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An Alternative Model of a Profession for Librarians

The traditional model of a profession based on the literature of sociology is presented and critiqued. The model is found to include elements which encourage resistance to change. An alternative model is proposed, based on the open systems paradigm from General Systems Theory, which is more hospitable to change. The alternative is applied to librarianship, and some of its implications are discussed.

While a good deal of library literature has been devoted to the professional status of librarianship, one fundamental question about professionalism has rarely, if ever, been addressed with the explicitness and detail it deserves. This question is whether or not the established model of professionalism is an ideal to which librarianship should aspire. Until recently to ask such a question would have bordered on sacrilege. There was only one model of a profession, and it was based on the two venerable professions of medicine and law. For a librarian, a member of an occupation which could not seem to cross the professional line of demarcation no matter how hard it tried, to challenge the traditional concepts of professionalism seemed a classic example of sour grapes. Now, however, because of long-term developments and current scandals, the two godheads of professionalism have begun to look mortal. We have slowly come to the realization that our medical and legal systems are social disaster areas and that, in part, the professions charged with their upkeeping are responsible for their deterioration. By using the traditional rhetoric of professionalism to oppose needed social changes, we have overlooked the fact that even law and medicine are, in many ways, turning away from the traditional professional model.

Thus, we can now look at the traditional professional model with a skepticism and realism that was not possible even a few years ago. When we do, we find there is an intrinsic conflict between the model of professionalism to which librarianship has aspired and the ability of this model to accommodate change. The traditional paradigm reinforces conservatism in the face of change. For example, new developments in theory are seen as threats to the established body of knowledge. Increased complexity in library organizations is feared because it is seen as reducing professional autonomy (to the extent that librarians ever enjoyed any). New types of agencies that provide information services to groups who have not been adequately served by the library, and are alienated from it, are resisted.

Gardner Hanks is a student in the School of Library and Information Science, State University of New York at Albany. C. James Schmidt is director of libraries, State University of New York at Albany.
by librarianship as encroachments on its professional monopoly. Forces of change, in other words, become the antitheses of the basic characteristics of professionalism.

The traditional paradigm of professionalism encourages a static condition which is incompatible with the dynamism inherent in a truly client-centered (including non-user clients) professional orientation. This essay is an attempt to detail the faults of the traditional model of professionalism, to examine why librarianship cannot and should not aspire to this model, and to suggest an alternative which is both more professional, in the sense of a profession as a calling, and more user oriented. This essay may also shed some light on the conflicts which are endemic to an emerging profession.

CHARACTERISTICS OF A PROFESSION

The literature of the sociology of the professions includes many attempts to list the distinctive features or differentia of a profession. The various attempts to delineate the characteristics of a profession began with Flexner in 1915, continued through the fifties with the work of Cogan, Greenwood, and Hughes, and extended through the sixties and seventies with the work of Goode, Vollmer and Mills, Parsons, Etzioni, and Pavalko. A review of these and other sources suggests the following catalog of attributes of a profession:

1. An organized body of systematic and theoretical knowledge
2. Primary orientation to the community interest rather than to individual self-interests
3. Autonomy
4. Group control of practice through licensure and codes of ethics
5. Professional organization
6. Monopoly
7. Community sanction

After reviewing these efforts to define a profession, Barber concludes: "Theoretical and methodological consensus is not yet so great among sociologists that there is any absolute agreement on the definition of the professions." What does seem to receive unanimous agreement from the more recent writers is the concept of professionalism as a continuum, not a dichotomy: that is, the characteristics of a profession may be possessed by an occupational group in varying degrees, and the degree to which any characteristic is present in such a group may vary over time. In the classic essay on professionalism vis-à-vis librarianship, Goode makes this point:

Any traits used in the definition of the term "profession" must be conceived as variables, forming a continuum along which a given occupation may move. Instead of the dichotomy of "professional/non-professional," we use the variable of "professionalism," and we may ask how far an occupation has moved in the direction of increased or decreased professionalism.

What is clear from this list of attributes, and from other similar lists, is that law and medicine have served as the paradigms on which such lists have been based. However, it has been pointed out by Becker that there is a substantial gap between the symbol and the reality, even in the paradigmatic cases. Doctors often surrender individual autonomy for group practices, clinics, research and training, public health, and other types of nonindividualistic-type practices. Doctors do not in fact monopolize health care services but rather share these functions, albeit reluctantly, with osteopaths and chiropractors, among others.

Thus, the model of professionalism appears to be wanting in some respects and, in any case, is still not based on consensus. Rather than abandon this model, however, let us first see how it fits librarianship, and then, informed by this application, examine specific criticisms and propose an alternative.
In his essay Goode concluded that librarianship was not a profession and not likely to become one. His argument was based on the assumption that prolonged training in a body of abstract knowledge and a service orientation are the two “central generating traits” of a profession. The specific knowledge which a librarian must have is not clearly defined, according to Goode, and the service orientation, in the case of the librarian, usually connotes a passive helping, i.e., simple reaction to the patron’s expressed needs, rather than a more active sense of service in the manner of doctors and lawyers.

A second analysis of librarianship as a profession, by Bundy and Wasserman, viewed librarians in terms of three major structural relationships: with clients; with the institution in which librarians perform; and with their professional group. In all three relationships, the authors judged librarians to lack those traits which mark professionals. Librarians do not create or demand the kind of institutional environment which optimizes professional commitment and minimizes employee requirements. Finally, the major professional organization for librarians, the American Library Association, has assumed a primary focus which is political rather than professional. Thus, librarianship was seen as incompletely professionalized and on the margin of full professionalization.

CRITIQUE OF THE MODEL OF PROFESSIONALISM

If librarianship is a marginal profession, a semi-profession, or is, in other words, possessed of less than fully developed professionalism, the question arises as to where it should go from here. The issue of where librarianship should go in its development along this continuum, however, is logically preceded by the question of whether it is desirable to pursue the traditional model of professionalism however elusive or ill-defined. In short, if the traditional model can be shown to be defective, and inappropriate to librarianship, should it not be discarded and some alternative model developed and aspired to? This rhetorical question is meant to suggest that the traditional model is defective and, therefore, dysfunctional to the professionalization of librarianship. Five specific defects in the model will be discussed below.

The first weakness in the model is the notion of an organized body of knowledge. There is a somewhat naive presumption that the systematic body of theory which supports professional practice implies a commitment to rationality and, therefore, to scientific mindedness, which will be manifest in a willingness to change. This view does not differentiate enough among different types of knowledge (some of which are nonscientific); and it “overemphasizes the role of scientific knowledge and its attendant consequences, such as rationality and readiness for change.” The unwillingness of many so-called professions to incorporate new developments suggests that rationality and susceptibility to change may not be the dominant characteristic or happy consequence of their “bodies of knowledge.”

A second weakness of traditional professionalism is the potential negation of the concept of community service by other elements of the model. It is not unusual, for example, for the concept of autonomy to clash with and override that of community interest. A case in point was the New York City teachers’ strike in the fall of 1968. The teachers walked out because they felt inter alia that community control of the schools threatened their independence and free judgment in the classroom. In a similar and continuing case, the medical profession has put up a stubborn fight
against much-needed national health care insurance and peer review mechanisms because such programs are seen as seriously limiting a doctor's autonomy. While it may be that all conflicts between community service and other elements of professionalism are not resolved in favor of the more self-serving interests, examples among the professions have been common enough to create nationwide concern about the motives of many professional groups. Thus, the conflict between the concept of community interest and other aspects of the professional model is perhaps the most visible weakness of the traditional model of a profession.

Third, the traditional model places a premium on autonomy for the practicing professional, as in medicine and law. Indeed, Friedson goes so far as to say: "From the single condition of self-direction, or autonomy, I believe we can deduce or derive virtually all the other institutional elements that are included in most definitions of professions." The epitome of this idealized autonomy is a fee-for-service client-professional relationship. It is clear, however, that fewer and fewer professionals in any field are practicing in such totally individualized patterns. Both doctors and lawyers are increasingly found practicing in organizational (bureaucratic) settings, such as clinics, hospitals, large law firms, and governmental agencies. Furthermore, as a society becomes more complex and urbanized, it also becomes more bureaucratized. Of course, this trend is not without its problems for professionalization, but the tendency in many occupational groups is clearly away from individual professional practice and toward group practices and/or organizational settings.

Another aspect of autonomy as it is used in the traditional professional model is that it is assumed to be a quantitative phenomenon—the question is how much does an occupational group have. Bureaucratization suggests that qualitative dimensions of autonomy may be of equal, if not greater, importance in the future. The question of the future will not be "how much?" but rather "what kind?" Friedson's concept of dominance, developed in his studies of the medical profession, suggests one conceptualization of qualitative aspects of autonomy.

In the case of the health occupations, medicine occupies a unique position relative to all the other allied occupational groups. It has the authority to direct and evaluate the work of others without in turn being subject to formal direction and evaluation by them.

While the division of the labor force in libraries is not yet so variegated that the concept of dominance developed for the study of the health occupations has direct applicability, the distinction between quantitative and qualitative dimensions of autonomy is viable for librarianship. For example, in what respects do library procedures impose a uniformity on all librarian-patron interaction? To what extent are librarians themselves treated differentially by the organization of which they are a part?

A fourth weakness in the traditional model of a profession is the notion of monopoly. As Rueschemeyer points out, this "assumes a high degree of societal and intraprofessional consensus." This consensus, however, does not occur. What is more likely is a high degree of intraprofessional conflict, except where serious extraprofessional threats exist.

The fifth principal weakness of the traditional model is the issue of community sanction and the implication that there is a marked differentiation in competence between the client and the professional. This is more likely to be true in the case of medicine—although not always—and is certainly less true of law and some of the human relations occupations. As a result of the vari-
ance in the competence differential between client and professional, it is probable that, contrary to some sociological speculation, clients are increasingly given to "shopping around" and to evaluations of professional services. That this occurs suggests some competence, however ignorant or informed, on the part of clients to make qualitative judgments about the professional services they receive.

The traditional model does have some basic flaws. The five discussed here can be summed up by the notion that the model is not sufficiently dynamic to absorb the changes that are occurring both in the community as a whole and in the professions themselves. Given this unadaptability, it would seem reasonable to conclude that the model would be dysfunctional for any occupational group whose environment is undergoing rapid and important changes. The discussion below turns to a presentation of some of the changing conditions in librarianship, changes which suggest a need for an alternative professional model.

**LIBRARIANSHIP: THE CHANGING ENVIRONMENT**

Social institutions are affected by movements in the society around them, and the library is no exception. Though it would be possible to list any number of social changes which are affecting libraries, we will discuss only four: the media revolution; the coming of age of computer technology; the demand for community control; and the increasing awareness of the social responsibilities of libraries and librarians. Each of these has important consequences.

First, the media revolution. The crucial issue for librarianship in the "multimedia age" is how libraries should relate to the whole contemporary machinery of public communication. If the dire predictions of some McLuhanites have not all been realized, it is still true that when it comes to reading, the medium is the message. Should libraries focus only on the literate groups in the population? This issue was raised by the Public Library Inquiry of the Social Research Council in 1948, and there seem to be no more consensually based answers today than there were then. While this issue is generally seen as more crucial for public libraries, analogies exist for academic libraries in the development of learning resources centers (in lieu of libraries) in community colleges, liberal arts colleges, and on some university campuses, as well as in the transformation of school libraries into instructional resource centers. The ubiquity of television compounds the problem, as does the increasing availability of cable television.

The awesome power of computer technology is also a major force of change in the library work environment. The potential of computers has implications not only for internal library operations but also for library services. As data transmission rates drop and as banks of cataloging data in computer-readable form grow, the prospects of on-line shared cataloging systems are being realized. This development is anxiously awaited by some library administrators who believe it will help reduce the soaring costs of preparing library materials for users, but it has obvious conflict potential for those people whose professional self-image is tied up with nonmechanical individualized methods of cataloging materials. In the same manner, blanket order plans and other mechanizable means of acquiring materials are welcomed by administrators but viewed with alarm by those whose professional existence is bound up with title-by-title methods of selecting and collecting materials.

Another dimension of the computer revolution is the growing demand for services from computer-readable data bases—bibliographic and nonbiblio-
graphic. In effect, a new medium has been added to those already competing for attention and resources. This new medium, however, brings along with it staggering problems of software development, hardware expense, and new, unfamiliar occupational categories.

One manifestation of the demand for these services is the growing concern for what used to be called computer utilities and are now called mass information utilities. Parker writes of them in this way:

This new communication medium can be described as looking like a combination of a television set and a typewriter, functioning like a combination of a newspaper and a library, and permitting a communication network that is something of a combination of a telephone and a telegraph system. It has one radical new property that previous mass media lack: what is transmitted over the communication channel is controlled more directly by the receiver rather than the sender of the message.

A third major force in the changing environment of librarianship is represented by what has been called "community control." In its usual form this means at least direct community participation on governing boards of social and political agencies, if not complete community control of these agencies or their localized outlets, such as elementary schools or branch libraries. A moderate statement of this point of view for libraries by Field proposes that "the librarians should be given a budget to use for programs that the staff, with the help of the community, decide are legitimate and necessary for the library...."

Fourth and finally, librarians, as well as other occupational groups, are developing an increased sensitivity to their social responsibilities. The establishment of the Social Responsibilities Round Table (SRRT) by the American Library Association is evidence of this concern. Let it be acknowledged here that SRRT was born in haste and with much pain, but the important point is that there is now an officially articulated awareness of these responsibilities. Social responsibilities, or "the relationships that librarians and libraries have to nonlibrary problems that relate to the social welfare of our society," have been recognized as an important part of librarianship's ever-changing environment.

There are, of course, other sources of change in the milieu of librarianship that could be included here. However, these four examples make it clear that libraries and librarians face enormous technological and social changes both inside and outside the library. Librarianship is in the process of becoming something other than it has been.

AN ALTERNATIVE: THE OPEN SYSTEMS MODEL OF PROFESSIONALISM

To recapitulate the argument to this point: we have argued that the traditional model of a profession is deficient in several ways, the most important of which is its discouragement of change; that librarianship is a marginal profession in terms of that model; and that there are major forces of change at work in the library environment; all of which suggest that the traditional model of a profession does not meet the needs of librarianship and that an alternative model of a profession is essential if this concept is to be applied to librarians or to any occupational group whose environment is undergoing rapid and massive changes.

In developing an alternative model of a profession, we have based our work on the ideas of General Systems Theory (GST) as expressed by von Bertalanffy, Buckley, Kast and Rosenzweig, and Katz and Kahn. Basically, GST defines two types of systems: closed and open. Closed systems exist in the realm of the physical sciences; they
Open System Characteristic
1. Input-throughput-output cycle
2. Feedback
3. Negative entropy
4. Dynamic equilibrium
5. Differentiation
6. Equifinality

Professional Characteristic
1. Interdependency between the profession and the community
2. Constant communication between the profession and the community concerning the needs of the community, the ways in which the profession can meet these needs, and the effectiveness of professional activities that are in operation
3. Security based on social, political, and economic support of the community
4. Ability to adapt to changes in the social environment
5. Specialization
6. Flexibility of methods; creativity

Fig. 1
Open System and Professional Characteristics

tend to be governed by absolute laws; and they are characterized by a tendency toward a static equilibrium, i.e., they cannot grow or adapt to changes in their environment.

Open systems, on the other hand, interact extensively with their surroundings. They import energy from their environment, transform this energy into some product or service, and export the product or service back into the environment. The export creates more energy in the environment which can be imported to repeat the same input-throughput-output cycle. Another important input that is typical in open systems is feedback, information from the environment that indicates general conditions of the system’s surroundings and also the effects that the system’s activities are having on these conditions. Besides the cycle of input-throughput-output, and feedback, open systems are also characterized by negative entropy, i.e., the ability to store some of the energy that they input. This stored energy can then be used when emergency situations arise.

In addition to the traits described above, open systems also typically have a dynamic equilibrium, that is, they have the ability to adapt to alterations in environmental conditions through growth or other internal changes. Moreover, because the various functions of open systems can become quite complex, they often can develop specialized parts to perform different functions. This process is known as differentiation. Lastly, open systems are characterized by equifinality, the ability to reach a given condition by several different paths. From these major characteristics of open systems, it can be deduced that biological organisms are typical examples of this type of system, but it is also obvious that social organizations and institutions may exhibit the qualities of open systems.

Though it would be unfair to characterize the traditional model of a profession as a totally closed system, this model does tend to picture professions as untouched by the concerns and needs of a society which serves as their environment. Only the attribute of community interest within the traditional model opens it to the environment, but, as we have pointed out above, even this one open quality tends to be contradicted and overridden by other characteristics in the model.

The model of professionalism we propose, then, is one that recognizes that a profession, as a social phenomenon, must interact with its environment. The characteristics of open systems professionalism are based on the characteristics of open systems, as shown in Figure 1.

In terms of librarianship, such a
model would mean a primary commitment to users and a primary concern for information. Open systems librarianship would import energy from the environment (the community) in the form of money, social and political influence, and raw information. Then, using feedback about the needs of the community, librarians would transform this energy into library services which would be released back into the environment. The community would in turn generate more energy (information) and feedback which would be imported for repetition of the cycle.

**Implications of Open Systems Librarianship**

A primary commitment to users and a primary focus on information have six important implications for libraries. First, such a philosophy would result in libraries which are concerned with their clients both in terms of time and in terms of "space." Lefton and Rosen gren call these two dimensions longitudinal (time) and laterality (space). Longitudinality is defined as the period of time during which an organization is interested in its clients—short, as in the case of an emergency room in a hospital, and indefinite, as in the case of a long-term psychiatric facility. Laterality is defined as the number of aspects of the client as a person which are of concern to the organization—again, the contrast between the emergency room and psychiatric care in an outpatient setting. In the latter case the organization concerns itself with the totality of the client as a person in society. 38 Libraries have historically professed a high longitudinal and a high lateral orientation. However, functionally they have operated as high longitudinal but low lateral, because traditionally libraries have had little interest in the needs of the public other than their reading habits. Maximized laterality requires that other behavior besides that of reading be regarded as organizationally relevant for libraries.

A primary commitment to clients and a primary orientation to information, in terms of objectives and in terms of services, would make libraries high both on longitudinality and on laterality. For example, high laterality would suggest that lack of literacy on the part of potential library users is a viable rationale for developing an appropriate library service. Similarly, lack of adequate information about basic welfare benefits and facilities or legal rights would become a valid basis for initiating a library program to meet these needs.

The need for the library to achieve a high lateral as well as a high longitudinal concern for its clientele suggests that a second major consequence of open systems librarianship would be the development of more client-centered roles for librarians, and the concurrent deprofessionalization of functional roles, such as cataloging and reference. Already the activities of children's librarians, young adults' librarians, adult services librarians, community coordinators, 39 subject bibliographers, 40 and special librarians have been developed around the needs of specific groups of clients within the community. Because these librarians have been able to concentrate their attention on particular subgroups of the population rather than dealing with general problems, they have been able to learn more about their clientele's problems and interests, and have built special programs around these needs. Such customized service would be the hallmark of the open systems library. Client-centered service would be expanded to include every major social, vocational, and intellectual group in the community.

At the same time that the open systems library would be requiring new client-centered roles for librarians, it would be phasing out the traditional media-centered roles as professional ac-
tivities. The first step in this deemphasis would be the replacement of the traditional functional organization of the library with one based on the types of clients served. Rather than the library's organization being based around technical services, public services, and administration, the main divisions would be based on groups of clients within the community (e.g., a department for children, a department for the Spanish-speaking, and so forth). Functional operations would be carried out either by a centralized division or by functional workers in each client-centered department. In either case, functional operations would be subordinated to the client-centered concerns of the library.

