more money are needed . . . and cannot accept that they had better stop doing what they had so valiantly failed in continuously over half a century.”

We must ask ourselves some very hard questions. What have we been failing at that we had better stop doing or do differently? How long have we been trying to get people to come to the library, to use the library? How long have we responded to a request for information by pointing to a bibliographic citation? Why should we think that online catalogs or a bibliographic database search makes information more available? Why do we think handing a person a document provides the answer to a question? Do our solutions really respond to information access problems? Or is it, as some commentators have observed, that libraries have a couple of solutions and make information access problems fit them. We routinely provide access to only our monographic holdings. What about the other two-thirds of the col-
lections, the serials and documents? Why don't we accept responsibility for providing the same access to what is for most research institutions the most important and critical portions of any collection of materials? Are we shackled to the three-by-five-inch card and what has always been in the card catalog? Is it possible that we should try to put more thought into the unthinkable?

I realize that many share the view that new roles will evolve, that libraries are engaged in an evolutionary rather than a revolutionary process. This is a dangerously passive perspective for our profession. Thomas Kuhn, the eminent historian and philosopher of science, views the transformation of knowledge as a revolutionary process. Once a paradigm is erected, what engages most scientists throughout their careers are mopping up operations. It requires a career of revolt on the part of other scientists to replace or establish the paradigm. The revolt could involve little more than the reconstruction of group commitments among the community of scientists.¹

What Kuhn says of science clearly applies to social organizations. We know that the library paradigm is changing, but I am not at all sure that we have a group commitment among our profession as to what it should be. In the Medical Library Association, a group I consider entrepreneurial and open to change, the commitment to the concept of integrated systems seems to be coalescing. The tasks that must be performed to transform the concept to a thing that can be kicked and smelled has many of us shivering, with hope as well as fear. The dichotomy was clearly exposed in an exchange at our annual meeting in June between two highly respected members. One member proposed that we librarians adopt the slogan, "If it's information we can manage it." The other thought that was nothing more than an empty slogan, that we are equipped with neither the skills nor the tools, that others own that turf, and that we should stick to doing what we do best—managing libraries.

If the National Library of Medicine initiative is revolutionary in any way, it lies not in the novelty of the concepts or the rightness of the course of action to develop integrated information systems, but in encouraging a handful of institutions to attempt a different paradigm. The first year of NLM support is for institutionwide strategic planning to design a system that will integrate systems, like libraries, with information and files that underpin the work and mission of the academic enterprise. This planning, at four institutions, is led at the senior executive levels, and involves all key senior staff in the health sciences centers. Ideally, the planning will result in an institutional policy, an organizational way of managing, teaching, and working through the use of information systems and support services. Ideally, a different kind of grammar will emerge that can provide a useful way to rearrange our assumptions about what libraries must be. Others have tried earlier to do this. A notable and worthy example is the Hampshire College experiment, about which Robert Taylor wrote eloquently in his book The Making of a Library.² The experiment, to have no physical library but an information center, was ahead of the technology and ahead of the times. What contributed to the failure of the experiment, in Taylor's view, was mainly the fixed notions of the faculty about what a library must be: first, a collection of materials. The environment today is better prepared to work through the concepts of integrated library and information systems. For a growing number of students, faculty, and librarians, databases and files are becoming equivalent to books and journals.

Just as the library profession has yet to commit itself to Kuhn's "career of revolt," so are the CEOs of many of our academic research centers. As an example, I cite Steven Muller, president of John Hopkins University, in a recently published interview.³ At the beginning of the interview, he said, "We are in the middle of a revolution. That's a dramatic word, but in this case an unavoidable word, in speaking of the way in which this society produces, disseminates, and consumes information. Teaching institutions are directly exposed to fundamental changes in the way infor-
Information is generated, disseminated, and absorbed. At a minimum we have to be up-to-date, and at a maximum try even to play some sort of leadership role." Two columns over he stated, "And of course we also have the traditional problems. We have to be vigilant about maintaining the libraries. Always."

The discontinuity between information and libraries that is framed in these two statements is unsettling. It characterizes the paradigm against which some of us must make a "career of revolt."

Given what we know of the past and of the next ten to fifteen years, neither the academic library, nor the profession, is well positioned. The library's assets usually include a large physical plant, a stock of essential materials to support learning, a crucial product (the card catalog), and skilled staff who enable individuals to gain access to the stock. The library profession has a noble history and a mission to serve society. Thomas Cogden could have been talking about librarians when he said, "It's incredible to be in a profession in which nearly everybody could be making more money somewhere else. It sorts out the truly greedy, which makes it alot more congenial." Cogden, you might be surprised to learn, was talking about publishers when he made that remark.

However, our assets are undergoing a devaluation process. We have institutionalized information in a facility that is frequently difficult to approach, much less penetrate, in a time when information is transported instead of people. We control a stock of essential materials that can only be used by one person at a time in one way, in an increasingly multiuser interactive environment. We accept full responsibility to provide bibliographic access to only a small portion of the collection, the monographs, when the most dynamic and critical information is carried in the serial literature. Furthermore, the bibliographic files, because they are value-free, are increasingly valueless because they cannot help a user differentiate between the useful and the useless, and this in a time when expert advice is essential to manage the data overload that exists. Perhaps worst of all, librarians, unlike other professional groups, are identified with the place in which they work. Nurses nurse, doctors doctor, professors profess, and lawyers argue outside hospitals, universities, and courtrooms. But librarians are identified, perhaps irrevocably, with the archiving of artifacts, whether books or bibliographic units, rather than the dissemination and uses of knowledge. The fact that storage and retrieval functions are important, fundamental, and enduring is not the issue.

The critical issue for academic libraries and librarianship as a profession is not whether or how soon books will vanish and with them libraries. This is a question on which we should waste little time and less paper. There will likely always be libraries, in fact as well as in concept, with or without books. For example, the field of genetics engineering, the most far-out technology that we have, has libraries of genes, of bits of DNA. These bits are classified and stored for later retrieval and gluing together, to make new forms of life. All computers, even my personal home computer, has a library function: in this case, names and addresses for datafiles. There will, for a long time, be librarians. But the professionalism of the calling is likely to evaporate as the world proceeds to automate, unless we deal in information rather than books or bibliographic units. The critical issue is how we will control the management and distribution of information within institutional networks. Connecting our online bibliographic databases and circulation systems will not suffice for long.

Harbingers of the information world of the year 2000 are arriving daily. One is the announcement from BRS, a major database vendor. BRS has signed contracts with the key publishers of the English-speaking world's core medical literature to publish the complete texts of their books and journals online along with sophisticated searching capabilities. The prestigious New England Journal of Medicine, the medical equivalent of the Wall Street Journal, will offer day-of-release access to the current issue, as well as to three years of back issues. Within a short time, BRS expects to distribute videodisks of the
complete text along with illustrations, figures, and photographs for replay on near-industrial-grade playback units. This information has yet to make the cover of *Time* magazine, but it is a signal of a radical change in the course of publishing and will profoundly affect the practice and teaching of medicine as well as the roles of all libraries. As their public release states, "The universe of medical knowledge will now be more readily accessible to everyone, physicians and non-physicians alike... to everyone concerned with personal health, well being and the issues of medicine and health care. Online medical information systems are a major growth industry in the new information society in which we are living."

Another harbinger is an article by Walter Panko, assistant to the vice-president for academic systems, Baylor School of Medicine, titled "Pathology through the Looking Glass. It is a vision of the life in the day of a clinical pathologist in 1997. This excerpt will give you just a little flavor:

Dr. Jones walks into his office and while he slips into his white coat asks, "What's on my schedule today?" The reply comes from a small speaker on his desk. His personal computer, which he calls Lee, replies, "Today is not busy for a Monday. You are on-call until noon. You have 17 cases to review and report on. There is a slide conference with the residents at 4:30 and you have autopsy service."

"Okay, I'll read my mail first, then start on the cases, beginning with the dull ones. I want to finish my manuscript today, so check the library for recent papers that match my breast cancer interest profile."

