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Readers and Resources: Public Services in Academic and Research Libraries, 1876-1976

EVENTS OF THE PERIOD FROM 1876 TO THE PRESENT have largely determined the character of the academic and research library as we know it today. A century ago the typical academic library was a miscellaneous assortment of books, primarily gifts, few in number, poorly housed, and scarcely used. In his contribution to this series Holley assessed the status of academic libraries in 1876:

> In 1876 there were 356 colleges and universities in the United States. They had 25,647 collegiate and 597 graduate students taught by 3,352 instructors. These colleges also enrolled an additional 28,128 students and employed 568 instructors in their preparatory schools. Students and faculty members had some kind of access to 1,879,103 volumes in their college libraries plus an additional 425,458 volumes in various society libraries.[1]

The *Digest of Education Statistics 1975 Edition* indicates that in 1972–73 there were 2,908 institutions of higher education (presumably with libraries) serving a student population of 9,298,000. There were a total of 406,790,000 volumes in these libraries with an annual rate of growth of 25,095,000 volumes. The library staff numbered 53,876 persons, of whom nearly 50 percent were professional librarians. Total operating expenditures amounted to $866,838,000 annually.[2]

The remarkable growth and transformation of higher education since 1876 may be attributed to a wide range of factors. Perhaps the most significant change was in the nature of society itself. The transition from an agrarian to a highly developed industrialized society created many new occupations requiring substantial formal training. The academic curriculum, which had for many years been classical and elitist in character, gradually became hospitable to a broad range of functions. At the same time the population of the U.S. increased more than fivefold between 1869 and 1972, but the college-age population attending institutions of higher education increased from 1.68 per 100 population to 51.52.[3]

Of even greater significance to library development was the increased emphasis on research which accompanied the expansion in scope of curriculum offerings. The emergence of the German-style research university, exemplified by the founding of Johns Hopkins in 1876, marked the convergence of forces

prevalent in higher education to institutionalize research within the university.

This move led to the pursuit of knowledge for its own sake, higher standards of scholarship, and acceptance of the responsibility for dissemination of knowledge. In turn, universities began to accumulate the resources required to support serious intellectual endeavor: trained researchers, able students, sophisticated laboratories and equipment, collections of artifacts and specimens, and comprehensive library collections. By the beginning of the twentieth century the university had become a major sponsor for organized research.[4]

Of interest here is the rapid development of significant research resources by the major university libraries, quickly overcoming the lead of scholarly societies and institutes. One century later fifty or more academic research libraries would individually equal or surpass the combined library resources available to the scholar in 1876.

Of equal significance to academic libraries was a parallel revolution taking place in instructional philosophy and methods. Brubacher describes the pattern of instruction derived from the English college, which persisted in this country through much of the nineteenth century, in these terms:

> The two most popular methods of instructing during class periods were the recitation and the lecture. Although more popular in the seventeenth and eighteenth centuries, the recitation methods gradually yielded ground to the lecture method, especially in the nineteenth century. The heart of the recitation consisted in an exchange between the tutor and the student, the tutor citing and the student reciting. The citation was usually an assignment in a textbook, but might just as well be a previous lecture or demonstration. In the recitation the student learned his lesson, at least the portion for which he was called in class.[5]

Curricular reform came in the form of expanded course offerings, an elective system allowing free choice of programs on the basis of interest, problem-oriented instruction, and other pedagogical techniques. The significance of these reforms to the library was that instruction was centered upon student interests, the student assumed a larger share of responsibility in the instructional process, and problem-solving skills acquired an importance equal to or greater than the acquisition of information itself.

The library as an instrument for instruction and research emerged as a sufficient body of information, in active use, required systematic acquisition, organization, and the guidance of a professional staff.

The status of the academic library in 1876 has been comprehensively treated by Holley, Carlton, and others.[6, 7] Changes in educational philosophy and methods as related to libraries have been described by Brubacher and Rudolph.[8, 9] The purpose of this paper is to trace the major trends in service to readers in academic libraries during the past century.

In a sense one could state that the academic librarian in the period since 1876 has consistently promoted greater access to informational materials. Consequently, it is essential to examine thinking relating to library resources and facilities in addition to direct personal assistance to readers to understand current concepts of public services. For purposes of discussion, several periods are identified which represent an approximate emphasis in chronological sequence; these are: (1) accumulation of materials, (2) organization of resources, (3) personal assistance to readers, (4) organization patterns, and (5) physical facilities.