A second and more controversial step would be the removal of the Master's degree requirement for the practitioners of the functional roles. Rather than requiring an M.L.S. for these tasks, a Bachelor's degree in some subject speciality with a designated number of undergraduate library science courses could be enough to qualify a person for basic cataloging and reference work as well as for other functional positions in the library. The functional tasks of librarianship, in other words, would be returned to the holders of undergraduate degrees, while the client-centered roles would be the province of those with higher credentials.

A third consequence of the open systems model raises the issue of the client-professional relationship. This relationship is most usefully considered if clients are seen as members of an organization, which implies a symmetrical or reciprocal relationship between the two rather than the asymmetrical one that is implied in the individual-practice, fee-for-service setting. If patrons are seen as members of the library's organization, then the issue of client advocacy is more easily resolved, since the members of an organization have natural rights of access to the channels of communication, sources of information, and arenas of decision making that are shared by all other members. Furthermore, it becomes easier, if clients are members, to gain support for resistance to censorship and budget cuts, since such issues will tend to have more meaning and relevance for members of an organization than for those who stand outside its boundaries.

It is obvious, however, that clients would have neither the time nor the desire to concern themselves with the day-to-day operations of the library. Thus, a major part of the librarians' task would be to represent the different points of view of different parts of the community to the library as a whole. At the same time they would also be responsible for representing the activities and the limitations of the library to the segments of the population they serve. Such a role would require thorough knowledge of both the needs of the client groups and the resources in the library and in the community that could be mustered to meet these needs. In addition to this background knowledge, however, the librarians would need to maintain communication between themselves and the groups and individuals that best represent the interests of their entire client group. It would be through these contacts that the clients would receive and maintain their membership in the library organization.

A fourth consequence of the open systems model would change the role of library administrator from one of supervision to one of coordination. The open systems library would have to be much more open to the participation of nonadministrative personnel in the decision-making process. As representatives of the various constituencies of the library, client-oriented librarians would need and demand to have input into all major planning and policy decisions. The role of library administrators in
decision making would not be to make decisions arbitrarily, but to add their own administrative information (e.g., cost estimates, personnel requirements, and amount of available resources) and to act as mediators between the various viewpoints as expressed by the librarians.

In essence, the library administrator would be the librarian representing the entire community interest. As such a representative, he or she would have to be able to see the long-term results of proposed programs as well as how such programs would fit into the total pattern of library service. It would be the responsibility of the administrator not only to support change that would be beneficial in the long run, but also to resist change that, while appearing efficient and apt in the short term, would prove to be dysfunctional to client services over a longer period of time. The administrator, then, would have to be a persuasive advocate both for change and for moderation.

A fifth consequence of the client-information orientation affects the organizational environment of libraries. In general, four work settings are found among professionals. The first is that of individual practice, which, as we suggested above, is decreasing in importance among other professionals and has never been the norm for librarians.

Three other work settings have distinct organizational structures. There are autonomous professional organizations, such as law firms, medical clinics, and architectural firms. In these cases the professionals themselves determine the organizational structure and are their own source of authority. This setting is not commonplace in libraries although it exists in rare cases. In heteronomous organizations professional employees are subordinated to an external system, e.g., public schools, social welfare agencies, public libraries. Another distinct setting is the professional department, that is, a formal subunit of a larger organization, e.g., the legal department of a corporation. Each of these structural types has implications for professionalism. The autonomous organization is seen as the optimum, the heteronomous as (at least potentially) the minimum, and the professional department as potentially either optimal or minimal. 42

The issue for librarianship is to identify and to create (cause to be created) the organizational setting in which the open systems model with its client-information dominance can best flourish. It may be true that the typical public library, as a heteronomous organization, is structurally hostile to this new model of professionalism. If this is so, then librarianship must press for structural changes in these agencies. If libraries in elementary and secondary schools and on college campuses are viewed as professional departments, then it is the task of these librarians to insure that these agencies are structured and operated in ways which maximize their client-information dominance.

The sixth consequence of the open systems model would be the need for profound changes in the content, structure, and methodology of library education. As we have already indicated, the deemphasis of the functional activities of the library would ultimately lead to the transfer of courses that deal with these matters in detail from the graduate to the undergraduate level. A graduate program would concentrate its efforts on providing its students with a body of knowledge and the professional attitudes necessary for the client-centered roles of open systems libraries.

The body of knowledge necessary for open systems librarianship can only be delineated in general terms. A client dominant orientation requires substantially more education in the behavioral sciences—both theoretical and applied—than has been typical in most schools of
professional librarianship, while a focus on information rather than media requires more education in communications, information science, computer science, and even mathematics. It is clear, however, that librarians serving different types of clients would require different types of knowledge. The education of a science bibliographer who will work in a highly academic environment, for example, must be significantly different from that of the librarian who specializes in providing services for a poverty-stricken black ghetto.

The vastly divergent educational requirements of open systems librarianship could be met if library schools began to specialize their educational efforts. To follow the example above, one school could concentrate on training science bibliographers while another would train librarians for the ghetto. Such specialization, however, would require that the efforts of all library schools be coordinated into a pattern that would insure training for all clientele groups. Regional systems of library schools might be needed to provide a total pattern of library education. Such systems could share resources and permit students to transfer among schools freely and easily, thus helping each school to share the resources that would normally be available to each one alone, and providing each student the opportunity to plan a program especially suited to his or her interests and needs.

Because library education would thus become broader and deeper, the basic course would probably have to be increased to two years. There would also have to be a formal recognition of the need for all librarians to renew their education periodically to review and appraise developments in librarianship and related fields. Library schools would be responsible for encouraging students to return to school and should also help develop nontraditional educational programs for those who could not return.

Although changes in the content and structure of library education would be important, they would have to be supplemented by changes in teaching methods if library schools are to provide the best possible education for open systems librarianship. Schein points out that one of the functions of any professional education is to impart the attitudes and values of the profession to its students. It is not surprising that traditional professional education has relied heavily on the lecture method—a method that, above all else, stresses the autonomy of the teacher and inhibits two-way communication between the teacher and the students. The unconscious message of such a method is obviously that once individuals obtain professional authority they do not have to listen to those they serve.

For library schools to educate open systems librarians adequately, they must become open systems institutions themselves. The ideas and experiences of the library school students should be part of the environmental energy and feedback on which the school depends. Thus, the lecture method and its corollaries for evaluating students, i.e., hour-credit graduation requirements and the grading system, would have to be replaced by methods which would encourage students to participate in their education. Graduation requirements would be determined between the individual student and the school, and grading would be replaced by other methods of performance evaluation. In the classroom, methods that emphasize self-initiative and cooperation, such as group projects, discussions, independent studies, and self-paced studies, would break the near monopoly of the lecture as a teaching method.

The most important innovation, however, would not be these methods themselves; instead it would be the attitude that lies behind them. Library schools, like the libraries they serve, would be-
come client committed, and this would allow them to serve the library profession and the society as a whole more effectively than has been possible before.

CONCLUSION

In choosing a professional model to serve as its ideal, an occupational group demonstrates where its real interests lie. The traditional model of professionalism stresses the importance of the profession as a separate and higher part of society. The professional, for example, is autonomous: his or her professional judgment cannot be questioned by a layman; nor has it been particularly necessary for a professional to consult the layman before making any judgment. In the final analysis the traditional model of professionalism is strongly elitist.

The open systems model of professionalism we have proposed is a more democratic professionalism. It pictures the professional as an integral part of society, depending on it for strength and intelligence as it depends on the professions. The primary purpose of the professions according to this model is not to dictate what clients must do, but to discover what the clients need and to fulfill these needs by using the specialized knowledge and skills that professionals have developed. The open systems model of professionalism should appeal to those occupational groups whose primary concern is to serve the society which has spawned them. Hopefully, librarianship is such a profession.

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ALEXANDER SCHURE

From the Chair of the Presidency

Libraries must exploit various new technologies to control the information explosion. In spite of past failures and resistance by librarians to the use of the new technology, lessons have been learned on how it can be employed successfully. Greatest immediate impact is seen in the use of the computer, miniaturization, broad band communication, video reproducers, and graphic devices.

In their consideration of libraries, there are several areas in which most college presidents agree: (1) it requires time and money to improve services; (2) an answer must be found to the cost and physical expense of library buildings; (3) the retrieval efficiency of the conventional library must be improved; (4) the inflationary cost rises presently reflected within the library must not bear a growth ratio within the total cost of college operations greater than the rising cost of other essential services within the institution; and (5) it is quite possible for a college president to take the view that the library of his institution has become too important to be left to the librarians alone.

An explanation of the last remark lies in the changing nature of our institutions and their administration. A major emphasis for many institutions is a deep concern for maintenance of enrollment. The competition among public and private sister institutions for the “traditional” entering freshman grows fiercer. The declining birth rate seems to indicate that this source for most schools will shrink, at least in the immediate future. The one trend which heartens most administrators is the growing emphasis in continuing education. It has produced a new college market for adults and a series of alternatives to traditional education. The thrust of both of these directions is to turn much of education and many of the students away from the local central campus. The information contained in the college campus library must eventually be able to reach these students easily. This requires techniques and technologies more sophisticated than those available in most libraries.

Information and Libraries

Modern campuses mirror the transitions occurring everywhere. A host of social, economic, scientific, and technological factors are remolding our society and, along with it, the nature of modern education. Dr. Andrew R. Molnar of the National Science Foundation, describing the information explosion the world is undergoing, notes “90 percent of all the scholars who have ever contributed to the body of scientific knowledge are alive today.” He adds:

Information is increasing exponential-

Alexander Schure is president, New York Institute of Technology, Old Westbury. This article is based on an address delivered at the ACRL College Libraries Section program meeting, “The Task of College Libraries in the Seventies,” in New York, July 1974.
ly and can be expected to double in the next twelve years. If a given discipline or specialization could be assumed to contain one one-thousandth of all knowledge, and if a scientist were to read at the rate of 3,000 characters per minute (about the rate at which we read a novel), and if he were to read thirteen hours a day for 365 days per year, it would take him twelve years to read everything in his specialty. At the end of this time, he would find that he was twelve years behind in his reading and that the volume of new materials had doubled. Sixty years ago, a scientist would be required to read twenty-five minutes per day. Twelve years from now he will have to read continuously, day and night, every day of the year.

A statement from the National Advisory Commission on Libraries gives an apt summary on the condition of libraries—what is now and what probably will be:

The purpose and general character of library services have not changed greatly over the past forty years. What have changed for most libraries are the range and volume of demand and use. The rapid and pervasive growth of specialization in new subject matters, together with an increasingly large and literate user population, has placed severe burdens on libraries of all kinds. . . . If the libraries are to do more than keep pace—i.e., to provide better and broader service than they now do—a much more aggressive and integrated approach to improvement will be needed. . . . It will be necessary to think in terms of more interdependent modes of operation. It will also be necessary to take better advantage of the developing technology.

In his 1945 article in Atlantic Monthly, Dr. Vannevar Bush wrote:

The summation of human experience is being expanded at a prodigious rate, and the means we use for threading through the consequent maze to the momentarily important item is the same as was used in the days of the square-rigged ships.

Since that statement the expanded range of available communication technology can be demonstrated by even a partial listing of communication (and library applicable) technologies, including: (1) multiplex radio, high speed facsimile, laser, satellite transmission, microwaves; (2) LP disc and paper records, video and audio recorders, discs and playbacks; (3) television, color television, interactive cable television, cassette television; and (4) computers and data processing, minicomputers and miniperipherals.

We come then, not surprisingly, to the application of technology as it relates to the library, a process still in its infancy. Relatively few libraries really use the sophisticated technologies in any major fashion. This is both understandable and not too disturbing. Just as it has taken the aerospace industry from 1903 to 1973 to move from Kitty Hawk to a probe of Mars, it is likely we shall see (in some shorter span than that seventy years) library technology having the impact and capabilities that its most enthusiastic proponents advocate for it. At this moment, though, the technologies we have on-line in most library facilities, while varied, are basically primitive.

THE COLLEGE PRESIDENT AND TECHNOLOGY

Administrators see their library facilities in terms of their actual capacity to serve the constituency of their institutions; and from this vantage point they proceed to assess priorities with respect to the economics of the library operation. In critical budget times, answers to the urgent fiscal problems confronting administrators and trustees are not likely to come from the presently available hardware and systems conveniently described as "library technology." In the present state of the art it is prema-
ture to anticipate technology as the means of reducing the relentlessly rising costs of library services. Yet increasing potentials for relief by way of technology are on the horizon. To quote James Koerner of the Sloan Foundation, “History suggests that new technologies are often overrated in the short run but vindicate their prophets in the long run.”

College presidents have obvious concerns as they ponder decisions to be made with respect to their recommendations for funding library projects relating to technology. They have learned painful lessons with similar causes. The failures of the past, easily identifiable, are quite parallel to the rationale for lack of success to date with educational technology and are worth recapitulating:

1. The equipment or hardware used has often fallen short of claims made for it. The more complex and advanced the hardware systems, the more serious the problems of reliability, maintenance, and incompatibility with other systems.

2. Institution-wide standardization is not present. Further, the obsolescence rate of hardware is substantial, requiring capital investment for new or improved systems continuously. Then the programming or software has not kept pace with hardware development.

3. Not enough fundamental research has been carried out to identify with precision the direct nature and needs of library and information researchers. It is necessary for us to know more about the fashion in which information utilization takes place with heterogeneous groups of library users.

4. Past failures reflect a number of additional factors. Projects are often begun without definitive articulation of purpose; without prior attention to the technical components of the project; without direct involvement of the participants, particularly librarians; without thorough orderly evaluation; or without adequate understanding of the attitudes of librarians toward the whole concept of technology within the library.

LIBRARIANS AND TECHNOLOGY

Since administrators interact with librarians, it is helpful to suggest rationales as to why working librarians tend to resist technology:

1. The basic conservatism of the library establishment.

2. Fear of the effects of library technology on the professional librarian’s role and responsibilities.

3. The ineptitude and insensitivity of the equipment manufacturers.

4. The insensitivity and ineptitude of administrators.

5. A minimal or nonexistent involvement of professional librarians at the various steps of the process of introduction of technology.

Another major cause for resistance of the librarian lies in the apprehension engendered by an increasingly sophisticated library technology. Librarians are hesitant to acquire new responsibilities which they may not be professionally equipped to handle. They fear that technology may be library replacers instead of library extenders. They are concerned that they may lose what they regard as “the essence of professional being”; and that they will face competition from an inhuman, unpaid adversary. Technology within the library brings to many librarians a vision of invasion of their authority, a loss of autonomy, degradation of their professional privacy, and an ultimate separation from the library user. Their inter-
interpretations are those consistent with views of a downgraded position, with loss of prestige, autonomy, recognitions, and rewards.

A ROLE FOR LIBRARY TECHNOLOGY

The converse of the reasons we learn from our failures are guides to a formula for success in library technology applications. Thus, as essentials we can state:

1. A recognized and generally agreed upon need must exist.
2. Objectives to be achieved must be stipulated and must guide the projects.
3. An organizational structure must exist which makes success possible, or at least does not in advance assure failure.
4. Leadership must be exerted at the right level of authority, responsibility, and control.
5. Librarians must participate in their support of the project.
6. Rationality and available economics must determine the use of the techniques selected.

In 1966 a new view of libraries and information centers was presented at Princeton University. It was suggested that it may be useful to set aside the concept of a library as a collection of books and instead think of it as one part of the business of information transfer, as one segment of the conveyor belt which moves the product of intellectual activity, whether a poem or the specifications for a housing project, from the mind of the creator to the mind of the receiver.

Within the framework of the constraints already referred to, some administrators really believe that this decade will bring substantive advances within domains of technology applied to libraries. The systems most likely to have the greatest impact are:

Computers
The great strength within this technology lies in its capabilities to process vast amounts of information. Increased availability of large-scale time-sharing and dedicated minicomputers may make available greater ranges of access to information.

Miniaturization
Microfiche technology now allows substantial amounts of information to be placed on transparent material. It can then be used either through enlargement on a reading machine or reproduction onto paper. Other microforms are now used increasingly. It seems logical to expect even larger microform collections. The introduction of direct information transfer between computers and various microforms and of increasingly sophisticated ultramicroform technology is not too far in the future. It seems logical that, as costs of microfilm continue to decrease and quality to increase, electronic access to such microforms will come into increased popularity.

Broad Band Communication
These are systems capable of transferring very large numbers of visual or audio electronic signals to allow any kind of educational transmissions to audiences at almost any distance. Coaxial cables, microwave, satellites, and lasers give a capability to structure large numbers of telecommunications networks with almost unlimited capability. These networks can bind public and private institutions together to send information directly into homes or offices.

Video Reproducers
The capacity to store in compact form motion pictures on tape decks or on films for replay at the convenience of the user, when coupled with broad band technology, offers promise of com-
bining video and computer technology. We can, through this combination, send to new audiences any amount of informal programming with illustrations and sound. Further, videotapes do not even require a transmission system. They need only access to a playback device.

Books and Graphic Devices

The availability of inexpensive copying machines and the breakthroughs in graphic techniques are reflected in the use of one of the earliest major visual arts, the book. Similarly, in the development of photocomposition the computer may well provide the libraries with several options not feasible in the past.

CONCLUSION

It is important to differentiate between trends and the most likely reality. In the next five years, from my viewpoint, printed materials will remain as the primary carriers. Professional librarians will continue to be the major catalogers and handlers of information stored within libraries, although they will be aided in many instances by the systems just described. Use of all of the sophisticated technological systems will undoubtedly increase. Administrators must be wary, however, that their priorities are the correct ones and that they help allocate to the librarians continued funds to be spent for the art of the technologically possible.

REFERENCES

A leading chief librarian in a Canadian university has made the following statement: "There is no doubt at all in the minds of most Canadian academic library administrators that 85 percent . . . of questions at public service desks can be answered by non-professional staff." Controversial? Yes, especially to many U.S. academic librarians!

Yet, it is recognized that the nonprofessional or supportive staff—whether called paraprofessional, subprofessional, preprofessional, library assistant, library technical assistant, library technician, or library associate—constitutes a major work-force in any college/university library. The overall ratio of one professional to two nonprofessionals is frequently used as a guideline for full-time staff, even though this ratio "will vary according to the specific needs of institutions." What will also vary will be the ratio from department to department within the library. A recent survey reveals that in many Canadian academic libraries the average ratio of nonprofessionals to professionals is 5:1.

According to Rogers and Weber, "A bright subprofessional assistant can serve to handle the majority of directional and interpretative questions" at a reference desk in a college library, while Bunge's study of reference staffing and performance concluded that professional librarians did perform "more efficiently than those lacking formal training, though not spectacularly so." Dawson has stated that nonprofessionals can do much in reference work under supervision as well as Taylor, who has said that "a fairly large proportion of the questions that come to a reference desk could be answered by a nonprofessional."

One source of nonprofessional em-
employees, frequently a gifted source, available to college and university libraries is the student element. Although students have been, and are being used at reference desks in many college and university libraries, this resource has not been developed as fully as perhaps it could be. For example, a student assistant with reference desk experience has expressed the opinion that "until all librarians accept the fact that they are not granting students any favors by employing them and begin treating students as responsible adults, a valuable resource is being neglected and wasted." Thus, student assistants form another aspect of the nonprofessional spectrum.

Since nonprofessionals are being used in libraries, the training provided for them is obviously most important. As stated in "Library Education and Manpower," "The library profession has responsibility for defining the training and education required for the preparation of personnel... at any level, supportive or professional." Aiyepoku echoed this when he remarked that it is not realistic to consider "the issue of training sub-professionals in isolation from the training of professionals." One can certainly marshall arguments on both sides as to whether nonprofessionals should or should not be used in a college reference situation. But the question here is: "Are they being used?" Are nonprofessionals actually being scheduled to "work the desk"? How much formal education do they have? Do some have a college degree and some no college education? Are student assistants included as members of the nonprofessional staff? Are nonprofessionals trained through in-service programs, either formal or informal? How much are they used to give reference desk service? What are their opportunities for continuing education and professional growth?