Dr. Jones starts to review tissue specimens. While he examines the three-dimensional electron micrographs on his monitor, Lee recites a brief history of the patient and the particulars of the operation. The slides are digitized versions of the image stored in the computer. Dr. Jones earmarks an especially interesting area to illustrate a point to the senior residents in the afternoon by circling the portion on the screen with his finger.

Dr. Jones dictates a report which Lee types and codes. If Lee doesn't know how to classify elements in the report Lee asks Dr. Jones to supply them. In one case, Dr. Jones is doubtful of his tentative diagnosis. He has Lee call the surgeon who is located in the operating theatre and the patient's physician who is in his office across town. While they examine the same slide on their desk monitors, Dr. Jones asks Lee to display a decision making tree on their monitors and to assign probabilities to each of several options that they select. Using data from Dr. Jones' cooperative study, and from the journal literature for patients with similar pathologic and physiologic features, Lee computes the risk of recurrence and the expected survival for early and late recurrence. Dr. Jones and his colleagues decide on the therapeutic course.

Embedded in this scenario are these features: a variety of information formats are delivered and used interactively on the monitor; the system listens and responds intelligently; the system manipulates data and presents an analysis.

The corresponding features for using published information might include these: the use of text and images is selective and completely task oriented; anything displayed on the screen could be tagged for future use; the computer can recognize concepts, clusters of words, and search the literature databases that exist; the computer can compile a bibliography of the materials that Dr. Jones has consulted and plans to use in his paper, and it can display the citation indexing map for those documents. Thus Dr. Jones could be alerted to the existence of related new materials or new research areas. In preparation for a consultation on a particular patient, Dr. Jones could have the library computer identify publications that his collaborating colleagues had tagged as useful, and it could relate paragraphs or data to selected patient records.

Now to return to November 29, 1983. Disraeli once told the students of Glasgow University that two kinds of knowledge were necessary for success in life. The first was self-knowledge. The second was knowledge of the spirit of the age. That did not mean, he said, that one must follow that spirit; it might be necessary to resist it, but it was essential to know the spirit of the age in which one lived and acted.

The spirit of this age is high technology combined with individualized and personalized response, what John Naisbett...
calls hi tech/hi touch. It is multi optioned. There was a time not long ago when tele­phones from one source came in one shape and only one color and did only one thing. The age is entrepreneurial, decen­tralized, and self-reliant. We already see the effects. Universities and colleges no longer have a monopoly on postsecond­ary education. More adult learners are leavening the student body. The demand is for shorter, more focused training pro­grams. Universities are wiring together networks to improve the transfer and management of information. Students are being required to own microcomputers and expected to become competent in using information technologies and sources, including campus electronic mail, word processing, and library databases. A num­ber of universities have responded to the deregulation of AT&T by purchasing tele­phone systems instead of leasing services. This puts them in the telecommunications business.

What must be the library response? One response is that libraries and librarians must become problem-oriented: not li­brary problem-oriented, but user problem-oriented. If we can shift to this perspective, any fears about the existence of meaningful work in the future should evaporate. We must move toward creat­ing newer campus information dissemina­tion systems. We must engage in cam­puswide planning for integrated systems of locally useful information. This is some­thing no vendor can do for us. We must in­sist that our institutions work with us and with publishers to design an overall sys­tems solution to the creation, manage­ment, and delivery of text and bibli­ographic information.

The research libraries and the university faculties in this country constitute a reser­voir of knowledge on which society gener­ally will come to depend more and more. By the year 2000 more than half of the pop­ulation will be aged fifty-five and older. Nearly all of us here will be there, and we will be a great deal more demanding of li­braries and less tolerant of their limita­tions than we are now. It would not be surprising for libraries to take on curato­rial responsibilities for digital databases and files, to have educational responsibili­ties for continuing education in informa­tion base management, to meet the faculty member’s need for personally responsive information support suggested by Panko’s scenario, and to have intelligently coordinated the library’s multiple data­bases with the databases used in teaching, practice, and learning.

Consider this day in the life of a refer­ence librarian in 1997. You log into your personal work station in the information service office. You see an array of library databases and the record of their uses dur­ing the last eight hours. You decide to check on the business module and select a transaction at random. The record shows that a junior business major with a C— average had logged in looking for material that will help him write a paper on the fac­tors in the early 1980s that led to the de­cline of management information sys­tems. The system had prompted him to state a tentative thesis, then it asked a se­ries of questions to find out what key names and words he had in mind to find more about. The system responded with an array of recommended readings, cali­brated to his level of course performance, and the materials were identified earlier by faculty in the department who teach the course. The student scans some of the material on immediate retrieval and downloads some text. Some material is not retrievable without a later search of back files. The student logs off without re­questing a back-file search. You are not re­sponding to the query but reviewing the way in which the library information sys­tem handled the transaction in order to improve on the design of the system. You don’t know this, but the student submit­ted his paper via electronic mail and earned a C— because the faculty member ran a word-count check and found the stu­dent had only strung together sentences without modification or attribution, in­stead of developing an analysis.

Does this seem fanciful or frightful? No matter, write your own scenario for 1997. The important thing is to write one, to con­ceive of different ways to enhance the utility of our major assets, to improve the productivity of the academic community.
We all understand that the time has passed for building definitive collections of books and materials. But we seem to be engaged in compiling definitive collections of bibliographic data instead. We must question whether an unqualified list of bibliographic citations is responsive in an educational or problem-solving environment like a university. As time goes on, and people gain more familiarity with databases and other information sources, the realities of time and economics will exert great pressures on libraries to provide data that are problem specific. The following opinion of one of our major assets, MEDLARS, may not be uncommon.

Libraries are repositories for information that may or may not survive the test of time and that may or may not have some ultimate practical or even theoretical value. Although a computerized information system such as MEDLARS may be suitable for certain applications, the capacity for storing, retrieving, and transmitting all possible information bearing on questions is of trivial importance compared to the task of obtaining credible answers themselves. Where resources are in short supply they should be used for obtaining answers to important questions rather than for processing information of dubious or ephemeral value.

This statement can leave no doubt as to what we should expect from the future. The opportunities arrayed before us now appear exciting and multivarious. It is still unclear who will own, operate, or control the electronic information delivery systems that will serve academic centers ten or twenty years from now. There are opportunities for creative entrepreneurship for professional associations, university systems, and libraries. If universities can go into the telephone business, and if libraries are getting in the bibliographic database business, perhaps they might well consider whether they shouldn't be in the information delivery business.

Some of you must make a career of planning and designing the integrated information systems that universities and colleges are becoming. More institutions, in addition to Carnegie Mellon, must take leadership and move into the second stage of technology adoption and start doing different things in different ways. Perhaps the University of Illinois at Chicago, with its record of innovation and its outstanding leadership, will breach the gap between what is and what could be, for the good of us all.

REFERENCES

8. W. Panko and A. Gorry, "'Pathology through the Looking Glass,'" The Pathologist 37:463–70 (July 1983).
In 1977 the Cornell University Libraries received an Andrew W. Mellon Foundation grant to study collection development and management. The immediate concern was to develop and test techniques that would allow Cornell's libraries, and academic libraries in general, to control their collections and collecting costs in a period of financial crisis. The "Cornell University Libraries' Project for Collection Development and Management" (or the "Mellon Project," as it came to be known), experienced shifts in both emphasis and personnel over time. Project Director J. Gormly Miller's Collection Development and Management at Cornell: A Concluding Report on Activities of the Cornell University Libraries' Project for Collection Development and Management, July 1979–June 1980, with Proposals for Future Planning. Prepared under a Grant from the Andrew W. Mellon Foundation (Ithaca: Cornell University Libraries, 1981) offered general and specific suggestions concerning the collection development process. The report's broadest conclusions, which addressed the role of the research library and library collections in the university of the future, became the focus of a half-day seminar held on the Cornell campus early in April 1983. This seminar was organized so that each participant commented on the role and mission of the university research library, and on the organization of information resources networks within universities, within the context provided by the Concluding Report.

