



The Growth of Research Collections

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REFERENCE TO that invaluable mine of information, *Public Libraries in the United States of America* . . . (1876) reveals how far American libraries have come during the past one hundred years. In that pioneer compendium, all libraries possessing more than 300 volumes each—a total of 3,647 libraries—were recorded. Their combined holdings totaled 12,276,964 volumes, to which were being added less than one-half million volumes annually. Yearly expenditures for books, periodicals and binding were at the rate of \$562,000.¹

Viewed in the light of the gigantic 1976 collections, individual library holdings in 1876 were picayune. The Library of Congress reported 300,000 volumes. The Boston Public Library was the same size. The largest university libraries in the nation were Harvard (227,000) and Yale (114,000) which, incidentally, have maintained their leads to the present day. The New York Public Library had not yet come into existence, but its predecessor, the Astor Library, held 152,446 volumes. State university libraries were in their infancy. Among the largest today, Michigan held 27,500 volumes in 1876. California (Berkeley) held 12,000, Illinois 10,600, Minnesota 10,000, Wisconsin 6,370, and Indiana 6,000. The universities of Texas, Stanford, UCLA, Duke, and Chicago were still to be born.

Twenty-five years later, the U.S. Office of Education reported a spectacular growth in American library resources—relatively speaking. There had been nearly a fourfold increase, bringing the national total to 45 million volumes. At the turn of the century, the Library of Congress contained one million volumes, plus substantial numbers of manuscripts, maps, prints, and pieces of music. Harvard's collections had grown to 600,000 volumes, and the recently consolidated (1895) New York Public Library held 538,000 volumes.

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EXTENT AND DISTRIBUTION OF AMERICAN LIBRARY
RESOURCES

In 1908, M.B. Iwinski, a European, calculated that there were 10,378,000 different books in existence, based upon a careful examination of bibliographical and publication records.² In about 1940, LeRoy Merritt projected the Iwinski study through 1940, starting from the beginning of printing. The conclusion was reached that the total book production for those countries and those periods for which data were available was 15,377,000 titles, representing an average world book production of 156,000 titles during each of the thirty-two years from 1908 to 1940.³ By sampling the National Union Catalog, various regional union catalogs, and the catalogs of large individual libraries, Merritt estimated that there were 10 million separate titles in American libraries, as of 1940, or about two-thirds of all books then in existence.⁴ The rates of publication and of library acquisition vastly expanded in the succeeding thirty-five years.

Writing in 1938, William Warner Bishop pointed out that "rare books in the collector's sense are . . . likewise concentrated in very large measure on the Atlantic seaboard."⁵ To support this conclusion it was noted, for example, that great collections of early Americana were to be found in Boston and Cambridge, the John Carter Brown Library in Providence, the American Antiquarian Society in Worcester, Yale University, the New York Public Library, the New York Historical Society, and the Library of Congress. Collections of comparable importance could be found in only three locations west of the Allegheny Mountains: the Clements Library at Michigan, the Newberry Library in Chicago, and the Huntington Library in California.

A second example cited by Bishop was English literature, in which not more than seven American collections ranked with those of the British Museum, the Bodleian Library at Oxford, Cambridge University, and the John Rylands Library at Manchester. These were Harvard, Yale, New York Public, Pierpont Morgan, Folger, University of Texas, and Huntington—only two of these away from the Atlantic coast area. A similar situation was discovered to exist in early printing. All major collections were in the Northeast, except for those at Newberry and Huntington.

During the period of nearly forty years since Bishop's investigation, an avid interest in rare-book collecting has developed among a number of other American libraries. In particular, various great state university libraries have come to the forefront, possessing financial

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resources beyond those of all but a limited number of privately supported institutions.⁶ Statistical evidence of the growth of the public institutions shows that of seventy-five university libraries in the United States holding more than one million volumes each in 1974, fifty were in state universities.⁷

At approximately the same date as the Bishop study, Louis Round Wilson was exploring the geographic distribution of American library resources in general, especially on the quantitative side. As reported in his *Geography of Reading* (1938), based on sources published in 1935, it was found that there were seventy-seven centers in the United States each holding 500,000 volumes or more. The specifications stated by Wilson for computing his data were as follows:

In general, the area included does not cover more than 50 miles (airline) from center. When a city could be attached to more than one center, the total number of volumes in the area and transportation facilities were considered in allocating it. Public or college libraries of less than 20,000 volumes and special libraries of less than 5,000 volumes were not included. State lines were not crossed except in special cases. No city was chosen as a center unless it contained one library having at least 75,000 volumes. Preference was given to state capitals, or cities in which state universities are located. Metropolitan areas were selected unless the library center would fall elsewhere.⁸

Wilson compared the number of centers and volumes in the four quarters of the nation formed by the thirty-eighth parallel and the ninety-seventh meridian. An overwhelming lead was held by the northeast quarter—further confirmation of Bishop's findings on the locations of rare-book collections. In terms of volume holdings, only four of the first twenty-five centers were outside the Northeast; these were all in California.

Utilizing the same or similar sources of information, the Wilson study was updated about twenty years later.⁹ Thirty-two new centers had developed, fifteen of them in the Southeast. Eight states still lacked a center: Mississippi and seven western states—Idaho, Montana, Nevada, New Mexico, North Dakota, South Dakota, and Wyoming. The total book resources of the country had more than doubled, from 138,867,606 to 289,355,391 volumes.

