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MICHAEL MORAN

The Concept of Adequacy in University Libraries

The theoretical foundations of the concept of adequacy are examined and shown to be faulty. The term "adequate" cannot meaningfully be applied to a university library collection because the library's contribution to education in the institution is not measurable, yet it is the only basis for determining adequacy. Use of the concept may continue to have some practical benefits but should be clearly distinguished from any theoretical justification.

One should not seek for more certainty than the subject matter allows.
—Aristotle

IS IT POSSIBLE to point to a library collection and say with justification that it is either adequate or inadequate? The correct answer to this question should form a fundamental axiom of librarianship. Much of the literature assumes the answer to be yes; however, a logical and linguistic analysis will show that the answer should actually be no, and we shall endeavor to show that attempts to make the measurement are also fundamentally flawed.

Webster's Third International Dictionary defines "adequate" as follows: "equal to, proportionate to, or fully sufficient for a specified or implied requirement; often, narrowly or barely sufficient." Thus it is a quantitative term. Adequacy can be measured. It is also a relative term since it is always measured against some job to be done or some requirement. So, in asking whether a particular library is adequate, we have only to determine what job the library has to do, then measure its collection against that job to see if it has the resources to do it. It appears that nothing could be easier until one tries to do it.

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THE JOB OF THE UNIVERSITY LIBRARY

Since the university library is by definition part of a university, its job must be the same as the university's. The job of the university is the higher education of its clientele. The output, the product, of a university is the client who has left the university better educated than before. How much better is a function of the standards of each university and of the particular type of client.

Can this output or product be measured? Certainly the number of graduates can be measured, and it must be agreed that it is possible to measure the number of new facts, ideas, and attitudes absorbed by a client. When a student is given a passing grade, it means that he or she has absorbed at least the minimum of information required. The sources of this additional knowledge in the minds of clients are varied and include classroom teaching, laboratory facilities, work with other students or members of the university, independent research, and, not the least, library facilities.

How much did each of these sources contribute to the educational product, and in what proportion? For example, was the library responsible for 5 percent of the additional knowledge absorbed by the students? At present it would be totally impractical to make this determination, but one thing is certain: all the sources of the additional knowledge, including the library's, were *adequate*. If they were not, the student could not have graduated, research could not have been carried on, contract clients could not have acquired the information they requested. So, *by definition*, whatever education actually takes place at a university the library is adequate to contribute to it; otherwise, it cannot have taken place. To state the argument another way we could say that the status quo is by definition adequate.

The library should be arguing in its annual request for funds not that it is inadequate to support present educational activity, but that it wishes to support a desired level of future activity. More precisely, the library is seeking funds to increase the *quality* of education. It is suggesting that students should learn more than they are currently learning, that doctoral candidates should go deeper into their subjects, that researchers should have more data to incorporate into their work. Since quality in education is a key concept, it is well to know exactly how it relates to a library collection.

QUALITY IN EDUCATION

If a university offers a course in quadratic equations, for example, and that course contributes to a degree program, then the existing library collection must be assumed to be adequate, even though there may not be any books specifically on quadratics. The implicit university policy in this admittedly extreme case is that, even though there are no library books, it feels that the students have learned enough to warrant a degree.

If the library has at least some books or information on quadratics, it may want to acquire others that, though they have the same subject matter, treat the material differently or offer a different approach. Here the library is beginning to contribute to quality, for it is offering clients a chance to proceed up the scale of quality by studying the material from a different point of view on their own in addition to what they have obtained from their professors.

If new contributions previously unavailable at the university are acquired, the library definitely contributes to the educational capability of the university, since the new knowledge extends the limits of the field, changes the theory, increases the applications, etc.

ADEQUACY, POTENTIALITY, AND ACTUALITY

It is true that the library's actual contribution to education is undefined and immeasurable if defined. Now, taking the extreme situation, assume that no one ever uses the library. Would it then be true that the library is making no contribution whatsoever? An actual contribution, no; but a potential contribution, yes. One purpose of a library is to serve as a repository of knowledge, and by maintaining or acquiring a book, the library has, by that very fact, served this purpose of its being. This is not to say, however, that the library's job is finished when it has acquired a book. The more active the library is in promoting use of its materials, the better the resulting education.

Only the library's actual contribution is the subject matter of adequacy since only when it does make an actual contribution to a client's education is it performing actions subject to measurement against its educational purpose.

Thus far we have attempted to show by linguistic and logical analysis that the term "adequate" cannot be meaningfully applied to a library collection because of the impossibility of measuring the library's educational performance. Nevertheless, we are confronted with many attempts to specify library adequacy. It may be profitable to analyze the more important efforts in order to see whether the theoretical analysis is faulty or whether the attempts are fundamentally flawed by trying to do the impossible. The first involvement with adequacy was in connection with formula budgeting.

FORMULA BUDGETING

Expenditure per Student and Fixed Percentage

Early attempts concerned with the concept of adequacy dealt, not with the total size of the collection, but with its annual growth rate. They appeared to have assumed that the status quo was adequate but that certain specified growth rates were necessary to maintain adequacy. One way of calculating the desired growth rate was the enrollment method. A certain dollar expenditure per student was defined, and the total was considered to be a minimum desired growth rate. For some years in the 1930s the North Central Association of Colleges and Secondary Schools maintained a standard of \$5.00 per student. Later the standard became: "Expenditures should be sufficient to cover needed replacements of and additions to the present holdings."[1]

Does the word "needed" in this context really mean "wanted" (to improve quality) or "adequate" (we cannot do our job without them)? It is conveniently imprecise and is thus, for practical purposes, meaningless.

Related to this method was the standard of a fixed percentage of the university budget for the library budget. In 1930 the United States Office of Education stated that institutions allocating less than 4 percent of their funds for library purposes "should carefully examine . . . the adequacy of the book collection."[2]

Both approaches were adopted in 1928 by the American Library Association, which recommended a fixed expenditure per student that should not be less than 4 percent of the university budget.[3]

These two approaches are simple examples of formula budgets. A formula budget may be defined as a line item budget "based upon quantitative models evaluating major operating programs and functions and setting numeric guidelines for fund allocations relative to pre-established standards of adequacy and accepted levels of attainment."[4]

These two formulas make no statements about the number of volumes. They assume that, if the money is allocated, the "needed" number of volumes will be acquired. But what is the basis for these formulas? ALA's basis was derived simply by a study of 100 colleges and universities.[5] The formulas carry the assumption that the status quo at the time of the study is normative. What most libraries are getting is what they *ought* to be getting. This method is well identified by David Kaser as a general method of operation in librarianship in a recent article. Kaser states that "it should be possible to move from careful *description* of what exists to *prescription* of what should be."[6]

Comparison System

As we are attempting to show, such a movement is impossible as far as the concept of adequacy is concerned. Since the above systems rely upon what libraries are doing for guidelines as to what they ought to do, they are similar to another system described by McAnally in a 1963 article.[7] That is the "comparison" system. A library compares itself with other institutions and requests a budget that will give it a desired rank among them. McAnally's paper is fundamentally a description of these various formula budgeting systems rather than a philosophical justification of any one of them. Yet, throughout his paper one theme recurs: none of the then-existing formulas are based, as they should be, upon library needs. But McAnally does not tell us what the needs are for any or all libraries. He asks the rhetorical question, "What is the proper size for a college or a university library, and no subjective judgments, please?" The profession can be grateful to McAnally for at least asking the question.

Now since McAnally's paper is about budgets, which deal with the future acquisitions, we should take the question to mean, What is the *ultimate* proper size of the collection? How much money does the library need to grow to its ultimate proper size? Implicit in the question is the assumption that once the proper size has been reached the library will grow no more, an assumption McAnally would doubtless have disallowed if given the chance.

Clapp-Jordan

In 1965, two years after McAnally's article, Clapp and Jordan posed a slightly different question. Instead of asking what was the proper ultimate collection size, they asked what was the proper *minimum size*. More precisely, when is a library collection *adequate*? This takes the issue out of the area of budget size and directly into the matter of the collection size. Their thesis is that "it is possible to provide a meaningful quantitative measure of adequacy in library collections." They start by countering Guy Lyle's statement that "the adequacy of the college library's collection cannot be measured in quantitative terms."[8] But their formula, in spite of its lip service to quantity, is essentially a statement of quality.

Four of the seven criteria used in their formula (undergraduate library, undergraduate, graduate, and doctoral fields) are based upon the general idea that all books contained in basic bibliographies should be a part of any academic library. The basic collection of 50,750 volumes for the undergraduate library is a kind of generalization or composite taken from catalogs of noted undergraduate libraries. The implication is that the undergraduate library of 50,750 volumes will be composed (by chance? by design?) of these recommended books.

That a certain quantity of books does not assure a certain quality of books seems to be an obvious point, and the question arises as to why Clapp and Jordan ignore it. The answer is that they were really developing a formula that would convince budget officers of the need for money. "It was important that these estimates should carry conviction to the planning, budgeting, and appropriating bodies concerned" and "the results of this attempt . . . were found useful for the purpose for which they were designed." They further state: "When standardizing authorities omit or refuse to set standards in quantitative terms, the budgeting and appropriating authorities, who cannot avoid a quantitative basis for their decisions, are compelled to adopt measures which, though perhaps having the virtue of simplicity, may be essentially irrelevant."[9]

The Clapp-Jordan formula has the virtue of being ultimately based on bibliographical sources, but it is not a fundamental theoretical contribution to the field. Its real character emerges as a practical approach to dealing with budgeting and budget officers by providing librarians with a pseudoscientific formula for a budget use.

Adequacy and Programming-Planning-Budgeting Systems

The Clapp-Jordan formula, because of its scholarly trappings, has gained a measure of acceptance, so much so that some of its principles have been incorporated into program-planning-budgeting (PPB) systems in the states of Washington, Florida, New York, and Texas.[10] The background and general description of PPB systems are sufficiently covered in the literature and will only be briefly outlined here.[11]

A PPB system includes:

(1) a statement of purpose, including an outline of objectives;

(2) a description of the broad strategy to accomplish the objectives;

(3) a detailed cost of the various options; and

(4) evaluation of the program.

PPB systems can be used by libraries' budgeting agencies to require that libraries define what they need to do their job. Formulas are established for adequacy, and the volumes needed are based on them; but all needs expressed by academic libraries are arbitrary since the library cannot say that it absolutely needs any one book. The library is simply saying that out of the total population of available scholarly materials it has elected to ask for a certain portion. The legitimacy of calling this procedure arbitrary will become apparent immediately if one tries to formulate objectives related to book collecting. For example:

1. "The library will collect 50,000 volumes for the fiscal year." Even in zero-based budgeting, such figures are usually based upon what was acquired last year plus some additional volumes for growth and normally because that was all the money available. If the library had had more money, it would have presumably acquired more books. Yet under PPB systems such extra collecting should not take place because the library did not need any more volumes than the 50,000. On the other hand, if the 50,000 were not acquired, the library would not cease to do its job.

2. "The library will build a collection of a half million volumes over a five-year period." Is that all the library will ever need to do its job? Certainly not. It is not going to stop acquiring books after it has a half million of them.

These examples show that the program statements of a PPB system may be stated in terms of absolute needs in order to satisfy budgeting agencies, but in reality and in relation to the library's role as an educational agency of the university these needs are arbitrary. The only honest and valid argument that the library can make to the budgeting authority is that it wishes to have additional money in some arbitrary amount in order to increase the quality of education it offers the university's clientele.

The library can legitimately argue that its educational potential will immediately decline if the funds are not forthcoming. In addition, its actual contribution will probably decline, although this will happen over a longer period of time. But this decline is not measurable; thus library budget requests do not lend themselves to a PPB system.

ADEQUACY AND STANDARDS

The budgeting agency may be able to demand that each library define adequacy for itself. That same demand, if made by an agency outside the university system, becomes a standard. Standards may be set by accrediting agencies or by library organizations, such as the American Library Association. One of the latest attempts was formulated by the Association of College and Research Libraries.[12] The introduction to this document states that the standards "describe a realistic set of conditions which, if fulfilled, will provide an adequate library program in a college." So, at last we have it!

McAnally asked what is the proper size for a library. Clapp-Jordan provided a formula that at least worked in a practical way. And now ACRL is able to crystallize the search into a universal formula. Simply read the standard, and it will be revealed when a library is adequate. But when we read the standard on the collection, it turns out to be nothing more than Clapp-Jordan warmed over.[13]

A "basic collection" of the standard consists of 85,000 volumes. Could they be 85,000 copies of *Jack and Jill*? The standard itself would allow it. But the commentary on the standard tries to cover the situation:

> The goal of college library collection development should be quality rather than quantity. A collection may be said to have quality for its purpose only to the degree that it possesses a portion of the bibliography of each discipline taught, appropriate in quantity both to the level at which each is taught and to the number of students and faculty members who use it. Quality and quantity are separable only in theory: it is possible to have quantity without quality; it is not possible to have quality without quantity defined in relation to the purposes of the institution. No easily applicable criteria have been developed, however, for measuring quality in library collections.[14]

Read this section, keeping in mind that the quality the library is after is the quality of education in the client. In this light the section is a confused mixture of the meaning of the words "quality" and "quantity."

Are Quality and Quantity Separable?

" 'Quality' and 'quantity' are separable only in theory." Not true.

This collection of ten books before me has a quantity of ten; no more, no less, and nothing at all need be said about their quality.

If all ten are good quality books on quadratics, then we can say that the whole collection is of excellent quality. If we acquire additional books on quadratic equations, for example, which have different approaches or new material, will the quality be increased? Yes, but if the additions duplicate the scope of the existing collection, the quality will not be increased, only the quantity.

Quality without Quantity?

"It is not possible to have quality without quantity." We feel that it must be true in some way because many people have the impression that the good libraries are the big libraries. Perhaps we can amplify the statement and thus come to grips with this fundamental question.

The quality of education in a student increases as he or she moves up the scale from rote memory to knowledge of first principles. But not all this knowledge can be contained in one book.

Students of criminal law may know current statute law in their state and may learn it from possibly only one set of books. To get into English common law, Roman criminal law, comparative law, and the philosophy of law itself, however, more books will be required. So the greater the quality of education, the greater the quantity of appropriate books required. But what is the intention of the university with regard to this quality? Does it intend that its students get into the history of Roman criminal law or comparative criminal law? Perhaps it only wants to require of them that they know current statute law and common law. In other words, it is the policy of the decision-making bodies within the university that defines the quality of education in a field. This policy is often not easy to find.

Among the key indicators are formal or informal statements by the administration on university subject emphases, the amount of money allocated to the academic departments, the rank and credentials of the faculty, the number and frequency of course offerings, student enrollments, and the vision the faculty has of its place in the scholarly world. The richer the university is, the more the available money to be spent on *each area* of a discipline, and the better the quality of education that can be offered as a result of the money available to the library. If a university wants to be excellent in all fields and can afford it, its library will be accordingly better. But indeed, very few universities cover the universe of disciplines with the same intention of excellence for all. Each university is a unique institution with limited goals, limited funds, etc.

The setting of standards by outside agencies, like those in the "Standards for College Libraries," represents an attempt to define a uniformity of purpose and goal on institutions. Such attempts may be ignored by an institution with every justification. If the university wishes to join one of the regional accrediting associations with the view of keeping a check upon the quality of its offered education, it may of course do so. But any abstract formula that presumes to tell a university library how many books it ought to have is foredoomed to failure as a measure of the library's educational role in the university, though not necessarily failure as a financing tool.

Meaning of the ACRL Statement

So can we now determine what the ACRL statement, that "it is not possible to have quality without quantity," really means and whether it is true or not?

1. Philosophically, the statement is not true in the abstract. Goodness, for example, is a quality, yet it cannot be quantified in any way.

2. It is true in the sense that to have any quality books we must have a certain quantity of books.

3. Taking any subject in the abstract, e.g., apart from any real university situation, a quality collection must be a large one. Assuming easy access and proper bibliographic control, we could say that the best collection of books on a subject is a complete collection of all books ever published on it.

4. Taken in an actual university situation, with clients being given a limited quality of education (e.g., emphasis on practical rather than theoretical knowledge), a relatively small quantity of books could constitute an excellent education for that educational purpose. Now since all libraries are in real situations and since we can presume that the ACRL standards are to be applied to real libraries, then we must say that it is not true that we cannot have quality without quantity. More precisely, we should say that quality does not depend upon any specific number of books.

The ACRL standards attempt to treat library collections in the abstract, as if there were, indeed, a "standard" common to all, But the library's job is to build collections that will educate clients in accordance with the university's intentions, not to build collections for their own sake. The distinction is subtle, but vital, and leads us, reluctantly but with a certain feeling of relief, to deny the validity of standards set by extra-university agencies.

Adequacy and Growth Rates

In the past seven years questions of adequacy have concerned themselves more with the adequacy of growth rates, rather than with the current or ultimate size of the collection. This is probably because Clapp-Jordan has cleared the field of discussion on collection size by actually assigning numbers that could not be proved. It will be seen that the same confusion besets these studies that besets those on collection size.

Specifically Identified Needs

In 1970 Jasper Schad proposed that, when attempting to set up a budget containing allocations by subject, "identified or projected needs are the only valid criteria on which to base budget criteria."[15] He suggested that the library specify every scholarly publication wanted for its own purposes. His system briefly is as follows:

1. Decide at what depth a subject should

collect (the depth is divided into four levels).

2. Determine the relative importance of the available literature, including monographs, serials, periodicals.

3. Determine the "adequacy of existing holdings."

4. Select specific titles and assign costs to them, including in-print and out-of-print books. The budget is then split into a current imprints section plus a supplementary section for everything else.

Having set up what appears to be a perfectly logical system, Schad states that "while it is easy in theory to define such an approach, it is hard to do in practice." He does not analyze why it is hard, although he hints at the reason by admitting that "complete objectivity in evaluating books and book needs is illusory." We must agree with this self-criticism. And what is illusory about the objectivity is the idea that the adequacy of existing holdings can be determined and that the library can state that it absolutely needs this or that book or it cannot do its job of educating clients. Schad's system at least has the virtue of internal consistency in that proper collection building requires that new acquisitions be related to existing holdings.

Needs Established by Reviews

Also in 1970 Massman and Patterson proposed that new books receiving favorable book reviews form the basis of minimum budget standards.[17] The total of these reviews forms the budget for current acquisitions. The assumption here is that if the publication is a good one and the subject is taught by the institution then it is to be presumed that the institution needs the publication. Therefore, to remain adequate the institution needs the book.

Here again we see the all-encompassing idealized university, where all academic departments have the same educational intention, the same levels of quality, the same quality of faculty, the same quality of students. Massman and Patterson are doing what the standards attempt to do: tell each university what it needs on the basis of an idealized picture. It should be noted that Massman has retreated from the idea that a meaningful budget for current acquisitions can be developed on the basis of reviews and has fled into the world of fantasy by proposing that ALA select our books for us.[18]

The Indefiniteness of Needs

In 1972 Redmond, Sinclair, and Brown published a very interesting study on university libraries and university research.[19] One of their axioms is that demand for library materials is potentially limitless. This idea seems to mean that any book ever published might be of some use to someone coming in to use the library. This is the old idea that a library could collect everything with some profit. Even the theoretical acceptance of this axiom is in contrast to the more recent idea that there is such a thing as adequacy and that adequacy does not require all the books published.

Adequacy advocates could argue that if it can be shown that a certain number of books is adequate and if that number is less than all the books ever published or to be published then demand is not potentially limitless. The Redmond-Sinclair-Brown axiom is really the correct one, however, because it does not attempt to say that some books are "needed" and some are not. For any book, someone could establish a need, yet the lack of no one book will cause the library to cease carrying out its educational goal within the university.

The authors show that an attempt must be made to limit the demand, not by setting up arbitrary standards, but by matching the resources of the library with the actual research interests of the faculty. The importance of this idea is that it is treating the actual situation in a university, rather than addressing itself to a model. If the recommendations of this article were to be put into practice, one would still find the library administration arguing with faculty members over what is needed to support their research. The result would be an actual money allocation, which would be a statement, not of what is needed, but of what is possible under the circumstances. Growth rates for Redmond, Sinclair, and Brown are strictly limited, as far as research is concerned, by the actual situation in the library, the money available, and the desires of the faculty.

Current Acquisitions

The most recent development of the idea of adequacy of growth rates has been that of Voigt. Reviewing attempts to determine the ultimate size for a collection, he made this statement: "Over an extensive time period, size has always been a meaningless term, for as long as scholarship continues and results in printed material or other physical substitutes for print, such material will be added to research libraries."[20]

Coming from one of Voigt's stature in the profession this is a very significant statement. It is true that his intention in writing this paper was to *emphasize* the primary importance of growth rates rather than to offer a critique of ultimate collection size.

But Voigt continued with this further statement: "When a reasonable start has been made in building an adequate research collection, first consideration must be given to maintaining a satisfactory acquisition rate."[21] This statement further propagates the confusion over the issue of adequacy. It could be given one of two interpretations:

1. The collection is given. We do not have to say whether it is adequate or not. Let us just say that the library has been in existence for a period of time and the collection has been built by competent people and so forth, so that we can assume adequacy. The use of the words "reasonable start" gives a sense of security. The main thing is to keep collection building going.