PAULINE
ATHERTON COCHRANE

Professor Cochrane focused her comments on the appropriate role of the academic research library in the contemporary information environment. Her thematic reference point was the dedication ceremony for Cornell's Olin Library, twenty years before.

The past two decades have indeed challenged librarians. The University of Toronto initiated its automated catalog, now known as UTLAS, in the same year as the Olin dedication. The Library of Congress began distributing MARC tapes fourteen years ago, when Lockheed also inaugurated the Dialog literature search service. Channel 2000, a home-based interactive...
information system in Columbus, Ohio, began offering banking services, access to the public library catalog, announcements of local interest, and the like, three years ago. The Chicago Public Library inaugurated an informational database, detailing local events and other timely information, two years ago. And only this spring the Library of Congress unveiled its exhibit on the American cowboy, which includes an optical disk as an integral component. LC is also exploring disk applications for preservation, and has created interactive disk programs to instruct users about its online catalog.

This skeletal chronology of technological change allows several generalizations. First and foremost, technology has indeed impinged upon information and upon library services. Speakers at the Olin Library dedication stressed the need for cooperative support for the country's then-burgeoning area studies collections. Automation, phrased as the "push-button library," was scarcely mentioned. We have since experienced a telecommunications revolution, and the old assumption that books (perhaps augmented by film) would forever remain the principal medium for storing and transferring information is no longer viable. The library profession, in other words, must be concerned with the development both of collections per se, and of mechanisms—databases and interfaces—to link and provide access to information.

The contemporary environment has been shaped by the following circumstances:

1. Information services and links within the library can be employed to connect users to information sources located outside the library.
2. The bibliographic and substantive information services which libraries offer can, conversely, be consulted at remote locations. Nonetheless, the books remain in the library. Can library holdings themselves be made as easily available as information about them?
3. Libraries are creating their own information resources, and are electronic publishers in their own right. The RLIN and OCLC databases, for instance, are really electronically published catalogs. The Library of Congress has established a direct link with Harvard, whereby Harvard will add its cataloging copy to the MARC database. In even broader focus, the "Linked Systems Project" will provide access to RLIN, WLN, and LC, and will allow users to switch between the databases and to search all the authority files. Such cooperation may minimize the impact of cataloging cutbacks at LC, as well as fulfilling libraries' growing potential as electronic publishers.

4. Librarians continue to mediate between their immediate clientele and information resources. Increasingly, though, they are also linking distant users with their services and resources.

These trends are attracting ever more attention. The National Library of Medicine, for instance, has solicited proposals from academic medical libraries to develop an "integrated academic information management system." A recent report from the Association of American Medical Colleges highlighted technology's potential to transform medical libraries and information by integrating them within a general information system. This kind of system could provide ready access to such divergent data as test results, the medical literature, bibliography, patient histories, and billing information. The possibilities are clear, though the role of the academic medical library in realizing them may be less so.

Other educational institutions are similarly concerned with the role and potential of electronic technologies. A meeting on "The College Enters the Information Society," held earlier this spring, focused on how libraries will function within the "wired" academy. Will libraries act as "switching points" between the multiple information nodes characterizing these institutions? While this mediating function would be somewhat new, it will also be an increasingly necessary response to the developing environment of electronic information.

The extent to which new technology has pervaded academia is also reflected in still-tentative efforts at electronic publishing. As early as 1961, the American Insti-
Institute of Physics envisioned journals that would incorporate online peer review. Many scientific reports, comprising the so-called "grey literature," are now prepared electronically. Scientists do use these materials, and database suppliers and retrieval system vendors have taken the lead in providing them. Librarians, too, need services that will link this electronic literature with our book collections. *Nuclear Science Abstracts* tracks the reports accessible to the Atomic Energy Commission and records their eventual publication in printed journals. In this case, report literature is documented both as originally submitted and in its fully assimilated, published form. On the other hand, not all fields are embracing—or being embraced by—technology with equal dispatch. A draft report on circulation patterns at Virginia Polytechnic Institute has revealed very different patterns of collection use between types of material and users and disciplines. The humanities, for instance, will almost certainly be among the fields last affected by the electronic revolution.

Collection development must reflect the process and progress of information transfer in all areas of knowledge. Online data constitute a new link in the chain of knowledge. Library users are aware of this information, and they want libraries to respond to their needs. Academic libraries must thus expand their approach to information resources in order to meet their users’ widening expectations.

Enhanced access will not only involve traditional collection development, with its implicit corollary of physical access to information resources, but also intellectual and bibliographic access to information per se. User requests must be matched with information, however that information happens to be packaged. Changing the terminology, libraries must assume the function of maintaining and providing addresses for warehoused information in all forms. One example is online library catalogs which, right now, integrate in-house bibliographic data with circulation information: both the existence and the location of a work can be determined. Collection management is another area in which the developing electronic environment may have a major impact, though here the effects have yet to be addressed.

In sum: Stephen McCarthy’s remarks at the Olin Library dedication emphasized that Cornell seeks to create a unity out of its multiplicity and diversity, and that the library should echo this goal. An information resources network, drawing fully on the possibilities of contemporary technology, will similarly enhance a sense of common purpose and a degree of order. Herein lies our future.

OSCAR HANDLIN

The academic research library is a library dedicated to research and located within a university that both establishes its context and limits its autonomy. The academic research library justifies its existence through its relationship with the university.

Within the university, then, the research library devotes itself not to the mere accumulation of books, but rather to the development and maintenance of collections. Its proper terms of reference are its constituent collections, not the total number of titles or volumes that it may possess. This focus on the collection has been complicated by such pernicious fantasies of academic life as “I would found an institution where any person can find instruction in any study.” Good-hearted though they are, such declamations are entirely misleading. The university is limited in the fields that it can support and in the persons that it can accommodate. So is the research library limited: it cannot and should not seek to provide any book in any subject for anybody. Rather, the academic research library should focus on

*Stephen A. McCarthy was Cornell’s director of libraries from 1946 until 1967.
†A quote from Cornell’s founder, Ezra Cornell, which has been immortalized as the university’s motto.
tightly defined areas of interest that somehow relate to the university's work and aspirations.

Academic research libraries can follow several courses in attempting to develop collections relevant to the university's research needs. One approach is to monitor current research interests by consulting with faculty members and students and to construct acquisition policies designed to satisfy these immediate needs. This approach guarantees disaster. Building collections to satisfy current demand is building them too late, and librarians must instead anticipate the research interests of twenty years hence. To cite a concrete example, Harvard and the New York Public Library began collecting Russian materials in the 1920s, when no one else was interested. These collections remained virtually untouched for years. But when the field of Soviet studies did emerge, in the 1940s and 1950s, early materials were no longer available, and the Harvard and NYPL collections proved invaluable.

Deaccession is also an integral part of the library dynamic. Harvard removes about 45,000 volumes each year, though this process focuses on volumes rather than collections, and emphasizes outdated instructional texts, duplicates, and the like. Collecting ventures are occasionally suspended, as when Harvard relinquished its incipient efforts in Africana. The process is continuous, but also problematic. Thus, for instance, Harvard has built the world's preeminent collection on Islamic law, but no one in its law school is using these materials. The collection has value by virtue of its existence, and Harvard may have thereby incurred an obligation to the Western scholarly community to maintain it. But law library users would rather have another terminal for online information, and future funding arrangements for the Islamic collection are unclear. An appreciation of the collection's long-term worth must at least partially offset the clamor of immediate concerns.

As the above-cited example of Soviet studies may suggest, the "magic" in creating research collections derives from specialists who can make educated guesses for the future. Adequate resources are likewise essential. Where inadequate funding precludes the implementation of specialist insights, the library will fail as certainly as if its selectors focus on inappropriate material. There are no shortcuts, and no formula will allow the research library to maintain its stature. The conjunction of scholar-bibliographers and dollars is indispensable for success.