A third investigation of the distribution of the nation's library resources was reported in 1974.¹⁰ The results were little short of startling. The number of centers in the United States holding in

excess of 500,000 volumes had jumped from 109 in 1955 to 265 in 1973. Even more striking, the total number of volumes in such centers had gone from 138,867,606 in 1935 to 289,355,391 in 1955, to 724,045,043 volumes in 1973—more than a fivefold increase in less than forty years. The growth rate during the last eighteen years was especially phenomenal. Including collections outside the centers, the country's libraries held approximately 800 million volumes. In percentage of increase, the southern, southwestern, and northwestern states were the leaders. None of the states except Alaska held fewer than one million volumes.

The reasons for the explosion of library collections in all the American states are complex. Among the factors were: (1) the establishment of hundreds of new institutions of higher education, (2) millions of additional students in colleges and universities across the land, (3) increased book budgets in all types of libraries, (4) extensive new foreign acquisition programs, and (5) a steadily growing rate of publication of books and journals, to which libraries responded by stepped-up acquisition programs.

TYPES OF LIBRARIES

Another aspect of the distribution of library resources is the types of libraries and their varying facilities to be found in the United States. Standing at the top, from the point of view of advanced study and research, are the university libraries. On the basis of quantitative standards alone, there are perhaps as many as one hundred American universities which hold collections of considerable importance to the scholar and research worker. A recent listing of one hundred notable American libraries included seventy-three university libraries.¹²

Closely related to the university library, but of relatively slight significance from the point of view of advanced study and investigation, is the college library, few of which have the funds, incentive, or need for developing research materials. Occasional exceptions may be noted in special collections developed in such New England colleges as Amherst, Bowdoin, Colby, Dartmouth, Mount Holyoke, Trinity, Wellesley, and Wesleyan, and a limited number of libraries elsewhere, e.g., at Bryn Mawr, Haverford, Swarthmore, Oberlin, and Claremont.

A third group—public libraries—while large numerically (approximately thirty hold collections of one million volumes or more), are

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generally not noted for their research holdings. They must serve the needs of many general readers, who require less specialized materials than the university professor and graduate student, and they must do an excessive amount of duplicating to meet the demands of the large clienteles served. Exceptions are the New York and Boston public libraries, which rank among the great research libraries of the world. Other public libraries have developed outstanding special collections, such as the White folklore collection in the Cleveland Public Library and the automotive history collection in the Detroit Public Library.

Comprising another considerable group are the state libraries, the first of which were established in the United States in the 1790s. All states presently have state libraries, extension agencies, state archives, and state law libraries. The chief categories and research materials held by state libraries are newspapers, state and local history, archives and manuscripts, and government publications.

A fifth type of library which has grown rapidly over the past several decades, and has assumed first importance in many fields, is that of libraries belonging to the federal government. At the top of the system is the Library of Congress, probably the world's largest library, holding notable collections in many fields, but especially outstanding in the social sciences, law, history, fine arts, and music. Also among the world's leading libraries in their fields are the National Agricultural Library, National Library of Medicine, U.S. Geological Survey Library, U.S. Labor Department Library, the Health, Education and Welfare Library (for education), and the Pentagon Library for military science.

A small but important group of institutions is referred to as reference libraries. Examples include the Huntington Library in San Marino, California, rich in literature, history, and early printing; the Newberry Library in Chicago, dealing with literature, history and the arts; the John Crerar Library in Chicago and the Linda Hall Library in Kansas City, both for science and technology; the Pierpont Morgan Library in New York, famous for rare books and manuscripts; the Folger Shakespeare Library in Washington; and the John Carter Brown Library in Providence and the American Antiquarian Society in Worcester, both celebrated for early Americana.

Finally, a seventh class—special libraries—has significant resources for research. These are of two principal types: those formed in connection with business or industry, emphasizing current material and up-to-date information, and concentrated in the heavily industrialized areas of the country; and those libraries owned by societies,

associations, and similar organizations, such as bar associations and medical societies. An example is the Engineering Societies Library in New York, maintained by several national engineering societies, which holds one-quarter million volumes.

COOPERATIVE ACQUISITION PROGRAMS

The first major program on a national level to build research library collections jointly was the Cooperative Acquisitions Project for Wartime Publications, growing out of World War II.¹³ This successful enterprise extended over a period of approximately three years and involved the principal university and general research libraries of the United States.

It is recognized that reference and research libraries are among the institutions hardest hit by modern war. Even those not located in combat zones are seriously hampered by conditions created in time of war. During the two world wars, the European book market was almost completely cut off from American libraries. Normal channels of communication, transportation, and trade were largely closed, materials were destroyed or confiscated in transit, and little information was available on the nature and extent of publishing in the countries at war. In each period the curtain descended further for American libraries when the United States became an active belligerent. Such volunteer and unofficial groups of librarians as the ALA Committee on Importations (in World War I) and the Joint Committee on Importations (in World War II) labored diligently, and not without a certain measure of success, to alleviate the situation, but the problem was too large and complex to be coped with by any except governmental and military agencies.

As early as April 1943, with State and War Department support, the Library of Congress sent a staff member on a procurement mission to Portugal and Spain, and before the end of the war representatives were working also in Algeria, Italy, and France. The Library of Congress was obviously in a distinctive position among the nation's research libraries. As an integral part of the federal government, its agents were permitted to follow the American army into liberated and occupied areas, while these regions were closed to representatives of nongovernmental libraries.

