



# Libraries in Larger Institutions of Higher Education

LEWIS C. BRANSCOMB

THIS PAPER DEALS WITH LIBRARY SERVICES to the year 1980 in 163 four-year colleges and universities with enrollments of 5,000 or more students.<sup>1</sup> Catholic University of America, Princeton, and Brown universities are included, though their enrollments are below 5,000, because the nature and extent of their programs of graduate education and research strongly ally them with this group.

As the outset let us view briefly a few of the more important national developments from the end of World War II to 1960. The space age, so dramatically ushered in by Russia's launching of the first successful man-made satellite in October of 1957, has had tremendous impact upon American higher education, as well as upon other aspects of American society. Although a review of U.S. educational programs in the sciences and technology has received greatest emphasis, all disciplines have come under close scrutiny, and the nature of the findings has stimulated the greatest pursuit of excellence which this nation has ever had. Comparison with the numbers of engineers and scientists trained in the two countries has generally favored the U.S.S.R. American educators, earlier lulled into dangerous complacency respecting educational programs, have been shocked into a general awareness of the inadequacies of education from kindergarten through the doctorate, although general public recognition still lags behind. As a result of J. B. Conant's contribution to the intellectual reawakening by his high school study, most of the states have upgraded the requirements for prospective teachers.<sup>2</sup> There is a growing feeling that competition with Russia involves not only the production of arms, but what is even more important in the long run, education, economic productivity, a basic way of life, and perhaps

Mr. Branscomb is Director of Libraries at the Ohio State University.

survival itself. Although the cold war varies in degree from time to time, signs point toward an indefinite continuation of the struggle with the Soviet Union.

Concomitant with the end of World War II and the emergence of the United States as the leader of the free world, higher education began to assume far greater responsibility for teaching and research in far flung parts of the world. Area studies began to develop at individual universities, involving the Middle and Far East, Latin America, the Slavic countries, and more recently Africa. Northwestern University developed a strong African program, Florida concentrated upon the Caribbean, Texas on Mexico and parts of South America, California at Berkeley on the Far East. Columbia, through its Russian Institute, has a Slavic collection of well over 100,000 volumes, while seven or eight other institutions have similar or related programs built around substantial holdings.

With the growing concept of a shrinking world which can now be completely spanned in eighty-nine minutes, the development of area studies around the globe will expand to meet the demands of teaching and research. University libraries for the most part have somewhat belatedly acquired research materials upon which such studies are based after their institutions have made the decision to establish a particular program.

The late 1940's and the 1950's saw the rise of a number of significant cooperative ventures such as the Farmington Plan in 1948, designed to bring at least one copy of every book of research value published abroad into a known location in this country, the Midwest Inter-Library Center in 1949, the Hampshire Inter-Library Center in 1951, and the Southeastern Inter-Library Research Facility in 1955. The New England Deposit Library, begun much earlier, may be said to be the prototype of this kind of cooperation. More than sixty research libraries, dispersed through every region and most of them attached to universities, participate in the Farmington Plan. M.I.L.C. now has twenty member libraries, with prospects of broader support, and is beginning to exert an influence upon scholarship in the middle west and indeed nationally. The success of the Hampshire Inter-Library Center with its four members points the way toward further cooperation in the East. In 1956 the Association of Research Libraries began a cooperative program of foreign newspapers on microfilm pooled at M.I.L.C. for the use of some sixty widely scattered libraries throughout the nation. More than one hundred universities with grad-

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uate programs cooperate with University Microfilms in its program of centralizing film copies of doctoral dissertations at Ann Arbor from which copies can be purchased cheaply and promptly in lieu of inter-library loan. Many more examples might be cited, but this list is sufficient for illustrative purposes. The underlying intent in these and other cooperative ventures has been the extension of library services and resources within the framework of the limited funds available.