Even as libraries require funds to develop their collections, then, library budgeting remains intractable to the logic of accountants. Were libraries conceived of as economic enterprises, then acquisitions budgets would represent capital outlay. Books, at least for the purposes of this illustration, not only do not wear out, but tend to appreciate over time. If university administrations were persuaded of this analysis of bibliothecal appreciation, then libraries would be seen as carrying immense unrealized profits, and balance sheets would be adjusted accordingly.

However, libraries are not created as investments, so this perhaps seductive logic does not hold. Some things in life simply are not susceptible to balance-sheet reductionism. Libraries can and should live within budgets, but books and collections cannot be costed out in a "normal" fashion. Part of the answer at Harvard has centered on library endowments, which now total more than $50 million. A side benefit to endowment funding, then, is that the entire community has become sensitized to the library's importance.

Libraries, even in research universities, are not just homes for research collections. They are also places where information is available. In the research context, though, it is essential to distinguish between research collections and information. Information is data of whose existence a user is aware, and is the object of a closed and circumscribed search. Research, by contrast, is an open-ended process of definition in which the goals may remain unclear until the very end. Information is available in many forms, of which only some are housed within the library. Information is also essential, but it is fundamentally different from the library collections that support research. Technology can help make information more accessible; such
hard-copy compilations as telephone books, statistical abstracts, or encyclopedias in fact are relics of our past reliance on paper.

As information does become more portable and more accessible, it becomes ever less appropriate for the research library. Information is essentially a "large but inert" body of material, for which the terminology of warehousing is entirely appropriate. Neither the vocabulary nor the underlying concepts of warehousing, however, can apply to research collections, since the research process is so fundamentally different from information gathering. The retailing and brokerage of information can and must be distinguished from collection development in a research library. In fact, information databases and exchange points might be most appropriately sited in public libraries, where all could benefit. Alternatively, free-market access through commercial ventures like Channel 2000 might ensure a more equitable and efficient distribution of this commodity.

Whatever the solution, the university research library should not attempt to provide information as well as to maintain research collections, even though most academic libraries try to do both. Library facilities geared to instruction, and to the provision of information, are now quite commonly tied to research libraries. Such arrangements embody a clash of function that inevitably distorts the process of allocating resources. Instructional libraries are highly visible, and their needs are pressing. The future-oriented priorities of research collections tend to be relatively invisible and are thus more easily shortchanged. Over time, the tension between information and research functions inevitably works to the detriment of research collections.

Many scenarios for the future anticipate an era of electronic publishing. However, the process as advocated by its more radical proponents—in which everyone's data, discoveries, and insights would be accessible online—omits any component of peer review. Information disseminated in this manner, without quality control, would only amount to "static"; and an overabundance of static makes any information, or information system, unusable. If some research finding or bit of information has value, it will work its way into the literature. Furthermore, even researchers in fields purposed to require speedy access to new findings, for example physics, may not really require the instant access so often assumed. Close analysis may prove both the importance and the convenience of immediate electronic information somewhat fictitious.

Electronic technologies, while wonderful (and expensive), thus do not address the research process. Unless university libraries are confident that they can both maintain their existing and generally "feeble" efforts to create research collections, and assume new functions as well, the research function will suffer. Professor Handlin would therefore bless any effort to divorce information services from the library. Herein lies the way to free the academic research library to accomplish what it alone can: that is, to maintain the scholarly collections of mature, durable research products that the research university requires to survive.

HENDRIK EDELMAN

Mr. Edelman's presentation reflected his various professional perspectives vis-à-vis the Mellon Project, including those of the project's first director, library administrator of Cornell, positions within Rutgers and RLG, and library school professor. This variety of experience was used to explain some of the historical and institutional contexts for the Mellon Project at Cornell.

Postwar growth in American higher education, after several decades of boom, ground to a halt around 1969. Cutbacks in educational funding, to considerable extent mandated by circumstances exogenous to the academic world, led to a virtual state of depression in the early 1970s. Publishers, who were not well attuned to their market, continued to flood a shrunken academic sector with new materials even when the books could not be absorbed. These circumstances led to an experience that was new for all concerned.
Libraries, flush with ever-larger budgets and acquisitions programs, had been regarded as successes throughout the 1960s. By the mid-1970s, in a notable irony of interpretation, university administrators—and librarians themselves—saw libraries as problems. This perception was augmented insofar as academic librarians at the time could neither explain nor control what was happening. University libraries were regarded as bottomless pits, and academic administrators too-often succumbed to the temptation to cut acquisitions budgets in order to slow their libraries’ incessant demands for ever more books, space, and staff.

It was within this depressed context that Cornell proposed to study collection development. Even as the Mellon Project got underway, though, the environment again changed: the period of acute crisis was fairly short. One of the most significant shifts involved the quantity of new publications. Publishers adjusted to smaller markets, and there was an overall decline in world publishing output—albeit the reductions have concentrated in reprint, microfilm, and humanities materials, while scientific publishing continues to expand and the international market follows any number of diverse local dynamics.

A second major change has been our increased bibliographic capability, within which the selection and identification potentials of a tool like RLIN’s acquisitions subsystem are critical. The Library of Congress has acknowledged that it cannot and will not catalog everything it receives. The cutback is permanent, and the research library community must cover the loss. Online bibliographic databases have helped create a de facto distributed operating mode among the nation’s libraries which, for full catalog records, has existed for some time. However, as the time between when items are ordered and when they are fully cataloged increases, and as cutbacks within LC make it impossible to rely on MARC tapes or proof cards for selection, interim online records will become ever more important. If acquisitions data comprise the only available bibliographic information, then these records must be shared for effective collection development. Both identification and selection functions can thus be enhanced by new electronic technology.

A third area of change is that we know much more about our collections than ever before. Studies like those conducted during the Mellon Project, as well as efforts at other institutions, have enabled us to define and describe collections with unprecedented precision. In a context like Rutgers, which is highly dispersed and which suffers from a substantial communications problem, collection analysis has permitted a reorganization of selection responsibilities and resources. On the ”macro” level, this analysis has permitted a careful definition of collecting responsibilities throughout the system. At the ”micro” level of specific purchases, online acquisitions information means that units can immediately determine whether another unit has ordered an item that is of some interest but which does not fall within their primary collecting categories. The combination of better-defined collections, and quick access to order information, also enables closer library contact with users. Public service functions, as well as selection, acquisitions, and cataloging, are more efficient and more effective.

Increased knowledge of collections has also refined our understanding of the possibilities and the limitations of cooperation. It has always been apparent that cooperation will not reduce costs. However, cross-collection comparisons suggest that the overlap between similar collections at different locations may be lower than librarians once assumed. Within Rutgers, for instance, two collections of Puerto Rican literature built in units with similar resources and goals show very little overlap. The collection development process at different institutions may well not generate essentially duplicate collections.

One practical result of this apparently low overlap between ostensibly similar conditions is that Rutgers is not participating in the Research Libraries Group’s assignment of priorities for cooperative collection development. Analyses like those cited above, or like Cornell’s studies of the
nationwide availability of Southeast Asian materials, demonstrate that collections are in fact interdependent. The RLG conspectus exercise has served to identify some weak areas, which the research library community can strengthen through cooperation. In the future, particularly, cutbacks in foreign language acquisitions are a real threat. However, neither the history of cooperative efforts, nor the bureaucracy that a national plan is likely to entail, bodes well for a permanent solution. Of greater immediate importance, our growing awareness of collecting realities belies the notion that any one library might anchor the nation’s holdings in some field. No single collection can be either sufficient or definitive.

A fourth and final change, which has affected virtually all academic institutions, centers on increased accountability. Greater attention to student concerns, for instance, has added complexity to the library selection process. Users must be kept satisfied as a matter of political survival. On the other hand, just as the overall growth in American higher education has slowed or stopped, so have specific institutions sought to limit the emergence of new programs: increased accountability is affecting the rise of new academic endeavors. Nonetheless, interdisciplinary programs continue to cause problems for both library collection development and administration. Furthermore, many university administrations still fail to adjust library book budgets in response to the needs of new academic programs, and resource allocation is an issue yet to be fully addressed by either library or university administrations. Budgeting models for the distribution of computer time, or for access to electronic databases, may provide insights for library funding structures—though we must beware of only providing information to those who can pay for it. At Rutgers, programmatic accountability vis-à-vis the library is ensured insofar as Mr. Edelman’s signature is required before new academic programs can be implemented. The library has a direct voice in the process of allocating for expansion.