Accumulation of Materials

As Holley and Carlton indicated, the

college in 1876 was remarkably similar to its colonial counterpart, and little change in function, curriculum, or instructional method occurred until the latter part of the nineteenth century.[10, 11] Since 1876 the growth and development of academic institutions have been rapid, and the library has shared in this transformation.

In a study of a selected group of colleges and university librarians undertaken in 1924 for the Association of American Universities, Works indicated that between 1900 and 1925 student enrollments increased from 175.3 percent at Vasser to over 1,300 percent at Oregon with a 400 percent increase typical of the group. Noting that book collections had grown at approximately the same rate as the student body, Works was nonetheless concerned whether the library was equal to its new responsibilities. He cited the increased body of knowledge, new methods for creating and imparting knowledge, changes in instructional methods, and the emphasis on graduate instruction and research as contributing factors to the increased responsibility of libraries.[12]

Although comprehensive statistics for academic libraries were to appear later in more consistent form, there is ample evidence to indicate that the expansion of collections began about the turn of the century and has continued almost unabated until the present time. In 1973 Baumol and Marcus described the accelerating growth pattern of the 1950s and 1960s.[13]

It seems clear that an initial response of librarians to their increased responsibility was the rapid accumulation of informational resources. Some concept of the variety of materials which this entailed for a research library is revealed in the following quote from Downs:

> These, then—the separately printed books, serials, government publications, and manuscripts—are the principal types of resources for research. They fail by far, however, to exhaust the varieties of records being accumulated by libraries today. Look, for illustration, at the statistics of holdings reported annually by the Library of Congress. We find there figures for each of the following groupings: volumes and pamphlets, bound newspaper volumes, manuscripts, maps and views, microcards, microfilms, motion pictures, music, phonograph records, photographic negatives, prints and slides, fine prints, and a miscellaneous catch-all, comprising broadsides, photostats, posters, etc.—an even dozen headings, most of them numbering hundreds of thousands or millions of items. It would be a very backward library indeed, nowadays, which failed to make liberal provision for such non-book research materials as maps, slides, motion picture films, music and speech recordings, music scores, prints, and a score of other similar classes.[14]

The preoccupation, perhaps even insecurity, of librarians with collection development is reflected not only in academic library growth patterns but in continued efforts to attain comprehensive coverage through intrainstitutional cooperation and national programs such as the Farmington Plan and the National Program for Acquisitions and Cataloging.

While the major universities were suffering from embarrassment of riches, conditions in many college libraries were the opposite. Randall undertook an assessment of college libraries for the Carnegie Corporation in the early 1930s and discovered that

> . . . more than one-third of the number studied (205) spend less than $5,000 per year on their libraries; and that almost another third spend between $5,000 and $10,000, leaving less than one-third (59) which spend more than $10,000 per year. The average expenditure, in round numbers,

> is $9,100 per year. One hundred and thirty-one of these libraries spend less. This is roughly two-thirds of the total number.[15]

Randall cautioned against drawing too literal an interpretation of the statistical data and enumerated a number of variables which would account for variations from one institution to another. Nonetheless, he was struck by the variability of the data. He concluded:

> It appears to the writer that the most significant single factor in these data regarding the financial aspects of college libraries is their range. This range in expenditures for various purposes indicates, if not a lack of uniformity in purpose, at least a lack of uniformity in method. In other words, however well the theoretical function of the college library may be realized and understood in the various colleges in this group, the methods employed in carrying out the function differ widely. It appears evident, admitting that we know well what college libraries should do, that the methods of doing furnish a fruitful field for study and thought.[16]

Randall's response to the problem of disparity of method was to attempt the formulation of standards for college librarians[17] and to be prescriptive in statements about college library practice.[18] It is of interest to note that this kind of response has been characteristic of librarians as the profession has emerged: first the accumulation of resources for service followed by an attempt to assess whether libraries were responding adequately to the changes occurring within the institution and finally an attempt to codify an acceptable level of practice in the form of standards.