Fully aware of this situation, the Association of Research Libraries requested in 1944 that the Library of Congress make available to other institutions its unique facilities for the acquisition of foreign

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materials. No action was taken on the proposal until the end of the war, when the Librarian of Congress transmitted a formal request to the Secretary of State indicating that the national interest would be served by having the federal government assist American research libraries in maintaining their collections. The State Department agreed to the recommendation with the stipulation that participating libraries "had agreed upon and carefully planned a program of cooperative buying and that they would continue to support such a plan as long as federal assistance was granted them."¹⁴

With the way thus cleared, the Library of Congress proceeded to increase the size of its European mission. Between August 1945 and October 1947, twenty-six American librarians and subject specialists were employed abroad to purchase materials issued during the war years, to screen and ship materials obtained from German army and Nazi Party sources, and to locate and evacuate stocks of books held by German dealers for American libraries. Members of the mission were directed to procure up to fifty copies of books of general reference value and at least three copies of all other publications. In addition to these materials, the Library of Congress made available for distribution large quantities of duplicate foreign publications received from the Office of Censorship, Army Military Intelligence, the Historical Records Branch of the Army, and other sources—Italian, French, Swiss, Dutch, Belgian, German, Austrian, etc.

After the acquisition procedures began to function, a committee was appointed to advise on the distribution of materials received. Based on a list of 254 categories which generally followed the Library of Congress classification, priorities were assigned to 113 libraries. In its decisions on priorities, the advisory committee became acutely aware of the dearth of information on the strength of library resources in different institutions and in various fields. Its experience emphasized the need for published guides to library resources in all areas of research.

In its three-year career, the Cooperative Acquisitions Project distributed a total of 819,022 books and periodical volumes, representing approximately 2 million pieces. In number of volumes obtained, the leading institutions, after the Library of Congress, were (in order) the New York Public Library, Harvard, Yale, Columbia, Illinois, California, Chicago, Iowa State, National Library of Medicine, Minnesota, Duke, Princeton, Wisconsin, and Northwestern.

Chiefly through the efforts of the Library of Congress, supported by the nation's major research institutions, the Cooperative Acquisi-

tions Project brought to the United States an unsurpassed collection of European wartime publications, far richer than would have been possible if dependence had been placed on individual institutions. The undertaking demonstrated several important facts: (1) American libraries could look to their national library for leadership in large cooperative activities; (2) research libraries were able and willing to support a broad program for the improvement of library resources; (3) the idea of libraries combining for the acquisition of research materials is feasible and desirable; and (4) the research resources of American libraries, as represented by their holdings, are a matter of concern to the federal government.

The wartime project was also a step toward correcting a serious imbalance in American library resources. At the beginning of World War II, it was discovered that U.S. library collections were deplorably weak for vast areas of the world. Even in the Library of Congress, which had long been the most internationally oriented of U.S. research libraries, it was found, for example, that the Oriental Division had concentrated on collecting Chinese publications, to the virtual exclusion of Japanese, and the Slavic Division had emphasized pre-1918 publications instead of Soviet materials. Scholarly libraries were mostly concerned with publications in western European languages, with a mere smattering of materials in other languages. There were a few notable exceptions, such as the Harvard-Yenching Chinese-Japanese Library, the Japanese collections at Columbia and the University of Michigan, the Hoover Library at Stanford, the Library of Congress, and the New York Public Library.

As a result of the deficiencies revealed by World War II, radical changes occurred in the procurement policies of U.S. libraries. The wartime and postwar project paved the way for the Association of Research Libraries' Farmington Plan, which profited from the experience gained in the earlier venture. The stated objectives of the Farmington Plan were to ensure that at least one copy of every new foreign book of possible research interest was acquired by an American library, promptly listed in the National Union Catalog, and made available by interlibrary loan or photographic reproduction.¹⁵

The inception of the Farmington Plan dates from a meeting of the Library of Congress's Librarian's Council in Farmington, Connecticut, in 1942. Out of this conference developed a *Proposal for a Division of Responsibility among American Libraries in the Acquisition and Recording of Library Materials*. The plan was adopted in 1947 by the Association of Research Libraries (ARL). Subject allocations were agreed

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upon and preparations were completed for putting the program into operation for publications issued in three Western European nations: France, Sweden, and Switzerland.

Changes in the Farmington Plan were almost continuous from the outset. Within five years its scope was worldwide. The original scheme of assigning subject responsibilities was modified to provide also for area assignments covering publications of less developed countries, especially where the book trade was not well organized and where there were language difficulties. Numerous changes in subject allocations were also made. In addition, the Farmington Plan was decentralized and its effectiveness increased by the establishment of a number of regional subcommittees for the Far Eastern, Middle Eastern, Slavic, African, Latin American, South Asian, and Western European areas.

Like every large and ambitious undertaking, the Farmington Plan had critics. Some believed it was too inclusive, bringing into libraries quantities of material of little or no value. Spokesmen for an opposite point of view held that practically everything published abroad should be available somewhere in the United States. The plan attempted to steer a middle course between all-inclusiveness and extreme selectivity.

In one respect the Farmington Plan had a major hiatus from the outset. For simplicity of operation it was agreed that only monographic works should be included, omitting the important areas of serial publications, newspapers, and government documents. The deficiency was partially corrected by various supplementary and complementary programs.

In 1972 the ARL merged the Farmington Plan Committee with its Foreign Acquisition Committee, and the Farmington Plan ceased to exist as a separate entity. Three reasons were cited by the ARL for discontinuance of the plan: (1) the increasing use of blanket-order programs by member libraries (which presumably duplicated the Farmington program), (2) the Library of Congress's national program of acquisitions and cataloging, and (3) the reduction in many library acquisition budgets in recent years. Nevertheless, during its twenty-four years of existence the Farmington Plan was responsible for adding hundreds of thousands of volumes to participating libraries.

A more geographically limited undertaking began in 1959: the Latin American Cooperative Acquisition Program, familiarly known by its acronym LACAP.¹⁶ This enterprise grew out of the annual

Seminar on the Acquisition of Latin American Library Materials, which held its first meeting in 1956. The project, in which forty-three libraries participated, was designed to cover a large area where library acquisition activities were notoriously difficult because of the book trade's poor organization. In essence, the plan was to have libraries place blanket orders with the firm of Stechert-Hafner for current Latin American materials. The orders were expected to provide a sufficient volume of business to enable Stechert-Hafner to maintain a traveling representative in Latin America and local agents in the principal publishing centers.