These four broad areas of change—shifts in the overall context of higher education, increased technological capabilities, better knowledge of our collections, and greater accountability within universities—have transformed the environment of the research library. The electronic revolution has played a role. However, it has not altered the basic parameters within which libraries operate, and we must be wary of the mythology of total technological transformation in some more-or-less immediate future. Electronic technologies, for instance, remain extremely expensive: hard-copy pages from one electronic journal cost fifteen dollars apiece.

The publishing industry has already adapted to new technology. Electronically assisted editing and composition are commonplace, but pages are still the end product. And pages will probably remain the end product, even though high printing costs and small markets make much academic publishing only minimally profitable. Since peer evaluations remain fundamental to the review structure for faculty tenure, wholesale shifts toward the unfettered exchange of unscreened information are unlikely. Perhaps more significant in their immediate impact on libraries are archival collections, which are experiencing extremely rapid growth. The microform “disaster” of the past twenty years, on the other hand, suggests that the value of the text does indeed prevail over the utility of its format. (Thankfully, microform is now generally recognized as only an interim storage medium. New technology, like video disks, should bring a more satisfactory solution to the needs of storage and preservation.) We can and should speculate about the electronic future, but this should not defer action on immediate and urgent problems. To date, the basic issues of collection development have been only peripherally affected, or addressed, by the electronic revolution.

Various Mellon Project methodologies have been applied at Rutgers. One major accomplishment was to describe each collection, in a process that allowed the collections to be redefined, relocated, and priced. The library has tied its local collections more closely to their immediate academic constituencies, and in so doing has
created user advocates, increased its accountability, and reaped political benefits. The political dimension bears particular attention: library budgets simply cannot meet all needs, so special attention must be given to those who care the most. Rutgers has found it difficult to justify special documentation projects within the library system, particularly since many of these were originally funded from outside sources. Some such projects have been returned to the academic units from which they originated, though the library has retained bibliographic control. In fact, Rutgers now functions as a decentralized information network with central bibliographic control.

Turning to Cornell, the university administration has, since the 1960s, fallen consistently short in its support of the library. There have been no capital investments in the book budgets, and the library has fought a protracted and losing battle to sustain its purchasing power for acquisitions. Neither have adequate capital investments been forthcoming for library space, or retrospective collection development, or technological improvements, or preservation. Such investments must be made, and they must be made in full knowledge that technology is not a cost saver for research libraries. Private universities have developed convincing cases to attract foundation support for their research libraries. These capital infusions are all to the good, but internal funds are needed as well. Discussions between the head librarians of different universities are likewise commendable, but they will not reduce costs. The cooperation that results from these conversations may help make the best of mutual shortages, but it cannot generate savings.

On the other hand, some budgetary concepts and mechanisms once thought scandalous are now quite generally accepted. Ronald Reagan, as governor of California, created an uproar by declaring that the state university could solve its budget problems by selling its rare books. Today, in fact, most libraries do sell off materials—including rarities—as a matter of course. At many smaller institutions, out-of-scope collections have been sold wholesale. Such sales also reflect the process of tuning collections to meet both library possibilities and user needs. As recent shifts at the New York Public Library suggest, the reassessment of collecting efforts may have dramatic results.

To sum up: the electronic revolution has generated many unrealistic expectations, despite its proven utility for some information-related functions. Technology simply cannot address all aspects of the library environment. The increasing accountability of both libraries and universities, for instance, is peripheral to technological change. The issue of centralization versus decentralization remains crucial, and overlap and duplication are an inevitable cost of decentralization. Decentralization on a national scale requires the same sensitivity: interlibrary loan programs are no substitute for local acquisitions, particularly at an isolated institution like Cornell.

We cannot ignore present needs by dreaming of some cheap fix for the future. Change will certainly occur, but in the meantime we must confront pressing needs for traditional materials, and also cope with the past’s legacy of crumbling paper. Increased funds are essential.

It remains unclear whether the academic library either is, or should become, the hub of a comprehensive information network. In an institution like Cornell, no single individual or unit will ever have control over all information. Moreover, the coordination of information resources is basically a problem of university management. While the appropriate locus for university initiatives to address the coordination and/or control of information resources will vary between institutions, the basic mandate will have to come from the top. Some universities have designated a vice president for information, though this response encourages bureaucratization and inflexibility. On the other hand, the library has very little political power: it is responsible to all, and even its authority to select books is challenged every day.

Librarians can and should play a role in establishing an information network, but the information brokerage function is not part of the library’s current mission, and
any such new responsibility must be accompanied by increased funds. Furthermore, few academic libraries are prepared to undertake research functions, and few provide rewards to those staff members who engage in such activity. Additional layers of work and responsibility simply cannot be indefinitely superimposed on an already busy staff. The library might very well be an appropriate source of innovation and leadership in addressing the utilization and control of information, but rewards must be provided.

WILLIAM HERBSTER

Mr. Herbster opened his presentation by recognizing the importance of research libraries within both the university and our knowledge-based society.

Nonetheless, such appreciations must be balanced against the constant calls for Day Hall administrators to reorder their priorities, and thereby increase support for particular Cornell functions. These often-strident demands come at a time of diminishing real resources, in an era that has been typified as one of "the management of decline," or "creative frugality," or "aggressive withdrawal." Cornell's total capital needs for the next decade, under all rubrics, could reasonably exceed half a billion dollars. These funds will not be forthcoming, so cuts and compromises are essential. The context is one in which economics are fundamental, and administrators, scholars, and librarians should share the common goal of developing data that will ease the task of finding new resources.

The Mellon Project's emphasis on integrated planning is particularly useful within this context of restraint. As Professor Handlin asserts, the library is building for future research. Collection development must be adapted to the overall planning process as well as to new patterns of information utilization.

More and more knowledge is also being created and stored outside the library. The academic library must explicitly address the trade-off between actually acquiring information, and providing the fullest possible access to all knowledge and information, whether available locally or somewhere else, and whether housed in libraries or museums or on tape. In other words, the real world of limited resources forces a trade-off between collections per se and bibliographic access to information in its broadest sense. The concept of an information resources network may provide a means to manage this plethora of data and of sources. The ability to track the locations of knowledge and of information resources may well prove more valuable to researchers and the university than the necessarily partial collections that libraries can hope to create on-site.

We must beware of assuming linear development through time when we contemplate changing technology and its effect on information. Futurologists like Alvin Toffler assert that the future will be fluid, and will involve multidimensional changes in context that will necessarily preclude straight-line extrapolations and forecasts. The long-term probability of substantially different approaches to information may render many of our current assumptions invalid. "Biotechnology" is but one new field in which there are simultaneous needs to define, create, and create access to, the relevant bibliography; and in which new information technologies will do much to shape the nature of information itself. As knowledge becomes ever more fragile, and as its velocity increases, then the costs of accumulating and publishing it may become prohibitive. Data may eventually be freely stored and exchanged between computers, with hardcopy publications relegated to only a few fields of very particular characteristics. This trend may in fact have begun already, which could explain the decline in publishing output mentioned earlier in the session. The point is not necessarily that the research community will move from print publications to new forms and formats for information, but rather that our planning should allow for nonlinear prog-

*Day Hall is Cornell's administrative headquarters.*
ress. We may need to ask different questions when we anticipate our needs.

In other words, long-term planning should not rest on assumptions of either a static world or one of linear change. On the other hand, and for the near term in which expectations of linear change will conform reasonably well to reality, we need to develop a more sophisticated understanding of the economics of libraries than we now possess. We must therefore address both the allocation problem and the information it requires.