2. The existing collection is not adequate since only a start has been made in developing it. But we are not going to worry about that since over a period of time the most important thing is what is added to the collection, not what it was before.

These interpretations attempt to serve as a theoretical justification for splitting off the current acquisitions budget from the retrospective acquisitions. The idea is to get all the current material so that lacunae will not develop from this point on. This will be one budget. Then we can also go back and pick up lacunae from former years, using specially allocated funds to do so. But this brings us right back to the original question: When will that back collection be adequate?

By leaving the question of retrospective purchases out of consideration, Voigt ignored the issues involved in calculating adequacy of the total collection and addressed himself only to the adequacy of acquisitions of current imprints. However, he failed to justify splitting off a budget for current imprint acquisitions from the one for retrospective acquisitions.

Voigt actually simply transfered the locus of the problem of adequacy from the collection as a whole to the current imprints collection acquired within any particular fiscal year. His question is, What acquisition rate is adequate for academic and research requirements? To answer the question, he developed a model based on seven factors. The first of these is a "base" rate of 40,000 volumes. Now, as with all these models, the immediate question is, Why 40,000? According to Voigt, this figure was not established simply by adding the basic needs for all subjects together since many of them overlap, but rather is based on "cumulative experience." The presumption is, although Voigt does not use the word, that this will form an "adequate" base acquisitions rate. Would 30,000 volumes not be enough? Would 50,000 be too many? In Basic Principle No. 2, Voigt gave the real reason for these figures. "The level . . . supplies those materials without which quality master's and advanced graduate programs could not exist."[22] In other words, we return again to the question of quality in education.

But it is not Voigt or anyone else who can tell the university what the quality of its education is to be. The decision is made by the decision-making bodies within the university. This is the fundamental flaw of all library standards and models: they attempt to impose a uniform quality upon the educational output of all universities where in reality no such uniformity exists or can exist.

We have examined the various attempts at specifying adequacy but have found nothing in them that causes us to alter the theoretical conclusion outlined at the beginning of this paper: that adequacy is not a concept that can be meaningfully applied to a university library collection.

ALTERNATIVES

Statements of adequacy may be useful on a practical level, even though not valid theoretically. A university library with a collection well below a standard may use it to obtain additional allocations. Those with collections well over the levels defined as adequate may properly keep quiet about it when talking to their budget officers.

If, in spite of our denial of the validity of the concept of adequacy, budget officers continue to demand volume counts, it is certainly permissible to give them. Such figures are very consoling to budget officers as they feel that they have *some* basis for giving the library all that money, even though they have not felt compelled to examine the rationale behind the figures.

If we cannot justify budget requests on the basis of adequacy, what are we to do? I believe it is the responsibility of the collection development librarians to make a mature professional effort to determine the actual quality of education offered at their institutions and to tailor the collection development to suit that quality. If the library is not given the resources it would like, it should be taken as the educational decision of the university.

The comparison method is probably still the best method of approaching budget officers. We have every right to make the case to budget officers that we would like to achieve higher quality in our own university libraries by moving closer to the collection size of the libraries of known excellent quality. This is probably the most honest statement we can make.

It builds up our sense of professionalism to quote formulas and to have standards that are measurable, but the true professionals are those who know the basic principles of their disciplines and who are willing to work within them, and who do not seek more certainty than is allowed. If we are not able to convey this idea to the public that supports us, we are simply thereby admitting that we do not know how to do our job of educating.

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CAROLYNNE PRESSER

CODOC: A Computer-Based Processing and Retrieval System for Government Documents

Much has been written in the literature recently concerning the application of machine technology to complex library operations. This paper describes a computerized system specifically designed to provide a quick and economical method of in-depth access to individual publications within a government documents collection. The system, CODOC (COoperative DOCuments), is currently operated in a network configuration in Ontario and Quebec and independently by several other libraries in Canada and the United States.

GOVERNMENT DOCUMENTS do not respond well to conventional methods of organization and retrieval. The pros and cons of integrated versus separate collections have been vigorously debated in the literature,[1-5] with the separate collection approach being most favored.[6,7] More and more university libraries are following this trend as the increasing sophistication of information systems enables the formulation of processing and retrieval schemes that cater to the vagaries of governmental institutions and the special needs of the user.

One such system was pioneered in Canada at the University of Guelph, Ontario, in 1967.[8] Known as the Guelph Documents System, it is a new unique approach to the maintenance of and access to materials in a separate documents collection. It proposes a single arrangement (coding scheme) for all government documents, and it applies machine technology to reduce processing efforts and to provide detailed access to documents. The system was used jointly by Guelph and the University of Western Ontario until 1972, when ownership, operation, and further development was transferred to the newly created Ontario Universities' Library Cooperative System (OULCS) Documents Project, now called CODOC (COoperative DOCuments).

OULCS is an umbrella name given to those Ontario university libraries participating in various cooperative projects, of which CODOC is one. It is anticipated that libraries participating in CODOC and using common systems will develop a large common data base, which will reduce the duplication in collections and inform each library's users of the wide resources available to them. By sharing resources it is expected that a reduction in the duplication of staff and resources can be achieved.[9] Ontario university libraries are free to participate at any time, and participation must include commitment to the cooperative venture on the part of the university as well as the library administration.

Materials in the CODOC data base comprise the collections of the member libraries and include comprehensive collections of United States and other foreign documents at every level of government as well as the

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publications of international and intergovernmental agencies. The system, therefore, is capable of treating a government document from any country or issuing agency. CODOC functions as an in-house system in which members use a common coding manual, use the same programs and coding forms, and employ similar procedures.

How the Coding Scheme Works

The coding scheme involves the transfer of information about a document from the title page to a coding form and the assignment of a unique document number for shelving and data manipulation. At the end of the data input process the library user will be able to retrieve the document from the collection by using any one of the six public catalogs produced in-house by the system: corporate author, personal author, title, series, serial, and KWOC (key-word-out-of-context) index.

A mnemonic document code number is used both for shelf location and as the prime entry to the master file of machine-readable records. The code number reflects the country of origin, level of government, issuing agency, year of publication, and series or title.[10]

The unique twenty-character alpha/numeric code number provides the capability of processing documents from all countries at all levels of government. The code number is composed of elements from the following: country, part, province/state, organization, year, and title Cutter/series number.

As examples, the code numbers for the following jurisdictions are: Department of the Environment and Conservation, Australia = AS1 EN; Statistical Office, United Nations = UN2 S30; U.S. Environmental Protection Agency, Office of Water Programs = US 1 EP33; Metropolitan Toronto Transit Commission = CA3 ØNTØ L87. The master file for a record will contain: code number, language, library owning the item, feature, form, source, a broad subject category using the LC classification, the corporate author(s), title(s), personal author(s), serial holdings, and series statement as required.

Each machine-readable document record consists of a combination of fixed and variable fields, which are tagged with unique codes. The fixed fields are contained in the header record and include the code number, language, physical features, and library. The bibliographic data are contained in a variable number of fixed-length segments; a maximum of fifteen segments can be accommodated in a record. The coding forms are batched and converted to machine-readable form by key punching, key-to-tape, or on-line input using a terminal; and the resulting transaction file is processed to update a library's master file. The system produces a number of catalogs available as paper printouts or on COM (computer output microfilm).

The entire process from library receipt of a document to its recording and entry into the bibliographic data base is displayed in an abbreviated flowchart (figure 1).

The coding scheme does not follow traditional cataloging practices. It determines the main entry from the document in hand and relies upon its own authority files. The classification is tied to the main entry and, unlike accepted classification schemes, does not reflect the subject of the document. Its hierarchy displays government jurisdictions in descending steps, from federal to local authorities, and provides a coherent shelving arrangement, of practical value to the user.

The CODOC system provides practical, speedy, and inexpensive access to government documents: (1) it is based on the way governments function and publish information; (2) the entries are multiple and direct; and (3) the coding system is based on the document in hand and is easily understood and quickly applied by nonprofessional coders, who require only a brief training period.

The system can be easily integrated with existing library systems. For example, the CODOC system is compatible with MARC. One library using CODOC, University of Toronto, has elected to integrate its documents data base with the overall bibliographic data base of the University of Toronto network of libraries. A subset of the MARC format was developed and CODOC to MARC translation programs prepared. To illustrate, CODOC F/C11, corporate au-

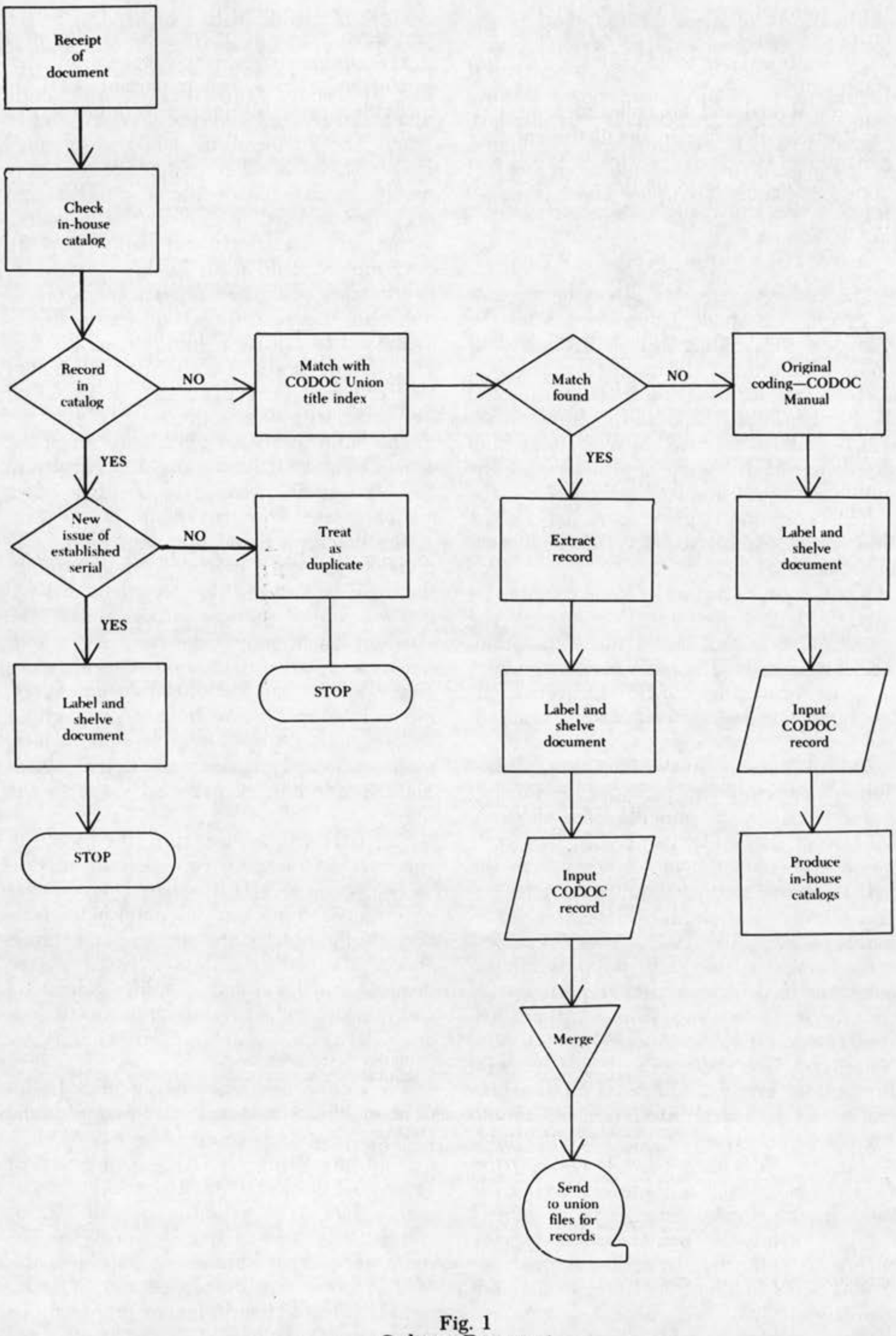

Fig. 1
Coding a Document

thor, translates to MARC tag 110, main entry—corporate name; and CODOC F/C 21, title, translates to MARC tag 245, title statement.

Peter Hajnal and his colleagues, in a recent article, describe in detail the compatibility of CODOC with MARC and modifications made to fit the CODOC subset into the University of Toronto's overall MARC format.[11]

CODOC FEATURES

The implementation of the CODOC system for a separate collection of government documents offers several attractive features to a library and its users. To a library faced with a growing collection of documents, CODOC provides a fast system for processing the documents received. The average coding time required has been identified as six minutes, as determined by time studies conducted by CODOC members. The total process from receipt of material to access through the printed lists can be as little as ten days. Costs are kept to a minimum as the coding process is performed by nonprofessional staff. Most important, CODOC provides total bibliographic control of a document collection by providing catalogs capable of listing every item in a collection.

For library users, CODOC provides a single indexing scheme and browsing capability through the geographic arrangement of documents. Subject access to an entire collection is provided by multiple key-word access through the KWOC index. Because reports issued by governments reflect recent research and employ current or new terminology, users find it easier to retrieve information using key-word rather than the more traditional headings assigned by the Library of Congress.

COOPERATION

At present, CODOC is being used cooperatively by fifteen libraries in Ontario

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L060 JULY 05/76                      CODOC ... UNION MASTER ...                              Page 1623
DOC. NO.                                 BIBLIOGRAPHIC DATA
                                         ******************

CA1 EP 22-76T10  ENG  CANADIAN FORESTRY SERVICE                                          111   76/03/24
                      WOOD PRESERVATIVES:  THEIR DEPLETION AS FUNGICIDES AND FATE IN THE ENVIRO  211
                      NMENT.                                                             212
                      STRANKS, D.W.                                                      311
                      10          CANADIAN FORESTRY SERVICE FORESTRY TECHNICAL REPORT.   611
                      OHM    D  BL A SD  8
                      OLU    GP PF A SD  8
CA1 EP 26-73R21  ENG  CANADIAN FORESTRY SERVICE.  PACIFIC FOREST RESEARCH CENTRE.        111   76/02/07
                      REPRODUCTIVE CYCLE OF DOUGLAS-FIR.                                 211
                      OWENS, JOHN W.                                                     311
                      OGU    D  PF M SD  2
                      OLU    GP PF M SD  1
                      OPAL   D  PF M SD  2
CA1 EP 30- A56   ENG  CANADA.  CENTRE FOR INLAND WATERS                                  111   75/10/22
                      ANNUAL REPORT - CANADA CENTRE FOR INLAND WATERS.                   211
                      OLU    L  AM O GC  8 1969 -
CA1 EP 30- C55   ENG  CANADA.  CENTRE FOR INLAND WATERS                                  111   75/01/30
                      CANADA CENTRE FOR INLAND WATERS.                                   211
                      OGU    D  AM 0 GC  1 1973-
                      OLU    GP AM 0 GC  8 1969,1971,1973-
                      OPAL   D  AM 0 GC  8 1969,1971,1973-
                      OSUL   D  AM 0 GC  8 1969, 1973-
                      OWTL   D  AM 0 GC  4 1969, 1973-
CA1 EP 30- P71   ENG  CANADA.  DEPT. OF THE ENVIRONMENT.  INLAND WATERS DIRECTORATE      111   75/05/14
                      PUBLICATIONS - CANADA DEPT. OF THE ENVIRONMENT INLAND WATERS DIRECTORATE  211
                      OLU    GP IR S 2   8 1973-
CA1 EP 30- W16   EXF  CANADA.  DEPT. OF THE ENVIRONMENT.  INLAND WATERS DIRECTORATE      111   75/07/23
                      WATER RESOURCES RESEARCH SUPPORT PROGRAM.                          211
                      PROGRAMME DE SUBVENTION A LA RECHERCHE SUR LES RESSOURCES EN EAU.  221
                      OGU    D  AM S GC  1 1973/74-
                      OHM    D  AH 0 GB  2 1974-1975-
                      OLU    GP AM S GC  8 1973/74-
                      OPAL   D  AM S GC  8 1973/74-
                      OSUL   D  AM 0 TD  8 1973/74-
                      OWTL   D  PF A GC  1 1973/74-

C.O.D.O.C.            JUNE 1976
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Fig. 2
Sample Page of the CODOC Union Shelf List

and Quebec: Carleton University, Ottawa; Lakewood University, Thunder Bay, Laurentian University, Sudbury; McMaster University, Hamilton; Queen's University, Kingston; University of Guelph, Guelph; University of Ottawa, Ottawa; University of Toronto, Toronto; University of Waterloo, Waterloo; University of Western Ontario, London; University of Windsor, Windsor; Wilfrid Laurier University, Waterloo; École Polytechnique, Montreal; Université de Sherbrooke, Sherbrooke; and a federal government library, Department of External Affairs, Ottawa.

Twice a year, in June and December, each library's master files are merged to create a union shelf list of documents, a title listing that is also an index to the union shelf list, and an index to the corporate authors and series names appearing on the union shelf list. The current cumulated union shelf list contains approximately 350,000 records. Monthly cumulated supplements are also produced.

Figure 2 displays a sample page of the CODOC union shelf list, indicating which libraries own a document. Because many of the documents are received at more than one installation, each library has been made responsible for coding the publications of a specific jurisdiction. Thus the others in the group need only consult the union shelf list and extract the record required for its inhouse data base, making changes where necessary. On a monthly basis, extract runs are processed in batch mode against the machine readable union file, and tapes are returned to the appropriate library. This procedure makes it unnecessary to code a document more than once.

FUTURE DEVELOPMENTS

The success of CODOC in Ontario has encouraged the participants to offer the system through a leasing agreement.[12] Agreements have been made with several libraries in Canada and the United States. These institutions, it is hoped, will develop networks similar to the one in Ontario. In addition, CODOC will soon be available on-line through the Canada Institute for Scientific Technical and Information CAN/OLE (Canadian on-line enquiry) data bases and QL Systems Limited, Kingston, Ontario.

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Profiling a Periodicals Collection

Libraries faced with budget cuts and rising book and periodical prices cannot afford to be without solid information upon which to base collection development decisions. Evaluative methods are needed to determine the scope, quality, accessibility, and usefulness of the existing collection so that development can proceed in a direction parallel with the current needs and future goals of those whom the library serves. Specific methods for obtaining such data about a periodicals collection are described. Several approaches were used, including analysis of unmet user needs as shown in interlibrary loan requests, comparison with major bibliographies, analysis of the accessibility of the collection through available abstracts and indexes, and determination of the relationship between the collection and the academic programs it is designed to support.

IT SEEMS A PARADOX that librarians these days must often use their expertise not so much to develop their collections as to identify those areas that can safely be left undeveloped. The days of openhanded spending are over; few institutions can now afford to purchase materials without a carefully formulated, comprehensive developmental plan. The problem remains: how to evaluate the collection in terms of assigning priorities for the purchase of materials.

Since the price increases of periodical subscriptions have been among the most staggering of the blows to library funding in recent years, much of the interest in collection development has focused on this area. A growing body of literature has developed describing procedures for identifying lesser used periodicals for the purpose of subscription cancellations. Studies such as those by Holland, Windsor, and Maxin attempt to objectively measure actual periodical use and relate user patterns to the cost of servicing apparent needs.[1,2,3] Various methods of citation analysis, such as those described by Chambers and Healey and Scales, measure ascribed use to determine the research needs of the user community.[4,5]

While literature of this nature provided a background of ideas for methods of determining specific use characteristics in a given collection, our objective was to obtain a more comprehensive view of our periodicals holdings. Cancellation of subscriptions was one welcome result of our study, but the major goal was to evaluate our collection as a functioning unit.

Such a study seems particularly appropriate at this point in our institution's history. In the early 1970s James Madison University entered a period of rapid growth and change: within five years the student population almost doubled to reach 8,000, the faculty increased accordingly, and many new academic programs on both the bachelor's and master's level were developed. The collection grew from 160,000 to 232,000 volumes; periodical subscriptions increased to 1,875. When statewide budget cuts made every penny important for collection maintenance, the need for reappraisal became pressing.

The profile of the periodicals collection was composed of four major elements: data on the library's currently received periodicals; data on the periodicals holdings

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supporting each of the twenty-six academic departments on campus; an analysis of the interlibrary loan periodical transactions for the previous calendar year; and the analysis of journal citations in master's theses in three academic departments over the past five years. Each of these phases, described in detail below, entailed various kinds of research which produced a large amount of very specific information.

The periodicals office was responsible for compiling the data for the first two phases, while other staff members were called upon to help with the third and fourth phases. The project was coordinated by the dean of libraries. Since the periodicals department is perhaps the most understaffed area in our library, the project necessarily often had to be set aside and, therefore, took close to eight months to complete; less time would have been needed, however, had more intensive work been possible.

Data on Currently Received Periodicals

The first phase of our study attempted to gain an overview of our currently received periodicals (1,875 titles) through several kinds of analysis: a definition of the extent to which these periodicals were accessible through the subject indexes and abstracts available in the library; a comparison of our current holdings with Farber's and Katz's bibliographies;[6,7] and a delineation of our back-file situation.

We began by assigning code letters to each of our subject abstracts and indexes, and as the lists of periodicals covered by each abstract/index were checked against our shelf list, the appropriate code letters were marked on the shelf list. As we progressed in this endeavor, we found that we were actually identifying two sides of the same coin: not only were we tallying the number of titles in our current collection covered by specific abstracts or indexes, but we were also discovering the specific abstract/index in which each title could be found. Having this last bit of information on the shelf list is of continuing benefit, since it enables us to help patrons who need to know which index to use in locating articles in a particular journal.