Despite its quite considerable success, LACAP ceased operations early in 1973. The decision to abandon the program was reportedly based on a decreasing volume of business at Stechert-Hafner, the plan's official agents. The economic situation in individual libraries was an important factor.

A natural outgrowth of the Farmington Plan was the Public Law 480 Program administered by the Library of Congress.¹⁷ In 1961 Congress authorized the expenditure of counterpart funds or blocked currencies for the acquisition of multiple copies of publications in certain countries where surplus funds had accumulated. Previously, an amendment to the Agricultural Trade Development and Assistance Act of 1954, approved September 6, 1958, had authorized the Librarian of Congress "in consultation with the National Science Foundation and other interested agencies" to direct a program using United States-owned currencies in foreign countries to procure in those countries books and other library materials, to distribute such informational matter to libraries and other research centers in this country specializing in the areas, and to carry on, in the foreign countries where such currencies were available, such related activities as cataloging, photocopying, and binding. The program became operational in 1961.

The first undertaking under Public Law 480 was a pilot project limited to three countries: India, Pakistan, and the United Arab Republic. Invitations to participate in the program were sent to a small list of university libraries selected by an advisory committee. At the end of the first six months of operation, nearly 400,000 publications had been acquired and shipped directly to American research libraries. By July 1, 1962, publications were being received at the rate of one million per year. The distribution of accessions lists publicized the availability of materials received.

For fiscal year 1964, Congress authorized a substantial increase in

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appropriations to allow for the continuation of the original projects and for extension of the program to Burma, Indonesia, and Israel. Ceylon, Nepal, and Yugoslavia were subsequently added. In 1971, the Librarian of Congress reported that more than 14 million items had been acquired from eight countries since the program's inception. Comprehensive sets of publications in English and in the vernacular languages were being shipped to forty-one major research libraries and sets of English-language publications were being distributed to approximately 300 college, university and public libraries in all fifty states.

Certain regional plans served a similar purpose. For example, book and travel funds were made available by the Midwest Universities Consortium for International Activities to the libraries of the four cooperating universities—Illinois, Indiana, Michigan State, and Wisconsin—to send representatives to various areas of the world for the cooperative acquisition of library materials. Members of the library staffs spent extended periods in Latin America, Africa, East Asia, South Asia and Southeast Asia on buying trips, procuring important material that could not have been acquired through regular trade channels. Individuals sent on these missions benefited by an increased knowledge of the areas in which they specialized.

Foreign procurement through cooperative undertakings provided an excellent background of experience for the most ambitious plan of all, the National Program for Acquisitions and Cataloging (NPAC), centering in the Library of Congress.¹⁸ The enabling legislation for this program was contained in an amendment to the Higher Education Act of 1965, entitled "Strengthening College and Research Library Resources." The provisions charged the Library of Congress with the responsibility of:

- (1) acquiring, so far as possible, all library materials currently published throughout the world which are of value to scholarship;
- and (2) providing catalog information for these materials promptly after receipt, and distributing bibliographic information by printing catalog cards and by other means, and enabling the Library of Congress to use for exchange and other purposes such of these materials as are not needed for its own collections.¹⁹

It was soon recognized that cooperative efforts would be needed to accomplish the library's goal of acquiring on a worldwide basis all currently published library materials which are of value to scholarship, and of supplying cataloging information for these materials

promptly after receipt. All types of published material except periodicals were to be included in the plan. Acquisition centers were established in foreign areas where the book trade was not well organized or where there was no national bibliography. The cooperation of a number of national libraries was enlisted to assist in cataloging the imprints of their countries. At the end of the first three years of operation, it was reported that the Library of Congress had established ten shared cataloging centers overseas and had worked out cooperative arrangements with national libraries and national bibliographies in twenty-two countries for the use of catalog entries prepared by these institutions.

At the end of its first decade the National Program for Acquisitions and Cataloging was providing substantial benefits to the Library of Congress, to the research libraries of the United States, and to libraries, publishers, and book distributors in other countries. When the program is fully established and funded, it may be anticipated that the world's publishing output will reach the United States soon after coming off the printing presses, will be cataloged at home or abroad, and will be ready for use.

It should be emphasized, however, that NPAC will not completely replace or supersede other cooperative acquisition efforts. To ensure wide availability of important foreign publications, it is generally agreed that it is desirable to acquire more than one copy of every worthwhile book issued abroad and to decentralize locations. For these and other reasons, individual libraries are continuing their acquisition activities in the foreign field to provide support for the area studies that have proliferated in the larger universities of the United States, as well as for the traditional curricula in languages, literature, history, the social and natural sciences, and other disciplines.

Another approach to cooperative acquisition was taken by the Center for Research Libraries (CRL) in Chicago (originally established in 1949 as the Midwest Inter-Library Center).²⁰ At the outset, the organization's primary purposes were to serve as a storage library for little-used books and to purchase selected materials for cooperative use; subsequently, however, an independent acquisition program became of primary importance. Starting in 1956 and supported by grants from the National Science Foundation, the center entered subscriptions for several thousand rarely held serials covered in *Chemical Abstracts* and *Biological Abstracts*. Also cooperative in nature is the Foreign Newspaper Microfilm Project, sponsored by the Asso-

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ciation of Research Libraries and housed in the center; approximately 150 of the leading newspapers of the world are currently received by subscription, microfilmed and filed for the use of cooperating libraries. More recently, beginning in January 1973, the CRL announced an expanded program of journal acquisitions to add 6,000 new subscriptions over a five-year period, unlimited as to subject with the exception of medicine and agriculture.