This need can be addressed in at least two ways. The first focuses on the costs of creating and maintaining usable library collections. One can posit that there is an incremental cost attached to every library acquisition. This cost includes the direct purchase price, but must also account for processing, storage, building maintenance, use, and all other relatively invisible elements of overhead. The result would be a more accurate picture than that now available of the how and why of library expenses. And this type of breakdown would allow a more enlightened allocation process within the university administration.

Alternatively, one could cost out the "recovery characteristics" of library acquisitions. Different publications benefit different users, and support different types of use. The delineation of such use characteristics might allow the central administration to justify new, and hopefully more productive, funding mechanisms for the library. For instance, librarians might determine that part of the acquisitions budget is used to build research-oriented collections, that other funds constitute "capital expenditures" for enduring collections, that some money is used to purchase high-turnover books or materials for reserve, and so forth. Different user groups, or beneficiaries, could then be associated with each of these functions. Then, and in contrast to the present practice in which virtually all increases in library budgets are viewed as being paid for through higher tuition bills, the costs of proposed acquisitions could be divided among the real beneficiaries. We may not be able to predict the use that an individual volume will receive, but we must strive to develop large-scale measures that can be integrated within our overall planning and budget mechanisms.

University administrators are indeed tempted to curtail acquisitions budgets in order to limit overall library costs. Some of the blame, though, belongs to librarians who have neither analyzed nor communicated all the costs of their activities. Similarly, and for some of the same reasons, the administration has been conditioned to a mode of dealing with the library that is short-term, response-oriented, and often most aptly characterized as crisis management. A longer-term perspective is essential.

Another element in the university dynamic, to which libraries must adjust, involves changes in programs that in turn imply, or require, changes in acquisitions policies. Not all these changes result in additional expenditures. Cornell's nursing school, for instance, was closed on its hundredth anniversary, and the School of Business and Public Administration is now deciding whether to suspend or eliminate its programs in public and hospital administration.

Most cutbacks are not so visible. Rather, adjustments tend to occur as specific fields receive reduced funding and emphasis within departments or colleges. These shifts are not usually announced, since some degree of subtlety is essential to prevent demoralization or uproar. And these surreptitious shifts may be hard for the library to detect, though informal networks and rumors seem to work reasonably well. In any event, shifts are occurring, and the library must track them and adjust accordingly.

The library should take the lead in developing an information resources network within the university. Librarians possess the skills needed to relate and mediate information while, on the other hand, neither the president nor the provost is likely to command the time and expertise necessary to the task. The library cannot dominate an information resources network, but it can provide leadership both to those managing separate information sources or centers and to the
information resources network as a whole. For the moment, we need not worry about where money will be found, nor concern ourselves with who ultimately takes charge of a network. We do need to know how the panorama of information is changing. In a longer term, the library should become the "central switching point" in an information resources network.

Thus conclude the viewpoints expressed at this final seminar on the Cornell University Libraries' Project for Collection Development and Management. The session was intended as a start as well as a finish: now Cornell's librarians and administrators will begin an open-ended, and not always structured or formal, process of assessing both the broad issues raised in this seminar, and the more specific recommendations of the Concluding Report. The result we all expect is a library system better able to define and to meet its responsibilities in an environment of challenge and change.

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To the Readers of C&RL:


Unbeknownst to the editor of C&RL, and in violation of their signed copyright agreement with ALA, the authors submitted their manuscript to and had it accepted and published by these other journals while still under review by C&RL and its referees. I apologize to C&RL and its readers for any inconvenience that this unauthorized simultaneous publication may have caused. In a letter to the editor dated May 14, 1984, the Onadirans also state "Please accept our apology."

C. JAMES SCHMIDT

To the Editor:

In the January 1984 issue of C&RL I am referred to on p.31 as the "former" university librarian of University of North Carolina by Nicholas C. Burckel. Do you, or he, know something they haven't told me?

JAMES E. GOVAN
The University of North Carolina at Chapel Hill

To the Editor:

Three cheers for John N. DePew's forthright proposals on doing something about so-called "faculty status" (C&RL 44, no.6:407, November 1983). I am pleased to see concrete proposals made to change the standards, and I urge the Academic Status Committee to consider carefully his recommendations. Thank you for making his article the lead one. The time is now for doing something about this embarrassing situation.

PHILIP E. LEINBACH
Tulane University Libraries, New Orleans, Louisiana

To the Editor:

John N. DePew's argument that faculty status causes librarians undue "difficulties" and "strain" contains one basic flaw. The statement that librarians with faculty status are "wearing the hats of two professions" is nonsense. These librarians wear two hats no more than the faculty member who is an accountant, or an historian, or a chemist. Library faculty are faculty who happen to be librarians.

It would be refreshing if studies were undertaken to determine the impact faculty status has had on the libraries involved instead of concentrating primarily on its effect on individuals.

BARBARA J. SMITH
The Pennsylvania State University
To the Editor:

I personally believe Mr. DePew’s article on the ACRL standards for faculty status to be ill-considered and unnecessary.

Having enjoyed full faculty status and rank in all my professional positions, I would say, quite simply: I would not have it any other way. Full faculty status eliminates questions and ambiguities; it helps to integrate librarians fully into the academic, decision-making power structure of a college or university and it gives us a shared rite-of-passage experience with our professional colleagues, an experience which promotes respect and communication.

The problems at Dickinson College referred to by Mr. DePew, are hardly unique, but to draw the conclusions that Mr. DePew does from that example is hazardous. While I would certainly agree that tenure is currently difficult for many librarians to obtain, this difficulty is not confined to librarianship. It is universal in academe—largely a result of the population and monetary changes we are all familiar with—and a matter of concern for all untenured faculty, regardless of field or responsibilities.

The solution is not the denial of “status” or tenure but the insuring that the appropriate criteria for judging performance are used. It is no more appropriate to use the same criteria for judging librarians that is used for teaching or teaching/research faculty than it is to use the same criteria for comparing research results between an instructor with a five-courses-per-semester load and another with a two-courses-per-semester load. That many colleges and universities do not differentiate enough is at the heart of many current tenuring crises. The solution is not moving or changing status but the campus by campus designing of reasonably obtainable criteria for each department or discipline.

Most of us are not teachers and do not pretend to be teachers. What I, and others, insist is that faculty status is not a condition restricted only to those who spend their professional hours in the classroom. Rather, it is a status that should accrue to all whose duties are of an academic and intellectual nature as opposed to an administrative nature. Many librarians are administrators. Many librarians may, perhaps, think of themselves only as administrators. But that is not the nature of librarianship and it is not how our status should be determined.

MICHAEL W. LODER
Pennsylvania State University, Schuylkill Campus

To the Editor:

As one who aspires to library administration, I turned eagerly to Barbara B. Moran’s article on the subject of administrative career patterns in your September issue. What I found there is, I believe, a description of a generation whose time has come... and departed.

The pattern Moran found among women directors, that “the likeliest route to a directorship is to try to get an administrative appointment in the best [small] academic institution possible and to stay put,” simply does not jibe with my impression of current trends. So troubled was I by this conclusion that I have taken the time to look at the characteristics of female appointees to ARL (i.e., large, doctoral degree granting institutions) library directorships.

There are at present 19 female directors of ARL libraries, 14 in U.S. institutions, and five in Canadian. Sixteen of these women were external candidates for their present directorships, two were internal candidates, and one is of unknown status.

Why were these women (and many women of similar career pattern in smaller academic libraries) missed by Moran’s survey? Some, to be sure, have achieved their directorships since 1980. However, the discrepancy is better explained by another characteristic of these women administrators’ careers. In 1970, three were assistant/associate directors, two of unknown status, but 14 had not yet become assistant/associate directors. Moran’s methodology, which posits a ten year span from assistant directorship to directorship, thus missed those individuals who went from middle management positions (e.g., department heads) to directorships in less than ten years. It is precisely these fast track careers which more closely resemble the career patterns of male directors.