THE SURVEY

To obtain answers to these questions, a study was conducted to determine the actual use and training of nonprofessional personnel at reference desks in academic libraries in the United States. The purpose was to survey a representative nationwide sample of colleges and universities having enrollments of between 500 and 6,000 students in order to ascertain and report the current practices in these selected libraries.

A questionnaire was devised after consulting with librarians serving libraries of differing sizes in several states. This pilot questionnaire was tested on a sample of six college libraries across the nation and revised on the basis of the librarians' responses and suggestions.

Population and Sample

Libraries of accredited four-year colleges/universities (enrollments 500–6,000) were selected from the U.S. National Center for Educational Statistics' Opening Fall Enrollment in Higher Education, 1970 and the American Council on Education's Accredited Institutions, 1971/72. Specialized schools, such as art schools, music schools, and technical schools, were not included. The schools chosen were divided into three categories: (1) small colleges/universities with enrollments of between 500 and 1,499; (2) middle-sized colleges/universities with enrollments numbering between 1,500 and 2,999; and (3) larger colleges/universities whose enrollments ranged from 3,000 to 6,000. A 20 percent stratified random sample was selected from each category. One hundred fifty questionnaires were then mailed to this sample according to the following schedule:

Group 1: 500–1,499 student enrollment—81 libraries
Group 2: 1,500–2,999 student enrollment—42 libraries
Group 3: 3,000–6,000 student enrollment—27 libraries

The letter accompanying the questionnaire was addressed to the reference librarian and requested that the information regarding the use or non-use of nonprofessionals be limited to the main library and to library and reference hours during the academic year only. The respondents were assured that their responses would be considered confidential and that their institution would not be identified in any publication. The term Nonprofessional was defined as any person who did not have a master’s degree in librarianship or the fifth-year BLS degree. Included, therefore, were those with a bachelor’s degree, with or without some library science units; those with a master’s degree in a field other than librarianship; those with some college education or no college education; and student assistants.

Returns

In response to the initial mailing on February 28, 1973, of 150 questionnaires, 113, or 75 percent, were received. After two follow-up letters had been mailed to those who had not answered, the total response rose to 144, 96 percent. Of these responses, 141, or 94 percent, were found usable and are included in the following analysis.

Results

Relative Use of Nonprofessionals at Reference Desks among the Various College/University Libraries

A significant difference ($X^2 = 19.92$, $df = 1$, $p < .001$) was found in answer to the basic question as to whether nonprofessionals are used to staff reference desks regardless of amount of time spent at the desk. In 69 percent of the reporting libraries, nonprofessionals are used at the reference desk, while in 31 percent, nonprofessionals are not used at the reference desk. This relationship was consistent across the three size categories of colleges/universities, and no significant differences were found in the proportion of libraries in each category who use nonprofessionals. Approximately one-third of the libraries of the larger colleges do not use nonprofessionals at all in staffing the desk. Thus, while the majority of colleges and universities are making use of nonprofessionals, a substantial group of these institutions is not.

Having established the fact that nonprofessionals are rather widely used in staffing libraries, one must take into consideration the hours to be worked; therefore, the number of hours that libraries are open compared with the number of hours the reference desk is staffed in these libraries was determined. Hours the libraries were open ranged from 50 to 112 hours per week, with the majority of libraries open from 70 to 100 hours per week. Only one library reported being open more than 100 hours per week and twelve libraries less than 70 hours. Whereas there was no difference among the categories of colleges and universities in the number of hours the main library was open, the data in Table 1 show that there were significant differences in the number of hours the reference desk was open. (It should be noted that ten of the institutions indicated that they had no separate reference desks in their institutions. Thus the total possible number of responses on questions relating only to reference desks was 131.)

<table>
<thead>
<tr>
<th>Number of Hours per Week</th>
<th>Reference Desk Staffed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of Student Body</td>
<td>10–59  60–79  80–99</td>
</tr>
<tr>
<td>500–1,499</td>
<td>28  31  9  66</td>
</tr>
<tr>
<td>1,500–2,999</td>
<td>9  23  6  38</td>
</tr>
<tr>
<td>3,000–6,000</td>
<td>3  8  15  26</td>
</tr>
</tbody>
</table>

$X^2 = 25.98$, $df = 4$, $p < .001$
Generally, the smaller colleges staff their reference desks fewer hours than the larger colleges. The majority of libraries of the smaller colleges staff the desks from 10 to 79 hours per week; the majority of the middle-size schools from 60 to 79 hours; and the majority of the larger schools from 80 to 99 hours. The number of hours of reference service, regardless of school size, ranged from 16 to 99 hours per week, with an average of 63 hours.

The personnel scheduled to work these hours are shown in Table 2. This number includes all persons whether full-time or part-time, professional or nonprofessional, since one must observe the use of professionals in order to assess the real use of nonprofessionals. The three categories of libraries in the colleges and universities differ significantly in the number of nonprofessionals who staff the desk. The libraries of the smaller and larger schools use significantly more nonprofessionals than do the libraries of the middle-sized schools.

Nonprofessional Personnel (Reference Assistants and Student Assistants)

Since the respondents to the questionnaire were queried as to whether student assistants were also used to give reference service, Table 3 shows the number of students and the number of other nonprofessionals, called "reference assistants" for the purpose of this paper, who are employed by each group of libraries. The libraries of the middle-sized colleges use significantly fewer students than the libraries of either the smaller or larger schools. Reference assistants account for between 30 and 40 percent of the nonprofessional personnel in the libraries of the smaller and

---

**TABLE 2**

<table>
<thead>
<tr>
<th>Size of Student Body</th>
<th>Professional Personnel</th>
<th>Nonprofessional Personnel</th>
<th>Total Personnel</th>
<th>Number of Libraries Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>500-1,499</td>
<td>172</td>
<td>265</td>
<td>437</td>
<td>67</td>
</tr>
<tr>
<td>1,500-2,999</td>
<td>177</td>
<td>77</td>
<td>254</td>
<td>37</td>
</tr>
<tr>
<td>3,000-6,000</td>
<td>126</td>
<td>124</td>
<td>250</td>
<td>26</td>
</tr>
<tr>
<td>Total</td>
<td>475</td>
<td>466</td>
<td>941</td>
<td>130</td>
</tr>
</tbody>
</table>

$X^2 = 59.2, df = 2, p < .001$

* Student assistants included.

---

**TABLE 3**

<table>
<thead>
<tr>
<th>Size of Student Body</th>
<th>Reference Assistants</th>
<th>Student Assistants</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
<td>Number</td>
</tr>
<tr>
<td>500-1,499</td>
<td>101</td>
<td>22</td>
<td>164</td>
</tr>
<tr>
<td>1,500-2,999</td>
<td>39</td>
<td>8</td>
<td>38</td>
</tr>
<tr>
<td>3,000-6,000</td>
<td>39</td>
<td>8</td>
<td>85</td>
</tr>
<tr>
<td>Total</td>
<td>179</td>
<td>38</td>
<td>287</td>
</tr>
</tbody>
</table>

$X^2 = 7.38, df = 2, p < .05$

* The term "reference assistant" is used in this paper to identify those nonprofessionals who are not student assistants.

† Percentages based on total nonprofessional personnel.
Use and Training of Nonprofessional Personnel

TABLE 4

NUMBER OF PROFESSIONAL AND NONPROFESSIONAL* PERSONNEL BY EDUCATIONAL BACKGROUND USED AT REFERENCE DESKS IN COLLEGE/UNIVERSITY LIBRARIES, BY SIZE OF STUDENT BODY

<table>
<thead>
<tr>
<th>Size of Student Body</th>
<th>Professionals A.M.L.S. or Fifth Year B.L.S.</th>
<th>Professionals A.M.L.S. plus Second Master's</th>
<th>Total</th>
<th>Nonprofessionals A.B., A.M. (not in L.S.)</th>
<th>A.A.</th>
<th>No College</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>500-1,499</td>
<td>145</td>
<td>27</td>
<td>172</td>
<td>56</td>
<td>35</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>1,500-2,999</td>
<td>151</td>
<td>26</td>
<td>177</td>
<td>35</td>
<td>3</td>
<td>1</td>
<td>39</td>
</tr>
<tr>
<td>3,000-6,000</td>
<td>104</td>
<td>22</td>
<td>126</td>
<td>23</td>
<td>6</td>
<td>10</td>
<td>39</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>75</td>
<td>475</td>
<td>114</td>
<td>29</td>
<td>36</td>
<td>179</td>
</tr>
</tbody>
</table>

Professionals \(X^2 = .4, df = 2, n.s.\)
Nonprofessionals \(X^2 = 15.41, df = 4, p < .01\)

* Student assistants not included.

larger colleges but account for 50 percent in the middle-sized colleges.

Educational Level of Reference Assistants

The formal education of the supportive staff who are not students, the reference assistants, as compared with the professional staff is shown in Table 4. In the libraries of all three sizes of colleges, approximately 16 percent of the professional librarians have a second master's degree. Two librarians have a Ph.D. degree, while a third is completing the requirements toward a doctorate.

Significant differences exist in the educational background of the nonprofessionals used in the three groups of college/university libraries, as shown in Table 4. Of the total number of these reference assistants, roughly three-fifths have a bachelor's degree or an additional degree, while about one-fifth have a junior college education and one-fifth no college at all. In libraries of the middle-sized colleges, 90 percent of the nonprofessionals have a bachelor's degree or above, while approximately 50 percent in the smaller and larger-sized schools have a college degree. An interesting observation is that significantly fewer persons with a junior college education or less are employed by the libraries of the middle-sized schools.

On-the-Job Training Provided by Libraries

Besides the formal education which an employee brings to a position, training in the library is essential before these persons are ready to assume the responsibility at the desk. Some college libraries have formal in-service training programs; others have only informal practices. There are no significant differences among the libraries of various sized colleges and universities responding to the questionnaire in the number who provide formal in-service training to their nonprofessional staff. The great majority, more than 80 percent, indicated that formal in-service training was not provided. Of the thirteen who responded positively, only five indicated that they had a written manual to help them in their in-service training work. Unfortunately, the questionnaire was not designed to provide information regarding qualitative differences in the in-service training offered by these libraries. Further research should seek to determine whether nonprofessionals who receive this formal training provide a substantially different kind of service to their institution.

If they provided no formal in-service training in their library, the respondents who used nonprofessional help were asked if they had an informal in-
service training program. Of the fifty-eight who responded negatively to a formal in-service program, fifty-five indicated the existence of an informal in-service program, i.e., tour, general orientation, reference interview techniques, etc. Although no written responses were required, one respondent commented: "I try to make a considerable effort with our work study students in terms of having their work be a challenging learning experience. . . . Our non-professionals who work evenings and weekends, especially the latter, include older people who may or may not be going for their MLS. We aren’t around to give them the same attention as we do the student [assistants]."

Amount of Service Provided at Reference Desk by Nonprofessional Personnel

To determine how much reference desk service the supportive staff renders, one must compare the hours worked at the reference desk by both professional and nonprofessional personnel. In the pilot questionnaire an attempt was made to determine the number of hours the nonprofessionals worked on their own. Questions were devised to try to obtain this information, but all proved too complicated to get meaningful responses. Unfortunately, therefore, this information is not available. It can be observed (Table 5) that approximately one-half of the professionals and slightly more than four-fifths of the nonprofessionals staff the reference desk ten hours or less per week. Substantially more professional librarians work more reference desk hours than do the nonprofessionals in the remaining divisions of hours worked per week. This fact is reflected in Table 6, which shows that 67 percent of the total reference desk hours are staffed by professional librarians, 19 percent by reference assistants, and 14 percent by student assistants. It can, therefore, be noted that a total of 33 percent of the reference desk time is staffed by nonprofessional personnel.

TABLE 6

<table>
<thead>
<tr>
<th>Size of Student Body</th>
<th>Professional Number</th>
<th>Professional Percent</th>
<th>Nonprofessional Reference Assistants Number</th>
<th>Nonprofessional Percent</th>
<th>Student Assistants Number</th>
<th>Student Assistants Percent</th>
<th>Total Number</th>
<th>Total Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>500–1,499</td>
<td>2,929</td>
<td>29</td>
<td>1,141</td>
<td>12</td>
<td>768</td>
<td>8</td>
<td>4,838</td>
<td>49</td>
</tr>
<tr>
<td>1,500–2,999</td>
<td>1,575</td>
<td>19</td>
<td>419</td>
<td>4</td>
<td>208</td>
<td>2</td>
<td>2,502</td>
<td>25</td>
</tr>
<tr>
<td>3,000–6,000</td>
<td>1,802</td>
<td>19</td>
<td>296</td>
<td>3</td>
<td>395</td>
<td>4</td>
<td>2,553</td>
<td>26</td>
</tr>
<tr>
<td>Total</td>
<td>6,606</td>
<td>67</td>
<td>1,856</td>
<td>19</td>
<td>1,371</td>
<td>14</td>
<td>9,893</td>
<td>100</td>
</tr>
</tbody>
</table>
Opportunities for Continuing Education and Professional Growth

For the nonprofessionals who are not students, opportunities should exist for continuing education and professional growth. In responses to questions concerning staff development programs, 70 percent of the libraries answering indicated that nonprofessionals may take classes during the working day. Time has to be made up in one-half of those libraries which indicated that classes may be taken. Fifty-one percent of the libraries stated that tuition waivers are given nonprofessionals who take classes. Also, nonprofessionals may attend professional library meetings during the working day in 74 percent of the libraries responding who use nonprofessional personnel. This information indicates that libraries in these institutions generally are interested in improving the competencies of their nonprofessional staff. It would appear that many also feel that the benefits to the institutions are sufficient to allow time off for their nonprofessionals to take advanced academic work without loss of pay and/or tuition waiver.

SUMMARY

This nationwide study, which was designed to determine if nonprofessionals are scheduled to work at reference desks in academic libraries, revealed that over two-thirds of the libraries questioned do use nonprofessionals at the desk to some degree. A nonprofessional was defined as any full-time or part-time employee who did not have a master's degree in librarianship or the fifth-year B.L.S. Student assistants were also included with nonprofessional personnel.

The amount of time spent at the reference desk by nonprofessionals varied from emergency use only to as many as forty hours per week. From a tally of reference desk hours reported, it was found that 33 percent of the total hours the reference desk was staffed was filled by nonprofessionals (reference assistants and student assistants), while 67 percent of the total time was filled by professionals.

The survey data showed that roughly three-fifths of the reference assistants had at least a bachelor's degree; about one-fifth had a junior college education; and one-fifth had no college education. A few formal in-service training programs were reported by libraries using nonprofessionals; more had informal programs, but no significant differences could be gathered from the data regarding in-service training.

Consequently, this study has shown that nonprofessionals at reference desks in academic libraries are indeed used in a supportive manner. Additional research in the area of in-service training programs for both reference and student assistants would be valuable as well as research into the exact times nonprofessionals are scheduled and the evaluation of the quality of service given.

REFERENCES

1. Letter, Mrs. Margaret Beckman, chief librarian, University of Guelph, Ontario, and past president, Canadian Association of College and University Libraries, to author, October 1973.

INSTRUCTIONS FOR AUTHORS

Manuscripts of articles submitted to College & Research Libraries are to be sent to the Editor: Richard D. Johnson, James M. Milne Library, State University College, Oneonta, NY 13820. Manuscripts should be in two copies and typed in double space. The title, name and affiliation of the author, and an abstract of 75 to 100 words should precede the article. Notes are to be consecutively numbered throughout the manuscript and typed in double space on separate sheets at the end. The journal follows A Manual of Style, 12th ed., rev. (Chicago: University of Chicago Press, 1969) in matters of bibliographic style; and recent issues of this journal may be consulted as well.
ROBERT J. GREENE

LENS: An Approach to the Centralization/Decentralization Dilemma

Traditionally academic librarians have been subjected to pressure from faculty to provide decentralized (divisional and departmental) libraries. Faculty at Georgia Tech have been provided with remote bibliographic access to the Georgia Tech Library through microfiche copies of the card catalog. Remote physical access is provided through a delivery service. This system (called LENDS) permits decentralized service to faculty from a centralized library. Faculty acceptance and use of LENDS are examined in this paper.

A recent article by Waldhart and Zweifel on the organizational patterns of scientific and technical libraries surveys the longstanding dilemma of centralized versus decentralized library organization.1 Generally speaking, librarians have favored a centralized organization, and faculty have argued for decentralized libraries (often down to the departmental level). One trend is to compromise and organize scientific and technical libraries around a number of related academic fields (e.g., life science).

The arguments against decentralized libraries listed by Waldhart and Zweifel are that decentralization “(1) generates numerous problems of communication, control, and coordination; (2) results in rising cost through the duplication of library services, materials, personnel, and records; and (3) encourages, whenever materials are not duplicated, the fragmentation of knowledge and isolation of scientific and technical fields.” Faculty members, however, contend that: “their work (primarily their research activities) requires unlimited access to library materials over time, and in addition that library materials should be physically situated in close proximity to the greatest number of potential users.”2

The problem of providing better access to an almost wholly centralized library collection and services had received considerable attention at Georgia Institute of Technology. A rapidly expanding campus plus limited parking near the library had made library use in-
convenient for some faculty. A system called LENDS (Library Extends Catalog Access and New Delivery Service) was developed. LENDS provides faculty with the option of receiving library service while remaining in their departments.

Remote bibliographic access is provided through the distribution of microfiche copies of the card catalog to thirty-five academic and research departments. Each catalog installation is supplied with a 50× magnification microfiche reader. The microfiche catalog is in two parts: a basic file created by filming the card catalog and a bimonthly computer output microfilm (COM) supplement. The basic file, consisting of 717 fiche, contains nearly 800,000 entries. The COM supplement is a cumulative listing of all entries added to the catalog since September 1971. A detailed account of the development and implementation of the LENDS microfiche catalog has been published by Roberts and Kennedy.8

Books, copies of journal articles, technical reports, and other library material may be requested by telephone. Items are delivered on morning and afternoon schedules to all departments. Deliveries are made in a battery-operated cart owned by the library. Items borrowed from the library may be returned through the delivery service.

DESCRIPTION OF LENDS STUDIES

Faculty acceptance and use of LENDS was studied by Greene.4 Three methods were used to obtain data for this investigation: (1) an analysis of faculty library book circulation statistics for periods before and after the start of LENDS; (2) questionnaires sent to faculty who had borrowed library books before and after the start of LENDS; and (3) interviews with faculty who had used LENDS and faculty who continued to obtain library books in the conventional way.

STUDY OF CIRCULATION STATISTICS

Circulation statistics for periods before and after the start of LENDS were analyzed to determine if the availability of LENDS was related to an increase in library books circulated to faculty. The spring quarter 1971 and the spring quarter 1972 were selected as sampling periods. The two sampling periods were compared for number of students enrolled, number of faculty and staff employed, number of active research projects, and other factors which might affect the number of library books circulated. The two quarters were found to be similar in all respects. The only change in circulation policy or circulation procedure between the two quarters was the implementation of LENDS.

It was assumed that LENDS would improve faculty access to the book collection of the Georgia Tech Library. A study by Harris suggests that if improved access is provided to a library collection, greater use will be made of that collection.5 Therefore, if LENDS did improve faculty access to the book collection, greater faculty use of the collection should be noted. Table 1 shows the data collected to test this hypothesis.