In response to its defined mission, the Center for Research Libraries concentrates its collecting activities on highly specialized, infrequently used materials. In addition to collecting foreign journals and newspapers, the center has assembled the most complete collection of foreign dissertations in the United States. It also possesses extensive holdings of foreign government publications, the publications of U.S. state governments, college and university publications, textbooks, and various other categories.

The CRL has an international membership of about 200 American and Canadian libraries. From the point of view of acquisition policies and programs, the principal value of the center to individual member libraries is to relieve them of responsibility for collecting a variety of fringe materials, expensive to acquire, seldom needed, and filling valuable space, but perhaps important when wanted.

A similar program on a smaller scale is conducted by the Hampshire Inter-Library Center in Amherst, Massachusetts, established in 1951. Four libraries, those at Amherst, Mt. Holyoke, and Smith colleges and at the University of Massachusetts, pooled their research collections. Duplicates were sold and the proceeds used to acquire works of research importance not held by any of the libraries. The institutions have comparable interests and are near each other geographically—facts that have contributed to the success of the plan.

The most recent large-scale plan projected for interlibrary cooperation in resource building and sharing involves four major libraries in the Northeast. The New York Public Library is joining with the libraries of Columbia, Harvard and Yale, according to a 1974 announcement, in what the *New York Times* described as “a sweeping and controversial program of combining operations that will entail cutting back purchases of many publications and systematically exchanging photocopies of previously published writings.”²¹

The four libraries, which together possess more than 25 million volumes, aim to make materials from their collections quickly available to one another's readers through the use of everything from Greyhound buses to the latest electronic equipment, relaying printed

material and facsimiles back and forth. Among the devices to be used are teletype machines, open telephone lines, centralized catalogs compiled by computers and, as it becomes cheaper and more efficient, telefacsimile equipment. The chief economy is expected to be realized by acquiring single copies (instead of four) of expensive sets and little-used journals. Another possibility is an agreement to allocate responsibilities for in-depth collecting, based on subject and language specialization and on forms of material.

The four institutions—known as the Research Libraries Group—hard pressed by inflationary labor costs and rising expenditures for publications, particularly those from abroad, regard the plan as “one of the most important cooperative undertakings in the research library field in decades.”²² An information center to be established at Yale will contain information not only about the libraries’ millions of volumes, but also about millions of maps, manuscripts, microfilmed documents, and other nonbook materials. The response of the book world outside libraries, however, is highly critical of the scheme. The Authors League and the Association of American Publishers, for example, maintain that the consortium will violate authors’ and publishers’ copyrights, take away their rightful earnings, and make difficult, if not impossible, unsubsidized publication of serious books and periodicals. The rare-book trade also expects to be drastically affected.

MICROFORMS

One of the most useful devices that modern technology has given libraries is microform reproduction. The use of microfilm in roll form came into general use in libraries in the 1930s. A variety of other forms were subsequently developed: microcards, microprint, and microfiche. Since the late 1930s, microreproduction projects have proliferated, miniaturizing large bodies of newspapers, manuscripts, archives, journals, early books, government publications, bibliographies, and other types of specialized research materials.²³ A recent development is the use of ultramicrofiche techniques for the reproduction of complete “libraries” of books and periodicals; this method manages to place a large number of pages on a very small surface.

The reasons for the microform revolution are diverse. On the part of some persons there is a belief that the traditional book is obsolete and all literary materials should be reduced to a microcosm. A better-balanced view is that the new media have both potential and

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limitations. The value of microreproductions is recognized in preserving fragile records, in saving war-endangered materials from possible destruction, in increasing the availability of unique and rare items, in saving storage space, and, in the case of highly specialized works, for original publication. At the same time, it is obvious that library materials are frequently less useful in microform than in their original formats.

Examples of major projects of microreproduction are Pollard and Redgrave's *Short Title Catalogue of Books Printed in England, Scotland and Ireland* for the period 1475-1640; Wing's *Short Title Catalogue of Books Printed in England, Scotland, Ireland, Wales, and British America and of English Books Printed in Other Countries, 1641-1700*; Charles Evans' *American Bibliography, 1639-1800*; and all United Nations publications.

Reproduction of material in full size using photo-offset and other processes is also having a dramatic effect on library acquisition activities. It has been correctly stated that no book need henceforth be considered out of print if somewhere a copy is available for reproduction. The importance of this fact is accentuated by the requirements of many new university and college libraries, which in the past would have found it virtually impossible to acquire the basic periodical files, collections of historical sources, and reference works needed for a research library. Such materials were out of print and simply unprocurable. The annual *Guide to Reprints* for 1975 lists some 350 firms engaged in reprint publishing in the United States and abroad.²⁴ Their productions include complete runs of general and special journals; society publications; bibliographical and other reference works; series dealing with special subjects, such as the Negro, law, theater, criminology, and the history of science; and innumerable individual book titles.

BIBLIOGRAPHIC CONTROL

Interest in problems of bibliographic control in the United States began at least a century ago. The first meeting of the American Library Association in 1876 was instrumental in securing the revival and continuation of *Poole's Index to Periodical Literature*; the *American Catalogue of Books* was published the same year.