This evidence is not intended to refute Moran’s conclusions about those women who
were already assistant or associate directors in 1970. Their experience seems accurately described by the article's conclusions. However, it does suggest that a similar study of individuals who were assistant/associate directors in 1978 and who are directors today would show vastly different results. In the brief time span since 1970 there seems to have emerged a new career pattern of women library administrators who are on the fast track and who achieve directorships via career paths more similar to those of their male colleagues. It is these successful and dynamic women whom aspiring future administrators should be encouraged to emulate, not those from a bygone, less equitable era.

JILL B. FATZER
University of California, San Diego

To the Editor:
I would like to reply to the contents and conclusions of a recent article "Long-Range Effectiveness of Library Use Instruction" in your November 1983 issue [Selegean and others, p.476]. The data analysis was so well presented and explained that it is a shame that unfounded conclusions are drawn.

The authors do their best to convince the readers that the experimental and control groups are equal. But therein lies the fallacy. They most certainly are not equal. The experimental group was self-selected; that is, they were motivated to enroll in the course "Biblio Strategy," That in itself sets them apart from the control group. Although I do not possess the expertise to elaborate on the importance of self-motivation, I do know that the volunteer in psychological experimentation is not necessarily representative of the population from which he/she comes. Therefore, I would like to dispute the authors' conclusions. Their data, I'm certain, are irreproachable, but it's important to understand that their conclusion—that students who completed the library use course were found to have a statistically significant higher GPA than those who didn’t complete the course—can not be generalized to the total population of students at that institution or any other. What was not controlled was the effect of self-motivation to enroll in the course.

BONNIE GRATCH
Bowling Green State University Libraries, Ohio

To the Editor:
I have only just seen the November issue of College and Research Libraries, hence my delay in commenting on the letters from Ms. Donna Lee Kurkul and Dean Charles H. Davis. I was initially annoyed by Dean Davis' pomposity, but eventually found myself moved to hearty laughter. Here is a man who is only interested in what he thinks, even in the face of thirty years of educational history. At age 35, I can remember the panic wrought in public education by Sputnik and how the development of education in science and mathematics peaked and died once it was no longer important to beat the Russians into space.

Anyone who pays the slightest attention to the news is well aware of the state of public education over the past fifteen years, particularly in science and math. In liberal arts educations in our own time, mathematics ceased to have any real importance. For many of us who concentrated on history, literature, political science, or the arts, our last contact with algebra was in our freshman years at college (an unconscionably long time ago for most of us).

It is hard not to applaud Ms. Kurkul's decision to include her appendix. It was only realistic. If that is an insult, it is not to the readers of College and Research Libraries. Whatever implied insult there may be falls right where it belongs. As to Dean Davis' assertion that "individuals who do not possess this basic knowledge have not received a good education in the liberal arts and sciences, and they should not be admitted to our schools," one can only be speechless with awe. Dean Davis seems to be presuming to judge who should or should not be librarians. A strong knowledge of algebra seems like a pretty shaky credential, from my standpoint. One also wonders what the math requirements are for admission to Dean Davis' school.
That many librarians are poorly skilled in mathematics and science is probably beyond doubt. Until that changes (and a lot of other things must change first), the realistic course to follow is one that acknowledges the fact and attempts to deal with it, rather than ignore it.

ROBERT E. SKINNER
Louisiana State University Medical Center, New Orleans

Beginning with the July 1984 issue, Charles Martell, Jr., associate university librarian for public services at California State University, Sacramento, will be the new editor of College & Research Libraries.

Previous to his appointment at Cal State University, Mr. Martell worked as acquisitions librarian at the University of Illinois, Chicago, since 1981, and from 1976 to 1981 he was assistant to the university librarian and reference librarian at the University of California, Berkeley. He has also taught library administration courses at UC Berkeley and the University of Illinois-Urbana.

A graduate of Brown University, MLS from Syracuse University and a Ph.D. from UC Berkeley, Mr. Martell authored *The Client-Centered Academic Library: An Organizational Model* (Greenwood, 1983).

Material to be considered for publication should now be sent to Mr. Martell. *C&RL*'s outgoing editorial staff send Mr. Martell sincere best wishes and congratulations.

C. JAMES SCHMIDT
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The Foundations of the German Academic Library is a study of the German university library between about 1740 and 1820 as exemplified at Leipzig, Jena, Halle, and especially—Göttingen. The book is an amplification of Kunoff’s 1972 Indiana dissertation on the impact of the Enlightenment on German university libraries.

Kunoff finds the origins of the American research university and its research library in the University of Göttingen, which opened in 1737, and in its great founding rector Baron von Münchhausen and the notable trio of its first three librarians: Gesner, Michaelis, and Heyne. The other fundamental catalysts in this notable invention were the creation of the research seminar (the first systematic academic course), given its classic—or neoclassic—form by the great librarians Johann Gesner at Göttingen and Friedrich August Wolf at Halle, and the creation of a regularly published scholarly journal of rigor and quality at Göttingen. Kunoff argues that the planned, shaped, systematic scholarly research collections that characterize the greatest U.S. research libraries evolved from the models established by Gesner and Wolf to support the ongoing study and scholarship fostered in these universities.

Indeed, Kunoff argues that the profession of academic librarianship itself evolved from the evolution of the practice of collection development and the organization of library materials and readers’ services during this century. While there is a tendency in the book at hand to view the past through the perceptions, values, and structures of the present, the treatment is—especially in the latter chapters—intriguing and spiced with lively anecdotes.

Indeed, every librarian will find much of interest in these pages; any academic librarian who feels overwhelmed, understaffed, and undervalued should read the account of staffing and hours during the early days at Leipzig University Library, or the noxious results of juxtaposing the university library and the medical school operating theater at the University of Halle.

Such anecdotes underscore an important point that can be overlooked in perusing Kunoff’s detailed treatment of his subject, that only the operation at Göttingen exceeded the size of a poorly provided community college or departmental library today: for the most part, an eighteenth-century German university library was a tiny, jury-rigged affair run by a single librarian who was often also a professor and who—almost as often—paid far too little attention to the operation, or the collection, of his charge. The poverty of most eighteenth-century university libraries has led other scholars, such as Carl Wehmer—who is not mentioned by Kunoff—to claim that the German university library was a “creation of the late nineteenth century” (Carl Wehmer, “The Organization and Origins of German University Libraries,” Library Trends 12:498–99 [Apr. 1964]). The notable exception was Göttingen, whose collection amounted to some 120,000 volumes in 1776.
With the exception of Paulsen's *German Universities and University Study* (1906), the second chapter of J. Periam Danton's classic *Book Selection and Collections: A Comparison of German and American University Libraries* (New York: Columbia Univ. Pr., 1963), p.12-33 (which is not mentioned by Kunoff, but from which his readers would benefit), Kunoff's topic is not well covered in English. Thus, Kunoff's close following of the more significant German authorities, and of other documents such as university statutes, regulations, and personal correspondence, allows English readers an often fascinating view of the major German universities of the late eighteenth and early nineteenth centuries.—Paul H. Mosher, Stanford University.


The idea behind *Fiction, 1876–1983* is a highly promising one. Derived from the databases of *Books in Print* (800,000 titles) and *American Book Publishing Record* (almost 2 million titles), the 170,000 entries (not titles, as Bowker erroneously claims) of *Fiction* list—in theory and in the promotion, at least—"virtually every fiction title that appeared in the U.S. in the period covered." The format is that of a sort of cumulative *Books in Print* for fiction. There is an author index, a title index, a directory of publishers and distributors, and an author classification index, which groups authors by nationality and literary period where such information was available.