At the same time that the shelf list cards were coded, the list of periodicals covered by each abstract/index was marked, so that we were able to determine the percentage held of the titles in each abstract/index.

For the checking of Farber and Katz, the shelf list cards were photocopied (forty entries to a sheet) and entries were marked F or K. Our holdings were also put on these sheets, and from that information we were able to color code each currently received title according to whether we had two to five years of back-files, more than five years of back-files, or complete back-files. Fundamental to statistical accuracy in phases 1 and 2 was the determination of a cut-off date (September 1975) after which newly ordered or newly arriving titles were not considered.

Data obtained through these procedures were concisely stated on one page, (see figure 1). While only the more general or comprehensive abstracts and indexes were included on this sheet, those that pertained to specific subject areas were listed on the data sheets for related academic departments. In reviewing the results of this phase of the study, it was apparent that the science and technology journals were the least well represented in the collection. The staff had felt intuitively that this was the case; that feeling was now documented.

Data on the Periodicals Supporting Academic Programs

The second phase of the study focused on the support our current titles gave each academic department. To begin to determine this, we needed to assign each title to an academic department. This proved to be the most difficult part of the study because so many journals fit equally well into several areas of study. Records for subscriptions that had been entered in the last several years contained the name of the requesting department, but those formed only a small percentage of the current titles and did not always help since faculty sometimes requested titles outside their field.

For each academic department, three lists were prepared: titles assigned primarily to that department, with the expiration date and the cost (cost was broken down to an annual rate); titles supportive of the department's program but primarily assigned

Number of periodical titles currently received on subscription	1,875
No. of titles with more than 2-year back files	480
No. of titles with more than 5-year back files	1,280
No. of titles with complete back files	437
Cost of current subscriptions on annual basis	$81,480.30
Number of currently received titles not indexed by any subscription service	448
Number of currently received titles indexed by at least one	1,427
Number indexed by 3 or more subscription services	883
Percent held of titles listed in the following:	
Farber - Classified List of Periodicals for the College Library	62 %
Katz - Magazines for Libraries	20 %
Readers' Guide	78 %
Humanities Index	72.5%
Social Sciences Index	64.3%
Applied Science & Technology Index	17.8%
Biological & Agricultural Index	34.7%
Chemical Abstracts - 100 Most Cited Journals	53 %
Education Index	79 %
Business Periodicals Index	49.6%

Fig. 1
Profile of Periodicals Collection of James Madison University
(Sept. 1975)

to other departments; and supportive titles received on government depository and other free items.

Once the lists had been made, a data sheet similar to that for the entire current collection was prepared for each department. The number of currently received titles primarily supporting that department, the number and kind of back files, the annual cost, and the percentage held of titles covered by the appropriate abstracts and indexes—plus the alphabetical lists of titles—were sent to each department. Thus each department was provided with some means to judge the adequacy of the periodicals collection in supporting its academic program, and each was asked to study the list and report back titles that could be dropped.

Departmental responses varied. While most gave evidence of careful consideration, some found it difficult to part with anything, some felt that certain titles should be assigned to other departments, and others had no response. We had not set a percentage goal for cancellations as was done at Western Washington State College.[8] Our departmental responses resulted in the cancellation of forty-two titles, the dollar reduction amounting to approximately $1,510.

Beginning with 1975–76, a system of departmental allocations was implemented, bringing about a change in the payment of subscriptions. Each department is charged the initial cost and the renewals of all its subscriptions requested since July 1, 1975. The library is charged for all that had been requested before that date. This caused some departments to curtail their periodical requests, and even though we have added 179 new titles between July 1, 1976, and June 30, 1977, it is clear that most departments have been exercising greater selectivity than before. This brings our total number of titles currently received to 2,216, of which 148 are free and/or depository items. In checking with a number of other colleges of similar size, we find that our number is on a par with others.

Analysis of Interlibrary Loan Periodical Transactions

While the in-depth description of the library's periodicals holdings provided essential information about the scope, quality, and accessibility of the collection, it did not indicate the ways in which the collection may or may not be of value to the library's clientele. It was felt that an analysis of the interlibrary loan periodical transactions would provide one means of arriving at an assessment of the usefulness of the collection. The interlibrary loan (ILL) analysis, as well as the study of the journal citations in master's theses, was carried out with the aid of the campus computer center.

The analysis of outgoing ILL periodical requests was designed to investigate several aspects of periodicals use:

1. The types of users, indicating the level of research for which the periodicals were requested.
2. The disciplines in which periodicals were most often requested, indicating possible weak areas in the collection.
3. The number of requests for individual periodicals, indicating any journals used extensively enough to warrant purchase of a subscription or back files.
4. The nature and size of the institutions that filled the requests, indicating any journals consistently supplied by institutions of less scope than ours that could possibly be considered for inclusion in our own collection.

Each of the outgoing requests was noted on a standard ILL request form to which the ILL librarian had added information concerning the fulfillment of the request. Those requests that were cancelled (i.e., could not be filled) were omitted from the study because the many different factors relating to the reasons for cancellation made it impractical to attempt to include them.

The data from the ILL request sheets were arranged in simple code form on "Mark Sense" computer cards in the following fields:

1. Identification number. Each request form was numbered.
2. Year. Initially it had been planned to analyze several years' worth of requests, but staff and time limitations made it possible to consider only the previous calendar year.
3. Requester. Faculty member, graduate student, and undergraduate were the three possible categories. Since undergraduates must have the signature of a faculty member to request ILL materials at our institution, it was expected that requests in this category would form a small percentage of the total requests.
4. Periodical requested. Each periodical was identified by a code number based on its location in the 1975–76 edition of *Ulrich's International Periodicals Directory*.
5. Discipline represented by the periodical requested. For the sake of convenience, we used our academic departments as a basis for a subject breakdown, with one code for general interest magazines. The problems that arose when a periodical fit into more than one department's programs would have been alleviated by a more detailed subject structure.
6. Type of institution that filled the request. The categories used were (a) academic library (b) public or special library, (c) national library. Public and special libraries were grouped together because so few of the requests were sent to either of these types. If the request was filled by an academic library, a further breakdown was made by size.

Through computer manipulation of the data, subsequent print-outs gave a detailed picture of library user needs that had not previously been available in any form. It was most interesting to see exactly which subject areas drew the greatest number of requests and to isolate the specific journals that were most often requested. Science and technology titles drew the most requests, a fact that correlated with our findings on that area of the collection in the first phase.

Interlibrary loan records included a total of 322 requests for 218 different periodical titles. Six titles only were requested six or more times, but no record was maintained of the dates of the issues involved. In view of the recent interlibrary loan guidelines to the new copyright legislation,[9] it would seem on the basis of this experience that no one journal was requested often enough to warrant entering a subscription for that title.

While the results of an analysis such as this may become dated fairly quickly—especially if the institution is still growing—the data on collection use, in conjunction with an understanding of the goals and the direction of the institution, could provide a valuable tool for long-range collection development planning. The new copyright legislation may make this kind of analysis a commonplace in the future.

A much less elaborate study of incoming ILL periodical requests was also undertaken as a means of investigating the value of the periodicals collection to researchers in the wider academic community. While this information did not relate directly to collection development, it served to round out the total picture of the ILL function with regard to periodicals.

Analysis of Journal Citations in Master's Theses

The analysis of journal citations in master's theses was undertaken as a means of measuring the research value of the periodicals collection to one specific and—through the theses—easily identified segment of the library's clientele. A great majority of the theses produced over the last five years fell within three academic departments; these were the theses selected for the study. Because the academic programs of the university have changed greatly in the past several years, it was felt that five years was a sufficient time period to gain a meaningful view of the graduate student use of the collection.

The study was designed to obtain the following information:

1. The percentage of journal citations available at the library, indicating the extent to which the need for periodical literature was met by the library.

2. Identification of those journals cited most often for which the library had the title but not the issue, indicating the periodicals for which back files are most in demand in the areas considered.

Since the library has added many journal titles to the collection in the recent past, our study concentrated mainly on those periodical citations for which the library had the title but not the issue. Identification of those journals cited most often that were not available at all in the library was not included in the study, but could easily have been incorporated using the location in Ulrich's as a code in the same way as was done in the ILL analysis.

The bibliography of each thesis was examined and checked against the periodicals shelf list, and a previously prepared standard work sheet was filled out. Information about each was then arranged on "Mark Sense" cards in the following fields:

1. Identification number.
2. Year.
3. Department.
4. Total number of citations.
5. Total number of periodical citations.
6. Number of periodical citations available in the library.
7. Number of periodical citations not available in the library.
8. Number of periodical citations for which the library had the title but not the issue.
9. Periodicals cited for which the library had the title but not the issue.

The print-out achieved through computer manipulation of the data was organized to give the total numbers of citations in each of the categories described above. In the final report that was compiled from the data in the print-out, one could see at a glance not only the specific title for which back issues had been needed, but also the statistical information detailing the extent of that need as well as a delineation of the gaps in the library's holdings for each title.

Results of the profiling effort have been used in such collection development activities as the application of a grant under the College Library Resources Program, Title IIA of the Higher Education Act, for microform periodical back files.

Most important, the library was now able to deal in concrete terms with the faculty concerning the periodicals collection. Pinpointing the weaknesses of the collection has made it possible for our librarians to attempt to guide faculty requests toward a better balanced collection and one that realistically supports the actual curriculum.

While the specific statistical results obtained in our profiling work are of local interest only, the methods used to arrive at these data may be of benefit to others striving to develop high quality collections in the face of often severe budgetary limitations. The four phases of our periodicals project were, naturally, designed to meet our own needs, but each phase could easily be expanded or adapted to suit other situations.

There are also many other activities that could be pursued in conjunction with those described here to further illuminate various facets of the periodicals collection and its use. Surveys attempting to more definitively isolate lesser used items, for example, would be a necessary step if actual elimination of periodicals was the goal. The basic point is that methods must be formulated that will give concrete, accurate information to guide decision making. Library management today must be grounded on such methods.

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HARRY M. KRIZ

Subscriptions vs. Books in a Constant Dollar Budget

Citation analysis was used as an aid in collection development in the field of engineering. It was found that for graduate students books are of greater importance than journals. Substantial reductions in the number of subscriptions released funds for the purchase of books within the limitations of a constant dollar budget. Library usefulness appears to have been increased.

INFLATION HAS LED MANY LIBRARIANS to examine critically their collection building practices. Particular attention has been given to rapidly rising subscription prices, in part because subscriptions consume the major portion of the acquisitions budget in many university libraries. Another factor contributing to the emphasis on subscriptions has been the availability of rank-order listings of useful and/or important periodicals as derived from citation analysis.[1]

While attention has been focused on the usefulness of some periodicals relative to other periodicals, much less attention has been given to the usefulness of periodicals relative to other forms of library materials. For example, one might ask whether it is better to continue a subscription to a seldom used translation journal or to purchase duplicate copies of a few heavily used monographs.

Traditionally, academic librarians have responded to funding shortages by maintaining periodical subscriptions in preference to buying new books. Thus one reads from time to time of libraries that have suspended book buying.[2] Less anecdotal evidence of the tendency to stop buying books in order to continue subscriptions is provided by a recent report, which states that academic libraries increased expenditures for periodicals by 36 percent in the two-year period ending in 1975, though prices increased by only 34 percent. In contrast, book expenditures increased only 2.8 percent during these two years, although book prices increased by 8 percent.[3] These figures should not be surprising in light of White's discussion of the dramatic changes in library materials budgets that occurred in 1969–73. The transfer of funds from the book to the serials budget resulted in a "drastic" reduction in the acquisition of books during that period.[4]

The tendency to buy subscriptions rather than books probably is based on the belief of librarians and faculty that periodicals are the fundamental tools of research. It is reasoned that one of the characteristics of a good research library is a large number of currently received periodicals. The extraordinary increases in the prices of periodicals during the past several years make it necessary to examine in more detail the assumption that periodicals deserve precedence when a choice must be made between books and subscriptions.

A study of the library materials used by students writing master's theses in the West Virginia University (WVU) College of Engineering suggests that, at least in engineering, a large number of subscriptions is less important than an adequate book collection. This conclusion is based on the measurement of the use of library materials in terms of citation frequency. As with any quantita-

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tive measure of library use, there are limitations inherent in the use of citation data. However, the results have provided useful guidance in budget decisions at West Virginia University, and similar considerations may prove useful to librarians in other subject areas at other academic institutions.

BACKGROUND

Incentive for a study of the use of periodicals relative to books was provided by several published reports showing that there are profound differences in the citation patterns in different fields. Jones and his associates compared results of several studies and found that the percentage of references that cited periodicals ranged from a low of 21.5 percent in English history to a high of 92.7 percent in chemistry. In general science, 82 percent of the references cited periodicals.[5]

Fussler's study of the literature of chemistry and physics showed the remarkable stability of citation patterns in these two fields. The percentage of references that cited journals had remained virtually unchanged for nearly fifty years.[6]

Garfield has commented frequently on the subject-dependent nature of citation patterns. For example, only 20 percent of references processed for the *Science Citation Index* in 1975 cited nonjournal items, but 62 percent of the references in the *Social Sciences Citation Index* cited such items.[7] The relatively low incidence of journal citation in the social sciences is shared by some fields of applied science. In 1972 it was found that 45 percent of references in applied chemistry journals cited nonjournal items, but only 9.6 percent of references in chemistry journals cited such items.[8]

One might expect a similar emphasis on nonjournal citations in the field of engineering. Indeed, highly cited works in engineering tend to be books rather than journal articles, a characteristic of the literature which distinguishes engineering from other scientific and technical fields.[9,10]

These studies suggest that decisions to continue or cancel subscriptions in an academic library must be made on a subject-by-subject basis. When budget limitations require a choice to be made between the purchase of books and subscriptions, it seems that subscriptions would be the better investment in the field of chemistry. In applied chemistry, however, lesser used subscriptions might have to be canceled in order to maintain an adequate book collection.

Although studies of citation patterns in the literature of a given subject field can be useful, they do not provide an adequate base upon which to make decisions in a given library. A study of the citation patterns of the individual library's particular group of users should be made before making a decision concerning the purchase of library materials to support that user group. There are several reasons for making a study of the local users:

1. A library must serve the local group of authors, not a subject field. Thus a librarian needs to know what is being used and cited by those who use the library, not what is being cited by those who publish in a particular set of journals. In this regard it should be noted that the literature of a specialty must be distinguished from the literature of interest to workers in that specialty. Garfield pointed out that the literature used by agricultural scientists is not the same as the literature produced by agricultural scientists.[11] Further, a listing of the most cited physics journals is quite different from a listing of the journals most cited by physicists.[12] Finally, a study by Scales[13] indicates that rank-order lists of journals for a field as a whole do not necessarily correspond to the particular journal needs even in large libraries with a large and diverse group of users.

2. Studies of the literature as a whole provide only an average measure of the use of library materials. Local conditions may lead to wide departures from this average, but there are no data available to indicate the extent of variation among different user groups in the same general subject field.

3. The use of library materials by students may differ considerably from the use by professionals publishing in a field. Studies based only on references in journals do not provide adequate data on the educational needs served by an academic library.

4. Published studies do not usually consider use variations by subfield, an important consideration for the academic librarian

who must balance the conflicting needs of different departments.

5. A study of the local user group can provide a time-averaged measure of the use of library materials. The ranking of a journal on a list can be strongly dependent on the time period under study.[14]

Results and Discussion

Use of engineering library materials was measured by analysis of references in master's theses accepted by the WVU College of Engineering during the four years 1971–74. As the thesis is not a degree requirement, only 126 students out of the 296 graduates wrote a thesis during this period. A complete report on the results of this study is available on request from the author. An analysis of the data on journal citations has been published elsewhere.[15] The present discussion is concerned only with the relative use of journals and books. Table 1 presents a summary of the data on this topic.

It can be seen that only one-third of the references in the WVU engineering master's theses cited journals and that fully two-thirds of all references cited nonjournal items. This is the same percentage found by Garfield in his study of highly cited engineering works.[16] The percentage of nonjournal citations varied from a low of about 50 percent in chemical engineering to a high of almost 90 percent in aerospace engineering. The figure for chemical engineering is very close to the 45 percent quoted above for applied chemistry.

These results indicated that information sources other than journals were of primary importance in library support of the engineering master's program at WVU. In addition, it was recognized that relatively massive reductions in expenditures for subscriptions to engineering journals would have virtually no measurable effect on the availability of useful journals to support engineering students.[17] (Holland recently reported that major budget cuts in the engineering library at the University of Michigan would have little effect on service to users.[18]) Thus it was decided that when a choice had to be made between buying books or subscriptions, the subscriptions would be canceled.

The decision to buy books rather than subscriptions was reinforced by several considerations. First, the space problem at WVU is severe. The engineering book collection has been heavily weeded to the extent that the entire collection increased by only 10 percent in five years despite an annual acquisitions rate of 10 to 12 percent throughout this period. Second, bound volumes of engineering journals occupy 55 percent of available space in the engineering collection, but they account for only 13 percent of circulation despite a liberal policy that allows journals to circulate for two weeks just as any other book.

Finally, in fiscal 1973, when budget restrictions began to significantly affect the library's capacity to continue subscriptions, expenditures for subscriptions were 13 percent higher than book expenditures. In sum, the bulk of library resources in terms of money and space was being devoted to that part of the collection that received the least use.

TABLE 1

Citations to Journals in West Virginia University Engineering Master's Theses 1971–1974

Department	Number of Theses	Number of References	Citations to journals: Number	Citations to journals: Percent of References
Aerospace	14	105	12	11.4%
Chemical	16	516	255	49.4%
Civil	30	888	199	22.4%
Electrical	28	543	219	40.3%
Industrial	18	640	201	31.4%
Mechanical	20	310	114	36.8%
Totals	126	3002	1000	33.3%

As a result of these considerations, expenditures for engineering subscriptions at WVU were reduced from $25,000 in 1973 to $23,000 in 1976. This reduction was achieved despite the fact that the average price of engineering subscriptions rose by about 50 percent during this time[19] and despite an increase of 34 percent in the total subscription expenditures by the WVU Library system. As a result of the cancellation of subscriptions, the library was able to continue spending about $20,000 annually on engineering books. Had subscriptions not been canceled, expenditures for books would now be less than $8,000, a figure that could not begin to support a quality collection in engineering.

The library user's perception of library service often takes precedence over strictly budgetary considerations or objective measures of library use. Therefore, faculty and student feedback is sought constantly concerning the adequacy of the WVU engineering collection.

Faculty were at first surprised to learn that journals were so little cited by their students. Some thought that this represented a deficiency in WVU's programs, until citation data from the published literature was presented. Others felt the low use of journals represented a deficiency on the part of engineers in general. These individuals seemed to feel that the use of journals by chemists and physicists represented an ideal that should characterize all of science and technology.

Perhaps the differences in literature use between engineering and the "pure" sciences reflect the deeper differences between the two fields. Engineers frequently use well-known principles to design a device for a new application, in which case standard reference books might be of greatest value. Unstable government funding and interdisciplinary studies may require reference to basic works in many different fields as engineers seek to extend their expertise to many different specialties. In the pure sciences there is a greater tendency toward long-term studies of highly specialized topics on the edge of what is known, and such work cannot be presented in books in a timely manner.

The faculty's uneasiness over the relatively low use of journals did not extend to the selection of particular titles to be canceled. Apparently the list of titles selected for cancellation, prepared with the aid of citation data, coincided with the faculty's perception of what is useful and desirable. The entire list of canceled subscriptions was reviewed by the faculty a second time in the fall of 1976, two to three years after most of the subscriptions had been stopped. There were no requests for reinstatement of any title.

Funds released by canceling subscriptions have been used to continue efforts at building an extensive and timely book collection representing the full breadth of engineering interests at WVU. As a result, annual circulation is now 62 percent higher than it was four years ago, although student enrollment has increased by only 2 percent. Despite the massive cancellations and the rapidly increasing use of the library accompanying the growth in quality of the book collection, there has been no increase in the number of interlibrary loan requests.

Conclusions

Satisfactory accommodations to library budget limitations have been made in the WVU engineering collection with the aid of citation analysis. Objective data relating to the use of all portions of the library collection aided in eliminating the less useful journals in favor of more useful books. While long-term effects of inflation may yet be serious if costs continue to rise, short-term effects may be reduced in many libraries by using similar techniques. In particular it is important to examine those areas where service far exceeds need and to emphasize areas of service of greatest importance to the local group of library users.

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CHARLES J. POPOVICH

The Characteristics of a Collection for Research in Business/ Management

The citations from dissertations of Ph.D. candidates in the field of business/management were analyzed. The characteristics studied were publication form, periodical title, subject, time span, language, and publisher. In addition, information was gathered that revealed the extent to which materials were owned by the State University of New York at Buffalo (SUNYAB) Libraries. The study was based on 2,805 citations drawn from thirty-one dissertations—thirteen completed at SUNYAB and eighteen from other institutions.