Another relatively recent major development in the large universities has been the rapidly expanding program of industrial- and particularly government-sponsored research. Approximately one billion dollars were spent on organized research in American universities in 1960—an increase of 126 per cent from 1954 to 1960, and well over half this sum came from the federal government in the form of contract research.<sup>3</sup> Graduate education and faculty research are feeling the impact of this new demand and new source of funds. One may well question whether this applied research, as it is in large part, as compared with basic or fundamental research, is producing an imbalance detrimental to the quality of graduate education and faculty research. The growing dependence upon this source of support of research will make it exceedingly difficult for most large research institutions to curtail the number of contracts it will accept.

Perhaps the most obvious postwar development, and one destined to affect substantially both higher education and the nation, is the steadily increasing student enrollment in the colleges and universities. Among the 18 to 24 year olds in the nation 72 out of 1,000 were enrolled in 1930, 91 in 1940, 168 in 1950, and approximately 250 in 1960, or an increase of approximately 247 per cent in thirty years.<sup>4</sup> The increases are the result both of population growth and the rising percentage of high school graduates who elect to go to college. The percentage of young people 18 to 24 years of age who were enrolled in college in 1960 is roughly the same, 25 per cent, as that of high school enrollment in 1917—a truly remarkable achievement in such a relatively short period.<sup>5</sup>

This short summary of some of the national developments and continuing trends since 1945 is suggestive of future patterns in large college and university libraries. A rededication to the pursuit of excellence, language and area studies, cooperative ventures among libraries, the great expansion of government-sponsored research, and the exploding college enrollment—all affect the library, most of them

by demanding greater resources and services. But what are some of these future patterns?

One of the most difficult problems facing higher education is that of adequate financial support. There are other problems, of course, and money alone does not produce a quality program, but it is one of the essential ingredients. Costs of running colleges and universities are mounting, and the portents are that they will continue to increase in the foreseeable future. One may recall the storekeeper who said that he lost money on every sale, but that he was able to stay in business only because he made so many sales. Unfortunately, colleges do not have this golden touch. Since students at most institutions pay no more than half, or even less, of the cost of their education, steadily increasing enrollment requires continuously more funds from one source or another.

To make matters worse, the status of the college and the college professor in the United States is low. Both the salaries and the prestige of college and university professors in European institutions, considering the economics of their countries, are much higher than in the United States, although it is some comfort to note that the Russian sputnik has focused attention upon the importance of education and research with the result that "egghead" is no longer a popular term of derision.

Libraries, of course, share the general financial problems of their parent institution, but their plight is even greater. R. B. Downs has pointed out that in 1945-46, thirty university libraries were spending a median of 4.86 per cent of their institution's total education expenses for library services, but by 1958-59—fifteen years later—the figure for the same group had dropped to 3.7 per cent.<sup>8</sup> Efforts on the part of college librarians to secure a share of the overhead allowances from government contract research, despite a few bright exceptions, have been singularly unsuccessful.

It seems likely that the situation will get much worse during the 1960's before very much is done about it. A broad educational program designed to acquaint the public with the financial problem of higher education is badly needed. Only a beginning has been made in this effort. The American public may have to face the grim fact of failing to get Junior into a good college or even failing to get him into any college at all before the problem can be brought home. To finance higher education during the next two decades, not only must the student pay higher college fees, but substantial assistance must

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also come from the individual states, the federal government, foundations, alumni, friends, business, and industry. Although libraries receive some funds from a variety of sources, most of them will continue to face the difficult job of trying to secure adequate support from the parent institution as the major source of funds.

But the picture is not all dark. Efforts are currently in progress to persuade the National Science Foundation, an agency of the federal government, to assist college libraries to provide better and more extensive services to scientists and social scientists. The Association of College and Research Libraries has embarked upon a program to secure federal legislation to help college libraries, similar to the assistance so effectively given to rural public libraries through the Library Services Act. The President's Commission on National Goals calls for improvement in teachers' salaries, increased scholarship and loan funds, and a doubling of the annual public and private expenditure for education between 1960 and 1970, for a total which would then approximate five per cent of the gross national product.<sup>6</sup> The current proposals for federal aid to education are indicative of the growing concern among the people about the problem, and whether or not the bill passes at this session of Congress, the climate of opinion is improving. The United States can afford to provide a superior program for educating its youth to realize their full potential, but it cannot afford not to provide it. It is possible that during the next two decades this goal will largely have been reached.