Ruggles, reviewing the status of college libraries in 1968, noted that:

> A large number of undergraduate libraries in the U.S. lack sufficient scope and depth to provide adequate support of the instructional programs of their institutions. The average number of volumes in the top 60 junior colleges in the nation was 26,620 in 1964 (the latest year for which detailed statistics are available), while the average collection of all (colleges) was 79,250, the median 54,100 and the lowest 80 collections averaged 24,625. . . .
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> In 1962/63 73% of 4-year college libraries and 91% of 2-year junior college libraries fell below ALA (American Library Association) minimum standards for size of collections.[19]

The response of the library profession to this situation has been to revise the standards for two-year colleges and four-year colleges and to attempt to make a more convincing case for increased support.[20, 21]

Organization of Resources

The rapid growth of library collections and their conscious use as an instructional resource in the latter part of the nineteenth century produced an immediate response from librarians. It was obvious that as collections grew in size devices were needed to provide efficient access to available resources. Readers needed to know not only whether a collection held certain titles but where they could be located. Later it became important to identify available resources by subject.

These needs were met in a variety of ways. Although there is no careful study of the causal relationship between specific events, it seems reasonable to hypothesize that as librarians attempted to resolve problems of bibliographic and physical access to growing collections, a number of responses occurred.

First, the librarian would attempt to respond to readers' needs empirically by ad hoc techniques. (The ministration to individual requirements has been a carefully guarded prerogative of the professional librarian even in the face of standardization and mechanization.) The need to share information about

problems and hypothetical situations led to formal organization as a profession, and the founding of the American Library Association in 1876 would seem to indicate something about technical needs and the status of libraries at that time.

A second response which seemed to emerge was the codification of best practice as a professional association surveyed current practice and evaluated alternative approaches. Sometimes the "best practice" emerged almost as the product of a single person[22] but later became a team effort[23] through continued professional association. A further development was the emergence of training agencies to disseminate information about typical problems and current "best practices."

It seems logical that library schools began to emerge toward the close of the nineteenth century and the beginning of the twentieth century as libraries were beginning a period of rapid expansion. A further bit of evidence which lends credence to this hypothesis is the simultaneous emergence of bibliographic guides and texts on various aspects of library practice during the early part of this century.

The pressure to accumulate resources and to organize collections for use seemed so compelling that librarians became overly preoccupied with the technical aspects of librarianship and neglected direct contact with readers. Rothstein has documented thoroughly the slow emergence of reference service.[24] Librarians seemed to feel that if bibliographic tools were provided and materials were efficiently arranged, readers could serve themselves. It is of interest that many standard reference tools emerged during the early part of the twentieth century, reflecting the reliance on indirect approaches to service to readers.

The initial preoccupation of librarians with techniques is summarized by Branscomb in these terms:

> As stated above, the last several decades have been for libraries a period characterized primarily by the acquisition of materials. Libraries have doubled and quadrupled in size. This accumulation created acute problems of organization of the materials secured. How should these books be grouped on the shelves? How should they be cataloged? Inevitably, the technical problems dominated the attention of librarians. One who doubts this need only look over the program of professional library meetings or leaf through the pages of the professional journals. To be good librarians those who held that title had first of all to be efficient technicians. Circumstances made it almost inevitable that they would be concerned with books rather than with students. It is easily understandable that some of the larger problems of the college problems closely related to the task of teaching, should have been left largely to the attention of others.[25]

Personal Assistance to Readers

As the previous discussion indicates, academic librarians believed that in systematically acquiring resources for instruction and research and in cataloging and classifying these resources thoroughly, they were discharging their responsibilities in serving readers. The notion of providing direct personal assistance to readers was not immediately self-evident. In fact it was stoutly resisted on many quarters as impractical and emerged only gradually. Rothstein describes the initial stages of what came to be known as reference service in this manner:

> . . . the history of reference services could show a number of important steps already taken. The first step had been the statement of the desirability of personal assistance, reflected in practice by the willingness to offer guidance to individual readers, though this help was rather casual and intermittent. The next stage was distinguished by the recognition of a felt

need for a program of personal assistance, if only to supplement the other means of meeting the needs of readers. More and more libraries were then offering personal help as a useful adjunct to the other "aids to readers." With the growing concern over the library's role as an educational institution, personal assistance came to be seen, not as peripheral, but as central in the library's responsibilities, a service which would require personnel with special training and expressly assigned to the task of interpreting the library's resources. As personal assistance came to be recognized as an important feature of library service, it acquired a distinctive name—"reference work"—and departmental status.[26]

Even with the acceptance of the need for reference service, there was no consensus on what functions were appropriate for the academic library to offer. As described by Rothstein, "interpreting the catalog to the presumably befuddled reader became the most common task of the reference librarian"; and even here the service was reserved for the uninitiated.[27]

Poole saw a much more direct relationship between the library and the instructional program as expressed in a paper entitled "The University Library and the University Curriculum":

> I wished to show that the study of bibliography and of the scientific methods of using books should have an assured place in the university curriculum; that a wise and professional bibliographer should be a member of the faculty and have a part in training all the students; that the library should be his classroom; and that all who go forth into the world as graduates should have such an intelligent and practical knowledge of books as will aid them in their studies through life, and the use of books be to them a perpetual delight and refreshment. Books are wiser than any professor and all the faculty; and they can be made to give up much of their wisdom to the student who knows where to go for it, and how to extract it.[28]

Another half century or more was to pass before Poole's ideas were to receive a serious hearing. Even under the current rubric of the library college movement, the concept is preached more than practiced.