"EVERY LIBRARY exists chiefly to serve the needs of its own community of users. It follows, then, that any . . . evaluation of a library [collection] ought to be based chiefly on how well it does, in fact, serve those needs."[1] One of the methods for gaining better insight to users' needs and a general perspective of the library collection is through checking relevant bibliographies that match the objective, purpose, and interest of the library and its clientele.

In this study the approach employed was a citation analysis of bibliographies from dissertations. The two major aspects of this investigation were to: (1) define the characteristics of literature (interpreted as users' needs) cited by Ph.D. candidates in the field of business/management and (2) gain a better perspective of the collection at the State University of New York at Buffalo (SUNYAB) Libraries in terms of ownership of materials cited in the dissertations. The resulting data are intended to serve as guidelines in defining a subject statement for the business/management collection. This information will ultimately constitute a portion of the overall collection development policy for the SUNYAB Libraries.

BACKGROUND

The SUNYAB Libraries system consists of eight unit libraries, five subunit libraries, and four storage facilities that collectively house more than 1.6 million volumes of books and maintain subscriptions to 11,467 serial titles.[2] Although the majority of research materials for business/management are located at the Lockwood Memorial Library (social science and humanities), it was decided this study would be conducted on the basis of the SUNYAB Libraries system. The rationale for this choice was the notable trend toward interdisciplinary research in the field of business/management, which undoubtedly would require the use of subject materials from various library facilities. In addition, if the materials were owned by the SUNYAB Libraries, they should be accessible regardless of location on campus.

The specific questions concerning

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business/management research this study aims to answer are: (1) What is the *form* of publication most frequently used, i.e., periodical, monograph, serial, miscellaneous? (2) What are the most frequently cited *periodical titles*? (3) What is the *subject dispersion* for monographs and serials? (4) What is the *time span* for the materials being used? (5) How extensive is the treatment of *foreign language* materials? (6) What are the most frequently cited types of *publishers*? (7) To what extent do the SUNYAB Libraries *own* the materials cited in the dissertations? A total of thirty-one dissertations were analyzed in an effort to find answers to these questions.

PROCEDURE

Thirteen of the dissertations that had been selected were completed at the School of Management at SUNYAB between February 1972 and February 1974. The remaining eighteen dissertations were those of incoming faculty members who became affiliated with the School of Management at SUNYAB between September 1972 and September 1974 and finished their doctoral work at another institution. This latter group of dissertations, however, was completed during various years, i.e., 1953 (1), 1961 (1), 1967 (1), 1969 (2), 1971 (1), 1972 (2), 1973 (4), and 1974 (6).

A list of the schools where the faculty had completed their doctoral work and the number of dissertations that pertained were as follows: Berkeley (3), Carnegie-Mellon (1), Cornell (2), Harvard (1), Illinois (2), Kansas (1), MIT (1), Minnesota (1), NYU (1), Pennsylvania (1), Purdue (2), Rochester (1), and Southern California (1).

The reasons for including the faculty dissertations were threefold: (1) the effects of a local situation on the research findings would be avoided; (2) the subject expertise of new faculty, denoted by the dissertations, may suggest current trends and emphasis in SUNYAB's business/management program; (3) it was assumed information from these dissertations would reflect the research interests of the faculty.

The subjects of the thirty-one dissertations were related to nine general areas of study, which included: accounting (6), economics (2), finance (5), health care management (1), industrial relations (4), marketing (4), organization and behavioral sciences (6), quantitative methods (2), and statistics (1).

In recording information from the dissertations, the following procedures were used: (1) If a source was cited two or more times in the same dissertation, it was counted only once. (2) If a citation was not a standard bibliographic reference, it was excluded from the study. Examples are a list of newspapers consulted—*Oakland Tribune*, *Detroit Free Press*, *Baltimore Sun*, etc., as well as references to cities where interviews were conducted—Dayton, Omaha, Seattle, etc. (3) Each reference was checked against the card catalog or the serials record to determine whether it was held by the SUNYAB Libraries. If there was any doubt about ownership of a particular source, it was physically checked for location. (4) If a source was not owned by the SUNYAB Libraries but additional information was necessary, standard bibliographies and printed library catalogs were searched for the missing details. (5) The language of a cited publication was defined by the language of its title. (6) Classifying a citation by form was dependent upon the manner in which the author of the dissertation cited the material, and the investigator's judgment.

As the citations from the dissertation bibliographies were verified, the information was recorded on a twenty-column code sheet. This information was ultimately keypunched into Hollerith cards. The Statistical Package for the Social Sciences (SPSS)[3] program was used in tabulating and cross-tabulating the data on a Control Data Corporation (CDC) 6400 computer.

The thirty-one dissertations produced 2,805 citations with an arithmetic mean of 90.5 and a range of 15 to 221 citations per dissertation.

PREVIOUS STUDIES

In analyzing the thirty-one dissertations (thirteen SUNYAB, eighteen outside SUNYAB), the method used was pioneered by Gross and Gross[4] in 1927. Their technique of "reference-counting" was an attempt to determine the most useful periodicals in the field of chemistry. Refinements of this study were performed by Fussler when he investigated the use of serial and nonserial literature by researchers in the fields of chemistry and physics.[5] Another investigation, this time in the social sciences, was conducted by McAnally in his study of history literature. He used both books and journals published in 1903, 1939, and 1948 in an effort to determine whether there were distinct changes in the characteristics of materials used by researchers in the field of history.[6]

In addition to these studies, there have been a number of investigations utilizing many similar procedures and techniques. The studies useful as a background for this particular evaluation were Stevens (library materials in doctoral research), Seagly (economics), Emerson (doctoral research in a university library), Sarle (business administration), Beckman (research collections), Intrama (public administration), Brace (library and information science).[7–13]

ASSUMPTIONS

Although many of the previous studies argue the pros and cons of a citation analysis evaluation, it was not the intention of this paper to present a lengthy discussion on that aspect of the topic. The following assumptions, however, constitute the point of view taken in this particular evaluation.

When analyzing the characteristics of literature (users' needs) in a citation analysis study, it must be assumed a direct relationship exists between quantity (number of times cited) and the importance of materials. Although this assumption is difficult to prove, investigators using this method have concluded that any defects that occur happen so infrequently they are likely to have little effect on the accuracy of results.[14]

In evaluating the SUNYAB Libraries' business/management collection, consideration of adequacy was based on the ownership of sources (perspective of the collection) cited in the dissertations. This was interpreted as being supportive of business/management research, and it was assumed that other doctoral candidates are likely to use the library resources in much the same manner. Naturally, an assessment of where the collection is and where it should be going demands that the librarian be constantly alert to new courses, new programs, and new faculty interests.

FORM

An important consideration in allocating library funds is deciding what proportion of the budget to spend on periodicals, monographs, serials, etc. Table 1 demonstrates for this study how publications were divided by form—periodicals, monographs, serials, and miscellaneous forms. An overall distribution by form is shown first, followed by comparative data for citations in dissertations prepared at SUNYAB and outside SUNYAB.

"A periodical is defined . . . as a publication [other than a newspaper] issued at regular intervals, at least twice a year."[15] As table 1 indicates, periodicals constitute 49.1 percent of all the cited materials. A possible inference is that the field of business/management is dependent on current research materials. Since periodicals provided that information, they were of primary importance.

Of the 1,377 citations to periodicals, 78 percent of the references (1,070 citations) were for materials in sixty-two different periodical titles. A complete list of these journals is included in the full report of this study.[16]

TABLE 1

DISTRIBUTION OF CITATIONS BY FORM

Form	Overall Distribution		Comparative Data: SUNYAB		Comparative Data: Outside SUNYAB	
	Number	Percent	Number	Percent	Number	Percent
Periodicals	1,377	49.1	604	50.8	773	47.8
Monographs	895	31.9	360	30.3	535	33.1
Serials	266	9.5	100	8.4	166	10.3
Miscellaneous Forms	267	9.5	124	10.5	143	8.8
Totals	2,805	100.0	1,188	100.0	1,617	100.0

Monographs were the second most frequently cited form of publication, accounting for 31.1 percent of the sources. A monograph was defined as "a single volume dealing systematically and in detail with a single subject."[17] This high ranking is not too surprising since monographs contain many basic studies and classic works.

Those sources issued less frequently and regularly than periodicals were defined as serials. "The term includes . . . annuals, numbered monograph series and the proceedings, transactions and memoirs of societies."[18] With an overall distribution of 9.5 percent and a third place ranking, there is clear indication that this form of publication is of lesser importance.

The miscellaneous forms of publications, including doctoral dissertations, newspapers, reports, working papers, manuscripts, conference papers, master's theses, mimeographed documents, private communications, memoranda, as well as unidentified forms, represented a total of 9.5 percent. It is evident such forms are used only to a minimal degree and so were combined under the heading, "miscellaneous forms."

The comparative data for dissertations from SUNYAB and outside SUNYAB show only minor differences between the two. Because of the relative consistency in the users' needs, as indicated by the form of publications, the budget allocation for these items at the SUNYAB Libraries was reviewed. It was learned the business/management acquisitions fund is weighted approximately 50 percent periodicals, 30 percent monographs, 18 percent serials, and 2 percent miscellaneous.[19] Although the SUNYAB Libraries' present spending pattern somewhat parallels the business/management users' demands, perhaps a slight reapportionment may be necessary between serials and miscellaneous forms.

Subject Dispersion

The analysis of materials by subject could serve as a guideline in determining the extent doctoral candidates in business/management rely on various types of literature in their field as well as outside their field. An awareness of these key areas allows for the selection of relevant materials and thereby an opportunity for providing better service to the library users. In this study the Library of Congress classification provided the basis for defining subjects. The forms of publications analyzed were monographs and serials.

Generally, business/management materials are included in the Library of Congress classifications HB through HJ. For the 1,161 citations pertaining to monographs and serials, table 2 shows a comparative dispersion of the ten leading Library of Congress subjects. They represent more than 75 percent of the subject sources in each category being compared, i.e., SUNYAB, outside SUNYAB, and overall distribution.

With the exception of HC (Economic History and Conditions: National Production), the majority of business/management materials (classifications HB–HJ) were from SUNYAB dissertations. Conversely, the majority of supporting literature (BF Psychology, HM–HX Sociology, etc.) was dominated by dissertations from outside SUNYAB. Information such as this is useful in helping to define the academic orientation of SUNYAB's business/management program and in delineating the research interests of the School of Management faculty.

Time Span

"Time span may be defined as the extent to which the research worker in a given field reaches back into the literature of the past to find useful information."[20] An awareness of the degree to which retrospective research prevails in the field of business/management can aid in selecting library materials and in weeding the collection. In this study the date of each dissertation was compared to the date of each citation appearing in the dissertation.

Table 3 indicates the distribution of time span by the form of publications.

More than 70 percent of all the cited materials were ten years old or less, and nearly 85 percent of all the sources were cited within fifteen years. The rate of usefulness seemed to decline even more rapidly for the miscellaneous forms of publications during the first ten years.

The results show there is a high obsolescence factor in business/management mate-

TABLE 2

COMPARATIVE SUBJECT DISPERSION (IN PERCENTAGES)

Rank		LC Classification	SUNYAB percent of 460 Citations	Outside SUNYAB percent of 701 Citations	Overall Distribution percent of 1,161 Citations
1	HF 5001-6351	Business	17.4	13.0	14.7
2	HD 4801-8942	Economics: Labor	19.4	6.4	11.5
3	HD 1-100	Economics: Production	17.6	6.3	10.8
4	BF	Psychology	5.2	10.1	8.2
5	HM–HX	Sociology	2.0	10.8	7.3
6	HG	Finance	8.7	4.9	6.4
7	HB	Economic Theory	7.2	5.3	6.0
8	Q	Science	4.6	5.1	4.9
9	HC	Economic History and Conditions: National Production	0.9	6.8	4.5
10	J	Political Science	1.1	6.6	4.4
Totals for leading LC Subjects			84.1	75.3	78.7
Miscellaneous Literature			13.5	18.0	16.3
Unknown			2.4	6.7	5.0
Totals			100.0	100.0	100.0

TABLE 3

TIME SPAN OF CITATIONS BY FORM (CUMULATIVE PERCENTAGES)

	Years					
Form	0–5	6–10	11–15	16–20	21+	Unknown
Periodicals	42.7	72.8	87.0	93.0	100.0	
Monographs	36.0	66.2	80.7	89.5	99.9	100.0
Serials	36.8	64.6	82.3	89.1	98.9	100.0
Miscellaneous Forms	53.6	76.1	88.5	90.4	90.5	100.0
Totals	41.1	70.3	84.7	91.3	99.0	100.0

rials, and recency of materials is a key consideration when building a collection or weeding it.

FOREIGN LANGUAGE

The extent to which foreign language materials were used in business/management research revealed that it is practically nonexistent. Of the 2,805 citations that were analyzed, four, or 0.1 percent were to non-English titles. The distribution included two citations in French and one each in Spanish and German.

Ostensibly, the foreign language materials could be ignored, and it would be a temptation to do so. However, the rise of multinational corporations; the progress of Japanese, German, and Russian technology; advances of international practices in business/management activities; as well as other factors may produce an added interest in international subjects. With these circumstances, an increased proportion of writings based on foreign literature may be forthcoming. At present, however, it appears that doctoral candidates in business/management make little use of research materials written in languages other than English.

TYPES OF PUBLISHERS

The decision to acquire certain library resources is sometimes based on the type of organization publishing the materials. To learn more about the publishers cited in business/management literature, the dissertations were analyzed by categorizing the types of publishers into groups, i.e., com-

TABLE 4

TYPES OF PUBLISHERS BY FORM

	Publishers													
	Comm.		Assn.		Govt.		Univ.		Unpub.		Unknown		Total	
Form	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Periodicals	176	12.8	717	52.1	45	3.2	435	31.6	—	—	4	0.3	1,377	100.0
Monographs	663	74.1	48	5.4	20	2.2	163	18.2	—	—	1	0.1	895	100.0
Serials	50	18.8	57	21.4	87	32.7	71	26.7	—	—	1	0.4	266	100.0
Misc. Forms	60	22.5	8	3.0	10	3.7	19	7.1	157	58.8	13	4.9	267	100.0
Totals	949	33.8	830	29.6	162	5.8	688	24.5	157	5.6	19	0.7	2,805	100.0

mercial, association, government, and university. The commercial publishers were defined as profit-making organizations, such as Prentice-Hall, McGraw-Hill, Praeger, etc. The names of association publishers were established by consulting the *Encyclopedia of Associations.*[21] The definition of government publishers includes any municipal, state, federal, or international agency of any government.[22] The university publishers were references cited as "university press." In addition, references were grouped as "unpublished" and "unknown." Table 4 indicates the results.

The totals indicate commercial publishers (33.8 percent) were the most frequently cited. They were closely followed by associations (29.6 percent) and then university (24.5 percent). References to government publishers were minimal (5.8 percent).

In analyzing the types of publishers by form, periodicals issued by association publishers were the most frequently cited (52.1 percent). A relatively strong representation was also indicated by university publishers (31.6 percent).

The monograph form of publication was dominated by commercial publishers (74.1 percent), with university publishers a distant second (18.2 percent).

The serials form of publication was well distributed. The category most frequently cited, however, was government publishers (32.7 percent).

Many of the miscellaneous forms of publication (58.8 percent) were in the "unpublished" category, but this represented only a small portion of the overall totals (5.6 percent).

The distribution totals indicate three types of publishers (commercial, association, and university) were clustered within 10 percent of one another, and a fourth category (government) was cited infrequently. However, when considering the publisher in the acquisition of library materials, it is important to define the form of the publication. For business/management research the results indicate that the types of publishers ranking first were different for periodicals (association), monographs (commercial), and serials (government). In addition, the university publishers ranked second for all three forms of publications.

Ownership Status

The second major aspect of this study was to determine the extent to which the SUNYAB Libraries owned the materials cited in the dissertations. The results could be used to gauge a perspective of the collection apropos to business/management research.

Of the 1,377 citations to periodicals indicated in table 5, SUNYAB owned 95.8 percent of the materials. Of the monographs cited 89.3 percent were available as well as 81.2 percent of the serials. However, only 26.2 percent of the miscellaneous forms of publication were held.

Although no library collection can be expected to include all needed research materials, the overall ownership figure of 85.7 percent is a fairly strong representation. Another positive factor to be noted is the ownership status by distribution represented in table 6. This indicates that ownership of materials cited in dissertations prepared at SUNYAB closely paralleled ownership of materials cited in dissertations from outside SUNYAB. One possible inference is a balanced business/management collection based on relatively consistent findings.

If it can be assumed that other doctoral candidates are likely to use materials in about the same way as did the writers of these dissertations, a large number of the resources should be obtainable at the SUNYAB Libraries. Perhaps the lone areas of collection weakness stem from the lack of items in the miscellaneous category. At present, the results of this evaluation indicate a library collection conducive to doctoral work in business/management. With an ample budget allowing for growth at a similar or greater rate, an adequate collection can be maintained in the future.

Conclusion

Although this study may not provide direct answers for all questions regarding the business/management collection at the SUNYAB Libraries, it does include sufficient information to serve as a guideline in substantiating a subject statement for the collection development policy. Perhaps an area where the guidelines may be implicit are in regard to the library's role in supporting master's level work. Presumably, the results of this investigation may be interpreted as having similar implications for the MBA program. That is, the latter course of study has a somewhat parallel relationship to the doctoral program, but the curriculum level does not require the intensity of demand placed on the library collections. Therefore, if the criteria for Ph.D. research are adequately defined, it is reasonable to assume the MBA requirements are likely to entail a similar but less comprehensive pattern of research.

TABLE 5

Ownership Status by Form

Form	Number of Citations	SUNYAB Owns Number	SUNYAB Owns Percent
Periodicals	1,377	1,319	95.8
Monographs	895	799	89.3
Serials	266	216	81.2
Miscellaneous Forms	267	70	26.2
Totals	2,805	2,404	85.7

TABLE 6

Ownership Status by Distribution

Where Dissertation Prepared	Number of Citations	SUNYAB Owns Number	SUNYAB Owns Percent
SUNYAB	1,188	1,048	88.2
Outside SUNYAB	1,617	1,356	83.9
Overall Distribution	2,805	2,404	85.7

Perhaps these implications have a carryover into the undergraduate program in business/management as well, but the Undergraduate Library at SUNYAB would establish the standards for handling research demands at that level.

Since the results of this study indicate the status of the collection at a particular point in time, it is suggested that a follow-up review be conducted at some future date so the circumstances may be reassessed. The development of the collection, however, may be best thought of as a process of ongoing communication among the librarians, faculty, and students in their pursuit of a mutual objective—building a collection capable of meeting the demands placed on it.

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MICHAEL D. KATHMAN and JANE M. KATHMAN

Management Problems of Student Workers in Academic Libraries

This paper analyzes the problems related to the management of student workers in academic libraries. It reviews relevant literature in library science and in management theory, with special emphasis placed on an understanding of what motivates student workers and on the valuable contribution they may make in the academic library. Finally, suggestions are offered relative to the hiring, training, and supervision of student workers.

MUCH HAS BEEN WRITTEN both pro and con on the use of student workers in libraries.[1] A review of this literature reveals a lack of application of management theory, especially that of organizational behavior, in handling student personnel problems. The literature does show, however, that librarians are concerned with increasing the effectiveness of student workers in their organizations. In order to encourage better performance from student workers, there is a definite need to understand and deal with motivational processes and styles of supervision as they relate to the student.

As a result of cultural conditioning, people today, including students, expect more satisfaction from their jobs, increasing responsibility and autonomy, and participation in decision making.[2] Thus the problems associated with student workers are not unique to libraries but potentially exist in any organization. It is important that these problems are not perceived as unique and that one makes use of the body of information available in organizational behavior to propose solutions.

BACKGROUND

In the library, students are low on the organizational chart, either because they are students or because they are part-time employees or for both reasons. This creates problems of integrating student workers into the organization in terms of the attention they receive from top-level management. They are seldom perceived as a valuable resource because of the nature of the work they do, their large numbers, or because they are replacements for full-time personnel. As a result, student assistants have little or no participation in the decision-making processes, even those that directly affect their work. It is not surprising then that they either do not understand or are not committed to the library's goals.

This noncommitment is unfortunate when one realizes that student assistants are indispensable to the goal of providing maximum service to library users. Not only do they perform essential tasks, they also enable the library to function in satisfying the demand for long hours of operation. In this respect they are highly visible and often represent the library to the user. Moreover, as a result of their peer relationships with student library patrons, the student assistants in public areas are often asked questions. If they do not know the answers or, even worse, give wrong information instead of directing the patron to a librarian, the library is not serving its purpose.

Thus good professional librarians are not sufficient to make an academic library func-

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tion efficiently; all employees—librarians, paraprofessionals, clerks, and student workers—must be aware of the library's goals and be committed to service if the library is to meet the needs of its users.

PROBLEMS

The hiring of student assistants is somewhat unique since there often exists a preselected pool of student employees. Student employees may be preselected either by the financial aid office or the student placement office.

In recent years the federally funded College Work Study Program has provided the funds for a larger and larger percentage of student workers. At St. John's University over half of the 700 or more students employed are part of this program. This is beneficial to the students because it is a means of helping them keep loans to a reasonable level, but as a result the university employs students in situations where other institutions might hire more full-time nonstudents.

From this pool of students, various departments on campus vie for student help, e.g., administrative offices, academic departments, food service, and the library. It is important that the library establish and enforce criteria for the selection process based on ability and willingness to perform the tasks.