One of the most baffling problems now facing librarians and documentalists alike is that of control over the tremendous flood of publications now issuing from the world's presses. Even the largest libraries long ago conceded defeat in the attempt to struggle alone against this tide of print and have cooperated with other libraries coping with the same problems. Research is proceeding at an explosive rate, the findings of which in turn result in the publication of books, articles, pamphlets, leaflets, and technical reports by the scores of thousands. Because of inadequate indexing, abstracting, acquisition, processing, and servicing, scientists are becoming increasingly frustrated in their efforts to keep up with progress in their own specialties, much less in their general area. Automation comes slowly to libraries, but the librarian of the large research institution now admits that his outdated manual procedures are no longer appropriate to the tasks at hand.

At least a partial solution surely lies in the development and use

of machines to do many of the physical and manual jobs involved in libraries, and all academic librarians are aware of the research in automation now being carried on by documentalists, librarians, physicists, mathematicians, engineers, and other specialists. The Western Reserve University Documentation and Communication Research Center is, among other projects, currently engaged in pioneering research and development of techniques and machines for storage and retrieval of educational research information. The Library of Congress is conducting a survey of possibilities for automating the organization, storage, and retrieval of information in a large research library financed by the Council on Library Resources. There is evidence to indicate that, while the complex of problems has not by any means been solved, some of the adaptations which are now capable of operation are not being utilized because they are not economically feasible, as, for example, the Michigan study on "telereference"—a system of consulting card catalogs by television. A high degree of automation for every academic library may never be financially justified, but state or regional centers will be established to serve as nerve centers from which information will be transmitted electronically to institutions within a particular area. On a given campus of a large university the library headquarters will be in communication with its branches by television, telefacsimile, and/or similar electronic devices.

It is not predicted here that the book as such will disappear by 1980. In many situations of the individual reader, it will remain highly useful and efficient. But certain categories of information, particularly in the physical and engineering sciences, must somehow come under machine manipulation if research is not to become submerged in its own unorganized literature.

Another problem faced by academic libraries is the very uneven or maldistribution of American library resources. The heaviest concentration lies along the eastern seaboard and in California on the west coast, with decreasing holdings in the Middle West, Texas, and Washington, and with the southwest, southeast, plain and mountain states bringing up the rear. R. B. Downs<sup>7</sup> has brought Wilson's<sup>8</sup> interesting study of 1935 up to 1955. The later study reveals that in general those that had the largest resources in the earlier period were also at the top in 1955, but that their lead over the rest of the country was not quite so great. The southeast grew most quickly with a percentage increase of 399, and the southwest most slowly with 86 per cent. However, among the seventy-six library centers listed, Dallas

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ranked second in the rate of increase, jumping from 70th to 37th position, a volumes increase from approximately 571,000 to 1,963,000, or 244 per cent during the two decades. The population of the entire United States increased by 18.5 per cent for the decade ending in 1960. If there is a positive correlation between population growth and college enrollment, it would seem desirable for library resources to increase along the same lines. Though not one of the worst problems facing libraries, this dilemma can be partially resolved by greater efforts on the part of those in less heavily concentrated areas to strengthen rapidly their library holdings, by imaginative cooperation among libraries, and by the establishment of state or regional centers as indicated above.

As we turn to education for librarianship and the shortage of trained personnel, we see it predicted that the largest increase in per cent of change in employment of various occupation groups from 1960 to 1970 will occur in the professional and technical group—40 per cent.<sup>9</sup> This group, including librarians, also requires the highest educational level of any group.

Librarianship shares with other professions a critical shortage of trained personnel. Already acute, this problem is going to become more serious in the 1960's because of exploding college enrollments and a much greater emphasis upon high scholastic standards. It has been estimated that while there were 10,000 professional positions unfilled by professional librarians in 1959, library schools are graduating fewer than 2,000 annually.<sup>10</sup> There are doubtless many factors responsible for this situation, but among the most important are inadequate salaries, lack of status within and outside the institution, a generally poor recruiting effort on a national basis, and a continuing failure to distinguish clearly between professional and clerical library duties (by contrast with the tightly-drawn distinction between the duties of physicians and nurses, for instance).