<table>
<thead>
<tr>
<th>TABLE 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIRCULATION STATISTICS FOR SPRING 1971 AND SPRING 1972</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of Circulation</th>
<th>Spring 1971</th>
<th>Spring 1972</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Circulation</td>
<td>19,904</td>
<td>19,992</td>
<td>+0.44</td>
</tr>
<tr>
<td>Other Circulation*</td>
<td>971</td>
<td>889</td>
<td>-8.44</td>
</tr>
<tr>
<td>Faculty Circulation (Regular)</td>
<td>3,122</td>
<td>3,363</td>
<td>+7.76</td>
</tr>
<tr>
<td>Faculty Circulation (LENDs)</td>
<td>0</td>
<td>521</td>
<td>—</td>
</tr>
<tr>
<td>Total Book Circulation</td>
<td>23,997</td>
<td>24,765</td>
<td>+3.21</td>
</tr>
</tbody>
</table>

* Other circulation includes off-campus and special borrowers.
TABLE 2
HOW FACULTY OBTAINED BOOKS IN THE PRE-LENDS AND POST-LENDS SAMPLES

<table>
<thead>
<tr>
<th>How Books Were Obtained</th>
<th>Pre-LENDS Sample of Books</th>
<th>Post-LENDS Sample of Books</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>1. By telephoning the request to the library</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>2. By going to the library</td>
<td>184</td>
<td>88.0</td>
</tr>
<tr>
<td>3. By sending someone to the library</td>
<td>22</td>
<td>10.5</td>
</tr>
<tr>
<td>4. Some other way*</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>5. No response</td>
<td>2</td>
<td>1.0</td>
</tr>
<tr>
<td>Total</td>
<td>209</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*The only faculty who chose this answer were librarians who were already in the library and, therefore, did not “go to the library.”

The following proportions indicate that faculty circulation was a greater part of the total circulation after the start of LENDS:

Before LENDS
Faculty Book Circulation, Spring Quarter 1971 = 3,122 / 23,997 = .13
Total Book Circulation, Spring Quarter 1971

After LENDS
Faculty Book Circulation, Spring Quarter 1972 = 3,884 / 24,765 = .16
Total Book Circulation, Spring Quarter 1972

The difference between these two proportions was found to be statistically significant. It was concluded that the increase in faculty book circulation was probably related to the presence of LENDS.

It is also suggested that LENDS may be responsible for some increase in conventional book circulation. It can be noted from Table 1 that regular (non-LENDS) faculty circulation increased by 7.76 percent. There is reason to suspect, although none of these books were checked out through LENDS, that the increase was due to the availability of the LENDS microfiche catalogs in the various departments. Some faculty interviewed indicated that they had used LENDS catalogs but had gone to the library to obtain the books rather than using the LENDS delivery system.

CIRCULATION QUESTIONNAIRE
The faculty book circulation file was randomly sampled before the start of LENDS (November 1971) and after the start of LENDS (May 1972). A questionnaire was sent to the faculty member responsible for each of the sampled book charges. Of the 233 pre-LENDS questionnaires sent out, 209 (89.7 percent) were returned; and out of the 244 post-LENDS questionnaires sent out, 222 (91.0 percent) were returned.

In both the pre-LENDS and the post-LENDS questionnaires faculty were asked: “How did you obtain this book?” The distribution of the replies to this question is shown in Table 2.

It can be seen that LENDS had an effect on the three main ways in which faculty obtain library books: (1) telephone requests increased from 0 to 21.6 percent; (2) books obtained by going to the library decreased by 16.4 percent; and (3) books obtained by sending someone to the library decreased by 7.8 percent. From these data it was concluded that LENDS did affect the ways in which faculty obtain books. The most obvious change was the substitution of the telephone and book delivery for faculty trips to the library.

Faculty were asked the question, “Who within the library retrieved the book from the shelves?” Table 3 sum-
TABLE 3
WHO WITHIN THE LIBRARY RETRIEVED THE BOOKS IN THE PRE-LENDS AND POST-LENDS SAMPLES

<table>
<thead>
<tr>
<th>Who Retrieved the Book from the Bookstacks</th>
<th>Pre-LENDS Sample of Books</th>
<th>Post-LENDS Sample of Books</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>1. Member of library staff</td>
<td>8</td>
<td>3.8</td>
</tr>
<tr>
<td>2. Faculty member and library staff</td>
<td>6</td>
<td>2.9</td>
</tr>
<tr>
<td>3. Faculty member only</td>
<td>172</td>
<td>82.3</td>
</tr>
<tr>
<td>4. Someone else</td>
<td>20</td>
<td>9.6</td>
</tr>
<tr>
<td>5. No response</td>
<td>3</td>
<td>1.4</td>
</tr>
<tr>
<td>Total</td>
<td>209</td>
<td>100.0</td>
</tr>
</tbody>
</table>

marizes faculty replies to this question.
It can be seen from the data in Table 3 that, after LENDS, the library staff assumed a greater portion of the responsibility for retrieval of books from the shelves. Some indication of the overall cost saving potential of LENDS is also shown in the preceding two tables. These data show that relatively inexpensive student assistant and clerical time is substituted for expensive faculty time in retrieval of books from the library shelves and delivery of books to faculty work areas.

FACULTY INTERVIEWS

Fifty faculty who had borrowed books through LENDS and fifty faculty who continued to borrow books in the conventional manner were interviewed. These LENDS users and LENDS non-users were classified into four zones according to the distance of their offices from the library. This classification was made to test for a possible relationship between the distance of a faculty member's office from the library and his use of LENDS. Table 4 shows that faculty located farthest from the library (Zone III and IV) were more likely to be LENDS users. Chi-square analysis of these data indicates that this relationship is statistically significant.

The fifty LENDS non-users were asked why they had not used LENDS to borrow books instead of going to the library. Table 5 summarizes the replies to this question.

Several observations can be made from Table 5. First, the rather nebulous reason of "inertia" was uncovered as an important factor in the non-use of LENDS. If the sample of LENDS non-users can be taken as representative of the whole population of non-users, then 27 percent of the LENDS non-users have rather indefinite reasons for continuing to go to the library. Second, a

TABLE 4
DISTANCE OF FACULTY MEMBER'S OFFICE FROM LIBRARY AND USE OF LENDS

<table>
<thead>
<tr>
<th>Use of LENDS</th>
<th>Number of Faculty with Offices in Zone I</th>
<th>Distance of Faculty Office from Library</th>
<th>Number of Faculty with Offices in Zone II</th>
<th>Number of Faculty with Offices in Zone III</th>
<th>Number of Faculty with Offices in Zone IV</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Users</td>
<td>7</td>
<td>7</td>
<td>18</td>
<td>18</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Non-Users</td>
<td>21</td>
<td>8</td>
<td>13</td>
<td>8</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>15</td>
<td>31</td>
<td>26</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

$X^2 = 11.72, df = 3$, significant at .01 level
large proportion of the LENDS non-users like to go to the library and like to browse. Some critics of remote access systems may justifiably raise the point that persons who like to use the library and who like to browse should not be encouraged to use a system which will deprive them of this pleasure.

Reason three (“I have not had occasion to use LENDS”) may be questioned since all persons selected as LENDS non-users had borrowed at least one library book during May 1972; they all had the opportunity to use LENDS. It may be that some of these faculty just did not think about LENDS when the necessity of borrowing a book arose. This, together with reason six (“I do not fully understand LENDS”), suggests that some LENDS non-users might become LENDS users if exposed to an intensive and personalized education program about LENDS.

Little can be done to convert the LENDS non-users who gave reason number four (“...more convenient for me to go to the library”) for not using LENDS. For the most part, these faculty members had offices in buildings adjacent to the library, and it may well be easier and quicker for them to go to the book rather than wait for the book to be brought to them.

The fifty LENDS users interviewed were asked to indicate what problems (if any) they had in using LENDS. Table 6 shows their replies.

It should be noted that very few faculty mentioned any difficulties in using LENDS after their first try. The high number of faculty who checked reason number five is attributed to the nonobvious location of the focus control on the reader used. Of course, those who cited reason number eight would have also been disappointed if they had gone to the library for the book.

The fifty LENDS users were also asked to cite any advantage they saw in using LENDS instead of the conven-
tional method of obtaining books. Their replies are summarized in Table 7.

TABLE 7
ADVANTAGES OF LENDS AS STATED BY A SAMPLE OF FIFTY LENDS USERS

<table>
<thead>
<tr>
<th>Advantages of LENDS</th>
<th>Number Citing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Overall convenience of LENDS</td>
<td>22</td>
</tr>
<tr>
<td>2. LENDS is faster than conventional way of obtaining library books</td>
<td>15</td>
</tr>
<tr>
<td>3. Does not require walking to the library</td>
<td>14</td>
</tr>
<tr>
<td>4. The LENDS catalog provides a knowledge of the library collection without leaving my department</td>
<td>11</td>
</tr>
<tr>
<td>5. Saves trying to locate a parking space at the library</td>
<td>6</td>
</tr>
<tr>
<td>6. It is easier to browse or scan the microfiche catalog than the card catalog</td>
<td>6</td>
</tr>
<tr>
<td>7. Books (entries) are easier to locate in the microfiche catalog</td>
<td>5</td>
</tr>
<tr>
<td>8. I do not have to wander around the library to locate a book</td>
<td>5</td>
</tr>
<tr>
<td>9. I can sit down while using the microfiche catalog</td>
<td>4</td>
</tr>
<tr>
<td>10. A report on the status of books not received (e.g., lost or on reserve) is provided as a part of the system</td>
<td>2</td>
</tr>
<tr>
<td>11. I do not have to carry large numbers of books back to my office</td>
<td>1</td>
</tr>
<tr>
<td>12. I tend to return books to the library as soon as I am finished with them instead of waiting until my next trip to the library</td>
<td>1</td>
</tr>
<tr>
<td>13. My office has become equivalent to a carrel in the library</td>
<td>1</td>
</tr>
<tr>
<td>14. By using the microfiche catalog, I can make students aware of library materials</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: Several LENDS users cited more than one advantage.

LENDSTODAY

The information about LENDS for this investigation was gathered during the first full academic quarter of its operation in the spring of 1972. Since this time, LENDS services have been expanded in the following ways:

1. Computerized literature searches are offered through the Reference Department and the University of Georgia's Information Dissemination Center.

2. Many academic departments combine LENDS with appropriate abstracting or indexing services for remote access to journal and report literature. Photocopies of requested articles are delivered through LENDS.

3. Three LENDS microfiche catalogs (and readers) have been made available for home or classroom use.

4. LENDS pick-up stations are now in dormitories, the student center, and other buildings for convenient return of library materials loaned to students.

5. The LENDS microfiche catalog has been purchased by other libraries (one in Hong Kong), and remote physical access is provided through interlibrary loan and photocopy service.

6. LENDS microfiche catalogs and intercom telephones have been placed at several locations within the Georgia Tech Library. Library users may obtain catalog aid and information concerning the location of materials from the Circulation Department.

7. Several graduate students are using LENDS services.

LENDSService has grown dramatically over the past two years. Over 6,600 items (books, photocopies, literature searches) were delivered to faculty through LENDS in the 1972–73 fiscal year. The number of items delivered during the 1973–74 fiscal year mushroomed to nearly 25,000. The Georgia Tech School of Computer and Information Science and the library staff are continuing the evaluation of LENDS under a National Science Foundation grant.

SUMMARY

The LENDS remote access system has allowed the Georgia Tech Library to decentralize services in an essentially
centralized library. Faculty have access to library materials without leaving their departments. Remote bibliographic and physical access has made it easier for many faculty to obtain books, and, therefore, the faculty circulation of books has increased. LENDS is used most heavily by faculty situated farther from the library.

Several Georgia Tech faculty have yet to give LENDS a try. Some faculty continue to come to the library out of habit or preference, and some faculty, situated near the library, feel that going to the library is still more convenient. Acceptance of LENDS by those faculty who have tried it has been gratifying. Since more of the responsibility of getting books to the faculty has been assumed by the library staff, these faculty can spend this time on more productive tasks. LENDS users have adapted to the new system with very few problems and, in general, are strong supporters of the system.

LENSD, described most simply, sends library materials and services to users instead of requiring users to come to the library. As LENDS services are expanded, and as faculty acceptance of LENDS grows, the implications of this nontraditional approach to library organization will become increasingly important. Not the least of these implications aims at a possible solution to the centralization/decentralization dilemma.

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2. Ibid., p.427.
Providing Access to Externally Available Bibliographic Data Bases in an Academic Library

The ready availability of externally processed bibliographic data bases has made it possible for an academic library to provide computerized searches on a large number of data bases with a very small initial investment and utilizing its own personnel. The experience of the University of Pennsylvania Libraries has confirmed that such an approach is indeed feasible. This article discusses the approach, questions and problems encountered, and the factors considered in their resolution. Also discussed are the role of the data services librarian, the costs incurred, and some observations as to the philosophy of the approach, with particular attention to the integration of the service into the reference department.

The increasing availability of large machine-readable data bases has for several years served as an indicator to libraries that a means of greater information retrieval services to their users was forthcoming. The role of libraries in providing this type of service was discussed in a recent article by Richard DeGennaro. In that article he wrote about the possibilities of the library’s serving as a “broker” rather than as a processor for data bases. He pointed out that libraries will play a key role in providing access to data bases, but that the in-house processing approach is not feasible due to the high cost involved and the nature of the demand. Also stressed was the likely trend toward the utilization of a mixture of batch-mode and on-line services, each serving specific functions.

In the past two years the University of Pennsylvania Libraries, as well as some other academic libraries, have been pursuing this approach. The general goal has been to provide computerized literature searches for the university community, with a minimum investment, by taking advantage of currently available external services.

In this article an attempt will be made to summarize the situation faced by academic libraries undertaking such an approach. The emphasis will be on the decisions which are necessary, the costs involved, and some general observations which should be of help to those contemplating accessing such systems. Technical details regarding the systems themselves will be avoided, since
such information is available elsewhere. An excellent up-to-date source of detailed information about on-line systems is the recent book by Lancaster and Fayen.2

At the outset of projects of this type, certain policy decisions become necessary which are potentially crucial to the success of the endeavor. Among the first that arises is the question of where within the library structure such a service should be located.

**The Service as a Reference Function**

After consideration of the various alternatives (organizationally and physically) within the library system, the conclusion has been reached that the reference department is the most reasonable location. There are two primary reasons for this. First, providing bibliographic services is a reference function; and, second, in order to give users fullest advantage of total library services this office should not be separate from, or in competition with, other reference functions of the library. To further this “integrated” approach, it has been found feasible and desirable to involve the entire reference staff, particularly by delegating responsibilities for the searching among the staff, each specializing in one or more data bases.

Alternatively, the service could be located within the library’s systems office, the rationale for this approach being the computerized origin of the services. However, for the reasons given above, the fact that handling these services requires no systems experience, and the fact that the systems office is usually remote from the public services division of the library, the former approach is preferred.

**Types of Systems Available**

The prospective “broker” of externally processed data base services is confronted with three main categories of service which can be used either separately or in combination. These are batch-mode (off-line) services, on-line bibliographic services, and on-line non-bibliographic (“statistical”) services.

The batch-mode services are the easiest (for the librarian) to use. Providing access to a large number of these data bases can be as uncomplicated as collecting data base directories and then providing this information to users as the occasion arises.

The on-line data bases require more effort to access, considerably more participation on the part of the librarians, and a number of other considerations which will be discussed below. However, the actual amount of service which can be provided to the user will not only be greater, but is more likely to be utilized. The second type of on-line service, statistical data bases (such as Predicasts, the National Bureau of Economic Research Time Series Data Bank, and STOCKRETRIEVE), presents more complicated problems, not in terms of the actual access, but in the on-line manipulation required due to the contents of the data base. The advantages are that the material retrieved is the actual information the user is looking for, rather than bibliographic references. This specificity of information has an additional drawback, however, in that each data base is likely to be of interest to but a small portion of the user community.

**Utilizing Batch Services**

Following considerations of the above points, the next step is the actual implementation of services. The discussion which follows will attempt to generalize where possible, but will also rely on presentation of actual situations encountered and experiences gained. As indicated, taking advantage of batch services involves, first, the collection of information on those available. In addition, the library may also become involved in promoting the services and as-
Sisting users in choosing the appropriate data base, making the contacts, filling out the request forms, and evaluating results.

Unfortunately, none of the data base directories, though helpful, contain all the information which is frequently called for in fulfilling the above functions. They do, nevertheless, serve as an adequate source for obtaining further information and price lists.

Following this approach, information was compiled on those data bases which were readily available, and which were likely to be of interest to a number of potential users (by “available” it is meant that they could be accessed in already processed form simply by contacting a center either by mail or by phone). No attempt was made to produce a total list of either all data bases or all processing centers. It was found that twenty-nine available data bases might be of use and that these were available either directly from the data base producers or from one or more of six processing centers.

This information was gathered, and considerable time was spent in the promotion of the services. Working at this point only with the batch services, the promotional emphasis had to be placed on selective dissemination of information (SDI) services rather than the retrospective searches since the prices for SDI ($40/year and up) were much more appealing than the $200 which was typical for a four-year retrospective search. After a few months, only a handful of people had subscribed to such searches. The reasons given for not subscribing by most people contacted were that funds were not available and that they were satisfied with their present information gathering methods. Another reason, which seemed obvious, though not stated directly, was that SDI services have yet to prove their value to university people.

**Selection of On-Line Systems**

Besides the limited demand for those services which can be provided in batch mode, several factors indicate the advisability of utilizing on-line services in addition to the batch services, in spite of the greater degree of involvement demanded of the library. These factors are: (1) the cost of searches: on-line retrospective searches (in most cases) are significantly less expensive in comparison to the batch searches; (2) the turnaround time: a few days or immediately for on-line, a few weeks for batch; (3) the interactive capability: only available on-line; and (4) the rapid increase in the number of on-line data bases.

More specifically in regard to the price differential, to get a typical retrospective search done on Chemical Abstracts for 1970–1973 would cost $640 from one leading center and $400 from another. The same search could be done for from $5 to $40 through the on-line services. A typical retrospective search for the NTIS files would cost $50 from NTIS directly, $65 from one center, and $50 from another, but less than $15 through the on-line services. (Figures for the batch services are based on the promotional literature supplied by the centers. Figures for on-line costs are based on searches actually done.)

Once the choice has been made to implement on-line services, the next decision necessary is which system(s) to access, and which of their data bases to use. At the present time there are three on-line bibliographic literature searching systems which are actively promoting their services. These are Lockheed Information Systems, New York Times Information Bank, and Systems Development Corporation (SDC).

Lockheed and SDC stand out immediately as likely choices because of the data bases they offer, the range of sub-
ject areas they cover, and the lack of any subscription charge or minimum fee. Based on the areas of study of the graduate students currently enrolled at this university, it was found that one or more of the data bases offered by those two systems could be of potential use to approximately 48 percent of that group.

Likewise, the potential user group for the New York Times Information Bank is quite large, and this data base is consequently quite appealing. The major difference, though, in accessing this system as compared to the other two is the minimum investment required. Regardless of how little the system may be used, a minimum monthly cost of something in excess of $300 is incurred.

Due to this necessary financial commitment for the New York Times, utilization of that service by this library was delayed until some experience was gained with the other two systems. However, within a few months after the implementation of the first two systems, the New York Times was also accessed. The decision was precipitated by the announcement of a considerable decrease in minimum charges.

PRICING STRUCTURE

The primary factor to consider when deciding what to charge users for searches is how much the library is willing to spend of its own money. If the amount is equal to what would be spent in developing one's own information retrieval system, the library can probably give away hundreds of searches per year absolutely free. Disregarding that option, the library can decide to offer free searches and limit demand in any one of several ways. This approach serves the very useful function of stimulating use of the service. However, response to anything free is usually not a good indicator of either potential demand or actual need. Getting some feel for these two factors is of considerable importance at this stage in the development of these services.

At the opposite extreme, a library can decide to recover all costs including connect time, communications, personnel, space, etc. This approach has the disadvantage of putting the cost of a search out of the reach of the graduate students who perhaps need the service more than any other group. Also, if total cost recovery is a valid rationale for this service, is it also a valid rationale for all library functions?