This selection process is even more critical when considering the contemporary academic library's expansion into fields other than printed matter. For example, many academic libraries are utilizing technologies involving elaborate media equipment and computers. Because of such special library services, it is even more difficult now to hire qualified student assistants.[3]

The goals of providing maximum service and efficient operation cannot be achieved in libraries employing a large number of student assistants unless there is an adequate training procedure. Past experience has shown that student help is notoriously inefficient without proper training.[4]

Unfortunately, the task of training student workers has been a relatively low priority, often delegated to junior members of the staff. As a result, people with little or no knowledge of training techniques are responsible for training and communicating the goals of the library. A common result of such training is the inability of student workers to understand their role in helping the library to achieve its goals. Oftentimes students view their work as merely "busy work" and consequently perform poorly.

Supervision of student assistants is also often handled by people with little or no previous supervisory experience or training. This might be just as true of professional librarians as it is of nonprofessional staff members. Supervision is even more difficult when one considers the number of student workers reporting to one person and the physical distance that often separates student workers from their supervisors. There are also problems of scheduling around student class hours and having student workers on the job evenings and weekends when supervisors are not present or, in some cases, when none of the full-time staff are on duty.

Many of the problems discussed in terms of training and supervision result in motivational problems for student workers. They are given tasks that they often perceive to be unimportant or trivial when in fact they are not. Additionally, the library is not and should not be the primary concern of the student. Lack of commitment and unawareness of the relationship between the job being performed and overall library goals often result in poor performance on the part of the student.

Too many student workers feel the college or university owes them a job and view the library as an easy place to earn their "work award." This view is only reinforced when the full-time staff of the library perceive the student work force as a dumping ground for unwanted tasks.

RELATED THEORY AND RESEARCH

The concepts of motivation have been increasingly utilized in organizations, including libraries, in an effort to improve employee performance, increase productivity, or increase employee satisfaction. Behavioral scientists have contributed much to the understanding of motivational behavior in organizations. The underlying tenet of much of the work dealing with motivation is that individual behavior is goal-directed. That is, behavior is influenced by individual goals along with the individual's perceptions of how these goals can be achieved.[5]

The literature of management tends to view employees as individuals who work full-time for an organization. Such full-time employees are committed to work as a long-term career rather than a short-term job; with student workers the position is just a short-term job. Recently both Gannon and Morse have researched the growing number of employees whom they regard as peripheral employees.

Morse defines the peripheral worker as one who has had work experience of any kind other than full-time for a full year.[6] Gannon further explains the characteristics of the peripheral worker "as having only a partial commitment to the organization, views work not as a career but as a job that can easily be discarded, and as secondary to other activities."[7] This description closely parallels that of the student worker.

Studies of peripheral employees conducted by Gannon reveal that peripheral employees are not motivated by job-related attitudes. "For such individuals, the job seems to be such a minor source of remuneration that it can virtually be eliminated from their perspective and outlook."[8] The policy implications from Gannon's studies suggest that managers of peripheral employees, including library supervisors, should be aware of the fact that new motivational techniques might be necessary for such employees.

Problem Analysis

As noted earlier, the problems associated with hiring student assistants are somewhat unique since the library must often deal with a preselected pool of employable students as a result of university policies for the distribution of grants-in-aid. The library should develop clearly defined internal policies for the selection of student assistants from this externally generated pool.

The primary criterion should be the student's ability and willingness to perform library tasks. Consideration of the student's academic standing will indicate the ability to devote time to library work, while consideration of the student's special interests and previous work experience may be helpful in determining the specific tasks to be performed.[9]

The number of hours per week the student is available for work should be a criterion in the selection process. Ten hours per week is generally regarded as a minimum, while even better results can be obtained if no student is employed for less than fifteen hours per week.[10] This is a difficult criterion to apply since it is dependent upon wage rates and the university's decision on the number of awards versus the size of the awards.

Finally, prospective student employees should be interviewed to ascertain whether they can fulfill the established criteria. If there is no personnel officer within the library, a prospective student employee's immediate supervisor and a senior librarian should conduct the interview. The time spent and choice of a member of the staff high in the organization should communicate to students that they are important resources in the library operation and that as individuals they are valuable to the organization.[11]

The problem of supervising student workers in academic libraries can be analyzed in terms of a behavioral model for effective leadership. Such a model, House's path-goal model, stresses that the functions of a leader are to clarify the nature of the task, reduce roadblocks from successful task completion, and increase the opportunities for subordinates to attain personal goals. To the extent that the leader accomplishes these functions, the motivation of subordinates will increase.[12]

House's model further stresses that the type of leadership style varies according to the situation. Research has indicated that workers performing routine tasks have reported high job satisfaction when their immediate supervisor uses a supportive leadership style. Individuals operating in an unstructured task environment are more productive when their immediate supervisor uses a more directive leadership style.[13]

Student assistants in academic libraries have the long-range goal of obtaining an education. Therefore, work in the library is basically a short-run goal or, in Gannon's terms, secondary to other activities. Library work gives the student the financial resources necessary to obtain the desired education. Supervisors who recognize this goal relationship will tend to develop a supportive leadership style expressing concern for the student's needs and goal achievement. In effect, the student's supervisor has a "dual function of seeing the student as both worker and learner."[14]

Clarifying the nature of the task will come about through the implementation of clearly defined training procedures. Hollman's study of orientation procedures in industry suggests the division of a training program into two distinct phases: general orientation and specific training.[15]

The general orientation should include: (1) a description of the library's function on campus, including all types of service it provides, its basic goals, and an introduction to all full-time personnel; (2) an outline of policies and procedures for reporting to work, absences, and safety information; and (3) a floor plan or description of the physical layout of the library.

Methods for transmitting this information can be verbal, written, audiovisual, or some combination of the three. The technique used will depend upon the number of students involved, along with the time the library administration can devote to the preparation of the orientation session.

Once the general orientation session is held, the students can be divided into groups for specific training to include (1) introduction to the tasks to be performed, including objectives and how they relate to overall library service and (2) the specific training needed.

The specific training should be conducted by the student's immediate supervisor and is usually in the form of verbal instruction. The use of verbal instruction at this point will enable the supervisor and the student assistant to establish a two-way flow of communication at the outset. The student assistant should be able to ask questions and receive immediate feedback to clarify the nature of the work to be performed.

In terms of training, the supervisor takes on a combined leadership style that is both directive and supportive by relating the importance of these tasks to the library's service goals. Once the training procedure has been completed, the most effective leadership style will lean toward one that is supportive.

As mentioned previously, much of the work performed by student assistants in the library is routine in nature. There is little intrinsic satisfaction obtained from the actual performance of the tasks. However, a supportive supervisor can provide student assistants increased extrinsic satisfaction in terms of the work environment created and the interpersonal relationships established. Students certainly have the ability to perform library tasks, and a supportive supervisor will communicate that the responsibility for completion of these tasks belongs to the student.

If the training procedure has clarified the importance of the tasks in the overall operation of the library, students should have some perception of how their duties in the library help to achieve the organizational goals of maximum and efficient service. If the service goals of the library have been effectively communicated, student workers will also recognize the value of the library to their primary goal of learning.

In addition, student workers may be able to provide valuable input into how these services can best be delivered to other patrons. The supportive supervisor will recognize the dual role of the student worker as both worker and patron and remain open to suggestions for better service.

CONCLUSION

Student workers are a critically underutilized resource in many college libraries. Current management theory combined with common sense and an awareness of the problems can make library work an enjoyable learning experience for the student worker. It is crucial, however, that librarians be involved in the process of hiring student workers, that they develop adequate orientation and training procedures, and that they enable student workers to perceive themselves as important members of the staff. All those who supervise students should be encouraged to develop supportive styles of leadership. From the top down, the student worker must be recognized as a valuable human resource.

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LYNN C. DENNISON

The Organization of Library and Media Services in Community Colleges

The learning resources programs of selected community colleges were studied to determine if differences in the organization of library and media services are accompanied by variations in the level of services provided. The institutions' organizational patterns for materials, catalogs, and staff were analyzed and compared. The patterns were then evaluated against the institutions' efforts to promote their services, their restrictions on use of services and materials, and their efforts to evaluate their learning resources programs.

ACCORDING TO STANDARDS promulgated by three national associations, community colleges, as a class, are characterized by "the widely diversified purposes and sizes of the institutions—private and public, the high proportion of commuting students, the comprehensiveness of the curricula, the willingness of administrators and faculty to experiment unhampered by tradition, and the heterogeneity of background among those enrolled."[1] These characteristics have led, in turn, to innovation and experimentation in the organization of learning resources materials and staff in order to serve the informational and instructional needs of the two-year college community.

Recent published literature on the community college library provides numerous examples of the variations in organizational structures. Especially noteworthy are the descriptive treatises of Fritz Veit, Sarah Katharine Thomson, and Doris Cruger Dale.[2-4] Prescriptive patterns of organization are also presented in the literature, although much less frequently.[5]

Despite the wealth of descriptive information, the literature seldom contains information analyzing or evaluating specific patterns of organization for their effectiveness in meeting the informational and instructional needs of the community. In their comprehensive examination of community college libraries, Harriett Genung and James O. Wallace identify the choice of organizational patterns as one of the current problems facing such institutions.[6] The "Guidelines for Two-Year College Learning Resources Programs" emphasizes the need for research in this area.[7] Connie R. Dunlap's review of organizational patterns in academic libraries underscores the importance of using a careful analysis of users' needs and the library's goals as a basis for determining organizational configurations.[8]

The purposes of this study, conducted during the 1975–76 academic year, were to gather general information on library and media services in community colleges throughout the United States; to examine specifically the multiformity of organizational patterns that have resulted from efforts to bring information, particularly in a nonprint format, to the attention of the user; and to determine whether differences in organizational patterns are accompanied by variations in the level of services provided by the institutions' learning resources programs.

Twenty institutions throughout the

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United States were selected for the diversity of organizational patterns represented among them (see appendix). Each institution furnished numerous documents, including the college catalog, statements of philosophy for the learning resources program, organization charts for learning resources staff, budgets, maps and floor plans, and learning resources handbooks and guides.

Each institution was visited for from one to two full days, between October 15, 1975, and January 15, 1976. During each visit, informal interviews were conducted, when possible, with the head of the learning resources program, with the heads of major units within the learning resources program, and with other learning resources staff as time and their availability permitted. In some cases, persons responsible for major units of the learning resources program were not able to schedule interviews during the visits. In such instances, the author has relied on the information given in the furnished documents and on information provided by others on the staff.

The findings of this study are based upon information concerning the status of each institution's organization as it was at the time of the visit. Analyses of the institutions' organizational structures revealed common patterns for the organization of materials, catalogs, and staff. In tables 1, 2, and 3 the institutions have been grouped according to these common patterns into categories that are identified below.

Organization of Materials

The manner in which a community college organizes, stores, and uses its collections, particularly with respect to print and nonprint materials, comprises one facet of the organization of its learning resources program. In the twenty institutions studied, the patterns observed for the organization of materials form a series ranging from integration through various stages of separation (table 1).

In the three institutions in category A, print and nonprint materials, with few exceptions, were integrated physically, administratively, and by service staffing. The materials were cataloged similarly and were intershelved, and the collection was serviced by all "reference" staff collectively.

In the four institutions in category B, print and nonprint materials were integrated administratively and by service staffing but were separated physically. Print and nonprint materials were shelved in separate places but were considered part of one collection and were the responsibility of all "reference" staff collectively.

In the three institutions in category C, print and nonprint materials were integrated administratively but were separated physically and by service staffing. Print and nonprint materials were considered part of one collection but were shelved separately and were serviced by separate units of "reference" staff.

In the six institutions in category D, print and nonprint materials were separated administratively, physically, and by service staffing. Nonprint materials were the responsibility of a unit or units administered separately from that which was responsible for print materials. In many cases, nonprint materials were serviced by persons for whom training in librarianship was not required.

In the four institutions in category E, most nonprint materials belonging to the institution were not kept together as a collection and were found in various locations, in-

TABLE 1

THE ORGANIZATION OF MATERIALS

Category	Number of Institutions	Nonprint Materials Part of Collections	Materials Integrated Administratively	Materials Handled by Integrated Service Staff	Materials Integrated Physically
A	3	yes	yes	yes	yes
B	4	yes	yes	yes	no
C	3	yes	yes	no	no
D	6	yes	no	no	no
E	4	no	no	no	no

TABLE 2

THE ORGANIZATION OF CATALOGS

Category	Number of Institutions	Nonprint Materials Bibliographically Accessible	Print and Nonprint Accessible through One Catalog
A	8	yes	yes
B	8	yes	no
C	4	no	no

TABLE 3

THE ORGANIZATION OF STAFF

Category	Number of Institutions	Division by Function	Division by Geography	Division by Clientele	Division by Form
A	9	yes	no	no	no
B	1	no	no	no	no
C	3	no	yes	no	no
D	1	yes	no	yes	yes
E	5	yes	no	no	yes
F	1	no	no	no	yes

cluding faculty and departmental offices.

ORGANIZATION OF CATALOGS

The catalogs through which print and nonprint materials are made bibliographically accessible to users exhibit another aspect of the organization of a community college's learning resources program (table 2).

The eight institutions in category A provided access to all learning resources materials, print and nonprint, through one integrated catalog. In some of these colleges, additional catalogs were also maintained for distinct portions of the collection.

The eight institutions in category B provided access to all learning resources materials through two or more separate catalogs of print and nonprint materials.

The four institutions in category C provided bibliographic access primarily for print materials only. Most of the nonprint materials belonging to the institutions were not cataloged.

ORGANIZATION OF STAFF

Examining the organization of staff involved in the provision of learning resources services presents numerous problems.

In many institutions, learning resources services are not viewed as parts of a unified learning resources program, thereby making difficult any organizational comparisons with institutions that do hold such a view.

Learning resources staff may be organized using a number of different factors, including form, function, subject, language, geography, and clientele.[9] Although a single factor may be used as the primary one upon which the organization of staff is based, other factors appear as the bases for the secondary and tertiary levels of organization.

The terminology used to identify a specific unit of a learning resources program frequently does not appropriately reflect the actual functions or responsibilities of that unit. The term "audiovisual services," for example, may refer to a collection of nonprint materials, to an equipment distribution center, to a production unit, to an instructional development function, or to a combination of these.

This report presents an analysis of the factors which were used to organize staff and services at the primary level only (table 3). It was assumed that the institution's basic philosophy concerning its resources services would best be reflected at this level. Each institution's organizational design was analyzed by the functions and responsibilities delegated to each of its units and not by the terminology used to identify those units.

Nine of the institutions visited used function as the sole basis of division at the primary level of organization (category A). The following functions were identified by these institutions: utilization, processing, circulation and distribution, production, skills development, tutoring, instructional development and curriculum design, and administration.

The one institution in category B organized its learning resources staff as a faculty. Although certain staff members were responsible for supervising specific functions and forms, each staff member at the primary level was assigned responsibilities that cut across the lines delineating factors such as subject, form, and function.

In three institutions, geography was used as the sole determining factor in organizing staff at the primary level (category C). Each of these institutions belongs to a multicampus district. Certain learning resources services were organized on the district level and performed at a district headquarters; others were organized on a campus level and performed by the specific campuses.

In one institution, function and form and clientele were all used as factors in organizing the learning resources staff (category D). The primary-level units included those concerned with the functions of production and skills development; those concerned with the forms of print, nonprint, and computer; and those concerned with the clientele of students and faculty.

The five institutions comprising category E used both function and form to organize their learning resources services and staff. At the primary level of organization, units were established to deal separately with print and nonprint forms and with functions such as processing, production, and skills development.

The one institution in category F organized its learning resources staff on the basis of form. Its two basic units dealt separately with print and nonprint materials.

Comparison of Organizational Patterns for Materials, Catalogs, and Staff

Comparisons were made of the institutions categorized in tables 1, 2, and 3 with respect to their treatment of materials, catalogs, and staff (table 4).

As might be expected, those institutions that provided a greater degree of integration of materials (categories A and B on table 1) also provided a greater degree of integration of catalogs (category A on table 2) and did not divide their staffs by form, clientele, or geography (category A on table 3).

Those institutions that provided a greater degree of separation of materials (categories D and E on table 1) also provided a greater degree of separation of catalogs (category C on table 2) and introduced the factors of form, clientele, and geography into the organization of their staffs (categories C, D, E, and F on table 3).

Promotion of Services

One of the most important documents a community college can provide to notify the community of its services is the college catalog. Information about a college's learning resources program, contained in the catalog, may provide a clue to the philosophy that the institution holds regarding its learning resources program and may serve as an indication of the institution's commitment to user accessibility and service.

A scale developed by Mari Ellen Leverence and revised by Doris Cruger Dale[10] was used to rate the information on learning resources services that was provided in the 1975–76 college catalog of each of the twenty institutions visited for this study: for each institution, one point was assigned if the learning resources program is listed in

TABLE 4

Comparison of Tables 1, 2, and 3

Rank on Table 1	Rank on Table 2	Rank on Table 3	Number of Institutions
A	A	A	3
B	A	A	2
B	B	A	2
C	A	A	2
C	B	B	1
D	A	C	1
D	B	C	1
D	B	D	1
D	B	E	3
E	C	C	1
E	C	E	2
E	C	F	1

the table of contents; one point if it is listed in the index; one point if the description is under 225 words; two points if the description is over 225 words; and two points if the description includes information on services, philosophy, and/or staff (table 5).

The number of points assigned to an institution appears to correlate fairly well with the amount of integration observed in the institution's organizational design (table 6). In general, those institutions that provided a greater degree of integration of materials and catalogs and that organized their staffs on the basis of function earned higher scores (four to six points) in the rating of information contained in the catalog. In general, those institutions that provided a greater degree of separation of materials and catalogs and that organized their staffs on the basis of form, clientele, or geography earned lower scores (zero to three points) in the rating of college catalog information.

A study of table 6 reveals that there are several exceptions to the generalizations stated above. Two institutions ranked "AAA" received zero and two points respectively; an institution ranked "DAC" received five points; two institutions ranked "DBE" received four and five points respectively; and an institution ranked "ECE" received six points. No explanation for these exceptions has been suggested by the information provided in other college documents or during the campus visits.

It may be, as Dale has suggested,[11] that the college catalog is not used to its best advantage in many instances. It may also be that the college catalog is not, as currently utilized, a good indicator of the level of services provided by the institution's learning resources program. It should be noted that all of the institutions visited furnished other types of materials for promoting their learning resources services, and many offered formalized orientation and instruction programs in conjunction with regularly held class sessions.

TABLE 5

RATING OF INFORMATION IN COLLEGE CATALOG

Points Earned	Number of Institutions
6	4
5	4
4	4
3	1
2	5
1	0
0	2

TABLE 6

COMPARISON OF INSTITUTIONAL RANKINGS AND CATALOG RATINGS

Institutional Ranking on Table 4	Points for Catalog Information
AAA	6
AAA	2
AAA	0
BAA	5
BAA	4
BBA	6
BBA	4
CAA	5
CAA	4
CBB	6
DAC	5
DBC	2
DBD	2
DBE	5
DBE	4
DBE	3
ECC	2
ECE	6
ECE	0
ECF	2

RESTRICTIONS ON USE OF LEARNING RESOURCES SERVICES AND MATERIALS

According to the "Guidelines for Two-Year College Learning Resources Programs," "users of learning resources have the right to expect that facilities, materials, and services are available to meet demonstrated instructional needs for their use."[12] One of the basic roles of a learning resources program as envisaged in the "Guidelines" is the provision of "an organized and readily accessible collection of materials and supportive equipment needed to meet institutional, instructional, and individual needs of students and faculty."[13]

Despite the indication of these guidelines, many community colleges placed restrictions on the use of their learning resources, which limit the accessibility of certain types of materials and services. It has already been noted that four of the institutions visited did not maintain organized, bibliographically accessible collections of their nonprint materials (table 1, category E). These institutions, in effect, have denied access to these materials to the general populations they serve.

Only two-thirds of the twenty institutions studied permit the circulation of nonprint materials and equipment. Of the seven institutions that limit such circulation, two are among the colleges that comprise the first ten institutions listed on table 6, and five are among the colleges that comprise the last ten institutions on the table.

Half of the institutions visited did not offer production facilities and services to students. Of these ten, three are among those that comprise the first half of the list in table 6, and seven are among those that comprise the last half of the table.

Evaluation of Learning Resources Services

An attempt was made to correlate the results of this study with the results of each institution's own efforts to evaluate its learning resources services. It was disappointing but not surprising to learn that most of the institutions covered in this study had no formal procedures for evaluating their learning resources programs.

Many relied primarily on informal feedback: opinions expressed by students and faculty, the number of complaints directed to the head of the learning resources program, and the types of suggestions offered for improving services. Several institutions used questionnaires or surveys conducted either by learning resources staff or by personnel from the institution's office for research. Many learning resources staff, however, felt that the results of such efforts do not provide enough hard data with which to evaluate the quality of services provided. Other measures used to evaluate learning resources services included the use of statistics, a comparison with the "Guidelines," and self-studies conducted in conjunction with accreditation visits.

Conclusions

The most significant finding revealed by this study is that an institution's philosophy concerning its learning resources program was displayed in organizational patterns and levels of service that were internally consistent.