Rothstein identifies three philosophies of reference service which emerged with the development of reference service and which are still prevalent today. These are: (1) the conservative approach, which limited the reference librarian to teaching readers to be self-sufficient in using the library; (2) the moderate position, which was characterized as "a compromise between guidance and full information service, between a laudable desire to be of maximum assistance in important investigations and realistic reservations about the ability of the library to do so"; and (3) the liberal theory, which promoted "full and direct supply of reliable information," differentiated between levels of inquiry, and guaranteed the "authenticity and relevance of the information it supplied."[29]

Most academic library policies which emerged were based on empirical data derived from the experience of practicing librarians. Service policies which gained currency were those which met a demonstrated need and which could be supported, and there was always a wide range in the quantity and quality of services rendered whether argued on economic or philosophical grounds.

In his survey of college libraries in 1930, Randall urged a more rational approach to formulation of library policies. He stated:

> If the college library is to respond to the challenge of modern higher education, its reformation must be rational. It would be exceedingly unfortunate if the decisions governing changes were ever made without the aid of reliable evidence. Too many arbitrary

> judgments have been made in the past, induced, no doubt, by the exigencies of critical situations. This is not an ideal procedure.[30]

This dictum has been followed by librarians in the area of services to readers perhaps more than in any other aspect of librarianship. In any event it was one of the first areas for attack by the new Graduate Library School at the University of Chicago, founded in 1926, which pioneered the application of scientific methods and research in the solution of library problems. The users of libraries come under careful scrutiny to find out more about their reading habits and the factors which promote reading as a guide to definition of service to readers.

A study undertaken by Branscomb in 1937 for the Association of American Colleges posited a key question concerning college libraries and proceeded to answer the question by drawing on studies of reading previously conducted at the Graduate Library School and adding other original data. After describing the rapid growth of academic libraries from 1900 to the late 1930s, Branscomb stated that:

> The problem of the college libraries can be stated very simply. It is that of securing a sufficient use of these enlarged resources to justify the investment that has been and is being put into them. To this problem neither librarians nor college faculties for the most part have given a great deal of attention. In the developments of the last 25 years more emphasis has been placed on the acquisition and preservation of library materials than upon their use. The means have absorbed more attention than the ends. The libraries have expanded greatly, but the use of them by the undergraduates, on whose account primarily they were acquired, is in most institutions as will be shown later, distinctly disconcerting. This central problem has several aspects depending upon the point of view from which it is considered.[31]

The work of Branscomb was not only novel in the questions it raised but also in its approach to answering them. After documenting the disparity between resources available in college libraries and their limited use for instructional purposes, he advocated the development of a distinctive program for the college library based on its role in the educational program of the college. This program should be formulated by an objective appraisal of the college program and not by imitation of public or university library models.

These prescriptions ran counter to the approach described earlier where "best practices" were codified and formulated into standards for application to types of libraries. Although Branscomb's study is not a model for the solution of college library problems through the application of scientific methods, it did draw extensively upon research studies, and it did question basic assumptions about library service in provocative ways.

The work of B. Lamar Johnson at Stephens College is an interesting contrast to the survey of Branscomb.[32] In a seven-year study (1932–39) Stephens College undertook a program "to make the library contribute as effectively as possible to the instructional program of the college." The study describes the empirical approach to increase library utilization by carefully integrating the library into the instructional program and by increasing physical access to books.