Taking the approach that the searches should be partially subsidized, a reasonable pricing structure, which has proved workable, is, first, to offer the services at a flat rate for a few months, and then, at the end of that period, when a nucleus of subscribers has been created, to change the pricing structure to reflect costs more accurately. In both stages a criterion should be that the price schedule should be easy for the potential user to understand. This approach was tried, using $10 per search as the flat rate (a "search" being defined as coverage of one data base with output limited to 50 citations with abstracts, or 100 citations without abstracts). Additional output was offered at $.10 and $.05 respectively per citation. This price structure covered the direct costs (connect time and communications) of some searches and fell far short for other searches. However, it allowed the expenditure of the approximate amount of "seed money" anticipated in order to advertise the service.

This price schedule was maintained through one term, at which time the structure was changed to give the user two options, designated as "standard searches," and "special searches." With the standard search, the user is charged a flat rate and is allowed to choose up to a certain number of descriptors (the rate and number of descriptors varying
with the data base, but typically being $10 and ten descriptors). Output of up to fifty citations is included in the base price. For these searches the user is not present. For the special searches the user is present and is charged the actual cost of connect time and printing. As with the standard searches, the search strategy and input terms are worked out ahead of time, but are modified to whatever extent the user desires as the search progresses.

**PROMOTION AND PROCEDURES**

Since the type of service being offered is one with which members of the academic community are generally not familiar, but one for which the need should at least be explored, it is felt that a fairly vigorous promotional program should be undertaken. This program can involve the campus news media, flyers, posters, displays, direct personal contact, contact through departmental librarians, and word-of-mouth referrals among users. Expenses for all of these approaches can easily be limited to personnel time and the library’s own duplicating services.

One other approach which is being tried is to make the grant applicants aware of the services at the time they are preparing their budgets. To accomplish this, an appendix describing the service was prepared for the handbook distributed by the university office which handles grants. The appendix describes the retrospective searches, the SDI searches, and also the "Research in Progress" searches which are available through the Smithsonian Science Information Exchange.

In developing procedures, the question as to what extent to utilize user participation has been one of the most difficult determinations to make. The extremes would have been either a totally delegated search, in which the requestor is not present, or a totally nondelegated search, in which the intermediate (the library staff member) need not be present. The obvious disadvantage to the delegated search is that both recall and relevance can suffer. The advantage is that the search can be done in less time (with resulting decrease in cost). The disadvantages to the nondelegated search are the necessity for training every requestor in use of the service (at great cost), and the likelihood that many, if not most, occasional users would not be able to take full advantage of the systems capabilities (with a resulting decrease in recall). The advantage is an ultimately better performance for the frequent user (if any individual is willing to spend the money and time to become really familiar with the system). One solution is to take an intermediate approach and have the reference staff serve as "middlepersons," but to try to have the user present. This would result in lowest training costs, the availability of an experienced searcher for every search, and the availability of the requestor to give feedback as the search progresses. The impression has been gained that requestors who were actually present for the search seem frequently more satisfied than those who opted to delegate the search. This degree of satisfaction seems to be due not only to the increased relevance of the retrieved set but also to the fact that the requestor has a better understanding of the capabilities and limitations of the system. The usefulness of the "middleperson" approach has also been indicated by Borman and Mittman. 7

The policy of encouraging the requestor to be present for each search has been found to have several shortcomings: (1) some users find it inconvenient to be present; (2) the total turnaround time is usually greater due to the necessity of waiting for a time convenient for both the searcher and the requestor; (3) some searches are so simple that the requestor’s presence is unnecessary; and (4) connect times are
usually much greater with the requestor present, with the consequent higher cost of searching. It is recognized, however, that for many searches direct user participation is still essential for most efficient retrieval. This conflict can be resolved by offering the two options described in the section on pricing. The standard search (flat rate, user not present) permits availability of quick, inexpensive searches, especially for students, and the special searches permit more thorough searching utilizing more fully the total system capabilities.

Another procedural decision is how many searchers to use. In most cases the volume of searches will be small enough to require only one or two searchers, but on the other hand, there are two main advantages to distributing the responsibility among most or all of the reference staff. First, it helps to keep the service more integrally connected with the reference department; and, second, variation in content and indexing of the data bases is so great that the more data bases an individual attempts to handle, the less intimately each can be known, and the less efficient the retrieval process. This approach has been met with enthusiasm by reference staff members, even though most have had no prior experience with computers.

**FUNCTIONS OF THE DATA SERVICES LIBRARIAN**

The function of this person (called information services librarian in some institutions) can be broken down into five areas: coordination, promotion, training, searching, and consultation.

Coordination includes development of procedures, liaison with and among searchers, and liaison with departmental librarians and other related services on campus.

Promotion is the one function which is probably most alien to many librarians. Nevertheless, if it is indeed felt that the services being offered are time saving and worthwhile, one should either be willing to put considerable effort into their promotion, or rethink the premise. Over the next few decades, patterns of scientific communication are sure to change in this direction, but if these services are not exploited at present, many valuable resources are going to be wasted in the interim.

Training in the use of the on-line systems consists essentially of digesting the manuals and accumulating experience. Once one person within an institution has become familiar with the systems, that person can train others easily. Training courses are offered by both Lockheed and SDC, and experience has shown these to be helpful; but if one is capable of reading the manuals (which assume only a rudimentary knowledge of systems terminology), one can proceed from there and, within a couple of hours of connect time, be well on the way to proficiency. Again, the knowledge of the operation of the systems is but one part of what is to be learned, the other main part being knowledge of the indexing and contents of the individual data bases. Manuals for both SDC and Lockheed could be of greater help if they included details about the indexing policies followed (or allegedly followed) by the data base producers, and also some details about the posting procedures followed in putting those data bases onto the online indexes.

It was found that an average of 3.3 hours of connect time was necessary per searcher in preparation for his or her first actual search. Additional training time was accumulated in the first few searches and is reflected in the difference in average search time for the first month and the second. The average time decreased by eleven minutes during that period. Charging this difference to training costs gives a total training (connect) time of less than four hours per person, or $140–$280 of connect
time (depending on the data bases used).

The consultation function served by the data services librarian tends to serve simultaneously as an in-depth reference function. Primarily, the consultation is to provide potential users with information about the computerized searches, but this information is more valuable to the user if supplemented by further suggestions as to the approach to his or her literature problem. Such personal attention can be had at the reference desk, but is frequently qualitatively and quantitatively insufficient due to lack of time.

Providing the information about the computerized searches requires that the data services librarian be familiar with what services are available, what the output looks like, the turnaround times, which data elements are included, the types of literature covered, and specifically which journals are covered. For the batch services this information can be gotten mainly from the promotional literature of the centers. For the online services, this information is available from the manuals, the promotional literature, and the hardcopy of the data bases.

Costs

A cause for considerable apprehension when approaching these services is how to anticipate real costs correctly. Although the systems sound relatively inexpensive, few figures are available except from the suppliers. Fortunately, there are no large cost categories which are not readily anticipated. Costs can be controlled to any degree a particular library desires, depending upon how quickly the library wishes to offer the services, how many of the data bases are offered, how many searchers are trained, the sophistication of the terminal used, and the degree to which the library is willing to subsidize the services.

Fixed costs include equipment rental (or purchase), service contracts for equipment, training time, and overhead. Equipment can be rented for about $80 per month on up, and service contracts are about $20 per month. Overhead is the same as for other library operations. Personnel costs will vary, depending upon how quickly and how deeply the library wishes to become involved.

The variable costs depend upon how many searches are done and how long the searches take. For a typical search, about thirty minutes of the coordinator's time is required (talking with the requestor, handling printout, billing, etc.). A search typically requires from ten to thirty minutes for its execution (including discussion, logging on, and connect time). Printing costs vary from $.05 per page up to $.25 per citation. Typical searches retrieve between ten and sixty citations. It has been found that the average direct cost-per-search on the ERIC data base, which is one of the least expensive, but also the most popular, is less than $12. Searches on the other data bases are greater, approximately in proportion to the cost of connect time.

Summary

Experience with accessing externally available bibliographic literature searching services indicates that such an approach is feasible (perhaps even obligatory) in the academic library, without waiting for further developments or extensive studies. Costs are reasonable, and perhaps of more importance, subject to whatever controls may be applied. User acceptance is good, though not overwhelming, and the approach of supplying "seed money" seems to be effective since an increasing proportion of users have been referred to the service by former users.

As to how these services fit in with users' needs, it is felt that many under­graduates can use the services as a basic source for some of their papers. For
graduate students, faculty, and other researchers, the service can fulfill an important function as a supplement to their usual information retrieval methods (as indicated by Back). As more experience is gained, as more formal studies are completed, and as suppliers become more aware of the academic market, the ease and efficiency with which the services can be provided will increase. The present state of the art is such, however, that any academic library with sufficient interest can successfully serve as a “broker” for these services.

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JAMES R. DAVIS

The New Students: What They Read

Who are the new students of the 1970s, and how can those of us who work with them come to understand them better? It has been said, "A man is what he reads." An analysis of student tastes in pleasure reading, as reflected in the campus bookstore best-seller lists compiled by the Chronicle of Higher Education, reveals that students today are seeking new perspectives in their quest for personal identity.

In the late 1960s, when students were posing problems to their elders, there was a great outpouring of commentary on youth. There were sociological and political analyses of protests, clinical studies of activist and alienated students, and anthropological treatises on the generation gap. But when the students quieted down, the flood of descriptive literature ceased. A "new student" emerged, but few of the elders cared to comment.

Who are the new students, and how can those of us who work with them come to understand them better? It has been said, "A man is what he reads." Today we might better say people are what they read, watch, and listen to; but it is probably still true that what a person reads reflects, in part, what that person is. Reading tastes give us a glimpse of a person's consciousness—consciousness in the sense that Charles Reich defined it in the Greening of America: "the total configuration in any given individual, which makes up his whole perception of reality, his whole world view."

A periodical, the Chronicle of Higher Education, read by many college faculty and administrators, runs a student best-seller list, a survey based on high-volume sales at various college bookstores. From time to time surveys of individual campuses are brought together into a composite best-seller list reflecting the tastes of some fifty to seventy-five campuses. Through an analysis of these lists for the first three years of the 1970s and, in turn, an examination of the most popular books named there, it is possible to get a fairly accurate picture of students' pleasure reading and, by inference, their consciousness. Students' choices fall into various categories.

The Nature of Society

First of all, students read many of the same best sellers read by the general public. Consistently high on the student best-seller lists are books such as Toffler's Future Shock, Uris' QB VII, Blatty's The Exorcist, and Reich's The Greening of America. Surprisingly to some, perhaps, students are willing to tackle long and sometimes difficult books such as Solzhenitsyn's August 1914, Halberstam's The Best and the Brightest, and Skinner's Beyond Freedom and Dignity. Many of the most popular books are

James R. Davis is associate professor of higher education, University of Denver, Denver, Colorado.
also movies, such as Puzo’s *The Godfather*, Raucher’s *The Summer of ’42*, Burgess’ *A Clockwork Orange*, and Forsyth’s *The Day of the Jackal*. Many of these works attempt to provide perspective on our society or the world in which we live. They raise questions about where we are going and how we got where we are. They explore the powers of human beings to shape and control their world. These are questions that confront us all, but they are especially burning questions to college students. Questions about the nature of society and one’s relationship to it, though posed with less harshness than in the 1960s, are still very much in students’ minds.

**SELF-UNDERSTANDING**

Books on psychology and self-understanding form a second category of best sellers. It is not surprising that Harris’ *I’m OK, You’re OK: A Practical Guide to Transactional Analysis* is consistently on the composite best-seller list. Most students are struggling to move from child to adult roles. In the process, their parents often pose problems to them; and students realize that they, in turn, pose problems to their parents. Students welcome some clarification about what it might be like for them (and their parents) to stop playing parent and child roles and to begin playing adult roles. In addition, they find the elements of transactional analysis applicable to a dependent (or domineering) roommate. Other popular titles include Janov’s *Primal Scream* (an impulse most of us have had in college), Kubler-Ross’ *Questions and Answers on Death and Dying*, Fast’s *Body Language*, and Laing’s *Knots*. Several of Perls’ books are popular, including *Gestalt Therapy Verbatim* and *In and Out the Garbage Pail*. If the sensitivity movement has passed its zenith, the search for more open and genuine human relationships has not.

**RELIGION**

Oddly enough, the search for self-understanding has included almost no books on religion, with one notable exception, Gibran’s *The Prophet*. Students do not read theology as students read Niebuhr, Tillich, Buber, and Kirk-egaard some years ago. Students’ search for identity today takes place in a more personal context, and involvements with religion, when they do occur, are more likely to include participation in mystical, nonrational sects and movements. Intellectual, discursive understanding of conventional religious traditions is apparently not sought.

On the other hand, *The Prophet* has sold more copies in campus bookstores than any other volume over the past five years. The work of a Lebanese mystic published in 1923, *The Prophet* describes in simple, poetic English the departure of the prophet Almustafa from the City of Orphalese to the island of his birth. Before he leaves, the prophet speaks words of wisdom to the citizens of the city. He says, for example, that these should be among one’s desires:

“To melt and be like a running brook
that sings its melody to the night.
“To know the pain of too much tenderness.
“To be wounded by your own understanding of love;
“And to bleed willingly and joyfully.”

The teachings appeal to the emotions, they often reject rational understanding, and they express the mystical unity of man and nature. The words of wisdom come in short, memorable aphorisms and the movement is cinematic, rather than from one argument to the next. The teachings are intensely personal and immediately applicable.

**ANTISCIENCE**

Students’ rejection of rational discourse about religion is probably part of a larger skepticism about scientific
thought generally. This rejection of scientific rationalism, expressed as a rebellion against technocracy, was identified and examined in a book popular among students, Roszak's *The Making of a Counter Culture*. While the counter culture never produced the impact of "an invasion of Centaurs" (just as America never "greened"), there is no doubt that a pervasive skepticism about science persists in the minds of many students today. Students don't read books about science; they read some science fiction, but the popular books touching scientific themes are for the most part antiscientific in spirit. Watson's *Double Helix* is a personal account of the discovery of DNA, but its main thrust is that this scientific breakthrough involved a great amount of intuition, intelligent guessing, and "luck." The book doubtless owes its popularity to students' fascination with this side of the process. The most recent books to shoot to the top of the student best-seller lists are Von Daniken's *Gods from Outer Space* and *Chariots of the Gods*. Although Von Daniken proceeds in a logical, rational manner to try to establish that (a) life on other planets is likely, (b) interplanetary space travel from creatures on other planets is possible, (c) our planet was invaded by such travelers, and (d) ancient ruins which cannot be explained in any other way establish the evidence for such visits, it is clear that what he is trying to do is to shake to the very foundations the assumptions upon which our present "scientific" worldview is founded. It is science in the bullring against science, and students apparently are fascinated spectators.

**FANTASY**

It is only a small step from such fantastic ideas, presented in all seriousness, to fantasy. There is enough of the child left in students to enjoy fairy tales, but they have to be adult fairy tales. And students have their favorites. Some students have worked their way through all three volumes of Tolkien's *Lord of the Rings*, but their favorite has been *The Hobbit*. It is not a new book; it was published in 1937 by J. R. R. Tolkien, an Oxford don, a medievalist and philologist. The "hero" of the story, Bilbo Baggins, is a hobbit, a not-quite-human, short, fat creature with furry feet and natural leathery soles. Bilbo sets forth on a quest through all manner of strange terrain to return the One Ring of Power to the Shire. It is not so surprising that students like the hobbit; they identify with him. He's away from home on a quest; he encounters strange, unfamiliar surroundings; and he has to do a lot of what students call "coping." He is a minihero who is constantly thrown into situations not of his own making, but somehow he bumbles through. No matter how bad things get, he has hope. One might say his experiences are something like going to college.

**SOCIAL ISSUES**

In spite of their interest in fantasy, students are also interested in the real world. If their reading is any indication, they still have a deep concern for contemporary social issues, particularly the relationship of the races and the protection of the environment. Popular books about blacks tend to be autobiographical statements by blacks, such as Cleaver's *Soul on Ice*, Gregory's *No More Lies*, Davis' *If They Come in the Morning*, and, of course, *The Autobiography of Malcom X*. Students today, instead of involving themselves in protest movements for racial justice, seem to be saying to blacks, "Tell us what you're like and how you see it." Interest in persons of other races has been broadened to include the American Indian. Two books in particular have been especially popular, Brown's *Bury My Heart at Wounded Knee* and Deloria's *Custer Died for Your Sins*. Students continue to express interest
in environmental problems, and they buy such books as Commoner’s *The Closing Circle*, Ehrlich’s *The Population Bomb*, and Morris’ *The Human Zoo*. Commoner’s lucid exposition of the key problems producing the ecological crisis is an example of how a professor can present complex scientific principles in a style that is popular and palatable to students.

**SEX**

And then there is sex. It has been said that Americans are generally hung up on it, and students are probably no less so, if we are to judge from their reading. The books fall into several subcategories. There are those on mechanics. Since many students, as a mere function of their age, are inexperienced, they want to know how. (Oddly enough, our culture has apparently produced a number of fully grown, even aging, adults who also want to know how.) And so students read Reuben’s *Everything You Always Wanted to Know about Sex . . .*, The Sensuous Man by “M,” The Sensuous Woman by “J,” and (at least at Yale) the *Student Guide to Sex on Campus* by the Student Committee on Sexuality. Interest in sexuality also includes some thoughtful reflection on sex roles, sexual stereotyping, and discrimination against women. Such interests are doubtless sparked by the women’s movement, but for whatever reasons, students in significant numbers are reading Greer’s *The Female Eunich* and Kate Millett’s *Sexual Politics*. (So far little has been written on the role stereotyping which men encounter.) Students also seem to be interested in discovering the meaning of sex in the context of love and marriage, as evidenced by the popularity of Bach and Wyden’s *Intimate Enemy: How to Fight Fair in Love and Marriage* and the O’Neills’ *Open Marriage*. The overwhelming popularity of Segal’s *Love Story*, quite apart from its appeal to emotion, must be seen at least in part as a result of its positive portrayal of a youthful sexual relationship within the context of love—in short, a real love story.

**LEISURE**

Most of the books cited above provide some insight into what students think about. Another set of titles suggests what they do, how they occupy their leisure. One thing they do is more of their own cooking. The trend toward off-campus living arrangements has been accompanied by an intense interest in diet and health. Among the best sellers in this category are Davis’ *Let’s Eat Right to Keep Fit*, Atkins’ *Dr. Atkins’ Diet Revolution*, and Pauling’s *Vitamin C and the Common Cold*. Students are buying cookbooks such as Hunter’s *The Natural Foods Cookbook*, Sunset’s *Sunset Cookbook of Breads*, Brown’s *Tassajara Bread Book*, and, in the South, *The Plantation Cookbook* published by the Junior League of New Orleans. Students are still eating some rather strange meals, but at least they are getting the satisfaction of preparing the menu themselves.

The interest in natural foods is part of a wider back-to-nature movement. Many students are spending time out of doors trying to appreciate and enjoy whatever natural environment may be accessible, and they buy books to enhance their understanding. These books are regional best sellers, and may be popular on only a few campuses. At Delaware State students are buying Leopold’s *Sand County Almanac*, at Tulane they purchase Brown’s *Wild Flowers of Louisiana*, at North Carolina State they read Peterson’s *Field Guide to Birds*, at San Fernando Valley State College they buy Iacopi’s *Earthquake Country*, and at Dartmouth it’s Foley’s *What the Old-Timer Said to the Feller from Down-Country and Even to His Neighbor When He Had It Coming*. 

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Students are also trying their hands at crafts that use natural materials, such as leather work and pottery. To guide their efforts they buy books such as Pesch's _Macramé_ and even the Better Homes and Gardens book on _Flower Arranging_. The classic compendium of folk crafts and "natural" wisdom is Brand's _The Last Whole Earth Catalog_.