Those institutions that exhibited a greater degree of integration of materials and catalogs organized their staffs solely on the basis of function; earned higher scores on the rating of information provided in the college catalog; and had fewer restrictions on the use of learning resources services and materials. Those institutions that exhibited a greater degree of separation of materials and catalogs introduced the factors of form, clientele, and geography into their organizational structures; earned lower scores on the rating of information provided in the college catalog; and placed more restrictions on the use of learning resources services and materials.

Based upon these findings, one may well be led to conclude that the organizational pattern chosen by an institution for its learning resources program does have an effect on the levels of service it provides.

References

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2. Fritz Veit, *The Community College Library* (Westport, Conn.: Greenwood Press, 1975).
3. Sarah Katharine Thomson, *Learning Resource Centers in Community Colleges* (Chicago: American Library Assn., 1975).
4. Doris Cruger Dale, "The Community College Library in the Mid-1970s," *College & Research Libraries* 38:404–11 (Sept. 1977).
5. See, for example, Kenneth W. Allen and Loren Allen, *Organization and Administration of the Learning Resources Center in the Community College* (Hamden, Conn.: Shoe String Press, 1973), p.12–22.
6. Harriett Genung and James O. Wallace, "The Emergence of the Community College Library," *Advances in Librarianship* 3:70–75 (1972).
7. "Guidelines for Two-Year College Learning Resources Programs," p.306.
8. Connie R. Dunlap, "Organizational Patterns in Academic Libraries, 1876–1976," *College*

& Research Libraries 37:395–407 (Sept. 1976).

9. These factors are identified and described in Edward A. Wight, "Research in Organization and Administration," *Library Trends* 6:141–46 (Oct. 1957).
10. Reported in Doris Cruger Dale, "Questions of Concern: Library Services to Community College Students," *Journal of Academic Librarianship* 3:82 (May 1977).
11. Ibid., p.82.
12. "Guidelines for Two-Year College Learning Resources Programs," p.315.
13. Ibid., p.307.

APPENDIX

LIST OF INSTITUTIONS VISITED

Moraine Valley Community College
Palos Hills, Illinois

College of DuPage
Glen Ellyn, Illinois

William Rainey Harper College
Palatine, Illinois

Johnson County Community College
Overland Park, Kansas

Penn Valley Community College
Kansas City, Missouri

Bergen Community College
Paramus, New Jersey

Brookdale Community College
Lincroft, New Jersey

Montgomery College
Rockville Campus
Rockville, Maryland

Northern Virginia Community College
Annandale Campus
Annandale, Virginia

Northern Virginia Community College
Alexandria Campus
Alexandria, Virginia

Miami-Dade Community College
North Campus
Miami, Florida

El Paso Community College
El Paso, Texas

San Antonio College
San Antonio, Texas

El Centro College
Dallas, Texas

Bellevue Community College
Bellevue, Washington

College of San Mateo
San Mateo, California

College of the Canyons
Valencia, California

Los Angeles City College
Los Angeles, California

Mt. San Antonio College
Walnut, California

Golden West College
Huntington Beach, California

Letters

Publication Activity

To the Editor:

Paula Watson's stated objective "to provide some norms of publishing productivity for librarians" plays into the hands of those who continue to keep librarians as second-class citizens of academia. (*C&RL*, Sept. 77). Faculty members who are expected to publish have a work schedule that gives time for research, and the academic institution rewards faculty members who do research and publish the results. Furthermore, it punishes those who don't. Watson doesn't bother to present the conditions of employment of the academic librarians that she surveyed. She states that the librarians at four of the institutions have faculty status, but she doesn't define what she means by the term.

So long as librarians are required to work forty hours per week in an eleven-month year and receive virtually no incentives for research and publication, it simply is not fair to compare their productivity with those who have both the opportunities and the incentives. A better comparison would be made with the productivity of faculty administrators who work approximately the same schedule as librarians. The academic administrators do very little research and less publication, because there is no time for it and no incentive.

Watson is even wrong to lump together librarians from institutions that give full faculty status with those that do not. She should have divided her results between the two and compared them. Even that would only be a statistical study on what we are doing now as opposed to what we might do if given the proper conditions.

I believe that this problem is so complex that it requires careful analysis of each library; perhaps even case studies would be more appropriate. We've had too many of these generalizations about the lack of professional interest among librarians. It is time for someone to describe an academic library where librarians are given the same opportunity and incentives as professors and then compare their productivity.—*R. Dean Galloway, Library Director, California State College, Stanislaus.*

Response

To the Editor:

Librarians are compared in my article only briefly and incidentally to teaching faculty. The main purpose of my study is to compare librarians with other librarians. My primary aim in attempting to provide norms of publishing productivity is in fact to protect librarians from unfair comparison with their teaching colleagues. Without objective evaluative standards against which to judge librarians, university promotions and tenure committees at institutions where librarians have faculty status must inevitably compare librarians with the teaching faculty.

Table 4 of my article shows that the university libraries surveyed are quite consistent both in percentage of staff publishing and in individual productivity. This suggested to me that it would not be instructive to divide the results of the study between those librarians with faculty status and those without it. I also felt that it would not be productive to investigate what I anticipated would be very minor variations in conditions of work among the librarians surveyed. Results of a questionnaire on conditions of employment of ARL librarians which have recently been released by the Pennsylvania State University Library Faculty Affairs Committee show a high degree of consistency among ARL librarians with and without faculty status in length of contract year, allotted vacation, and hours in the work week.

In the discussion paragraph of my article, I argue that librarians should be given time for research because I fully recognize the difficulties Mr. Galloway points out. Librarians are clearly handicapped in their ability to keep up with the teaching faculty in scholarly productivity by the working conditions which exist at most academic libraries.—*Paula D. Watson, Librarian, City Planning and Landscape Architecture Library, University of Illinois Library, Urbana.*

Recent Publications

BOOK REVIEWS

Opportunities for Minorities in Librarianship. Edited, with an introduction, by E. J. Josey and Kenneth E. Peeples, Jr. Metuchen, N. J.: Scarecrow, 1977. 201p. $8.00. LC 77-375. ISBN 0-8108-1022-0.

The editors of this career-oriented volume saw a need to focus on inequalities in the nation's employment by addressing the underrepresentation of minorities in the library profession. Their work shows early that, at the training level, what is true in the library profession is also true in other disciplines, as the National Board on Graduate Education found in its study *Minority Group Participation in Graduate Education* (Washington, D.C., 1976). The report illustrates the nation's failure to ensure equality of eduation and job opportunity for minority men and women, as supported by the fact that such groups represent a small fraction of graduate enrollment. It further points to the need for improved participation of minorities in the nation's graduate programs.

Josey and Peeples argue that, in recent years, minority librarians have considered and/or utilized new strategies and approaches to recruit their members into librarianship and regard this small volume as a tool for achieving this end. By admission, the book is geared to young minority group members, who, unlike other young people who choose careers as a result of neighborhood models, have few models to influence them in their career choices. Thus *Opportunities for Minorities in Librarianship* aims to "stimulate their thinking to consider a career in this field." In addition, the editors look upon the work as a useful tool for librarians, counselors, and other educators to introduce librarianship to their students and as a guide to introduce specific or narrow aspects of librarianship to library school students or others investigating a career in librarianship.

This collection of twenty-two essays is arranged in six parts and almost equally divided under topics on Native Americans, Chicanos, Afro-Americans, Puerto Ricans, and Asian Americans and librarianship and minority library specialists. With one exception, the authors are themselves members of those minority groups discussed in the essays. Some seize this opportunity to write about their experiences as librarians; others aim to introduce the profession to members of their minority group, and all aim to serve as a source of inspiration for the uninspired.

With the exception of the Afro-American writers, the authors point out the marketable skill of the minorities included in these essays and the advantage they have over many other Americans because of their much needed bilingual and bicultural background. The common threads running through the essays are the underrepresentation of that particular minority group in the library profession and the demand for minority librarians, particularly in the larger cities as well as in those cities that contain large numbers of Native Americans, Chicanos, Puerto Ricans, and Asian Americans. The authors argue that minority librarians are vital to their communities; for example, the Native American librarian is needed on the reservation to communicate with its residents, or the Chicano librarian is needed to communicate with the Spanish-speaking barrios. All groups argue that their members are naturals to fill positions in certain areas or communities because they can relate much more closely to the needs and interests of their minority members.

As a recruiting mechanism, one or more essays under a particular ethnic heading describes the potential job market for the minority group, the duties by type of job, and sources of scholarships. Too often, however, there is an overlap on certain points, such as in sources of scholarships and ALA's minority recruiting programs.

The relatively short supply of minority librarians has also been attributed to the absence of visible role models that minority librarians may wish to emulate. As example, for the Afro-American, Patricia Quarterman finds no Pam Grier and O. J. Simpson types among the profession. It would seen, however, that librarianship might need to seek other strategies for attracting minority members to the profession, especially since librarianship never has been or may never be sensational. Even with this caveat, however, only one essayist, Charles Townley, gives the reader names of minority librarians and describes their contributions to the profession.

For minority librarians, C. K. Huang effectively summarizes the problems minority groups still face by asserting that such groups continue to live "in a joint situation of frustration and aspiration." But some problems seem special to one or two of the groups. According to Huang, the problem is compounded for the Asian American librarian because of inappropriate educational background and because the Asian American, who is the Chinese, the Japanese, the Filipino, and others, is a small minority composed of many nationalities and races within themselves. Unlike other minority groups, they never can be organized as "one." On the other hand, Native Americans recognize their crucial plight, as illustrated by the fact that fewer than ten Native Americans were working as professional librarians in academic libraries at the time the article was prepared. A serious weakness of the work, however, is the conspicuous absence of the Cuban American librarian, who faces essentially the same problems as those groups who are included in the work.

In this much needed work, the level of readability is uneven; some of the essays are much more scholarly and others much more popularly written. This approach helps to mold the work into its purpose—to attract the nation's young early and to guide the more mature student into career choices. Even so, the problems of these groups are much more easily enumerated than the solutions. The work should still serve its purpose well and indeed should go a long way toward encouraging minority groups to enter the profession and to stimulate the nation to commit itself to ensure equality of education and job opportunities for all minorities and to honor that commitment. While necessary and well intended, the few federal and other institutional efforts initiated to counteract this problem have been too meager, too restrictive, too temporary.—*Jessie Carney Smith, University Librarian and Federal Relations Officer, Fisk University, Nashville, Tennessee.*

Personnel Development in Libraries. Edited by R. Kay Maloney. Proceedings of the Thirteenth Annual Symposium Sponsored by the Alumni and the Faculty of the Rutgers University Graduate School of Library Service. Issues in Library and Information Sciences, no.3. New Brunswick, N.J.: Bureau of Library and Information Science Research, Rutgers University Graduate School of Library Service, 1976. 115p. $6. LC 77-5023. ISBN 0-8135-0843-6. (Distributed by Rutgers University Press.)

This volume constitutes the proceedings of the thirteenth annual Rutgers GSLS Alumni/Faculty Symposium, which was held in April 1975. It includes an introduction by the editor, three papers, a discussion section, and a selected annotated bibliography.

The discussion section—about a sixth of the book—should have been left out. It is marred by typos (management's "bag of tracks"!), and the discussion groups too often wound up discussing tangential issues. At times, the groups seem to have missed the speakers' points altogether. The bibliography seems adequate, though its 102 annotations might have been briefer and more informative, and it might have focused less narrowly on 1970–1975.

The three papers themselves make a total of only forty-four pages. For those not abreast with the current literature, Jeffrey Gardner's paper could be useful. Gardner reviews the inadequacy of salary increments as a motivating device, then describes two "new" approaches: peer review and performance goals. Myrl Ricking's paper suggests that "task analysis" might help "define, at long last, what the profession of librarian really is." Unfortunately, as Ricking points out, her paper provides little practical advice, since task analysis is "exacting . . . irritatingly detailed . . . and very expensive."

Paul Strauss' paper is the most interesting of the three. He makes the point that job enrichment and career ladder programs frequently fail because they do not recognize that many workers prefer externally imposed work-structures while other workers reject such externally imposed structures. His distinction between "structure abetted" and "structure threatened" individuals is useful as still another means of sorting out the difference between professional and nonprofessional tasks.

The "personnel" referred to in the book's title are actually professional librarians rather than library employees in general. The personnel methods described are more appropriate for a large library than for a small one. Peer review, for example, takes place on a collegewide basis rather than inhouse in a small institution. The book's focus is therefore much more narrow than its title implies, while the book's brevity in itself restricts its usefulness.

The application of modern personnel techniques to libraries is probably for the good, especially when those techniques enhance the likelihood that librarians will be able to maintain and develop their professional skills. However, this particular volume lends little to the dialogue.—*Peter Dollard, Alma College Library, Alma, Michigan.*

Levine, Jamie J., and Logan, Timothy. ***On-Line Resource Sharing: A Comparison of BALLOTS and OCLC.*** A Guide for Library Administrators. San Jose, Calif.: California Library Authority for Systems and Services (CLASS), 1977. 121p. $5. (Available from California Library Authority for Systems and Services, 1415 Koll Circle, Suite 101, San Jose, CA 95112.)

The title of this book is somewhat misleading. No real discussion of resource sharing is attempted; nor is much specific guidance offered in making a decision about joining either of the two on-line bibliographic networks described: Stanford University's program, Bibliographic Automation of Large Library Operations Using Time Sharing (BALLOTS), and the Ohio College Library Center (OCLC).

As the authors are careful to point out in their introduction, the book is primarily a comparison between BALLOTS and OCLC, which gives the library administrator a starting point to begin an analysis. This the book does very well. It is written in a clear, concise style. No extensive knowledge of data processing is needed to understand it. Yet, the issues treated are certainly relevant to many automation decisions and even extend to financial and administrative considerations.

The organization of the book is well thought out and makes the book valuable as a primer for those unfamiliar with either or both BALLOTS and OCLC, as a review for those with some familiarity, or as a reference book for almost any interested reader. Most of the text is devoted to making specific comparisons between these two systems on a topic-by-topic basis. The relevance of the topics chosen is insured by the fact that most of them stem from actual questions that were posed to the staff of the California Library Authority for Systems and Services (CLASS). Thus, the book has a freshness of direct response, which is seldom experiences in reading similar publications.

To contrast the comparisons more sharply, for most of the book, characteristics of BALLOTS appear on left-hand pages and characteristics of OCLC appear on right-hand pages. The reader can easily concentrate on one or the other system or consider both together. A detailed table of contents aids the user in selecting specific topics of interest. Those who wish to pursue the subject further are aided by brief bibliographies. In addition to the comparisons, a series of appendixes presents card formats, simulated display of screen formats, and simulated examples of the most common products. These are of considerable help to the reader in visualizing different aspects of either system.

The authors ought to be congratulated for producing a readable, easy-to-use manual that can be read on many levels and serve the purposes of many different kinds of users. Unfortunately, information of this kind ages rapidly and needs to be updated frequently. Therefore, the value of the book will decline as time passes beyond its publication date of June 1977. Nevertheless, it ought to be well worth the price of $5 to those readers who will use it over the next year or two.—*Richard J. Talbot, Director of Libraries, University of Massachusetts, Amherst.*

User Studies: An Introductory Guide and Select Bibliography. Edited by Geoffrey Ford. Occasional Paper No.1. Sheffield: University of Sheffield, Centre for Research on User Studies. 1977. 92p. ISBN 0-906088-00-3.

In January 1976 the Centre for Research on User Studies at the University of Sheffield was set up with funds from the British Library Research and Development Department. The Centre set as its first task the investigation of work previously undertaken and the publication of a state-of-the-art report. It is not claimed as an exhaustive bibliography but rather a guide to the literature that the project team considered useful in defining the scope of user studies, in suggesting hypotheses about the behavior of information consumers, in illustrating techniques of study, and in presenting findings about information consumers.

A number of the references are drawn from the American Psychological Association Project on Scientific Information Exchange in Psychology, published in three volumes over the years 1963–69, and from the *Annual Review of Information Science and Technology*, published since 1966. Despite these strong American underpinnings, the rest of the 236 references have an understandably British flavor.

While the tabular data in this stencil-reproduced report are largely drawn from other publications and the reports on research already conducted are rather perfunctory, this document is nevertheless useful in bringing together in one publication references to the growing body of literature on library use studies and user behavior investigations. It will be particularly helpful as a source document for other researchers beginning work in this area. Since this state-of-the-art review at the University of Sheffield necessarily precedes the Centre's own research and testing, further reports in this series of Occasional Papers promise a useful contribution in an area in which we still know far too little.

In a further attempt to disseminate the progress and results of its work, the Centre has begun, as of June 1977, distribution of a newsletter entitled *CRUS News*. While this first four-page issue concentrates on news of the Centre and its own projects, future issues (no frequency prediction is offered) promise to serve as a clearinghouse for other activities as well as its own. Individuals interested in being placed on the distribution list for the newsletter or in receiving a copy of Occasional Paper No. 1 should contact the Centre at the University of Sheffield.—*Herbert S. White, Professor and Director of the Research Center, Graduate Library School, Indiana University, Bloomington.*

Allen, Thomas J. ***Managing the Flow of Technology: Technology Transfer and the Dissemination of Technological Information Within the R&D Organization.*** Cambridge: MIT Press, 1977. 320p. $20. LC 76-57670. ISBN 0-262-01048-8.

This work consists of a series of reports on data collected and conclusions drawn by the author from 1963 to 1973. Much of its content has already appeared in journal articles. It is thus not surprising that most of it will already be known by anyone who has been following the literature on the transmission of information over the past decade. On the other hand, it does provide a convenient compendium, a state-of-the-art review on the subject for newcomers and those who wish to refresh their memory on the work reported here.

From his position at the Sloan School of Management at the Massachusetts Institute of Technology, Allen was able to investigate parallel groups of scientists and engineers who were working on certain problems under government research and development projects. At first the information-gathering processes of those in these projects were measured and compared to the quality of their work. Later, the emphasis shifted to determining how information enters and flows through a research and development organization. As might be expected, a number of conclusions could be drawn from the data—some of them agreeing with commonly held views and some newer and more startling in their implications. Among them are:

1. Engineers think differently from scientists. Scientists are especially interested in choosing their own problems and look to the community of other scientists for evaluation, therefore, the results of their research are fully communicated to the entire research community. Engineers, on the other hand, choose to work in situations where someone else selects the problems on which they will work. Nor is prestige and status dependent upon other engineers, but upon company officials to whom publication means giving secrets to competitors.

2. In science all work up to a point in time is recorded in the literature; in technology the literature is less cumulative, not built on previous literature, and not meant to document the end product or establish priority.

3. Whereas information in science is transferred via the written record, in technology it is more often transferred through personal contacts. Other sources of information in descending order of importance to technologists are: customers, the company's previous research, consultants, and vendors.

4. At different stages in their work, engineers use the published literature differently, spending more time with it at the beginning of a problem and tapering off markedly about one-third of the way through a project. In contrast, internal consulting with colleagues in the company has the same initial peak of use but then adds another surge two-thirds through the project.

5. In order of importance, engineers use textbooks, trade journals, privately sponsored engineering journals, professional en-

gineering journals, and handbooks, while scientists go first to scientific journals and last to textbooks. Whatever source they use, engineers tend to acquire and use the material for themselves, with recourse to the library only about half as often. When the library *is* used, engineers prefer to do the searching themselves, rather than obtain help from the library staff. In the case of unpublished reports, engineers' colleagues are the largest source of supply.

6. Throughout the studies, it was demonstrated that internal communication within the companies was of overwhelming importance for reaching successful conclusions of the assigned projects, with the most successful projects using more and more diverse local communicants; however, outside consultants also played an important role.

7. In most organizations there were a small number of key people to whom others turned for information, so-called "technological gatekeepers." These people read widely in both scientific and technological journals and had a broad range of contacts both within and outside the company. They were thus able to translate information into terms that were meaningful for their engineer colleagues. Networks of such "gatekeepers" also existed, through which the "gatekeepers" themselves maintained communication, thus increasing their effectiveness to their own groups. Once information entered the group, it became diffused through internal subgroupings. All of this developed spontaneously, with no administrative fiat.

8. Since communication within a technological organization is so important for success, organizations should strive to make such communication easy. Propinquity of individuals, good office layouts, or the removal of office walls and substitution of open bays, the location of stairs and elevators, and traffic patterns all must be examined for this purpose.

From all his study and experimentation, the author comes to the general conclusion that much more attention should be paid to informal, person-to-person communication of technological information within organizational settings than has been done in the past, where the focus has been on the traditional published literature and the framework of supporting bibliographic apparatus. The author would, it is felt, be pleased with the many studies now being undertaken to describe the various facets of organizational communication in differing fields, but it is likely he will be somewhat disappointed in his hope that commercial R & D firms will begin experimentation within their organizations on these topics. The need of such firms to make a profit probably precludes such rearrangements of physical and administrative set-ups.—*Estelle Brodman, Librarian and Professor of Medical History, Washington University School of Medicine, St. Louis, Missouri.*

Birmingham Libraries Co-operative Mechanisation Project (BLCMP). ***Final Report.*** Written by D. G. R. Buckle, T. French, A. R. Hall, G. N. Metcalfe and D. J. Wilkins. Compiled by G. N. Metcalfe. Final Report to the British Library Research and Development Department on Project Number SI/G/027, January 1969–March 1975. Birmingham: BLCMP, University Library, 1976 176p. £5.00. ISBN 0-903154-05-6.