The master key to bibliographic control in the United States, it is generally conceded, is the National Union Catalog in the Library of Congress. Efforts to compile a union catalog may be traced to the

beginning of the present century, but the National Union Catalog in its present form was organized in 1927. More than 3 million cards are added annually, with locations in about 2,500 libraries in the United States and Canada. In addition to the huge alphabetical author catalog for books in western languages, the Library of Congress also maintains a number of specialized union catalogs for Chinese, Japanese, Korean, Hebraic, Near Eastern, Slavic, South Asian, and Southeast Asian languages. In the early 1940s the Library of Congress published its card catalog in book form, and about a decade later began adding locations in other American libraries to the published catalog. Under the title *The National Union Catalog; An Author List Representing Library of Congress Printed Cards and Titles Reported by Other American Libraries*, the work has since been issued periodically. Now in progress is a complementary work, *National Union Catalog, Pre-1956 Imprints*, to contain some 13 million titles in 610 volumes when completed.

Supplementing and complementing the National Union Catalog are various regional, state, and local union catalogs scattered throughout the country. Three outstanding examples are known as bibliographic centers: the Union Library Catalogue of the Philadelphia Metropolitan Area, the Bibliographical Center for Research for the Rocky Mountain Region, and the Pacific Northwest Bibliographic Center and Union Catalog. The great impetus for the development of regional union catalogs in the United States came during the period 1930-41. The growth was stimulated and made possible by the availability of free labor from government relief agencies during the depression.²⁵

Two major types of nonbook material are presently being covered by supplementary volumes to the National Union Catalog: music and phonorecords, and motion pictures and filmstrips. In 1962 the Library of Congress began publishing an annual volume of the *National Union Catalog of Manuscript Collections*, containing reproductions of cards describing manuscript collections in libraries, archival agencies, and other U.S. repositories; more than 40,000 collections have been described thus far. Another annual publication, beginning in 1965, is the Library of Congress's *National Register of Microform Masters*.

One of the largest and most difficult aspects of bibliographic control is that of serial publications. For more than a century, serial literature has been assuming an increasingly important place in libraries. The learned and technical journals, transactions of academies, museums,

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observatories, universities and institutions of all sorts, and the serial publications of governments make heavy demands on library funds, space and staff. The third edition of the *Union List of Serials in the United States and Canada*, published in 1965, records more than 156,000 titles, with holdings in 956 cooperating libraries. Currently, the chief source of information in the field is the Library of Congress's *New Serial Titles*, which lists periodicals issued after 1950, and reports holdings in more than 700 U.S. and Canadian libraries. A special branch of the serial field is newspapers. The seventh edition of the Library of Congress's *Newspapers on Microfilm* (1973) lists 34,000 domestic and 9,000 foreign newspaper titles, with locations in hundreds of libraries and commercial firms.

Another complex area from the point of view of bibliographic control is that of government publications at all levels. The U.S. Government Printing Office is by far the most prolific of American publishers. Much of the huge mass of government publishing is ephemeral and fugitive, most of it never appears in the book trade, and its acquisition offers many practical difficulties to libraries. Federal documents have been comprehensively recorded in various bibliographies since 1774, state publications since 1910, and municipal and other local documents very sketchily or not at all.

The distribution of U.S. government publications to libraries, through some form of depository system, dates back more than a century.²⁶ The Printing Act of 1895 brought together into one law all the previous acts and resolutions which concerned the printing and distribution of public documents. A substantial number of federal, state, university, and public libraries hold extensive collections of depository publications for the present century, and in some instances earlier. Establishment of a regional system of depository libraries (now numbering approximately forty) by the Depository Library Act of 1962 assures strong collections of current publications in strategic locations around the country.

The interest in and extent of efforts to make the nation's library resources known and used is demonstrated by the numerous printed library catalogs, union list of books and periodicals, descriptions of special collections, surveys of library holdings, calendars of manuscripts and archives, and exhibition catalogs. Downs's *American Library Resources; A Bibliographical Guide* records over 11,800 such titles through 1970.²⁷

SPECIALIZATION OF FIELDS

A promising and occasionally successful device for library cooperation is subject specialization.²⁸ The idea of library specialization or division of fields is not a new concept. Charles Henry Gould, then president of the American Library Association, proposed a scheme for regional specialization in 1909, and Ernest Richardson, librarian of Princeton University (1890-1923), developed a detailed plan for specialization on the research level. Practical applications of the theory appeared even earlier. In New York City, an agreement between Columbia University and the New York Public Library dates back to 1896; certain fields were allocated to each library. In Chicago, according to a plan adopted in 1895, the Newberry Library assumed responsibility for collecting in literature, history and the arts, and the John Crerar Library agreed to cover the natural, physical, and social sciences. Similar plans were made effective later in Minneapolis, Providence, Cleveland, Nashville, Chapel Hill-Durham, Oregon, and elsewhere. In Washington, the Library of Congress leaves the field of medicine largely to the National Library of Medicine and that of agriculture to the National Agricultural Library.

Despite such instance showing the feasibility of divisions of fields among libraries, especially research institutions, the idea has not gained general or ready acceptance. A prime reason is competitive institutional ambitions and rivalries. University administrators and governing boards have expanded curricula to include graduate study, research, and teaching in every field offered by any other university. Not free agents, librarians are expected to support these programs by providing materials and services. Limitations of fields is a direction in which universities have been reluctant to move. The trend is generally toward expansion rather than retraction, except in periods of financial depression. Unless there is a change among educational leaders in this attitude, the outlook for comprehensive programs of library specialization is not encouraging.

SURVEYS OF LIBRARY HOLDINGS

Surveys are a typical American institution. In the library field, surveys have dealt chiefly with technical processes, administrative procedures, and social aspects. The primary reason for the existence of libraries—their actual contents or holdings—has become more recently recognized and is receiving increasing attention. Resources surveys serve a variety of purposes: they reveal a library's strengths

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and weaknesses, show how well it is adapted to its clientele, provide a basis for planning and interlibrary cooperation, and locate materials which might otherwise be overlooked.