The Stephens College approach was to be repeated twenty years later by Patricia Knapp in a more carefully controlled and documented experiment at Monteith College.[33] This work was an attempt to apply the findings of a detailed study of library use at Knox College.[34]

The reading of college students was analyzed from every conceivable point of view by students at the Graduate Li-

brary School, and a considerable body of information was acquired to guide librarians and faculty in making the library a more useful part of the academic program. One of the better summaries of this work was prepared by Asheim for presentation at a symposium on reading on the occasion of the dedication of the undergraduate library at the University of Michigan.[35]

The impact of these studies on reading has been a better understanding of how library policies can promote reading. Understanding of the relationship of physical access to reading has resulted in relaxation of closed-stack policies, the establishment of collections for recreational reading or of special displays, and publicity to encourage reading. Hours of access were extended, and restrictive loan policies were modified. Librarians began to appreciate alternative forms of information as purveyors of knowledge by aggressively exploiting audiovisual materials for their instructional value. In brief, the scientific analysis of reading and the factors which promote its use revolutionized thinking about methods for serving readers.

Organizational Patterns

The better understanding of user behavior has also had an impact on the organization of reader services. Changes in policies cited earlier helped promote access to materials; but various organizational issues arose as collections grew in scope and in variety of resources, and as the increase in user population produced greater demands for service. Reference service was gradually accepted as a legitimate function of the academic library and accorded departmental status about 1915.[36] The increased quantity of specialized forms of material, such as documents, periodicals, maps, rare books, manuscripts, as well as foreign-language collections, led to the creation of numerous subdivisions in the larger libraries. The general tendency was to segregate materials, which were troublesome because of form, language, or other special handling problems, into separate units.[37]

In addition, it was deemed desirable by the more progressive promoters of reference service to develop subject specialization within a general reference department. In some cases the geographic expansion of university campuses led to the creation of separate departmental libraries particularly in the sciences. These units often developed specialized subject reference services. But branch library development was not a logical development based on an analysis of user requirements.

The university, following the German seminar approach to instruction, and the autonomy accorded to subject fields in pursuing research tended to foster a highly decentralized organizational pattern. The problem for the university library was attempting to develop some rational pattern of service based on the balancing of user requirements with economy and efficiency of administration. The arguments for centralization and decentralization were stated in definitive form by Robert Miller,[38] but the issue was frequently decided on political grounds.

Substantial research was devoted to analysis of user patterns in various academic disciplines.[39] The concern was to determine the boundaries of most-used literature on the one hand and secondly to find a more rational basis for the physical location of library resources on a university campus. Considerable understanding was gained from these studies about the date, form, and language boundaries of the active literature and the substantial differences between disciplines. A more accurate definition was also obtained about the overlap in user patterns between disciplines.

The practical application of this research was the formal provision for

storage of little-used materials in cooperative facilities such as the Midwest Inter-library Center (later the Center for Research Libraries) and in compact storage facilities or microform. The same line of reasoning has led to current planning for a more formal structuring of access to specialized resources through a national lending library or through the center of excellence concept for non-Western materials and for other unique materials.

An attempt at a rational organization of library resources according to observed interrelationships among disciplines is demonstrated in the organization of the new Joseph Regenstein Library at the University of Chicago.[40] In this instance normal subject arrangement by classification was abandoned for subgrouping of the subjects most commonly used by major academic disciplines.

A variety of efforts have been made to organize university library collections and services along broad subject lines. The divisional plan as this approach is called was initiated in the early 1930s by Ellsworth at the University of Colorado,[41] Van Hoesen at Brown University, and Lundy at Nebraska. The divisional plan was incorporated in the service pattern of a number of new academic library buildings following World War II.

There were a number of variations in this approach. In some instances a general reference department was retained and a number of subject reference units added. In other cases, the general reference department was abandoned or greatly reduced in scope, and the reference burden was placed on the subject divisions.

There was also an infinite variety in the relationships of collections to service units. In some cases the most-used materials (the core) were placed in the subject division and the balance of the materials kept in a central stack. Examples of this approach in the 1950s were the University of Wisconsin Library and the Michigan State University Library.

The majority of libraries seemed to prefer, or earlier experience dictated, a loose association of service points in an integrated collection kept in straight classification order. There were also instances of more complete integration of functions, such as acquisitions, cataloging, serials control, reserve books, with subject division (e.g., Nebraska, Washington State); but this pattern tended to be more costly in staff.

Another organizational pattern which gained adherents as enrollments grew was the separation of graduate and undergraduate library services. Although separate service points for undergraduates were established by Columbia and Chicago in the 1930s, a physically separate building (the Lamont Library) was erected for undergraduates by Harvard in the late 1940s, which gave this concept more prominence.