This is the final report on the activities through March 1975 of the Birmingham Libraries Co-operative Mechanisation Project (BLCMP). The BLCMP began with three libraries (the universities of Aston and Birmingham and the Birmingham Public Libraries) and added four additional libraries (Birmingham Polytechnic, Bradford University, Warwickshire County, and Aalborg University in Denmark) by the end of the grant period. After an initial cost analysis and feasibility study (comparing manual cataloging costs with estimated costs of an automated system), the BLCMP elected to proceed with an automated shared cataloging system.

The project resulted in the design and implementation of the batch computer system to utilize MARC records and locally generated records in MARC format, the creation of a union data base accessible to participating libraries, and the generation of a variety of outputs required by the participants. In addition, early project work included feasibility studies on the usefulness of centrally produced bibliographic records; the definition of standards for local record variations, cataloging practices, filing rules, etc.; a common costing approach for before-and-after comparisons; and the application of the MARC format to serials and music and sound recordings.

The typewritten final report discusses the work of the entire project in eight sections: (1) project background and overview, (2) implementation of the automated cataloging system in the three original libraries, (3) computer system and data base overview and detailed description of system modules, (4) cost analysis methodology and before-and-after cost comparisons in the three original libraries, (5) analysis of feasibility of expanding system participation to other libraries, (6) proposed order system module (and expansion of the cataloging system), (7) project publicity activities, and (8) conclusions. Appendixes include project staff, BLCMP programs and macros, project documents, and a key to symbols used in flowcharts. There is an index.

The final report is very much like a case study of a cooperative library automation project. The reader will find an amazing amount of historical detail, presented in a chatty, easy-to-read manner, especially in those sections dealing with the cost studies, the computer system and data base, and the implementation decisions and strategies in each of the three original libraries. In the brief conclusions section, the reader is given a glimpse of future activities planned for the cooperative venture (deemed a success by the participating libraries), including direct data input and increased access to the data base.

Since the report deals with events and decisions begun almost eight years ago and finished three years ago, it cannot be viewed as a how-to guide for those libraries wishing to begin a shared computer system today, especially in light of networking developments in this country, such as the Ohio College Library Center (OCLC). However, the sections dealing with the impact of the computer system on the individual libraries and the reason decisions were made as they were, plus the detailed description of the cost analysis methodology, could be useful for libraries contemplating automation today.—*Eleanor Montague, University Librarian, University of California, Riverside.*

Bibliotheek en documentatie. Handboek ten dienste van de opleidingen. Onder redactie van Th. P. Loosjes and others. Bibliotheek en documentatie, vol. 1 Deventer: Kluwer/van Loghum Slaterus, 1977. 421p. Hfl. 65. LC 77-481892. ISBN 90-311-0012-9.

Despite the fact that this book is written in Dutch for the use of Dutch librarians, it deserves wider attention. The concept of a comprehensive text and handbook for the field has not been tried in America for quite some time, but various plans for such a venture are being discussed at the present.

Written by a team of some forty specialists for use in various library training programs, the book's emphasis is on academic and special libraries.

The opening chapter deals, appropriately, with library materials as physical objects. There is a useful glossary of types of materials with French, German, and English equivalents, a brief description of manuscripts, old and modern, and a section on graphic techniques, including reprographics. After a discussion of types of libraries, library education, physical planning, shelving, and preservation, there is a chapter on collection development. It is, acknowledgedly, based on Redenbacher's excellent (yet untranslated) contribution in Milkau's *Handbuch der Bibliothekswissenschaft* (2nd ed., 1961), but this compilation is most informative. It underscores the lack of any introductory literature in the English language. The chapter on internal library organization and technical services procedures does not offer any new viewpoints. Of interest should be the European approach in separating bibliographic description from subject treatment in cataloging practice.

A good part of the volume is devoted to documentation techniques as applied in European special libraries of which, of course, there are so many. The chapters on public services pay attention to user studies as well as library instruction. The book concludes with contributions on national and international library organizations, library legislation, and copyright.

There are obviously problems in the dual approach to a text as well as a handbook. There are even greater problems in trying to arrive at a uniform treatment while using so many different specialists. Comprehensiveness within page limitations is, of course, an additiomal problem. I would have liked very much, for instance, to see attention paid to professional concerns, the literature of librarianship, as well as to current areas of research in library and information science.

The editors have succeeded in an admirable fashion to find a balance between these problems, and the book should be a real help for quite some time to come for many in the profession. As an example of what can be accomplished, this is an important contribution and I hope that it will stimulate American efforts in the same direction.—*Hendrik Edelman, Cornell University Libraries, Ithaca, New York.*

On-Line Bibliographic Services—Where We Are, Where We're Going. Proceedings of an All-Day Meeting at the Centennial Conference of the American Library Association, Chicago, 18 July 1976, organized by the Information Retrieval Committee of the Reference and Adult Services Division. Edited by Peter G. Watson, Chicago: American Library Assn., Reference and Adult Services Division, 1977. 91p. $3.00. ISBN 0-8389-6342-0.

The management of computerized on-line retrieval services is a subject of growing concern. To the librarian doing on-line searches, to the librarian referring patrons for searches, and to the administrators who must plan, allocate resources, and decide whether, when, and how the library will offer on-line searches, the proceedings of this meeting have much to offer.

Part II, "Shaping On-Line Services—Some Operational Considerations," contains the most interesting articles: "Basic Equipment Needs for On-Line Activity," by Philip L. Long; "Planning for On-Line Services: the Administrator's Needs," by Jean Coberly; "Integration of On-Line with Existing Reference Service," by Danuta A. Nitecki; "Training Librarians to Conduct On-Line Literature Searches," by Guy T. Westmoreland; "The Costs of Charging for Information Services," by Douglas Ferguson; "User Education and Publicity for On-Line Services," by Anne G. Lipow; "Evaluation of Computer-based Search Services," by Peter G. Watson. Of equal interest is the concluding section: "Management Implications of Introducing Innovative Reference Services," by Richard M. Dougherty.

Less comprehensive or prescriptive than David Wax' *On-Line Bibliographic Search Services* (ARL, Office of University Library Management Studies Occasional Paper No. 4, June 1976), these papers address, from a variety of viewpoints, the new issues that plague us and the opportunities they present.

Anne Lipow's paper covers the elements necessary to interpret the on-line service to potential users and describes such an integration at the University of California, Berkeley, *within* a seminar for faculty on "How to Use the Library for Advanced Research in the Social Sciences and Humanities."

As might be expected with a new area, most of the authors introduce their topics well and summarize the state of the art, but as with any rapidly changing field, many questions do remain unanswered.

Peter Watson's paper outlines areas of concern in evaluating an on-line search system before contracting for it and relates these to organizational considerations. Richard Dougherty reminds us that innovators must be prepared for a variety of responses and need to prepare a climate favorable to the acceptance of those responses.

It is the attitudinal climate of the middle 1970s that is the focus of the first section, which consists of surveys reported by Carlos Cuadra, Danuta Nitecki, and Pauline Atherton. Both the Cuadra and Nitecki papers repeat material published elsewhere (Judith Wanger, Mary Fishburn, and Carlos A. Cuadra, *On-Line Impact Study* [System Development Corporation, 1976], and Danuta A. Nitecki, "Attitudes Toward Automated Information Retrieval Services Among RASD Members," *RQ* 16:133–44 [Winter 1976]).

The Atherton paper reports the impact on library reference staff, on library directors, and on library clientele. All seem to point toward rising professional status for the librarian, some changes in priorities by library directors, and increasing use of collections by clients.

This spiral-bound soft covered volume is well worth its price of $3. It shouldn't be missed by libraries offering or planning online services or by schools of library and information science.—*Sara D. Knapp, Coordinator, Information Retrieval Section, State University of New York at Albany, Albany.*

Japan-U.S. Conference on Libraries and Information Science in Higher Education, 3d, Kyoto, Japan, 1975. ***Japanese and U.S. Research Libraries at the Turning Point:*** Proceedings of the Third Japan-U.S. Conference on Libraries and Information Science in Higher Education, Kyoto, Japan, October 28–31, 1975. Edited by Robert D. Stevens, Raynard C. Swank, and Theodore F. Welch. Metuchen, N.J.: Scarecrow, 1977. 240p. $10.00. LC 77-2535. ISBN 0-8108-1028-X.

Any assessment of this third Japan-U.S. Conference must be made in the context of the two preceding ones in 1969 and 1972. Ryohei Hayashi, 1975 steering committee chairman, observed that the first conference, in Tokyo, had been an important event for Japanese librarians faced with the rapid expansion of higher education in his country. For many participants, both Japanese and American, it had highlighted the differences in the organization of academic libraries in the two countries. It was difficult to share common experiences because, clearly, development of Japanese libraries had lagged seriously behind that of the United States and other Western countries.

The second conference, held in Racine, Wisconsin, also was concerned with these disparities but nevertheless moved with determination to consider problems common to both countries. It concentrated, therefore, on the theme of library cooperation and on ways to utilize new technologies to further it.

This third conference, in Kyoto, dealt with the theme of "Inter-library Networks: Prerequisites for Sharing Resources." Again, there was much talk by Japanese participants about impediments to cooperation among themselves, not to mention internationally. The disparate goals of university libraries and the independent endeavors of the scientific and technological communities were stressed repeatedly. Most importantly, Japanese universities were shown to be clinging to the costly and inefficient system of maintaining separate "central" libraries and faculty laboratory libraries, side by side. (But there has been one startling and heartening break in this pattern at Keio University, where the two types of libraries have recently been integrated into one organic whole.)

It was remarked bluntly by professors Hosoye and Tsuno, of Hitotsubashi and Tokyo Universities respectively, that some prominent librarians in the Tokyo area have "little intention of cooperating with other libraries"; and Yasumasa Oda, distinguished systems librarian of the National Diet Library, observed that "unfortunately, Japanese librarians have not been as concerned with standardization as they should be" and progress toward participation in broad cooperative programs had therefore been impeded. These, and other similar expressions, were seen as symptomatic of a widespread lethargy and reluctance to give up older attitudes and practices and move toward cooperation.

In contrast is the description by Takashisa Sawamoto, of Keio University, of a cooperative program among agricultural libraries in Japan—certainly one of the most encouraging evidences of progressive planning and of the beginning, at least, of a valuable experiment. With this should be mentioned the important paper by Yoshinari Tsuda, also of Keio, in which he reported on the well-organized network of Japanese medical libraries, already in operation.

Speaking for the United States, Douglas W. Bryant described eloquently some of the major programs of research library cooperation, depicting in some detail the Research Libraries Group. It seems regrettable that Joseph Becker's bold proposal for an experiment between Japan and the United States through a project for a binational library and information network in some specialized field of common interest was apparently considered a bit too advanced for serious consideration by the conferees. Perhaps it can be retrieved sometime in the future.

Yet, despite evidence that Japanese libraries still lag discouragingly behind their

United States counterparts in developing networks, Professor Hayashi stated that with the present rapid development of Japanese libraries he was confident "that we will sooner or later have our contributions to make." Certainly we must recognize those already made by a number of Japanese librarians (particularly in the National Diet Library) in assisting American academic librarians in the acquisition and processing of Japanese publications. It is too early to determine whether this air of confidence is justified, but no one who is at all acquainted with the remarkable capabilities and achievements of the scholarly and technological community in Japan should take too pessimistic a view of long-range prospects.—*Everett T. Moore, University of California, Los Angeles.*

Cutter, Charles Ammi. ***Charles Ammi Cutter: Library Systematizer.*** Edited by Francis L. Miksa. The Heritage of Librarianship Series, no. 3. Littleton, Colo.: Libraries Unlimited, 1977. 344p. $17.50 U.S. and Canada; $21.00 elsewhere. LC 76-58870. ISBN 0-87287-112-6.

Were it not for the Cutter-Sanborn Tables, it is probable that many librarians would not have heard—or would not remember—the name of Charles Ammi Cutter. Yet, this thoughtful, dedicated librarian was one of the shapers of the profession and made lasting contributions to library service. Miksa's new book helps to give Cutter his rightful place in the profession's hall of fame.

Part I of *Charles Ammi Cutter: Library Systematizer* provides the details of Cutter's life, his career, the overall principles under which he practiced his chosen profession, and the contributions he made to it. Part II, the greater part of the volume, gives selections from Cutter's writings classified under the subjects: administration, fiction, perspectives on the library profession, cataloging, classification, and personal perspectives. Part III provides a bibliography of Cutter's works, of which only summaries can be supplied for some categories of his large output. And last, a short but useful index. Each of the sections is introduced with an informative statement by the editor. In an inspired gesture, Miksa has chosen to dedicate his opus to Seymour Lubetzky, who, like Cutter 100 years ago, "has called our attention to the need for basic principles in cataloging."

Michael Harris, editor of *The Heritage of Librarianship Series*, of which this is number 3, says in his foreword, "Those who seek a model of how practical expertise might be developed within a clearly and constantly understood philosophy of library service can do no better than to study carefully the life and work of Charles Ammi Cutter." And this is indeed the process that Miksa unfolds in his book.

The articulate and hardworking Cutter examined his own and his colleagues' activities critically and sought to improve and generalize from experience. He shared his conclusions through writing and public debate and worked for progress through cooperative attacks on common problems. He was a generous man, dedicated more to improving his profession than to improving his position in it.

Miksa explains Cutter's ideal of the library as an "enculturating process" and his view of the library itself, in Harris' words, "as a complex, but unified, system which could make a basic contribution to life in America."

Cutter's best known contribution to librarianship is his codification of cataloging rules first appearing in 1876 as *Rules for a Printed Dictionary Catalogue*. The late Paul Dunkin, no slouch as a writer himself, wrote of the *Rules*: "Probably his is the only book of rules for cataloging which is fascinating reading." Miksa's drawing together of the four editions of the *Rules* to show successive changes, while useful, cannot serve as a substitute for holding the original publication in one's hands, savoring its elegance of presentation, and realizing what its first appearance meant.

Cutter the man emerges clearly from his writings. To relish his attractive personality the reader should turn to his writings, where, with clarity, ease, and grace, Cutter has shared the products of his lively intelligence.

Based on some of Cutter's work, Miksa calls him a "literary and library journalist." Lacking a library press, Cutter perforce wrote for less specialized periodicals. He was thus, as Miksa says, "a reporter to the world of culture on the progress of the library movement." Although he appeared in such diverse publications as the *Boston Daily Advertiser* and the *North American Review*, his two principal outlets were the *Nation* and the *Library Journal*. He joined in establishing the latter in 1876 and participated in its editorship continuously from the beginning to October 1893. With its establishment, he was able to speak more directly to librarians, and his writings reflect the different audiences that they addressed.

Cutter's letter accepting the Boston Athenaeum headship includes his rationale for his extensive writing outside the library field: "Nothing freshens a man's ideas so much, preserves him from sinking into a mere drudge, or becoming a man with one idea and running in a rut, as writing on some subject a little removed from his ordinary labors."

Cutter wrote well whatever his subject and intended audience, pursuing a wide variety of scholarly endeavors. Wit and irony flourish in his writings, often giving them what might be called "the Cutter edge." In the *Nation* of July 27, 1876, commenting on the upcoming Philadelphia convention of librarians—referring back to the 1853 meeting, and perhaps taking a sly poke at a number of the leading librarians who were holding aloof from the meeting—he notes, "Frequent conventions may become wearisome, but one every twenty-three years can certainly be endured by the most indifferent of the profession." In his "Common Sense in Libraries," his 1889 presidential address to the American Library Association, he offers a definition: "But if I must be explicit, I will say common sense is my sense; other people's sense, when it differs from mine, is little more than nonsense."

At the end of the volume, the bibliographic sources about Cutter cover a meager two pages and few of them deal exclusively with Cutter. As Miksa points out, there is still work to be done. More of Cutter's anonymous writings remain to be identified, and an analysis of his total influence on librarianship is to be made. Miksa himself is probably best prepared to do it. I hope he will.—*Helen W. Tuttle, Assistant University Librarian for Technical Services, Princeton University Library, Princeton, New Jersey.*

Scholz, William H. **"Computer-based Circulation Systems—A Current Review and Evaluation,"** *Library Technology Reports* 13:231–325 (May 1977). ($40.00 for single issue, available from American Library Assn., 50 E. Huron St., Chicago, IL 60611.)

Dranov, Paula. ***Automated Library Circulation Systems, 1977–78.*** White Plains, N.Y.: Knowledge Industry Publications, Inc., 1977. 102p. $24.50. LC 77-7382. ISBN 0-914236-10-5.

Many libraries are about to embark on the automation of their circulation operations, the subject of these two publications. The *Library Technology Reports* study is neither authoritative nor worth its purchase price. The work is purported to be an update on the excellent July/September 1976 report by Barbara Markuson. In fact, 20 percent of the volume is devoted to the history of computers and automation in libraries—topics with excellent treatment elsewhere.

The product descriptions read as if they were taken directly from the vendors' literature, and no firsthand experiences on the operations of the systems are reported. The most serious defects of this issue of *Library Technology Reports* are the lack of an index and lack of any citations to the extensive literature in this field. The publication appears to be the product of the author's knowledge of the field and draws on little from practitioners in the field.

The study by Paula Dranov, however, has both an excellent index and makes knowledgeable use of the literature in the field. A selective bibliography is supplied.

The circulation systems covered in Dranov's volume include both "off the shelf" systems and those where the library will have to do much of its own software production. This volume gives one an excellent overview of existing systems and those in the developmental stage.

The treatment on the cost of such systems is weak in both studies, though Dranov's is the stronger of the two. This issue could be developed more completely by having all the vendors submit bids for the installation of a system in a model library. Only then would cost figures have any meaning. The comments of customers of these systems are of little value because, as Dranov states, "As things stand today, the only system in operation long enough to be fairly judged is the LIBS 100 from C. L. Systems, Inc., of Newtonville, Mass." Almost all other systems have only one or two customers with special vendor relationships.

I would recommend the purchase of Paula Dranov's work to anyone with a mild interest in automating circulation, for it has a great deal of valuable information. Anyone who plans to purchase a system should also purchase the *Library Technology Reports* issue for the small amount of additional information to be gained. If you are going to spend $100,000 on a system for circulation, the additional forty dollars may be a worthwhile investment.—*Edmond A. Menegaux, Executive Director, South Central Research Library Council, Ithaca, New York.*

Schlachter, Gail Ann, with Belli, Donna. ***Minorities and Women:*** A Guide to Reference Literature in the Social Sciences. Los Angeles: Reference Service Press, 1977. 349p. $19.50. LC 76-53061. ISBN 0-918276-01-2. (Order from Reference Service Press, 9023 Alcott St., Suite 201, Los Angeles, CA 90035.)

McKee, Kathleen Burke. ***Women's Studies:*** A Guide to Reference Sources. With a Supplement on Feminist Serials in the University of Connecticut's Alternative Press Collection, by Joanne V. Akeroyd. With the assistance of B. McIlvaine, Government Publications Department. Bibliography Series, Number 6. Storrs, Conn.: University of Connecticut Library, 1977. 112p. $5.00 (prepaid). (Order from Acquisitions Department, University of Connecticut Library, Storrs, CT 06268.)

In recent years there has been growing interest in ethnic affairs and in women's studies. Comprehensive guides to reference sources in these areas, however, have been lacking. Two recently published bibliographies together help fill this gap, each complementing the other.

Minorities and Women describes over 800 reference books related to women, American Indians, Asian Americans, black Americans, Spanish Americans, and other minority groups in America. One section of "Information Sources" is presented in chapters by form (fact books, biographies, documentary sources, directories, and statistical materials), with entries in each chapter arranged by author under women or the minority groups. A second section of "Citation Sources" (bibliographies, abstracts, indexes, catalogs, guides to the literature, etc.) is presented in chapters by group and listed alphabetically by title. For each item, complete bibliographic information plus a descriptive annotation detailing purpose, scope, arrangement, special features, and publication history is given. Author, title, and subject indexes provide easy access to all publications cited.

Schlachter and Belli intend their guide to fill a bibliographic gap in reference literature, and they appear to succeed. Other reference works are available for individual minorities but differ in format and scope or need updating. Schlachter and Belli provide in-depth, current reference sources for several minorities together in one convenient volume. This reviewer was satisfied that their coverage is exhaustive when a spot check for two dozen recent, relevant works uncovered no omissions.

While their sections on women also are commendably thorough, these could have been published as a separate and expanded volume. Particularly for women's studies, the intentionally restrictive scope of *Minorities and Women* requires consultation of other guides. Possibly because their subject range is broad, the authors exclude several categories of publications, including those dealing primarily or exclusively with society in general; publications after mid-1976; reference materials in foreign languages and/or emphasizing areas outside of the United States; plus noncataloged materials, e.g., pamphlet-like publications of sixty pages or less.

A reference tool for women's materials filling most of these gaps is *Women's Studies: A Guide to Reference Sources,* by Kathleen Burke McKee. Based on the collection of the University of Connecticut Library, Storrs, it will be useful to librarians and researchers at other institutions. Items are presented by type of publication and are indexed by author, title, and subject. Annotations give purpose, arrangement, and use of the sources in women's studies research. The inclusion of subject indexing terms in various sources will be welcomed by reference librarians who try to explain to undergraduates that one subject area is analyzed under various headings in various indexes.