Students still attend football games, of course, but their interests in sports tend toward individual skills that play down competition. At least that seems to be what is reflected in their purchase of Caldwell's _New Cross-Country Ski Book_, Laing's _American Sail: A Pictorial History_, and Fletcher's _The Complete Walker_.

**DRUGS**

Ironically, or at least with some contradiction, the interest in natural diet, health, and outdoor living is accompanied by a strong interest in books that record drug experiences. The readers, of course, may be different readers, but somewhere on the composite best-seller lists appears at least one of the books by Castaneda, _The Teachings of Don Juan, A Separate Reality_, or _Journey to Ixtlan_. In _The Teachings of Don Juan_, the author, supposedly an anthropology graduate student at UCLA, records in diary form his five years of initiation into drug experiences with Don Juan, a Yaqui Indian from Sonora, Mexico. The Indian is a _brujo_, a medicine man–sorcerer, and he teaches the author the uses of various kinds of plants (in particular peyote, which becomes anthropomorphized as "Mescalito") to induce states of "non-ordinary reality." The book consists mainly of detailed descriptions of drug preparation rituals and hallucinogenic states. For those who participate, and there are doubtless many, this becomes a handy-reference to the joys and terrors of an expanded consciousness.

**NOVELS**

Students read little poetry, with the exception of collections by Rod McKuen, Leonard Cohen, and Sylvia Plath; but they do read novels. The novels don't always make the best-seller lists because students read an author and may select from any one of several books the author has written. Many students have read at least one book by Richard Brautigan, Kurt Vonnegut, and Hermann Hesse.

Brautigan is the prophet of the absurd, and students especially like _Trout Fishing in America, A Confederate General from Big Sur_, and _The Abortion: An Historical Romance 1966_? The titles convey well what Brautigan is about, and if you read them carefully you may not need to read the books. Brautigan is a master at creating vivid images of the absurd: an old woman living on a government pension of thirty-five cents a month, a girl so strikingly beautiful that men run into things while watching her, and a library where books are never accepted by mail but must be brought in person. To students who have come to feel that much that passes for culture, civilization, and wisdom is absurd, Brautigan's images have a ring of truth.

Vonnegut deals with many themes that appeal to students, and they especially like _Cat's Cradle, Slaughterhouse-Five_ (also a successful movie), and a collection of his shorter works, _Welcome to the Monkey House_. Vonnegut is a convincing critic of war, violence, and the military mind. His portrayal of time travel suggests the mysticism of certain Far Eastern religions and drug trips. He portrays the imminent destruction of the world at the hands of science and technology, for example through "ice-nine," that miraculous invention that turns all water (and everything with water in it) into a solid and
eventually destroys all life on earth. Students also read the novels of Hermann Hesse, a German novelist and winner of the Nobel prize in 1946. His most popular novel is *Siddhartha*, written in 1922, but students also are reading his later works, *Steppenwolf* and *Journey to the East*. *Siddhartha* is the story of a pilgrim in search of his own identity. Students today identify with Siddhartha's explorations of what they would call “alternative life-styles” (the way of asceticism, the way of worldly pleasure) in his search for personal fulfillment. Hesse's portrayal of intense existential searching, blended with the aphoristic wisdom of the Far East, is attractive and appealing to students.

**Summary**

If students are, at least in part, what they read, what understanding of their consciousness emerges from this popular array of widely read books? The picture that develops is that of a young person seeking perspective on the society and world in which he lives; if not rebellious against, at least suspicious of the conventional world-view provided by his religious tradition, eighteenth-century rationalism, and modern science. He mistrusts the technology that keeps the world hovering on the eschatological brink and seeks a better life by restoring man's primal unity with nature. To discover his personal identity in a world that seems always to border on the absurd, he turns inward, seeking a better understanding of himself and his day-to-day relationships with parents, those of the opposite sex, and members of other races. In his inward journey he does not shrink from fantasy or the drug-induced states of nonordinary reality. He has no master plan for his existential quest; he just blunders through, Hobbit-like, learning to cope by gathering up aphoristic bits and pieces of meaning wherever he can find them.

The new student is summed up in Bach's *Jonathan Livingston Seagull*, a book that almost every student today has read. Jonathan “learns” by climbing high to get perspective on his world, by developing and testing the powers of his being, by talking back upon occasion to the Council Flock, and by discovering that he can do more than he expected. He becomes a one-in-a-million bird. What he had once hoped for the Flock he now gains for himself alone, transcending space and time, eventually learning the meaning of kindness and love. Above all he learns that freedom is the very nature of his being.

Students come in all shapes and sizes, of course, and with all manner of forms of consciousness. But if many of them are like the student described above, there is some question whether today's colleges and universities are equipped even to understand them, let alone meet their needs. It is doubtful whether many students share much of the agenda which their professors have for them; they have too many personal questions of higher priority. They may complete the agenda, even faithfully; they have been well trained for twelve years in that. But their “real education” grows out of an eclectic gathering of experiences found to be instrumental in their inward search for an authentic personal identity. The rest they deem irrelevant obligation. The essence of the traditional university, a rationalism which includes a vast array of sophisticated techniques for “objective,” statistical quantification of data, is viewed with considerable skepticism and indifference. Those of us who teach, whatever our consciousness, might be more effective if we were to check more frequently on how our “professing” is being processed on the other side of the lectern by the new students.
A Simulation of Reserve Book Activities in a College Library Using GPSS/360

The reserve book activities of a typical college library were analyzed by means of a computer simulation. Service levels were determined for various combinations of reserve book stocks and class sizes. Of particular importance was the relationship between reserve book utilization and service levels provided. The computer model contained behavioral assumptions as to the student population served. The model also allowed library policy decisions to be examined.

Modern management techniques are being applied in almost every administrative setting. Libraries are no exception, and the results of research in the areas of mathematical model building, operations analysis, and computer applications are increasingly being applied to library activities. This paper describes the use of such techniques to analyze reserve book activity in a simulated college library. Through the use of GPSS/360 (an advanced simulation language), a computer model of reserve book operations in a college library was developed. This appears to be a worthwhile area to investigate by means of computer simulation, because library administrators obviously wish to limit their investment in multiple copies of reserve books while at the same time providing adequate service to their patrons. Results of the simulation provide an understanding of the factors affecting service levels in reserve book operations.

The Model

The computer model represented a portion of a college library. This library was open from 8:00 a.m. until midnight, a total of sixteen hours daily. The policy of the reserve desk activities simulated was that books were provided to students on a first-come, first-served basis. If the book was not available, the student could have his or her name put on a waiting list. Further, no reserve books were checked out within thirty minutes of closing time.

There were three key features of the computer simulation model. First, it allowed a wide range of parameter values to be used. For instance, the number of students expected per day was set at 30, then 75, and finally 300 to represent three different patron groups. For each of these three patron groups, three dif-

J. V. Baumler is associate professor, College of Administrative Science, The Ohio State University, Columbus. J. L. Baumler is former staff librarian, Belmont Memorial Library, Belmont, Massachusetts. The authors acknowledge their thanks to the Instructional and Research Computer Center at the Ohio State University for providing computer time in support of the research reported here.
different reading assignments were simulated, one at a time. A very short assignment required only ten minutes for the average student; a longer assignment averaged thirty minutes; and a third assignment averaged one hour. Finally, for each of these nine combinations of patron group size and length of reading assignment, six different quantities of books on reserve were represented. Thus a total of fifty-four different combinations of parameter values allowed the representation of wide variations in group sizes, reading assignment lengths, and the number of books on reserve.

The second basic feature relates to the behavioral assumptions about students embodied in the model. The model represents students as (1) having different reading speeds, (2) being heavier users of the library at certain times of the day (afternoon and evening) than at others (morning); and (3) having personal time constraints, hence being reluctant to join long queues to obtain a book and growing increasingly impatient while waiting for a book.

The third key feature of the model is that it incorporates library policies. The major policy tested was the impact of a one-hour limit on reserve books. The longest reading assignment, which required more than one hour for many of the students, was simulated two ways, with and without a one-hour policy limit.

**RESULTS**

Two measures of service were used. The most obvious such measure is the portion of the patron group which was able to obtain the reserve book sought. To illustrate: with a daily demand of seventy-five students, a reading assignment requiring thirty minutes for the average student (some taking more time, some less), and five copies of the book on reserve, a service level of 98.2 percent was obtained. That is, almost all of the seventy-five students would be able to obtain the book, and the library could be reasonably satisfied with the level of service provided.

However, a second measure of the level of service was also used. That was the percent of each patron group who obtained the reserve book without delay. The model contained a queue for students to join if the supply of reserve books was exhausted. It should be recalled that student behavior in the model depicted impatient students, reluctant to join long queues. For example, no student would wait for a book if he or she would be more than tenth in line, and there was only a fifty-fifty chance that the student would wait if he or she were to be fifth in line. As midnight approached, the closing time of the library, he or she was even less likely to join a long queue. The model represented a reserve desk operation which strictly maintained a first-come, first-served policy. In the illustration above, five books were almost sufficient to serve the patron group fully. But in terms of service without delay, only 76.4 percent of the patron group was so fortunate. It would require eight books to provide virtually complete service without delay for seventy-five stu-

<table>
<thead>
<tr>
<th>Size of Patron Group</th>
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<th>Percent Served without Delay</th>
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TABLE 2
RESULTS OF SIMULATION: READING ASSIGNMENT OF THIRTY MINUTES

<table>
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While the results in Tables 1 through 3 are of some interest in their own right, the primary task of analysis was to derive generalizations from the data which could possibly apply to reserve book activities elsewhere. One such generalization was discussed above—the 60 percent increase in books required to eliminate delays in service. Another area in which generalizations were sought was the relationship between service levels and reserve book utilization. Fortunately, a regression equation was found which related utilization with service level. The interesting thing about this equation is that it closely fits the data obtained from all the simulations conducted. Thus, there were no significant economies of scale observed in reserve book activities. The relationship between level of service and utilization is largely independent of the size of patron groups, the length of reading assignments, and the number of books on reserve. This being the case, a simple graph (Figure 1) can be constructed to relate reserve book utilization with service level. Since the relationship be-

TABLE 3
RESULTS OF SIMULATION: READING ASSIGNMENT OF SIXTY MINUTES

<table>
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<th>Size of Patron Group</th>
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<td>95.2</td>
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<tr>
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<td>99.7</td>
</tr>
</tbody>
</table>
Fig. 1

Utilization of Reserve Books Versus Service Level
Gain in additional patrons

Loss in incomplete assignments

Top of shaded area is the portion of the patron group obtaining the book with the one-hour limit

Bottom of shaded area is results without one-hour limit

Bottom line is proportion of patron group completing assignment with one-hour limit

Fig. 2

Effect of One-Hour Limitation on Use of Reserve Books: Patron Group of Seventy-five, Reading Assignment Averaging One Hour
tween percent utilization and service level does not depend upon the number of books on reserve, the size of the patron group, or the length of the reading assignment, Figure 1 is thought to apply to all reserve book operations, at least approximately. One way in which this chart could be used is to investigate a complaint that for a particular title the reserve book supply is inadequate. The librarian may not know the exact size of the patron group using this book or the amount of time each student requires to complete his assigned reading; but the librarian could determine the utilization of this title. If it is found that this book (or set of books) is used 75 percent of the day, use of Figure 1 would indicate that only 87 percent of the patron group is being served.

Figure 1 also indicates the large slack required to provide full service. To serve 95 percent of a patron group, enough books must be on hand that they are no more than 57 percent utilized.

An important part of the simulation was testing the effect of library policies limiting the time for which a reserve book may be held. Consider the following illustration from the data in Table 3. A patron group of seventy-five students will come to the library in a particular day seeking a reserve book of which the library has five copies. The average student will require sixty minutes to complete his assignment, but it may take up to ninety minutes for some students. The library’s stock of this book is somewhat inadequate. If each student fortunate enough to obtain a copy of the reserve book keeps it until he or she has finished his reading, only 80.2 percent of the patron group will be served. In such a situation the library could limit use of this book to one hour. Such a step would increase the number of students who obtain access to the book but reduce the number of students completing their reading assignment. In the above illustration, the percent of the patron group obtaining the book increases from 80.2 to 82.9 by imposing the one hour limit, a very modest increase. But such a limit reduces from 80.2 percent to 55.8 percent the portion of the patron group that completes the reading assignment. Figure 2 depicts the gain in those obtaining the book and the loss in fulfillment of reading assignments for a patron group of seventy-five with a reading assignment averaging one hour when a one hour policy limit is imposed. Figure 2 indicates the high price, in terms of incomplete reading, that is paid for the slight increase in exposure to the book. As a broad generalization, data from all three patron groups suggest that a time limit on reserve books results in approximately four students having to turn in the book before completion of their assignment for every additional student this policy allows to obtain access to the book. Hence such policy time limits could be counterproductive.

CONCLUSION

Modern management techniques are finding ever-increasing applications in today’s library. This research demonstrated how one of these techniques, computer simulation, could be applied.
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Produced by the Japanese University Libraries National Committee and the American Library Association International Advisory Committee for Liaison with Japanese Libraries, this collection contains twelve papers relating to Japanese and American university library science. The five Japanese papers describe past developments, whereas the five American papers discuss present and predicted changes. Change is a common thread running through this volume.

The Japanese papers deal with administrative reforms in university libraries, the change in the library director's status and role, changes in organization, administration, management, library personnel, and interlibrary cooperation. Each paper points to the need for further development and improved service, often suggesting the use of more professional librarians. The American papers describe corresponding American changes in library administration, decision making, staffing, and interlibrary cooperation. The final papers by Liebaers and Burkhardt form a curious supplement. Liebaers makes incisive observations concerning international library associations and group cooperation. He makes one pertinent remark, however, that the Japan-U.S. library meetings tend to emphasize the two countries' differences rather than similarities, because the former greatly outnumber the latter. Burkhardt describes very briefly the U.S. National Commission on Library and Information Science and Japan-U.S. relations at the research level. The best papers are those by McDonald on cooperation and Liebaers on the international scene.

Obviously, the 1972 Racine conference papers can be compared with the 1969 Tokyo conference papers, *University and Research Libraries in the United States* (ALA, 1972). The first volume introduced the series and contained basic and descriptive papers on the librarianship of each nation, while the 1974 volume is much more general in approach.

The purposes of the conferences are unclear. Presenting international views on university administrative problems, seeking to define library and information science issues relating to higher education and research in the two countries, discovering workable forms of library cooperation, and exploring ways to cooperate are the subjects included. More importantly, perhaps, the conferences were merely one element in a wider liaison and interchange program. Providing leadership and exchange continuity between the two librarian groups, assuring an equal partnership in pursuing problem solutions, involving policymakers, providing professional growth opportunities and consultants, and developing cooperative projects were additional purposes listed in the two volumes. The resolutions from this second conference suggest an additional conference, reaffirm the original resolutions, invite other countries and younger colleagues to participate, encourage additional exchange, and establish an implementation group. Conference widening to cover other countries and less influential colleagues raises questions concerning essential conference purposes.

What have been tangible conference results? Apparently, only the conference reports. The librarians' attention in each country has been focused on university library problems and progress of the other country. For Japanese librarians literate in English, the papers may present U.S. objectives toward which their own libraries may be pointed. For Japanese librarians not literate in English, there can be little value. Apparently the conferences were based on the assumption that developments in one country are useful for the other country to know about, but just how and why is not clear. The value of such a current assessment is not clarified, and no further analysis is given of the data presented. A fault of the papers is their oversimplification and generality. Often the information given is inadequate to enable the reader to interpret a situation correctly. The book has not been rigorously edited; many first person pronouns are retained in the text. It con-
tains few footnotes, no bibliographies, and no conference discussions.

This book is a useful contribution to international library science but has no pretension to being a comparative library science study. Hopefully, useful and scholarly Japan-U.S. university library research will be carried on in the future. The book can be recommended for libraries interested in international library science, particularly in Japanese libraries. It updates existing English literature on the subject and is attractively printed and durably bound.—John F. Harvey, Dean of Library Services, Hofstra University, Hempstead, New York.


This small book is an alternative form of a Festschrift. To honor Professor Tauber’s long service as a teacher, colleagues, students, and friends have put together an opus composed of five appreciations, a chapter by Tauber on his main claim to fame (“Survey Method Approach to Library Problems”) and an extensive bibliography. The appreciations take up twenty pages and, of course, are appreciative. The twenty-three-page survey chapter by Tauber is an original contribution which sums up his philosophy and methodology. The bibliography of fifty-one pages is divided into nine parts: Papers; Monographs; Contributions to Other Works; Forewords and Introductions to Other Works; Library Surveys; Contributions to Conferences, Institutes, and Meetings; Course Outlines; Journal Contributions; and a section “About Maurice Falcon Tauber.” The remainder of the book comprises data about the contributors and an index which is interesting in itself. This review will be limited to the bibliography, since this is the main part of the book.

The term “biobibliography” describing Tauber’s output is used in an archival sense in that the material listed includes a number of items to show the fullness of activity undertaken by Tauber rather than being limited to that scholarly output which normally is found in a faculty member’s bibliography. For example, the first section notes an archive of 30,000 papers (1939-1965) given to the Columbia University Library. The thoroughness of the bibliography offers a field day to anyone interested in bibliometrics.

The second section, “Monographs,” for instance, consists of eight pamphlets, a dissertation, one long committee report, one circulated draft, twelve monographs in the standard definition of the term, and ninety-four reviews of these monographs. Of the twelve monographs proper, eight were written and four were edited collections of the works of others. Of the written works, two were done alone and six with a collaborator or, in one case, with several. One of the joint efforts (Wilson and Tauber) went into a second edition and was also translated into Spanish. Of the edited items, one was done alone and three with collaborators. One of the joint edited efforts (Book Catalogs) went into a second edition. Of the ninety-four reviews, forty-eight were of books by or about Louis Round Wilson.

The section, “Library Surveys,” includes surveys of all kinds of libraries: Australian, five (twenty-five reviews or news items); university and college, forty-six (eleven reviews); public, five (three reviews); state, nine; and special, twelve. Of these, thirty-two surveys were made by Tauber alone and forty-five jointly or in a team (his preferred method). Also included are nine articles about making library surveys. Tauber’s own chapter in the book, on the subject of survey-making, distills the experience of thirty years in evaluating libraries by this method.

More sophisticated techniques may be applied to such an extended corpus of data. Not only will the future biographer of Tauber be well served by this collection, but also the historian of the era covered by his work will find in it sources for a study of what was considered important and why it was thought to be so. Further studies by
unobtrusive measures, such as citation studies and more refined methods yet to be discovered, will indicate both the influence of Tauber upon his contemporaries and the status of library operations of various types in the period covered.

Finally, one trusts that his biobibliography will not mean that Tauber's work has come to an end. There is still much to be done, particularly in the improvement of survey methods towards more objectivity, better measurement activity, and less obtrusiveness in the surveyors. Tauber's unique experience makes him an extremely valuable asset in aiding such future development.—Phyllis A. Richmond, School of Library Science, Case Western Reserve University, Cleveland, Ohio.


After reading Shaping a Library: William L. Clements as Collector by Margaret Maxwell, I decided to set it aside for a couple of weeks and see what came through after. I am afraid not a great deal, although I recall the physical format (and I am not looking at it here) as rather ugly: the first part of the title in white not very clear against a light-tan jacket, the covers in a nondescript dark green, and the stitching showing in the pages throughout. So much for aesthetics.

The book itself reads like a doctoral dissertation, which I believe it was—with the usual earnest stance, mishmosh of purpose, etc. I think the problem here is a falling between several stools: biography, antiquarian book collecting, and room-at-the-top academic hanky-panky. I was interested to note that Clements was an all-American boy who sprouted via his father's firm and his own admitted industrial talent, into the manufacturing big-time of heavy machinery. At the beginning of the book, biography is heavy; thereafter it is spattered throughout, but with little relation to its subject as collector.