Similar development followed on a number of campuses. This trend was documented in detail by Braden.[42] Although there may have been sound pedagogical reasons for establishing undergraduate libraries, the motivation often seemed to be a practical approach to an acute space problem. The *issues* treated in a symposium on undergraduate library service in 1953 still appear to be unresolved.[43]

An approach to organization of reference service by level of function hinted at by Rothstein in his description of the liberal reference policy,[44] has not been systematically developed. Various classes or levels of need for service are recognized, such as directional and orientation services, formal library instruction, bibliographic assistance, quick reference search, and specialized subject guidance. The development of new approaches to bibliographic searching through on-line machine-readable data

bases is forcing a careful assessment of the value and methods for incorporating new technology into traditional reference patterns.

The general conclusion concerning organizational patterns is that although we have learned a good deal about patterns of use by different classes of readers, we are a long way from being able to resolve issues on how to organize reference service efficiently and economically on rational grounds. Value questions relating to the relationships of the library to the instructional and research program of the university weigh heavily in the decision of how much service the library should support.

Physical Facilities

The provision of facilities for readers has been closely related to the organizational issues previously described. Often the library building was a major limiting factor to the adoption of a new pattern of service. Library architecture tended to be dominated by architects prior to World War II and reflected little understanding of the requirements of users or operating patterns. The Cooperative Committee on Library Building Plans instituted by academic librarians in 1947 was an effort by persons interested in or in the process of planning a new building to define requirements more systematically and to learn more about architectural considerations. These discussions have evolved into the continuing library building institutes now sponsored by the Library Administration Division of the American Library Association. The accumulated knowledge derived from these discussions is reflected in the publications of ALA and monographs by Burchard et al., Ellsworth, Fussler, Metcalf, and others.[45–49]

The experience which has been accumulated from these discussions has led to the design and construction of functional, flexible buildings which can be more efficiently operated and to the adoption of many features for the convenience of readers. The substantial body of research on user behavior is reflected in the facilities now afforded the user of a modern academic library building. Extreme care has been given to create a comfortable, quiet, well-lighted environment for study.

Attention has been given to the need for freedom from visual districtions by creation of smaller, more isolated reading areas. Seating and other facilities reflect the variety of activities which occur in the library and the variations in taste. Secluded study carrels are provided in quantity, standard library tables are dispersed among the stacks, and lounge furniture is provided for more informal seating. Special provision is made for typing, photocopying, group study, microform reading, and use of audiovisual devices. Care has been given to relate library resources and service points to study areas.

Provision has been made for the display of materials to familiarize readers with available resources and to promote recreational reading. Full advantage has been taken of the knowledge about how to promote ease of access to resource, how to encourage use of the library, and how to serve the reader efficiently at the lowest cost. Access to library resources has become one of the least expensive services the academic library provides, and hours have been extended to 100 hours a week or more in many instances in recognition of this capability.

Summary

This discussion of services to readers would not be complete without some assessment of what has been accomplished in the past century and some enumeration of current trends affecting academic library service.

Expansion of the curriculum, the steady increase in enrollments, particu-

larly at the graduate level, changes in instructional methods, and emphasis on research profoundly influenced academic library development during these hundred years. The initial response to these new responsibilities was an emphasis on collection development and the development of bibliographic tools. In the late 1930s and early 1940s the increasing information about reader behavior began to influence service policies and procedures. Academic librarians were more successful in developing congenial study environments than in discovering appropriate service patterns. So much attention was given to the "inputs," the components of a library, that the products and services needed to satisfy reader requirements were not well understood.

What appears to characterize the current stage of development is the application of more rigorous methods of analysis of problems and a more critical assessment of various alternatives. We still face the need for a better understanding of the library as an instrument of instruction and research and the definition of the most efficient and effective way to meet readers' requirements.

The area of services to readers reflects as well as any aspect of librarianship the application of research in the more reasoned approach to the definition of problems and the selection of alternative solutions. Studies of the use of library resources in an academic library, attempts to cost out library functions, the determination of the break-even point in the retention of journals, ARL studies of the cost of interlibrary loans, and alternative methods of satisfying demands are all examples of a more systematic effort to research academic library problems.[50–53] A review of the annual reports of the Council on Library Resources reveals the range of issues which have received systematic attention over the twenty-year life of that organization—one of the first such organizations devoted to the support of library research.[54]

As the academic library begins a new century of service, we may anticipate a more critical assessment of the library's role, a more coordinated effort with national leadership to provide the range of resources in a timely, efficient, and economical manner and a wider range of services to support instruction and research in the twenty-first century.

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