Surveys of library resources are of varying character. On the national level, examples are Downs's *American Library Resources* (mainly a bibliographic guide), Ash's *Subject Collections: A Guide to Special Book Collections and Subject Emphases . . . in the United States and Canada*, and Kruzas's *Directory of Special Libraries and Information Centers*. Examples of regional, state and local surveys are Downs's *Guide to Illinois Library Resources*, *Resources of Southern Libraries*, and *Resources of New York City Libraries*, Holley and Hendricks's *Resources of Texas Libraries*, and Van Male's *Resources of Pacific Northwest Libraries*. Descriptions of the holdings of individual libraries are numerous, e.g., American Antiquarian Society's *A Guide to the Resources of the American Antiquarian Society*, Bibliographical Planning Committee of the University of Pennsylvania Libraries' *A Faculty Survey of the University of Pennsylvania Libraries*, Brown's *Guide to the Reference Collections of the New York Public Library* (new edition in press), Potter's *The Library of Harvard University*, and Rush's *Library Resources of the University of North Carolina*.

The techniques for describing and evaluating library collections on the research level are still experimental. No generally accepted standards have been established, chiefly because of the difficulty in defining research materials. Anything in printed or manuscript form is of conceivable research value.

NATURE OF RESEARCH COLLECTIONS

Individual library development is a many-sided undertaking, involving the building of collections in special subject fields; of collections of general classes of material, such as public documents, periodicals, newspapers and manuscripts; and perhaps of distinctive special collections. The development of a great research library has a certain mirage quality; the goal of completeness may be approached but can never be attained. Four stages can be recognized in rating a library's resources in special subject fields: a general information collection, a well-rounded reference collection, a comprehensive research collection, and an exhaustive research collection, the last comprising everything in any form which can be assembled on a subject.

Library materials break down into several major categories. Sepa-

rately printed books, serials, government publications, and manuscripts are the leading types for research purposes, but a variety of other records are being assembled. In the Library of Congress's annual report on acquisitions, for example, separate figures are included for volumes and pamphlets, technical reports, bound newspaper volumes, newspapers on microfilm, manuscripts, maps, micro-opaques, microfiche, microfilm reels and strips, motion-picture reels, sound recordings, books for the blind and physically handicapped, prints and drawings, photographic negatives, prints, slides, posters, and a miscellany of broadsides, photocopies, nonpictorial material, photostats, etc.—a total of more than 75 million items.

In most of the sciences, the literature of mathematics is fundamental. For the biological, chemical, and physical sciences, the important materials are: (1) complete files of specialized journals, (2) the transactions of societies and institutions devoted to specific sciences, (3) the transactions of pertinent academies and general societies, and (4) monographic publications, handbooks, and encyclopedias. The same is true of the applied sciences of medicine and surgery, chemical technology, and engineering and industry in general. For the earth sciences—geology, paleontology, mineralogy, geography and geophysics—scientific journals also hold high rank, but of equal concern are publications such as the geological surveys issued by governmental agencies around the world.

Research materials for the social sciences are far more diverse than for the sciences. History, sociology, economics, political science, law and government are served by journals, society transactions, government publications, sets of collected sources, published archives and manuscripts, laws and treaties, court reports, statistical series, census reports, administrative documents, atlases and maps.

The great field of literature and language presents still another picture. Monographic material predominates. Journals, although comparatively few, are important. The amount of literary material in any major language is immense, and only the largest libraries attempt to maintain comprehensive collections.

Another leading field—philosophy and religion—produces books, journals, and society transactions in great numbers, along with a large body of collected sources, scriptural commentaries, council decisions, etc. The source materials for early, medieval, and modern theological studies are numerous and sometimes rare. Much advanced study and research in philosophy and in ancient and medieval history are dependent upon works generally classified in theology.

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In addition to the foregoing disciplines, other fields have developed in recent years, such as education, psychology, and business administration, which produce journals in large numbers, quantities of pamphlets, extensive series of reports (mainly statistical), some society publications, and dissertations.

A highly specialized area, the fine arts and music, requires monumental collections of sources, journals, sheet music, sound recordings, prints and slides, and printed books.

STANDARDS FOR RESEARCH LIBRARIES

Interest in and the need for standards for university and other research libraries have long been evident. In measuring a university library's resources, at least ten criteria may be used: (1) total library holdings, (2) total volume holdings in relation to student enrollment, (3) volume holdings in relation to graduate student enrollment, (4) volume holdings in relation to number of faculty members, (5) volume holdings in relation to major subject fields for undergraduates, (6) volume holdings in relation to fields of concentration at the master's level, (7) volume holdings in relation to fields of graduate concentration at the doctoral level, (8) number of volumes added annually, (9) number of current periodical subscriptions, and (10) number of current serial subscriptions.²⁹

A majority of these criteria was adopted by Clapp and Jordan in their study entitled "Quantitative Criteria for Adequacy of Academic Library Collections,"³⁰ and in somewhat modified form by Washington state college and university libraries in *A Model Budget Analysis System for . . . Libraries*.³¹ The general formula developed by Clapp and Jordan has been widely applied during the past decade, and for the most part has demonstrated its validity as a practical device for testing the strength of a library's collections. The primary criteria are as follows, in terms of volumes:

| | |
|---|----------------------|
| Basic undergraduate collection | 50,750 |
| Each FTE faculty member | 100 |
| Each FTE student (all levels) | 12 |
| Each undergraduate in honors programs | 12 |
| Each field of undergraduate concentration | 335 |
| Each field of graduate concentration—master's | 3,050 |
| Each field of graduate concentration—doctoral | 24,500 ³² |