To me, the academic jockeying over the true research value of the library—the collector of Americana versus the "what-can-it-do-for-my-research?" boys in history and the trustee versus the university librarian (a very unfair match indeed)—was of considerable interest. I am myself ambivalent in the matter of the obvious monetary and bibliographical value of rare books and manuscripts as contrasted to the evident research worth of aesthetically drab and relatively inexpensive photographic reproductions of such material. My own feeling is that any collector, and Clements was indisputably one of the greats, has the absolute right to spend his money as he pleases, just as he has a right to build what he fancies to house his collection. What the value of a collection of rare Americana as source material for research may be over the long haul is another matter. Maxwell speaks of rivers, I believe, of written research pouring forth from the Clements Library, and I would have liked to see some current use, research, and acquisitions figures. That the Clements Library structure provides shelter and its contents titillation for visiting luminaries and, I presume, eminent Michiganders seems largely unrelated to scholarly endeavor and perhaps a sign of the decay of the times.

I think Clements' insistence upon the proper use and treatment of his library is admirable, as is his creation of the kind of library housing that appears less and less frequently in this age of multimedia and hardware. But, then, I am not sure that the tone and ardor of his collecting really live in the book in hand. However, few great bookmen have been so fortunate in memory as Dr. Rosenbach, who buys, plots, and lives in every page of Wolf and Fleming's fine biography.

What do we have if we ask the following routine questions: (1) What is the author trying to do? (2) How well does she do it? (3) Is it worth doing? Certainly Clements as a collector and, really, librarian is worth study; and this is done passably. All in all, then, the book seems a not unworthy effort to treat a subject that commands some attention. Bibliographically, the presentation is not very sturdy; but the book itself is well researched. Biographically, the strokes at portrayal are determined but not particularly effective. However, the academic background which sets off collector
and library is sketched rather well. It is interesting to pursue the fortuitous dance of atoms that led Clements to Randolph Adams, a noted librarian.—Ted Grieder, Fales Library, Elmer Bobst Library, New York University.


All a reviewer's hoary cliches apply to Lubans' collection of essays—it is uneven, contains too much material, has rather fuzzily defined objectives, and even lacks an index. Nevertheless, *Educating the Library User* is one of the most useful and at times inspiring state-of-the-art books to come along in quite awhile.

Lubans has brought together some forty original essays on every facet of library instruction, from the elementary school to the technological university and from the library tour to videotape. Essentially descriptive, the work pretends to be a bit more; the first two sections, half the book, supposedly present a rationale for instruction and a discussion of faculty involvement in library-use education. In fact, however, the best essays in these sections are straightforward descriptions of programs at specific schools or educational levels. A mention of rationale or faculty involvement seems incidental to the thrust of the essays. In any case, Farber's essay on library instruction at Earlham College is brilliant and humbling; equally good are essays on instruction in undergraduate libraries by Passarelli and Abell and in four-year-college libraries by Kirk.

The second half of the book describes the implementation and evaluation of library instruction programs. Included are both overviews of particular instructional techniques (tours, computer-assisted instruction, etc.) and descriptions of particular programs. Many of the essays are excellent, especially so given the seeming dryness of the subject matter. Lynch on library tours and McCormick on handbooks should become required reading for those wanting to improve their library's approach to such orientation techniques. Rader's "helpful hints" are an accurate summary for those planning credit courses in bibliography.

The most noticeable failures in the book are the essays by teaching faculty, both from library schools and from outside the field. The essay by Starkey ("Library-Use Instruction: A College Teacher's Viewpoint") unintentionally shows us how far we have to go in faculty relations. The author, a professor of education, mentions the word "librarian" only once—and in the sentence "Have one librarian escort each group of five people on a guided tour of the library." A history professor writes on the intriguing topic, "The Lecture-Textbook Syndrome and Library Use," but uses his space to offer a diatribe against "our ludicrous system of mass education," as he puts it. Wondering why Lubans included such material, one supposes that having cajoled a faculty member into submitting an essay, it would take considerable temerity to leave it out.

The two essays from library school deans are not much better. Goggin on library instruction at universities does only a superficial survey. Breivik writes on library instruction and the library school, a worthy enough topic, but seems to have little conviction that library instruction has a place in the professional curriculum. She winds up plumping for her school's course on "the non-user in an urban setting" and for changing the name of library instruction to "Individualization of Communication Controls"(!)

One should not emphasize the book's failings, however, because it contains so much that is useful. It should become the basic work for beginning research in library instruction; it includes both a bibliographic essay and a nine-page selected bibliography, and most articles contain extensive notes. Every library instruction practitioner will want it nearby for its description of successful programs and lists of dos and don'ts. And it would be eye-opening auxiliary reading for librarianship students taking reference courses.

Lest we feel smug about American accomplishments, Earnshaw's essay on the cooperative production of audiovisual bibliographic aids in the United Kingdom shows how much could be done if our national organizations—and the directors of university
I. Libraries—took greater interest. There is still far too much needless duplication of library instruction effort in the U.S. However, the recent news that the Council on Library Resources has funded Project LOEX (the Library Orientation/Instruction Exchange at Eastern Michigan University) is encouraging. Lubans’ book should help create a common information base for library instruction librarians nationwide.—Allan J. Dyson, Head, Moffitt Undergraduate Library, University of California, Berkeley.


Liebert, Herman W. Bibliography Old & New. (Bibliographical Monograph Series, no.6) Austin: Humanities Research Center, Univ. of Texas, 1974. 25p.

Readings in Descriptive Bibliography will never find a place on “Fritz” Liebert’s bookshelves. With the exception of two or three of the essays comprising the Readings, all the others are anathema to Liebert’s way of thinking of bibliography. And the former director of Yale’s Beinecke Rare Book and Manuscript Library does have some definite feelings concerning the “new” bibliography. I choose the word feelings intentionally, because it is precisely the absence of this quality in most contemporary bibliographers—such as those collected here—which Liebert laments.

“Bibliophily is the parent of bibliography,” Liebert reminds us at the close of his volume comprising the Third Annual Lew David Feldman Lectureship in Bibliography. As such, “writing about books and discriminating among them came later, and its vitality still depends on love of the book.” Careful to place the master—Frederick Bowers—above reproach, Liebert reproves those of his disciples whose investigations relate solely to the physical aspects of the book without revealing anything substantive about either its contents or the author. “But the book is only a physical container,” he chides, “and the recitation of the facts of its production, when they reveal nothing about its contents, belongs to the history of technology.”

Technology is quite pronounced in a number of the essays in Jones’ anthology. They total fourteen, and all have appeared before. The editor has brought them together to update and consolidate much of the work done in descriptive bibliography since the publication of Bowers’ Principles of Bibliographical Description twenty-five years ago. Jones envisions the readers to consist of practicing bibliographers, graduate students in literature (he himself is on the English faculty at the University of Kansas), and a third category consisting of professional librarians, printing historians, collectors, and dealers.

The scope is broad, both in terms of content as well as objective. The essays are arranged in two groups—those of a general nature which touch on all periods of bibliographical study; those with a more specific orientation, ordered chronologically according to the modes of book production to which they apply.

It would serve no practical purpose to describe and analyze (no pun intended) critically the essays themselves. After all, half of them first appeared more than ten years ago. And as for Jones’ selections—well, one man’s meat is another man’s poison. Surely, even Herman Liebert would find palatable Bowers’ familiar arguments in the latter’s “Purposes of Descriptive Bibliography, With Some Remarks on Method,” as he would William Todd’s piece showing how descriptive techniques, coupled with the study of book reviews, can aid in the discovery of hidden editions and impressions of eighteenth-century texts. And certainly one would have to be a clod, pure and simple, to quarrel with Allan Stevenson’s brilliant detective story on the dating of books through the study of watermarks and their variant states.

Two of G. Thomas Tanselle’s entries, however—one, a minutely detailed and highly technical proposal for a methodology for the description of paper, and the other a survey of techniques for recording press figures, including a comprehensive and systematic set of tables—assuredly would be more difficult to stomach. David Faxon’s “On Printing ‘At One Pull’ and Distinguishing Impressions by Point Holes,” too, would unquestionably cause some distress. Quite
unashamed, Faxon readily acknowledges the use of a machine, the famous/infamous Hinman collator, in the course of his researches. Indeed, one might very well become surfeited with the plethora of technical cant exhibited in a number of the essays and, along with the proponents of bibliography "old" style, push back from the anthology as he might from a table heaped high with undigestable food.

No, there is little chance that Jones' efforts will find a place on the shelves of those who hold that contemporary bibliography is plunging headlong along paths increasingly more involuted and attenuated. But neither do I suspect that Liebert's slim but delightful volume will receive much attention by other than a handful of Jones' intended audience. Each will have its own partisan readership.

While this situation might be lamented, it is not unexpected. For indeed, Fritz Liebert is not the first to conclude that the scholarly and technical community; and those who hold that contemporary bibliography do not have this feature. But this reader feels that, in part, the two volumes complement each other: there will be a number of instances when the inquirer will need to consult both.


As Brazilianists are sometimes painfully aware, that country's "federal agencies have been created, dissolved, and reorganized under a bewildering variety of names which has complicated identification and location of their official publications" (p.xx). Insofar as these actions have affected the agencies' serial publications, we can all be grateful for the appearance of Mary Lombardi's guide, whose purpose is "to serve as a bibliography of Brazilian serial documents as they relate to their issuing agencies" (p.xxi).

This volume contains entries for 1,367 serial publications of Brazil's federal government (excluding federal universities). The author has chosen to interpret "serial" broadly, for which users of the volume will certainly be grateful; she has not, moreover, limited herself to those serials being published at the time of her research (through the end of 1971), although she had originally intended to include only titles which had not ceased prior to 1961. However, she has excluded three types of publications: those intended for strictly administrative or internal use; periodicals providing translations of foreign articles for the Brazilian scientific and technical community; and those which are primarily acquisition lists for departmental libraries, unless such serials contain material of permanent research value.

Those who have used *Latin American Serial Documents: Brazil*, compiled by Rosa Q. Mesa (1968), will wonder about differences between it and the Lombardi bibliography. In scope, the major difference seems to be that serials issued by federal universities appear in the former but not in the latter; conversely, Lombardi has a number of entries not in Mesa, perhaps because no holdings were reported by American institutions. There is a difference in arrangement: Mesa follows Library of Congress entry, but Lombardi places publications under their issuing agency. The 1968 volume is a union list giving holdings in selected major U.S. libraries, while the new bibliography does not have this feature. But this reader feels that, in part, the two volumes complement each other: there will probably be a number of instances when the inquirer will need to consult both.

Since Lombardi's arrangement follows the organization of the government itself, the book divides into four broad parts: the nation as a whole, the legislative, executive, and judicial branches; however, Part III (the executive) contains, as expected,
the great bulk of the entries. These chapters include the Presidência da República, the sixteen ministries (ranging alphabetically from aeronautics to transportation), and the Getúlio Vargas Foundation; furthermore, at the end of entries for each ministry's publications are those for related autonomous agencies: such important bodies as the Conselho Nacional de Pesquisas, Biblioteca Nacional, Banco do Brasil, Instituto Brasileiro do Café, and the regional coordinating and planning authorities (SUDAM, SUDENE, SUDESUL, and SUDECO)—to name just a few examples.

Each chapter begins with a review of the basic legislation affecting the overall entity (e.g., ministry) and provides an outline of the agencies subordinated or administratively attached to it. Similar data for agencies within the chapter give the names under which the entity has been known, together with dates and titles of legislation which caused those changes. As a consequence, the volume can greatly assist those seeking to understand the structure of Brazilian federal government organization.

The entry for each serial consists of an annotation with most of the following elements: contents (describing the nature of the serial whose title is not self-explanatory); variation in title; frequency, or bibliographical history, complete since 1961 and less detailed for the earlier period; numbering irregularities where required; cross-references to other related titles in the guide; mention of indexes, both those of the serial itself and indexing services which include it (notably those issued by the Instituto Brasileiro de Bibliografia e Documentação); and finally citations to other bibliographical works which provide additional information or location of copies in American or British libraries.

A three-part appendix follows the text: (1) a list of libraries and archives in Brazil (principally in Rio de Janeiro and Brasilia) whose holdings and serial records were consulted; (2) the three American institutions (Indiana University, UCLA, and the Los Angeles County Law Library) which played a similar role in this country; and (3) a bibliography of publications consulted in the preparation of the guide. Pages 367 to 445 contain a detailed index to both titles and issuing agencies, with very helpful cross-references from initialisms and acronyms.

Only those who have themselves undertaken the compilation of library guides, bibliographies, union lists, and similar bibliographical tools can fully appreciate the myriad details they contain and the amazing number of questions and discrepancies (apparent or real) which must be resolved. It is a pleasure to report that the Lombardi volume shows careful attention to detail; indeed typographical errors and similar shortcomings are exceedingly rare. In summary, Ms. Lombardi has given Brazilianists a very useful tool, one which certainly will be heavily used by students of Brazilian government and which will probably become "the bible" of librarians concerned with the acquisition and cataloging of Brazilian federal documents.—William Vernon Jackson, George Peabody College for Teachers and Vanderbilt University, Nashville, Tennessee.


Writing, not the least such serious writing as the literary novel, poetry, and the philosophical essay, is probably viewed by more readers than not today as an absolute activity, to be approached in terms only of itself and not, certainly, with regard to what porridge, or what publisher, the author had.

Insofar as the publisher is indeed unduly neglected as a factor in the total creative equation, to that degree we must be grateful to Charles Madison for a richly detailed, well-documented historical survey of the author-publisher relationship. Essentially, in each of his twenty-eight chapters Madison describes the dealings of one American publisher or one of his editors with one writer: e.g., Henry Holt and William James, Scribner's Maxwell Perkins and Thomas Wolfe, McGraw-Hill and Clifford Irving. The attention afforded these various matchings is uneven, although usually understandably and appropriately so: the steady and cordial association of Washington Irving and George Putnam is disposed of in two pages, while twenty are required
for Sinclair Lewis’ peregrinations from Harper to Holt to Harcourt to Doubleday to Random House. In those few instances where there is, in fact, a seemingly unjustifiable lack of balance, it appears to have been a matter of Madison’s not wanting to waste material at hand.

The decline from the gentleman-publisher of the nineteenth century, who characteristically represented to the author both patron, business manager, confidant, and artistic midwife, to today’s seven-figure maneuvering of conglomerate and literary agent is roundly regretted by Madison. This the reader may regard as rather gratuitous moralizing. It is, however, easy—and valuable—to see in the case of any number of the writers Madison treats—most notably Fitzgerald and Wolfe, both of whom had highly personal problems that demanded an editor with the perception and stamina of a Maxwell Perkins—that the final shape of the literary product depended to a greater degree than we might otherwise realize on the quality of the author–publisher relationship. In documenting this point, Irving to Irving offers its own modest contribution to literary criticism as well as to publishing history.

While there is a substantial, and unfortunately unfootnoted, reliance on other published materials, the use of much previously unpublished correspondence and Madison’s own recollections from fifty years in the publishing trade make this clearly more than a cut-and-paste history. One might wish it were less selective: the names of Faulkner, Hemingway, and Whitman, for example, do not even appear in the book. Withal, however, Irving to Irving is a fascinating work and well worth any library’s acquisition.—Charles Helzer, University of Chicago Library, Chicago, Illinois.


The compilers were some of the members of the Ohio Library Association Library Development Committee in 1972. They began with this definition: “Total Library Service meets the needs of people for knowledge and ideas through access to organized collections of all media; develops an awareness among all people of their need for research, informational, recreational and educational resources, utilizes a system of acquisition, storage, and transmission of information.” On that basis, the group points to the undoubted need of performance evaluation that calls upon the user, present and potential, to have input to library management.

Documents dated 1966–72 representing nineteen measuring techniques, some with comments by the compilers, are followed by ten documents which are recommendations for action based on research. Eight of these are conclusions from the earlier techniques. For the ten, criteria for inclusion include “creativity, non-standard nature of content, or pointing in new direction.” The third section is a seventeen-item, briefly annotated, background bibliography. As one can see from the index, there are selections for all types of libraries, but not for all types of users; e.g., children, as the January 1974 Library Trends did. There are no indexed notations for such known measuring techniques as MBO, operations research, or even systems analysis.

Section I presents “a survey of some of the methods currently in use to measure the quality of library service . . . applicable in a variety of kinds of libraries and situations.” Hard criteria are lacking for selections in this and the bibliography. One wonders, for example, why R. W. Trueswell and M. K. Buckland were excluded.

Necessary printing techniques make the text hard to follow; compilers’ comments are difficult to differentiate. Nevertheless, the compilers and publisher are to be commended for adding impetus to the difficult task that faces all libraries. This handbook may give some of us a place to start in finding ways to allow our users (and our potential users through community surveys) to keep our service institutions viable. With continuing application, and necessary feedback, there will be further editions. One hopes these editions will correct the failure of not telling us why particular items were selected or suggesting which technique

This gift to Guy Lyle of twelve essays that describe the academic library scene serves several purposes. First, of course, it is a beautiful tribute that reflects the warmth and respect of Mr. Lyle's colleagues and friends. But beyond that, the volume serves as an exact and accurate image of where academic libraries are in 1975. Some librarians will be surprised, perhaps, that the library "establishment" is concerned and aware of the problems that they confront daily. But administrators will be heartened by this confirmation that their problems are universal academic library problems.

So this volume becomes both handbook and inventory as written by members of the academic community. Service, recently rediscovered as the academic library problem of the seventies, is highlighted in Evan Ira Farber's "College Librarians and the University Library Syndrome" and in Ruth Walling's survey of attempts at "... Quantitative Reference Standards." Eldred Smith's "Impact of the Subject Specialist Librarian ..." does not directly address the service problems but acknowledges that as collections grow, some direct and personal way must be found to link the user with the complexities of collection development.

Academic library administrative problems are addressed in David Kaser's "Dialectic for Planning in Academic Libraries" and Jerrold Orne's "Future Academic Library Administration." Four other essays reflect concern with interlibrary cooperation and faculty-library relationships. The ever present problem of the library and the library school is described in Jack Dalton's essay.

The "Core Collection" concept is examined carefully by Paul Bixler. His article, while it may not solve the problem of the undergraduate library that has become a small research library, does refocus on objectives and goals and becomes an incisive outline for those who may wish to rethink Core Collection implementation.

*The Academic Library* may have raised more issues than it settles. One feels the tension of being on the edge of "breakthrough" without a sense that resolution will follow quickly.

An example is the article by Irwin Simpkins, "The National Collection: Its Growth and Accessibility," which strongly defends a fee system for interlibrary loan. (This kind of move toward corporate thinking and "self-sustaining" service units could lead, in the extreme, to catalog departments selling catalog cards to the reference department.) Mr. Simpkins suggests that a fee system will help libraries limit the demand for interlibrary lending. Is there a "proper" quantity of interlibrary lending beyond which libraries should not respond? Who will determine a "right" price for service or a "proper" quantity of service?

Questions are raised, also, in the discussion of the "university library syndrome." Will we ever be in a position to question the validity of that syndrome in the university library? It isn't difficult to follow Farber to his conclusion that the university library syndrome has eroded the mission of the college library. The "breakthrough" may come when we can recognize that what Farber describes is also destructive to the university library.

It would seem that these and other issues must be addressed with a commitment to conclude that change is both desirable and urgent. *The Academic Library* is the place from which we can start.—Nina Cohen, Associate Director, University of Washington Libraries, Seattle.