The salaries and status of academic librarians are inseparably linked with those of their teaching colleagues, and the solutions when found will apply largely to both groups. Librarians can, however, do more about recruiting personnel and sharpening the lines between professional and clerical duties. The latter involves in part shifting to high level clerks some tasks now performed by librarians, particularly in several aspects of acquisition, cataloging, and circulation work. Adoption of such plans as the cooperative "cataloging in source" would help substantially to make better use of the inadequate numbers of

graduates of the library schools, as will the use of automation to perform routine chores.

The demand for specialization in the professions, including librarianship, is increasing. A high percentage of librarians have training in the humanities and to a lesser extent in the social studies, with relatively few having a substantial background in the physical and biological sciences or in technology. There is a paucity of linguistic skills especially in the Slavic and east European languages, Chinese and Japanese, and other less well-known languages. As institutions establish area programs and institutes on Russia, Africa, the Middle and Far East, not only will there be special language needs, but some knowledge of the country is also highly desirable. Of course some of this background will not be provided in the library school, but will be ancillary to it. Where it is not feasible for the university library to secure staff with such special knowledge, it may be possible for the institution to subsidize the general librarian while he is studying in the specialized area, particularly when this arrangement can be made on the campus where the librarian holds appointment. It is encouraging to note that the Library Services Branch of the U.S. Office of Education and the School of Library Science of Western Reserve University are sponsoring an institute on the future of library education to be held in Cleveland in 1962.

It has been suggested that while special librarians will still be serving in departmental libraries of large universities in 1980, the most highly-skilled special librarians will be in university-sponsored research institute libraries serving research foundations and industries adjacent to the campus.<sup>11</sup> This work will be on a fee basis, involving the total marshaling of university information, not merely the literature resources.

There are now more than thirty accredited library schools in the nation offering master's degrees, and about one-fourth of them offer doctorates. In these schools the talent is available in the form of students and faculty to carry on research in librarianship which could be of great value to the profession. To be sure, such research has been going on for some years, but during the next twenty years as the number of library school students grows, especially on the doctoral level, it should be sharpened to meet the demands of a practical, not a theoretical, discipline.

A minor problem faced by larger university libraries, especially those located in metropolitan areas with high industrialization, is



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the growing demand for library service by industry and business. Even though there are many industrial libraries, these are not always adequate to the research or other needs of the companies which maintain them. The large university library, always hard put to provide optimum service to its own community, is asked with increasing frequency to assume this additional burden. Other categories of patrons requesting library privileges not traditionally associated with the college and university library are local secondary school students and townspeople. With the recent raising of school standards, the high school library in many instances is inadequately stocked for the demands made upon it, and when it closes at four or five o'clock, high school students besiege the university library on evenings and weekends.

Some private university libraries are charging fees to industry and townspeople for services rendered, although this partial solution is not as appropriate for the state-assisted as for the private institutions. While it is a problem for the university library to serve patrons other than its own, the reverse is also true. The public library in some areas serves large numbers of college and secondary school students. Studies are now being made of this problem of overlapping clientele.

As already indicated, the exploding college enrollment problem is already here, but it will become even more acute in the future, especially in the decade 1960-1970, as indicated by the following data:

#### *Estimates and Projections of Fall Enrollment in Colleges and Professional Schools*<sup>12</sup>

1950	2,214,000	1965	5,720,000
1955	2,379,000	1970	7,805,000
1960	3,570,000	1975	10,092,000
	1980	11,948,000	