Based upon the questions given in the foreword as examples of the types of queries that *Fiction* is capable of answering, Bowker apparently expects this book to be a kind of one-stop authority for reference questions dealing with the U.S. publication of fiction editions. With *Fiction*, they say, one can date the first U.S. translation of *One Hundred Years of Solitude*, identify the first edition of *A Farewell to Arms*, find the title of John Cheever's last anthology of short stories, and learn the kind of fantasy novels published between the wars.
Were it all that Bowker claims it to be, *Fiction* would be an essential addition to almost every public and academic library and to the reference shelf of many booksellers and researchers. Unfortunately, Bowker has greatly overstated the book's comprehensiveness and accuracy and greatly understated its deficiencies. To begin with, what is perhaps the most ludicrous example of the book's shortcomings: of the six sample questions in the foreword, two cannot be answered at all, two can be answered (at best) partially, and only two can be answered accurately by *Fiction*. Not one of the four authors mentioned in the six questions has a complete, accurate entry. It took some time, in fact, to find any author whose entry appeared to be complete.

The only omission acknowledged by Bowker is the absence of most out-of-print mass market paperback editions, though no reason for their exclusion is given. Since there have been thousands of fiction titles published only in a mass market paperback form and since they are often the
least documented titles by what might otherwise be better-known writers, their absence creates a real loss. While these omissions are perhaps explicable if the editions were also missing from the original databases, other deficiencies in Fiction are not easily explained or excused.

The mistakes have no discernible boundaries: famous and obscure authors, cloth and paper editions, major and minor publishers alike are all mistreated. Titles are omitted; editions are omitted or incorrectly priced; entries are unnecessarily incomplete; nonfiction titles are listed as fiction; some entries are not even correctly alphabetized. Many editions published in the fifties, sixties, and seventies by major firms such as Knopf, Pantheon, Harper, Viking, and Little, Brown, and which have appeared in Books in Print, are not to be found in Fiction. For example, only one of the three hardcover editions of Nobel Prize winner Elias Canetti's only novel is listed; the revised edition of Gore Vidal's City and the Pillar is listed, but not the original; the hardcover editions of John Cheever's Wapshot Chronicle and Scandal are both omitted; numerous editions of Jack Kerouac are missing; at least one of Malcolm Bradbury's novels is absent. The errors are really so pervasive that the book must be considered profoundly unreliable.

Fiction finally strikes this reviewer as a kind of first draft, an exploratory mapping of a territory to be covered later in detail. Despite all its faults, Fiction is useful, and perhaps even without real competition as a single-source reference work. But because of its extensive deficiencies, no author entry can be assumed to be complete and accurate without some additional outside confirmation. A new and thoroughly revised and corrected edition is called for; it's a shame that the work couldn't have been compiled and edited a little more carefully the first time.—Tom Haydon, Wessex Books.

ABSTRACTS

The following abstracts are based on those prepared by the ERIC Clearinghouse of Information Resources, School of Education, Syracuse University.

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In 1981 and 1982, the Research Libraries Group (RLG) and four other organizations participated in a coordinated study of public online catalog users and nonusers. Standard, self-administered questionnaires were used to gather data from 8,094 users and 3,981 nonusers in thirty-one research, academic, community college, public, and governmental libraries with seventeen different online catalogs. This final report presents findings and implications of data collected at three institutions: Dartmouth College, Northwestern University, and Stanford University, all members of the Association of Research Libraries (ARL). The data from these institutions are contrasted with those collected from twelve other ARL libraries. These data include uses of the public online catalogs, perceived problems, preferences for improvement, and user and nonuser characteristics. The report also presents the results of a related special study that gathered qualitative evidence in structured interviews with library staff at Dartmouth, Northwestern, and Stanford. A final chapter discusses implications of the study and notes a general patron acceptance of public online access catalogs. Appendices include a list of participating libraries and computer systems, statistical analyses of data collected, sample questionnaires, and other documents. An executive summary and forty-seven tables are also provided.
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This document presents a review of the current consumer relations activities of the National Library Service for the Blind and Physically Handicapped (NLS/BPH) of the Library of Congress and an overall plan to improve NLS/BPH receipt of user suggestions, comments, opinions, or complaints through libraries that form the nationwide NLS/BPH distribution system. An overview of current user input activities in matrix format is provided, as well as a review of NLS/BPH responsibilities in meeting the special needs of its patrons. A plan is presented for a consumer relations function at various levels—NLS/BPH cooperating regional and subregional libraries, and other NLS/BPH network agencies—with a discussion of staffing, training, and utilization of user input in policy formulation. A set of specific consumer relations activities for network libraries is proposed, based on library readership size and relative resource level. Examples are given for the design of reader surveys, the development of formal or informal consumer advisory committees, and the provision of staff training to increase sensitivity to patron input. A system of logging and tracking procedures is also proposed to assure proper flow of user information within the NLS/BPH network system. The report concludes with a final set of twelve recommendations to NLS/BPH.


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The product of consensus among representatives from all types of libraries in California, this document presents goals, objectives, and procedures for enhancing statewide library services in the 1980s in order to better meet the information needs of all people in the state. Nineteen objectives are described within four goal areas: (1) developing adequate and effective library and information services and informing people about them; (2) designing and offering services that link people with what they want to know through the widest means possible; (3) developing statewide cooperation between academic, public, school, and special libraries and other information agencies; and (4) ensuring that libraries receive financial and community support adequate to meet the library and information needs of the community. Procedures listed under each objective involve actions by a variety of institutions and organizations, particularly by the California State Library. It is noted that there is no legal mechanism to enforce the document's goals and objectives. Also included are a brief description of the California library environment, a list of persons involved in the creation of the document, a glossary of definitions and acronyms, and a detachable questionnaire to be used to register opinions of the document and indicate interest in helping to carry out its objectives.

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Academic Library Media Usage: Faculty and Student Use of the Independent Learning Center. By Susan P. Besemer. 1982. 15p. ED 226 744. MF—$0.83; PC—$1.82.

This report describes a spring 1982 survey of faculty and student users and nonusers of library audiovisual collections at the State University of New York (SUNY)-Buffalo. User frequency, the composition of user patronage, preferred media formats for learning, and users’ perceptions of audiovisual services offered are described. A brief history is provided of the Independent Learning Center (ILC), which houses the audiovisual collections at SUNY-Buffalo’s E. H. Butler Library. Survey response rates for faculty (26 percent) and students (62 percent) are noted. Survey findings are presented, indicating that (1) faculty use both the library and the ILC less frequently than students; (2) ILC collections are seen primarily as audiovisual “reserve rooms”; (3) many students and faculty are underutilizing media items available on loan from ILC; (4) student and faculty users have extremely positive attitudes about the ILC facility and its services; and (5) faculty (67 percent) still prefer learning by reading while students are more evenly divided among reading (41 percent), listening (38 percent), and viewing (31 percent). Based on survey results, active promotion of ILC services is recommended. The survey questionnaire is appended, with associated frequencies of response for students and faculty given for each question.


This paper briefly reviews the origins of the modern professions and examines in detail three sociological models of the professions and the professionalization process, in each case supplying indications of relevance to the library field. Models discussed include the trait or attribute, the functional, and the power or occupational control models of professionalization. The paper reviews the strengths and weaknesses of each of these sociological approaches in understanding the development of the library occupation. Incidental attention is also paid to the general family of information- and knowledge-treating occupations (publishing, archival management, and information science) and to librarianship’s position in this group. The nature of library work and the implications of the American Library Association’s (ALA) position on library education and work force are discussed. William J. Goode’s assertion that librarianship is not a profession is analyzed and refuted. The paper concludes by presenting a composite model for the library profession, suggesting that professional schools combined with a knowledge base constitute the institutionalization of the profession and that the combination of institutionalization, the existence of professional associations, and the strength of collective orientations yields professional autonomy. A copy of the author’s vita is provided.


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part of a technological transition that will transform libraries into dynamic information centers. Library directors will still face pressures of accountability and new decisions for the most efficient use of computers within existing and new library operations. Budgets must include line items for retraining librarians. The issue of fees for services in database searching and interlibrary loan is critical, and assessment of the best methods for teaching patrons how to take advantage of this explosion of information means increased commitment of library resources and personnel. The library profession will assume a new identity as it incorporates the theories and practices of information science into graduate programs and existing libraries. Despite the applications of computer technology to library functions, however, what still remains is users, staff, and materials, the triad of past, present, and future libraries. Twenty-nine references are listed.

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