After a literary scholar has written a piece of criticism, he or she faces the hurdle of deciding where to submit it for publication. Beyond *PMLA* and a few other well-known general journals, and after exhausting certain specialized titles concentrating
on an individual subject, the scholar may sooner or later file the piece away with its associated rejections. Now there is a new tool which should help such manuscripts find a home, for Gary and Susanna Harmon's Scholar's Market provides a comprehensive reference work on all periodicals on a worldwide basis which publish literary criticism or bibliography in the English language.

Directed to researching and publishing scholars, librarians, and collectors, Scholar's Market lists 848 journals from thirty-four countries and includes the first comprehensive list of periodicals dealing with a particular author or literary period. For example, titles are grouped in such a way that writers with a particular interest in Emily Dickinson or medieval literature are able to locate concerned publications together or through cross-references. Sections included are single- and multiple-author periodicals; periodicals devoted to a subject by age or nationality; periodicals devoted to the genres of poetry, theater, and fiction; periodicals devoted to American ethnic minorities, folklore, film, and other specialized topics; periodicals devoted to teaching about literature; and periodicals featuring literary reviews, general reviews, and bibliographical and literary resources. Specifically excluded are journals containing creative writing and little magazines unless they also publish literary criticism. This eliminates many campus literary magazines and fanzines.

About twenty pieces of information are provided for each entry including such items as the editor's name and address, subscription cost and size of circulation, a description of the journal's contents, the policy on considering unsolicited contributions, the editor's estimated response time to a manuscript, the time lapse to expect between acceptance and publication, and preferred manuscript length. The name of the professional group, organization, or institution which publishes or sponsors the title is not included unless this information appears as part of the title or publisher's address (for example, a user would not know from this list that the American Scholar is issued by Phi Beta Kappa). Nonetheless, there is substantially more information provided than in Bowker's annual Literary Marketplace and, for the field of literary criticism, in Academic Media's Directory of Publishing Opportunities (2d ed., 1973). The annually issued Writer's Market, which in 1975 is in its forty-sixth edition, is primarily concerned with mass market publications. Comparable in disciplinary scope to William L. Camp's Guide to Periodicals in Education (Scarecrow, 1968), Scholar's Market as well as Camp will require its currency maintained. The Harmon editing team or the Ohio State University Libraries Publications Committee should insure that the list be kept up to date with regularly issued new editions or supplements, a task which lends itself to a machine-readable product.

Two excellent essays are included with Scholar's Market. One is an analysis by co-editor Gary L. Harmon, an English scholar at the University of North Florida, of periodicals publishing literary scholarship, with a special discussion of those founded between 1969 and 1973. The other essay is by Richard R. Centing of The Ohio State University Libraries providing a comprehensive comparison of locations for bibliographic information about literary periodicals including bibliographies issued as journal articles. He points out that librarians should be especially aware of specialized literary periodicals dealing with a particular author, not only for reasons of acquisition and reference but also for purposes of interlibrary loan since institutions issuing single-author newsletters often develop special collections of that author's work.

The format of the list requires special praise. As the product of a major research library, it undoubtedly was required to meet the rigorous demands of Ohio State reference librarians, and their influence shows. The volume is well spaced between entries and easy to use, with titles, cross-references, and captions in capital letters. The same printed captions are included for each entry, thereby eliminating the need of a key. They are separated by generous spacing; although this adds considerable length to the book, it increases the ease of its use and invites browsing in its pages. A first-rate professional job for a library to issue—Susan Brynteson, Associate Director for Technical Services, Library, University of Tennessee, Knoxville.
This book includes the proceedings of a seminar held at the University of Bradford in December 1973. The seminar centered on the emergence of information services in British universities and polytechnic institutions. The papers deal primarily with the state-of-the-art situations, but there is some concern with future developments and the evolving needs of library users.

The twelve papers included were given both by librarians and representatives of subject disciplines. The central theme shows how information services are beginning to be an integral part of British academic libraries. A point which is noted throughout is that there is not one model of service which will fit all institutions. Both computerized and manual services are needed, and services must be provided in the library as well as outside of it. Each institution must develop a variety of services which most fully serve the needs of its patrons. The library should be considered an instrument of communication, not an end in itself.

Information services in this book refer mainly to computerized retrieval systems. The range of coverage of the services by subject and time span is more limited than similar American services. This impression may be due to the fact that the meeting was held in 1973. Developments in the past two years have been significant. It is evident from these papers that public service in British academic institutions is not as fully developed as it is in American libraries.

Computer-based services are only one aspect of the larger problem of information services. The first priority should be to determine the needs and then ascertain which type or types of services best meet the needs. Cost effectiveness must be a part of the consideration.

There is a clear distinction made in several cases between information services and reader service. Information service is more current awareness while reader service is information and self-help guidance. The initiation of information services often seemed to unleash latent demands for more service.

One of the most valuable contributions in the book is the “Survey of Information Services Provided by British University Libraries, 1973.” The survey lists most British academic institutions and includes information on staff, reference services, manual current awareness services, computer-based information services, and publications. This listing provides a good overview of information service activities.

Any set of proceedings begins with the disadvantage of being dated before it is published and presenting papers which were prepared for oral presentation converted to a written format. The editorial work in this case has been thorough, and the material has a natural flow.

One of the unfortunate shortcomings of the collection is that there were no conclusions drawn either in the individual papers or based on the total presentation. It is good to know what is going on, but it is better to evaluate the activities than to accept them at face value.—Irene Braden Hoadley, Texas A & M University Library, College Station.


"Fear of the Word" is an inquiry into the "whole complex of causes, of sources, of the origins of censorship" and devotes itself primarily to the censorship of written statements concerning the sexual life of men. It attempts to answer the question: "Why are men afraid of certain words, even though the behavior they denote is generally accepted?"

Oboler, librarian of Idaho State University and a leader in intellectual freedom activities of the American Library Association, has attempted to do this through an
examination of linguistics, anthropology, and theology, with some additional research in history, law, morals, ethics, aesthetics, general philosophy, sociology, psychology, and related fields. His chief objective was to demonstrate that censorship has no basis in reason and that it is "neither essential nor inevitable for man's progress and well-being."

Beginning with the taboos of early civilizations, he traces the history of sex censorship through Hellenism and Stoicism, the Judeo-Christian tradition, and Puritanism to modern-day America and the 1970 Report of the U.S. Commission on Obscenity and Pornography (COP). Fear of the Word uses copiously the quotations of contemporaries to reveal the causes of, the reasons against, and the ineffectiveness of censorship since the creation of written language. One chapter, "The Psychology of Repression," discusses the psychobiology of the censor. Others deal with critics as censors, communities as censors, librarians as censors, the law as a censor, and the U.S. Supreme Court as a censor. It concludes with an analysis of the social and political implications of the COP report and with some interesting speculations about its future impact.

After some extensive struggling with the subject, Oboler concludes with this answer to his original question about the fear of certain words: Since the beginning of time the word has been identified with deity and, therefore, is a sacred and fearful object. Although there is, undoubtedly, general agreement among librarians about the inefficacy and undesirability of censorship, not all will choose to accept this explanation for it, solely on the basis of the evidence which he has presented in this volume. It is, however, a good compendium of quotations on sex censorship and an adequate general survey of this topic.—Doro thy Bendix, Associate Professor, Graduate School of Library Science, Drexel University, Philadelphia, Pennsylvania.


The author, a member of the faculty of the College of Librarianship at Aberystwyth, Wales, has provided us with a thorough and handy addition to the meager literature concerned with the discographical art. As a matter of surprising fact, this volume is the first comprehensive guide to discographical compilation. Mr. Foreman candidly states in the introduction that there is as yet no codification of the rules for the compilation of discographies. There are but the examples which actual discographies themselves provide, but nothing hard and fast. Therefore, Mr. Foreman wisely eschews offering anything other than optional solutions from which the discographer may choose.

The work begins with a very succinct history of sound recording and the early applications of this technology. Next, Mr. Foreman discusses a number of the factors, both legal and mechanical, which bear upon the preservation (and reissuing) of recorded materials. The author then takes up the nature of discography and makes clear its relationship to bibliography in all its forms, e.g., analytical, descriptive, systematic, etc. He goes deeply into methods of grading the sonic qualities of the items included in discographies. In the chapter titled "Practical Discography," the author addresses himself to the problems of defining and limiting the scope of the work to be undertaken and the actual collection and assembly of discographical information. Later chapters take up problems in formulation of the entry, elements for inclusion (e.g., alphabetical, classified, chronological, etc.), examples of select discographies, data processing, and bibliographic control.

The remaining chapters are lists of dealers in out-of-print materials, unusual recording companies and labels, journals and reviewing media, and some select discographies. Following the excellent bibliography are, as an appendix, excerpts from R. D. Darrell's "Gramophone Shop Encyclopedia of Recorded Music," and the index.

Mr. Foreman's little volume recommends itself as a vade mecum to all aspiring discographers and makes excellent reading not only for music librarians not thus engaged but also for the disc collector. His discussions, for example, on the relative merits of the Gramophone magazine, compared to
American counterparts, and of such catalogs as Schwann and the Gramophone Long Playing Classical Record Catalogue can prove very enlightening to anyone concerned with the purchase of recordings.—Kenyon C. Rosenberg, Associate Professor, School of Library Science, Kent State University, and Classical Recordings Editor, Previews Magazine.


Book publishing today is a complex activity, making use of diversified skills and expertise. It is now and always has been a curious blend of art and business, and the role of entrepreneur is one which publishers have assumed. John Dessauer has provided us with a broad survey of the subject, and he writes out of his experience as bookseller, book club executive, and member of a consulting firm serving publishers and the communications industry.

Dessauer defines the publishing process as including the following areas of responsibility: editorial, production, marketing, fulfillment, administration. In no sense are these topics dealt with equitably in his book. The editorial aspect of publishing is touched upon very lightly, and the real emphasis is on the processes of manufacturing and selling a commodity, which in this case happens to be books. This emphasis may be offensive to those who are preoccupied with the literary and cosmetic aspects of books and have little interest in the marketplace. On the other hand, it is well known that publishing houses have floundered and died because of ineffectual business practices.

It is not easy to deal effectively with the processes of typesetting, printing, and binding in a few pages; but in the chapter "How Books Are Manufactured" the author has handled the subject with clarity and skill, providing the layman with a good introduction to the subject. The chapter on "How Books Are Marketed" describes the complex and often cumbersome methods by which books are distributed to readers in the United States, and should be of particular interest to acquisitions librarians. He cites three major problems of the book industry: "the need to curtail overproduction, the need for greater standardization in manufacturing, and the need for an effective distribution system." He also reminds us that publishing is in sore need of ongoing research into the desires and needs of the consumers of its product.

Dessauer writes in a straightforward, no-nonsense manner; there is a total absence of footnotes. A "Bibliographic Note" lists eleven well-known books on publishing and related subjects. The book is well indexed, and there is a useful glossary of terms used in publishing and book manufacturing.—Dorothy Ethlyn Cole, Associate Professor, School of Library and Information Science, State University of New York at Albany.


This book is the revised version of the author’s M.A. thesis for the Postgraduate School of Librarianship and Information Science, Sheffield University, England. It is a "history of developments in the organization of British Asian and African collections" and an attempt "to describe in detail many of the problems peculiar to area collections and their impact on British libraries." The former is presented in a straightforward fashion giving much useful information on the historical background of these collections and their achievements, especially in the years following the widely acclaimed Scarbrough Report of 1947 and the Hayter Report of 1961—two national surveys which greatly contributed to the subsequent development of area studies and area libraries in Great Britain. The latter is discussed under headings such as regional library groups, acquisitions problems and techniques, the role of the area specialist, etc.

In addition to being the most up-to-date, informative, and candid account of the subject in hand, this reviewer finds Ms. Bene-
wick's book an excellent source of information for comparative purposes, for there are many similarities in the British and American experience. In both countries Asian and African collections developed from rather modest beginnings. A period of very rapid growth came in the 1950s and the 1960s as a result of substantial financial support from government and private sources. The number of Asian and African library collections multiplied, extending the scope of their coverage far beyond their original concern with materials in the humanities. With this expansion came also a number of organizational, technical, and management problems, many of which still await satisfactory solutions. For example, the question of whether area collections should be maintained separately or integrated with the main library collection remains a source of disagreement between users and library administrators. The problem of bibliographical control is another challenge which has been only partially met. Dealing with countries with no developed book trade where many desired items can be had only by personal visits and through diligent cultivation of personal contacts is still a problem that defies the solutions of an efficiency expert. (Ms. Benewick offers an excellent account of such difficulties which can be read with profit by those who are accustomed to dealing with American and Western European dealers with computerized operations.)

Probably the most important question facing Asian and African libraries in our two countries today, when financial support for higher education can no longer be taken for granted, is how to consolidate the gains of the past two decades in better service to scholarship. Ms. Benewick pleads for more coordination and planning on the national level for Great Britain. The same plea can and should be entered for the United States. Lately in the United States, there has been much discussion of cooperative schemes in library development in area studies. Both the positive and the negative aspects of the British experience can serve as a useful guide to our deliberations.

Finally, this reviewer would recommend the inclusion of a few statistical tables giving more quantitative information on British Asian and African collections, when and if Ms. Benewick updates her study.—Eugene Wu, Librarian, Harvard-Yenching Library, Harvard University, Cambridge, Massachusetts.


The literature of scientific bibliography has now become so immense with so many different information sources and data services offered to technician and librarian alike that new guides to such literature should prove very welcome indeed. If the guide, as this one does, attempts to be concise, accurate, and fairly well up to date, professional reference attention will focus upon it.

Woodburn, professor emeritus of chemistry at SUNY Buffalo, has summarized in a very modestly sized book his experience of more than fifty years in the use of chemical literature. The editorial effort has been to discuss a limited number of periodicals and reference works but to include in those works the major ones found in well-equipped American libraries today. This is not a vast listing or bibliography of all sources available in the field.

Instead the very readable text leads you into broad areas of discussion such as “collections of physical data,” “abstracting services,” “retrospective searching,” and “microform publication.” There are, of course, sections on the basic works such as Chemical Abstracts, Beilstein, and Gmelin. It is quite obvious that here is an author with a feel for library methodology: classification systems are outlined and compared and government publications and their unique problems summarized.

The double-spaced format of the entire text done in a typewriter face actually invites reading. It is an easy guide to use and manages to make several rather complicated chemical literature systems interesting and clear. This is no mean achievement.

Literature developments have been covered through 1973. There are references appended to each chapter which permit the reader to consult the original sources if he chooses.
Woodburn will inevitably be compared with Evan J. Crane's *Guide to the Literature of Chemistry* (1957); M. G. Mellon's *Chemical Publications: Their Nature and Use* (1965); and C. R. Burman's *How to Find Out in Chemistry* (1966). In several fields—collections of spectra, microform material, and computer-readable material—Woodburn is clearly more up to date, and the entire work is a valuable and most useful addition to the science reference shelf.—David Kuhner, Librarian, Sprague Library, Harvey Mudd College, Claremont, California.


The LOC Project represents search for a practical method to produce a union list of the contents of all libraries of Oxford and Cambridge universities and to relate their resources to those of the British Museum. The calculations based on the results of the project indicate that about a half million unique titles of pre-1801 books alone are held in these libraries. Until now, the success in making the entire spectrum of this wealth systematically available to researchers has eluded the efforts of bibliographers. However, the emerging computer technology recently has opened up possibilities to attack this mammoth task without armies of skilled manpower. The LOC Project has aimed to devise, test, and evaluate techniques for the massive task of compiling a union catalog by exploiting the potential of the new emerging technology.

The LOC Project, which was funded by the Andrew W. Mellon Foundation in 1968 and was brought to completion in 1973, represents thoroughly planned and meticulously performed research in the fundamentals of creating machine-readable bibliographic records from books on shelves. It has assumed no available systematized bibliographic data in the sense of customary catalogs. It has researched the feasibility of creating adequately precise machine-readable records on the basis of rudimentary, easily recorded data from the books themselves. Bearing in mind that the object union catalog had been restricted to books published before 1801, the task assumes an additional dimension of challenge if one remembers the character of the title pages of early books, ranging from the elusively descriptive to the poetic.

The method chosen for the project specified the compilation of the bibliographic records from the title pages of a sample consisting of all pre-1801 books in all Cambridge and Oxford libraries cataloged under the letter "O," except for three college libraries which were recorded in their entirety. To serve as a system of normalized base for comparison, a reference file was established also against which the records from all college, departmental, and faculty libraries could be matched. This file consisted of the "O" letter catalog records from the British Museum, the Bodleian, the Cambridge University Library, and the library of the Taylor Institution, Oxford; added were also "O" entries from Pollard and Redgrave's *Short Title Catalogue (revised)*, from Wing's *Short Title Catalogue*, and from H. M. Adam's *Catalogue of Books... in Cambridge Libraries*. The records produced by the project were matched by computer against each other and against the reference file, using three matching techniques: a computer generated search code, the "keyed title," and the "fingerprint" identification technique. The matched records from the entire sample were assimilated, and a specimen union list was produced.

Aside from its principal objective the project produced a wealth of statistical data about the distribution of materials by date, language, and numbers of copies of works in the various libraries; about the relative merits and costs of various methods in capturing bibliographic data for machine-readable transcription; about the problems involved in several methods and devices used in the transcription; and about the problems which arose in computer matching and printing of bibliographic records, ranging from identification of data structures to representation of characters in a large array of languages.

A particularly noteworthy achievement of the LOC Project is the successful ex-
ploration of the matching of bibliographic records representing materials in 221 libraries for the purpose of correlating their bibliographic identity. In the process of this activity the project has shed new light on possibilities of computer-aided recognition of identification of bibliographic items. It has also elaborated a new, powerful, and ingeniously simple method of this recognition, the “fingerprint,” which may open up a far-reaching potential for the management of bibliographic records in national and international context.

The project has contributed new knowledge about bibliographic data also in other areas. There is much in the pages of the LOC Report pointing in the direction of a sophisticated simplicity inherent in bibliographic data as contrasted with our currently prevailing and unquestioned reliance on systematically exhaustive accumulation of interpreted bibliographic data as a basis for future direction of computerized management of bibliographic records. Implicit in some of the principal observations in the LOC Report is the potential for a powerful alternative to the present-day bibliographic management anchored in a cataloging code coupled with a large measure of interpretation for compatibility.

The LOC Report is rich in detailed data; it summarizes the results with clarity and is oriented within a perspective of practicality. The success of the work owes much to the distinguished group of experts who participated in the definition of the project and to the competent and devoted work of the project team working against a full measure of difficulties caused by a computer not intended for textual data processing. The director of the project was John W. Jolliffe, keeper of catalogues of the Bodleian Library, Oxford, a library automation pioneer renowned for his insight, research discipline, and professional standards. The report will take its place among the select group of classics in library automation literature, and its observations and tabulated data are likely to inspire reevaluation of many a current practice. For the automation-oriented rare books bibliographer in particular the LOC Report offers the challenge of radically new horizons.—Ritvars Bregzis, University of Toronto Library.

OTHER BOOKS OF INTEREST TO ACADEMIC LIBRARIANS


Bell, S. Peter. Dissertations on British History: 1815-1914: An Index to British


Dilbert, Sheila. Subject Index to Feature Articles and Special Reports of Six Major Encyclopedia Yearbooks 1965-1974. Woodmere, N.Y.: Sheila Dilbert, 1974. 19p. $3.00. (Order from Sheila Dilbert, 1594 Union Ave., Hewlett, NY)


Fine Print; A Newsletter for the Arts of the Book. 1975-. $8.00 a year. (Order from Fine Print, Box 7741, San Francisco, CA 94120.)


1974. 80p. $.50. (Conclusions and Recommendations, for the above. 8p. Free.)


University of California Berkeley Serials
Key Word Index 1974; Incorporates the
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Wiener, Joel, ed. Great Britain; The Lion
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Scarecrow, 1974. 253p. $8.50. (74-

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