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The Washington state formula increased these totals for most categories:

| | |
|--|----------------------|
| Basic collection. | 85,000 |
| Each FTE faculty member | 100 |
| Each FTE student | 15 |
| Each undergraduate major. | 335 |
| Each master's field, when no higher degree offered | 6,100 |
| Each master's field, when higher degree offered | 3,050 |
| Allowance per doctoral field. | 24,500 ³³ |

The Washington state formula recognizes that constant growth is essential to keep a library alive: "A minimum number of acquisitions per year shall be established equal to five per cent of the estimated number of units of library resources held at the start of each fiscal year."³⁴

Clapp and Jordan also proposed a formula for current periodicals:

| | |
|--|-----|
| Undergraduate collection | 250 |
| Per FTE faculty member | 1 |
| Per field of undergraduate concentration. | 3 |
| Per field of graduate concentration—master's. | 20 |
| Per field of graduate concentration—doctoral | 200 |

Another set of standards was adopted in 1972 by the Association of Research Libraries as minimum criteria for membership in the association, a select organization of about ninety major libraries of the United States and Canada. The criteria are based on ten of the statistical categories used by the association in its annual compilation of *Academic Library Statistics*. The categories are: volumes in library, volumes added (gross), number of FTE professional staff, number of FTE total staff, expenditures for library materials and binding, expenditures for salaries and wages, total library operating expenditures, number of current periodicals, number of Ph.D.s awarded, and number of fields in which Ph.D.s are awarded. To qualify for automatic invitation to membership, a university library must have maintained for a three-year period an average of more than 50 percent of the current median levels of the first eight categories, and an average of more than 40 percent of the medians of the last two categories. As examples of the application of the formula, an institution applying for membership in 1972 would have been required to hold a minimum of 743,206 volumes, to have added 43,237 volumes, and to be receiving 8,580 current periodicals.

METHODS IN COLLECTION DEVELOPMENT

There has been increasing emphasis in recent years on the library staff's responsibility for collection development. Book selection in college and university libraries was formerly regarded as a faculty prerogative on the assumption that, as experts in their fields, faculty members were best qualified to determine what publications were important and desirable. As attitudes and practices have changed, especially in university libraries, collections are being built in large part by subject specialists on library staffs.³⁵ The entire professional staff may be involved to some extent in book selection. At the same time, it is agreed that where faculty members are willing to participate in building library resources, and have the necessary expertise, their advice and guidance are invaluable.

An increasingly popular device—blanket or standing orders, sometimes referred to as approval plans—gives a new dimension to the problems of book selection. Several factors appear to have influenced librarians in their acceptance of such arrangements. The rate of publication has made new selection mechanisms imperative. The volume of printed materials and staff costs have forced libraries to seek methods of selecting the greatest number of books in the most expeditious fashion. To have books ordered with minimum clerical and routine labor, frequently with catalog cards provided, saves time for other, perhaps more important, activities. A further advantage may be a savings in time for users; an efficient standing-order plan should ensure prompt receipt of most current materials. As foreign acquisition programs have expanded, there is a need to acquire materials from areas for which no adequate bibliographic tools exist. The national bibliographies and reviews on which standard selection systems depend are simply lacking in many countries.

Despite the obvious advantages of standing-order and approval plans, there are problems and dangers associated with their extensive use. Serial publications is a complex category. Too much ephemeral and marginal material may be received, while important single titles may be overlooked. Also, dealers and jobbers often fail to cover certain types of publications central to a research library, such as those issued by universities, art museums, learned societies, and private membership organizations. These items may not get into the regular book trade, and there is little or no profit in them for dealers. A further objection is that major research libraries, by utilizing the services of a small number of dealers, are building book collections

that are too similar in both strengths and weaknesses. Investigations have revealed a significant fact: the most-used books are those selected by librarians, second in demand are books selected by college and university faculty members, and least used are titles chosen by book jobbers.

Incidentally, it may be noted that the larger a research library becomes, the less selection is involved in its growth. Not all areas are developed comprehensively, but in fields of primary concern to the institution, the library is likely to be engaged in collecting rather than selecting. Completeness becomes the main goal.

THE FUTURE OF THE BOOK

Prophets of doom maintain that books are an obsolete, vanishing artifact, replaced by such mass media as large-circulation magazines and newspapers, telephone, telegraph, film, radio and television. The validity of this belief is questionable. In 1973, Americans spent about \$3 billion for 1.4 billion books, an average of nearly seven books per capita, more than three times as many per person as were sold in 1929, when 122 million people bought 214 million books, before the advent of radio, television and talking motion pictures.

Book production is another statistical measure. According to the *Publishers' Weekly*, 13,142 new books or new editions of books were published in the United States in 1957. In 1973, the total had more than tripled, to 40,000 titles. World book production, based on UNESCO statistics, has followed a similar trend. One reason for this rise is the popularity of paperback books; the number of paperbacks in print grew from 4,500 titles in 1955 to 123,000 titles in 1975.

Numerous university and research libraries are attempting to provide more efficient service by the use of data processing equipment to perform operating routines. Less progress has been made in the application of computer technology to the field of information storage and retrieval, where the aim is to extract the intellectual content of texts. If the purpose is to correlate facts and relationships from the complete contents of books, the problem becomes exceedingly complex and costly. It is indeed highly doubtful whether it will ever be economical and desirable to store vast quantities of information for infrequent use. The flexibility, economy, ease of use, and information storage capacity of the book in its historic form remain unmatched. A statement issued by the Association of Research Libraries points out that the intellectual content of large encyclopedic

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research libraries is not likely to be reducible to a small black box or a desk drawer for many years, if ever; therefore, the traditional book will continue to be a reality with which we must deal.

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