These data reveal a recorded increase of 61 per cent from 1950 to 1960 and projected increases of 119 per cent from 1960 to 1970, 53 per cent from 1970 to 1980, and an overall increase of 235 per cent for the period 1960 to 1980. The children are already born who will be of college age up until the year 1978, and only a major catastrophe or a radical and totally unexpected reversal of the increasing percentage of high school graduates electing to go to college can change this general picture. It is estimated that about 75 per cent of the increase is due to a larger percentage of high school graduates going

to college and that about 25 per cent is due to increasing birth rate. Educators, state legislators, boards of trustees, and others are now studying the problem and are considering the establishment of new or additional junior and community colleges, trade schools, and technical schools along with the expansion of existing state-assisted and private colleges. Furthermore, academic institutions will be forced to make more efficient use of their facilities by scheduling classes from 8 a.m. to 10 p.m., six days per week and eleven months of the year. Some institutions are already well along in efforts to make summer sessions more nearly comparable to the quarters or semesters of the so called "academic year."

Libraries will feel the full impact of this tremendous enrollment growth and must provide for it in a variety of ways. The larger universities will continue the trend of establishing substantial and separate undergraduate libraries such as those at Harvard, Michigan, Texas, and South Carolina. They will also further disperse their main collections either in the form of departmental, school, and college libraries or in strong area libraries for the biological sciences, engineering sciences, and other areas as proposed at Ohio State.

A relatively sophisticated and well developed country like the United States demands more and more services of a professional nature. To meet this demand the enrollment in graduate and professional schools will continue to increase, and it is this growth which will put the heaviest strain upon the library for resources to support graduate and professional programs. In order to meet the great demand for college teachers, engineers, doctors, lawyers, and other professional people, some colleges will develop into universities, a process which already has been under way for some years, particularly among the state institutions. The libraries of these new universities will follow to some extent the library pattern of their predecessors, but they will be wise to experiment boldly in new techniques before they become so large that change is difficult and expensive.

Changing patterns of instruction, such as tutorial plans, expanded honors work, and similar programs, may well change markedly the student-teacher-library relationship. The relatively recent introduction of the teaching machine and programmed learning opens the door to exciting new techniques and methods of teaching. Should these devices enable students to proceed at their own pace, it seems likely that the more talented and more strongly motivated students will have time for enrichment of their courses by additional reading in

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the library. The use of television involving large numbers of students and outstanding teachers will also undoubtedly affect the relations among students, professors, and libraries. One currently popular device for accommodating a greater number of students with college level work is the plan of instructing some of the students at home by television. This program is already being carried out on a small scale, and it may well become one of the answers to student congestion on the campus. Such a plan relieves the classroom and teacher pressure, but does nothing to solve the library problem of servicing thousands of additional students.

With improvement in teaching and learning methods, heavier use of the university's libraries is inevitable. The very act of providing enough qualified teachers for the students flooding the campus in the next two decades will exert pressure to shift the emphasis from frequent lectures and use of a single textbook to self-instruction in the library among many books. A more radical departure is the continental method of lectures without class assignments, examinations at the end of the course, with emphasis upon direction of the subject matter rather than on the day-to-day instruction of students.<sup>18</sup> Such changes would call for far greater library resources than are now available in terms of physical facilities, books, and librarians with the ability to guide the student in his reading program.

Enrollment appears likely to grow more rapidly in public than in private universities because of two factors: private institutions will find it more difficult to finance increasing enrollments, and they are not obliged to take all or most of the high school graduates who apply. Slightly more than half of the total college enrollment is in public schools—probably a satisfactory situation on balance. But deleterious effects may accompany a ratio of, say, 65 per cent public and 35 per cent private. Private schools will undoubtedly make every effort to maintain quality programs and will become even more selective in admission requirements than at present, leaving the public schools with a higher percentage of relatively poorly prepared students. The great advantage of experimentation in educational techniques which the private school enjoys to a greater extent than its public counterpart—and which eventually enriches all higher education—will be dissipated in part because fewer students will be involved.

These are some of the problems—and some suggested solutions—which we will face in the larger universities and their libraries during

the next two decades. But it is to be hoped that these thorny problems are also challenges which we will meet in such a way as to make this score of years the finest and most fruitful in the history of American academic librarianship.

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