For women's studies, the Schlachter and Belli volume, within the carefully defined scope of its parameters, is a more comprehensive guide to sources solely about women and published by "mainstream" publishers. In contrast, McKee's bibliography also is intended to be an introduction to reference sources from more traditional disciplines that are useful in women's studies research. Researchers who consult general indexes will wish to consult McKee first.

Items in the main section of McKee include the University of Connecticut's Alternative Press Collection's feminist reference books plus books and pamphlets from movement publishers on Third World women, socialist feminism, lesbianism, and other feminist issues. Alternative and/or small press and ephemeral material can be difficult to locate. McKee is worth purchasing solely for these listings and for the excellent, annotated supplement on feminist serials in Connecticut's Alternative Press Collection by Joanne V. Akeroyd. The value of this slim volume as an acquisitions and reference aid far exceeds its price. Regrettably, this paperbound work is poorly bound, and reinforcement of its binding is advised.—*Sherrie S. Bergman, College Librarian, Wheaton College, Norton, Massachusetts.*

Garfield, Eugene. ***Essays of an Information Scientist.*** With a foreword by Joshua Lederberg. Philadelphia: ISI Press. 1977. 2v. (Volume 1, 1962–1973. Volume 2, 1974–1976.) $25.00 (plus postage and handling, $1.00 in U.S., Canada, and Mexico; $5.00 other locations). LC 77-602. ISBN 0-89495-000-2.

In my little desk dictionary, "essay" is defined as "an analytic or interpretative literary composition usually dealing with its subject from a limited or personal point of view." The lexicographer probably had in thought the essays of Lamb or Emerson or Thurber or E. B. White. The current work would be better with the title "Disquisitions by . . . " or "Lucubrations of. . . ." It is a heavy work, and "essay" is too light a word for the substance herein. The 398 pieces the author has chosen to call essays are, in reality, one long essay drawn from Mr. Garfield's thoughts on scientific journals and, more particularly, citation indexing in and for periodical literature.

Garfield, former president of ADI (now ASIS) and currently active in the Institute for Scientific Information (ISI), is also president of his own publishing firm, Information International, Inc. (III), in Philadelphia. III is publisher of various editions of *Current Contents*, and the essays republished in this unfinished set are gathered from *Current Contents*' first fifteen years. While Garfield is the one man that could (and did) write so extensively on citation indexing in his own periodical, the question of an overabundance of publicity must be raised when he republishes, uncut, the entire set. Perhaps an audience (unknown to this reviewer) has an unsatisfied appetite to read and reread articles on citation indexing.

It should not be inferred that the individual pieces gathered here lack merit. In fact, they are good, impassioned, and terse; they sound like Garfield in person. Garfield promotes his products; Garfield announces his plans for editorial change; Garfield evaluates his products for the information community; Garfield introduces his associates and vouches for their character and integrity; Garfield acknowledges the adulation his publications have received among users. If one could read them for review as they were meant originally to be read (one at a time) with a fortnight between sessions, they would have a less dramatic effect than the collective impact of the whole lot taken at a single sitting or even within a week's time.

Librarians, particularly post-master's students of library science, information scientists, and historians of science, will find in Garfield's two volumes a mine of primary importance. It is not the mother lode, but it is rich and has within it a vein of the pure metal—a vein to be probed and followed to the end. The author work was done as journal publication reached its height.

As there is a vein in the mine, there are dangers, too—the quicksand of diversion to topics not followed up; the poisonous gas of too much expansion on one theme; the chancy shoring of unselected timber using every scrap of "learned lumber" to form the shaft.

There is also dross that must be processed afresh by each reader to obtain that which is precious. Garfield's dross is his intense preoccupation with his corporate welfare. It is never so labeled, but no label is needed.

Garfield's price is high ($25.00), but the price per "essay" is low ($.06285 each). The problem is ancient and insoluable. It is a raisin cake. To buy the raisins (desired), one must buy the cake as well (undesired).

The work is recommended for purchase by library schools and for extensive collections on information science only.—*Charles H. Stevens, Executive Director, Southeastern Library Network (SOLINET), Atlanta, Georgia.*

Multitype Library Cooperation. Edited by Beth A. Hamilton and William B. Ernst, Jr. New York: Bowker, 1977. 216p. $19.95. LC 77-2492. ISBN 0-8352-0980-6.

At the 1976 annual conference of the American Library Association, a program on "Opportunities in Multitype Library Cooperatives" appropriately had the multisponsorship of units in ALA and the Special Libraries Association representing all types of libraries. The collection under review contains the revised and edited papers presented at that program plus additional ones solicited later. As with most heterogeneous gatherings of this kind, the resulting coverage is rather spotty and tends, perhaps unavoidably, to skim the surface of the many-faceted phenomenon of multitype library cooperation as it has developed in recent years. The collection does, however, offer to the librarian who has not been closely involved with cooperative activities (other than traditional interlibrary loan) a capsule view of the experiences of several enterprising groups and to those who have been involved some points of comparison.

Preceded by three background articles and by four pieces unevenly exploring the federal, multistate, state, and local roles in multitype cooperation, the longest section contains eight "case studies" and five essays from "special perspectives." Among the cooperative efforts described in the case studies are seven that are intrastate—two in Indiana, one in Milwaukee, three in New York, and one in Cleveland—and one that is multistate, the Bibliographic Center for Research, Rocky Mountain Region. The perspectives represent school, special, and academic libraries—large and small—and metropolitan library councils.

Although the emphasis on single-state and substate cooperatives may seem unbalanced, the case studies and the special perspectives, in which other cases are cited, possibly constitute the most valuable part of this book. Through accounts of the specific circumstances leading to the creation of formal organizations, the programs they have developed, and some of the problems they have encountered, other practitioners (even under radically different conditions) may be able not only to gain new ideas and insights but also to avoid the common pitfalls of cooperative efforts.

In an overview of the planning, governance, and funding of multitype library cooperatives—one of the background chapters—Sylvia Faibisoff provides a helpful distillation of selected sources, including a detailed table showing legislative support in the various states. The picture she presents, however, is incomplete. Several inaccuracies and omissions in her information relating to New England suggest that specific items should be double-checked before they are accepted as factual, and further research should be done in a particular area if it is important to learn the full situation there. For example, Faibisoff ignores the cooperative established in late 1972 by the six state library agencies of New England, with a multitype library advisory panel and a mission to serve all libraries in the region. She also refers to both the interstate organizations included—the New England Library Information Network (NELINET) and the Research Libraries Group (RLG)—by slightly variant names and omits one of the states covered by the former's services. Other apparent discrepancies, e.g., in the references to the states that have appropriated funds for multitype cooperatives (p.29 and 37), raise further questions of reliability.

Shortcomings notwithstanding, this volume brings together good information, and its overall message is unmistakably positive. While acknowledging the naysayers, the contributors obviously expect multitype library cooperation to continue as a significant influence at all levels, with the states as the focal points. The most serious hazard, alluded to again and again, is the scarcity of stable (state-based) financial support, and the shining light, also recognized repeatedly, has thus far been the bountiful but unpredictable Library Services and Construction Act, the text of which is given in an appendix. An annotated bibliography of selected sources covering 1970–75 provides a useful guide to wider reading.—*Mary A. McKenzie, Executive Director, New England Library Board, Hartford, Connecticut.*

Thompson, James. ***A History of the Principles of Librarianship.*** London: Clive Bingley; Hamden, Conn.: Linnet Books, 1977. 236p. $10.00 LC 77-3335. ISBN 0-85157-241-3 Bingley; 0-208-01661-9 Linnet.

This is a fascinating book that seeks to establish the historical foundations for a current theory of librarianship. It was written by the librarian of the University of Reading in England.

Thompson reveals seventeen principles of librarianship and discusses them in a historical context. Briefly, these principles are: libraries are created by society; libraries are conserved by society; libraries are for the storage and dissemination of knowledge; libraries are centers of power; libraries are for all; libraries must grow; a national library should contain all national literature, with some representation of other national literatures; every book is of use; a librarian must be a person of education; a librarian is an educator; a librarian's role can only be an important one if it is fully integrated into the prevailing social and political system; a librarian needs training and/or apprenticeship; it is a librarian's duty to increase the stock of his or her library; a library must be arranged in some kind of order, and a list of its contents provided; since libraries are storehouses of knowledge, they should be arranged according to subject; practical convenience should dictate how subjects are to be grouped in a library; and a library must have a subject catalog.

Each of these principles is treated in great detail, and convincing evidence is provided from numerous sources. Though written from a British perspective, examples are given from U.S. library history, as well as that of Great Britain, and world library history going back 3,000 years. Footnotes lead to references at the end of each chapter. A selected bibliography appears at the end. The book is written in a readable style, though there is at times repetition of content under the various principles.

This is a unique approach to library history and would be a valuable book for all librarians needing reinforcement of the historical traditions of their profession. It should be purchased by all libraries having even a relatively small library science collection. *A History of the Principles of Librarianship* would, of course, be of special value to students of library history.

Readers of this work will also want to read Thompson's *Library Power* (1974), a companion volume attempting to promote a philosophy of librarianship based on certain well-proved principles.—*George S. Bobinski, Dean and Professor, School of Information and Library Studies, State University of New York at Buffalo.*

Library Budgeting: Critical Challenges for the Future. Edited by Sul H. Lee. Library Management Series, no. 3. Ann Arbor, Mich.: Pierian Press, 1977. 111p. $10.00. LC 77-85231. ISBN 0-87650-083-1.

For those librarians who have slept through the past several years and who thus have had no opportunity to keep up with the vast literature on planning, resource allocation, scientific management, and other budget-related responses to the current fiscal stringencies facing academic libraries, here is a slim volume that can fill in the lacunae painlessly, provided one is after only a brief overview of the field.

For the wakeful and reading librarian there isn't too much here that is new: most

of us are acutely aware of the escalating cost of delivering library services and of the static and declining budgets of libraries; likewise, we are aware of the many management techniques that can be used to realign libraries' objectives and activities and to rationalize the budget process. The book's important contribution is the persuasive case it makes for more rational management of libraries in this time of no-growth budgets.

The seven short essays and selected bibliography are the product of a 1976 conference on no-growth budgets held at Indiana State University. The stage is set by the essay most concerned with a philosophical understanding of the large library's environment during this period of stasis and decline—an environment of greater budgetary control exercised by state government and of the politicizing of resource allocation within the university, all leading potentially to an erosion of the library's institutional support.

The profession is challenged to develop new role models for libraries and for networks of libraries and to apply these models to resource allocation decisions at the local level. Perceptively, librarians are advised to engage in a deliberate process of coalition formation and thereby link the well-being of libraries to that of their politically more powerful clienteles.

Flowing derivatively from the first essay are a brief, nontechnical presentation of zero-based budgeting in academic libraries; a general explication of one very complex approach to formula budgeting, Washington State's "Model Budget Analysis System for Libraries"; a rehash of some areas in which scientific management can result in improved effectiveness and efficiency.

Along with a sales pitch for several management techniques developed by the Office of Management Studies at the Association of Research Libraries, there are a few insightful comments about changing libraries' values and improving productivity. Caveat emptor: some of these techniques —especially MRAP—are extremely expensive in terms of staff time.

Another contributor's suggestion that the business profit making model be applied to libraries to the extent that underutilized programs be dropped in favor of increasing support for highly used ones, that underutilized services be sold, that library users be charged a fee, and his advice that libraries become the "source and managers of all knowledge, information and data bases in the country" (p.54) manifest an embarrassingly naive understanding of libraries and the knowledge industry.

Library Budgeting leads one to question whether it is inevitable that continuing budgetary problems, together with the imposition of sophisticated managerial techniques to ameliorate these problems, must lead to a centralization of decision making in libraries, for such is the typical organizational response to a situation calling for tighter control over operations; if so, recent gains in the area of participative decision making may be in jeopardy.—*Albert F. Maag, University Librarian, Capital University, Columbus, Ohio.*

Srikantaiah, Taverekere, and Hoffman, Herbert H. ***An Introduction to Quantitative Research Methods for Librarians.*** 2nd ed. Santa Ana, California: Headway Publications, 1977. 223p. $8.00. ISBN 0-89537-002-6. (Available from: Headway Publications, c/o Rayline Press, 1413 East Edinger, Santa Ana, CA 92705.)

A review of this narrative extension of a course syllabus is appropriate for *C&RL* because it will probably be more useful as a refresher course for the experienced librarian than for its announced purpose as a text for a "mandated course in research methodology" for students of librarianship. The practitioner in, or instructor of, quantitative aspects of librarianship tends to "cook book" statistical measures, having forgotten—or, worse, never really learned—the subject matter of this text. The computer spews out indexes of central tendency, of relationship, and of inference; and we tend to use them uncritically. This book will remind us of the limits one must observe in dealing with even the most sophisticated of coefficients.

As a "non-mathematical approach to research methodology, stressing logic and the reasoning underlying . . . basic methods of quantitative research" for the unselected beginning student, the book needs further revision. In the first place, this objective embodies an unresolvable contradiction. Thus, this is and must be very mathematical. True, each section starts out by introducing the purpose of the quantitative method under consideration in very simple, discursive, readable prose, usually employing library-derived examples (sometimes hypothetical, sometimes real). Then suddenly all becomes highly abstract, condensed, and symbolic. The text promptly drops the library-related examples and deals in data sets, rather than books and readers.

It is difficult for one who has been over the ground many times before to estimate the effect this sharp acceleration of abstraction would have on beginners. Perhaps the authors of the text are able to carry their students over this threshold by means auxiliary to the text. However, the typical librarianship student is typically long on verbal aptitude but very short on mathematical perception as measured by the Graduate Record Examination. For this reason the wary instructor anticipates an onslaught of statistically induced terror on the part of most beginning students confronted with a condensed text such as this.

It is true that those who follow the path set by Herbert Goldhor's *An Introduction to Scientific Research in Librarianship* (1972) do not really try to surmount this barrier but rather content themselves with verbal indications of the purposes and limitations of each process. They do not force the student to compute any but the most elementary of descriptive measures. This is also a highly questionable expedient in a field where a little knowledge can be dangerous.

Thus, one hopes that subsequent editions of Srikantaiah and Hoffman's brief text will provide a means of introducing the average student to essential comprehension of statistical description, inference, hypothesis testing, and theory building without the side effects anticipated from the present edition's uneven treatment.

What this and other privately published books often lack are the services of an informed but neutral editor. Such an editor would ask whether on p.71 the authors did not mean to say "hypothesis" rather than "theory." The editor might also ask for some help for the student who is told at the end of chapter 13 (p.141) that "clearly, neither chi square nor the z test can be recommended for studies of differences in categories when large samples are involved"—and left hanging there!

Such an editor might notice the omission from the appendix on computers of any reference to that godsend to library researchers, the Statistical Package for the Social Sciences (SPSS), recently treated in a short volume by Marchant, Smith, and Stirling (see "Other Publications of Interest"). Again, someone from outside might notice that on p.154 the authors casually introduce the idea of matched pairs as a research method without warning the reader that the device is as perilous as it is seductive.

Examples of sacrifice of full, precise explanation in the interest of simplification are too numerous in this edition of the text to warrant its use by other than experienced library researchers or advanced students. However, in saying this, one hastens to encourage Srikantaiah and Hoffman to continue their work. At this stage it shows great promise of becoming a text that is badly needed. Meanwhile, the beginner is better served by established works on elementary statistics at the cost of forgoing the rather superficial library examples offered (in the preface) as a principal reason for the existence of this text in its present state.—*Perry D. Morrison, Professor of Librarianship, University of Oregon, Eugene.*

Busha, Charles H., ed. ***An Intellectual Freedom Primer.*** Littleton, Colorado: Libraries Unlimited, Inc., 1977. 221p. $17.50 U.S. and Canada; $21.00 elsewhere. LC 77-7887. ISBN 0-87287-172-X.

Covering the topics of intellectual freedom and censorship, the seven articles in this volume constitute more than a "primer," as the title would seem to indicate. The editor, Charles H. Busha, says the purpose of the book is to present information about events in the twentieth century that have contributed to the erosions of First Amendment rights.

The titles and authors of the articles are: "Freedom in the United States in the Twentieth Century," by Busha; "Privacy and Security in Automated Personal Data

Systems," by Stephen P. Harter; "Freedom of the Visual Arts: The Role of Governments," by Yvonne Linsert Morse; "Bibliographical Control of Erotica," by Rebecca Dixon; "Censorship and the Performing Arts: A Review of Issues," by Barbara Connally Kaplan; "Censorship and the Contemporary Cinema," by Gail Linda Robinson; and, "Censorship Research: Its Strengths, Weaknesses, Uses, and Misuses," by Richard E. McKee.

As is indicated in these titles, the major portion of the book is concerned with freedom in the various arts. The editor's introduction is well worth a careful reading as is his introductory article, which provides a valuable discussion of the development of freedoms in the United States. Stephen Harter's discussion of the preservation of the privacy of the individual citizen in a world of automated data systems is a cogent, well-written, and important chapter.

The chapter on "Censorship Research" points out that insufficient scientific research has been done in this area. The authors says, "Anyone interested in understanding the complex issue of censorship should rely only upon facts derived from careful studies. While reliance upon personal convictions or opinions may be more self-satisfying, in the long run the only person deceived will be the one who has not closely examined the conclusions of carefully conducted studies."

There is variation in the writing style in the various chapters, as one would expect from the different authors. However, all chapters indicate that the authors have done considerable reading and studying before they began to write. Each has given numerous examples and illustrations as well as quotations from court decisions, and each has provided extensive footnotes and citations from the literature.

As the editor says in his introduction, the "contributors make no claims of presenting unbiased views of disputes between censors and anti-censors or between the forces of intolerance and the forces of freedom. The writers who have contributed to this book are resolute in their commitment to principles of intellectual freedom and offer no apologies for their partiality." In the opinion of the reviewer, the book is a valuable and informative collection of articles. It should be helpful to librarians, to library educators, and to students who are interested in intellectual freedom.—*Martha Boaz, Dean, School of Library Science, University of Southern California, Los Angeles.*

Studies in Micropublishing, 1853–1976. Documentary Sources. Edited by Allen B. Veaner. Microform Review Series in Library Micrographics Management, no. 2. Westport, Conn.: Microform Review, Inc., 1977. 489p. $22.50. LC 77-6720. ISBN 0-913672-07-6.

The aim of this anthology, as stated in the preface, is to trace the evolution of the intellectual aspects of micropublishing while the scope of the collection is defined by its title. In it the word "micropublishing" is used by the editor as a generic term covering both original and retrospective micropublishing activities, sometimes also referred to as "micropublishing" and "microrepublishing."

Studies in Micropublishing contains fifty-one essays grouped in ten chapters, together covering a time span of 123 years. Four of the articles were published originally in the nineteenth century (three of them in 1850); the others, with the exception of two papers published in the early 1900s, have originally appeared in print between 1930 and 1970. The largest cluster of reprints was published in the 1950s (fourteen articles). The most often reprinted authors are Herman H. Fussler and Allen B. Veaner, each having four articles in the collection, and Eugene Power with three reprints.

By editorial fiat, excluded from compilations are annual reviews of the state of the art in the micropublishing world, technical articles, reports, evaluations of equipment, and essays already included in Albert Diaz' compilation, *Microforms in Libraries: A Reader* (1975).

The volume is not conceived as an exclusive bibliography, nor is it "expected that this work will be read as a continuous chronicle; it is therefore hoped that repetition"—a frequent phenomenon in a collection of this kind—"will serve to reinforce" major themes developed in the volume (p.xiv–xv).

The book starts with a forword by Frances Spigai, followed by essays surveying the field of microforms and micropublishing. Separate chapters are dedicated to the history of micropublishing, organization, storage, durability, and use of microformats, their role in library collections, national microform services, and micropublishing of newspapers. The last in the collection is a group of articles that have forecast for the last forty years the future of microphotography.

The collection is an important contribution to library literature, and it comes to us from a truly authoritative guru in the "micro" world. The list of contributors reads like a page from the who's who in the field. Names such as Maurice Tauber, Verner W. Clapp, Robert Jordan, Ralph R. Shaw, and Charles G. LaHood—to add just a few authors to those already mentioned in the review—are all widely recognized leaders in this emerging discipline: The editor himself is a well-known expert on the subject of micrographics, with experience ranging from supervision of a major university photoduplication department many years ago to a recent appointment as director of a university research library. Allen Veaner is also charter editor of the *Microform Review*, an outstanding periodical in the field.

The typography of the volume is attractive and practically free of misprints; this is, by now, a well-established trademark of excellence of Microform Review, Inc., the publisher of this book. The present collection is part of the publisher's recently established series in library micrographics management, which has already listed half a dozen other titles in this field. The price of the volume is reasonable, especially when compared with prices of other similar books published nowadays.

Micropublishing ought to be of special interest to librarians. In addition to being a staple in the library, it is, as pointed out in this study, the first new medium that has been developed with direct help from librarians, while at the same time its continuing success depends heavily on the acceptance of microforms by libraries.

Of course, *Studies in Micropublishing* covers only one phase of the expanding field. Yet further studies will build on this compilation, complementing rather than replacing it.

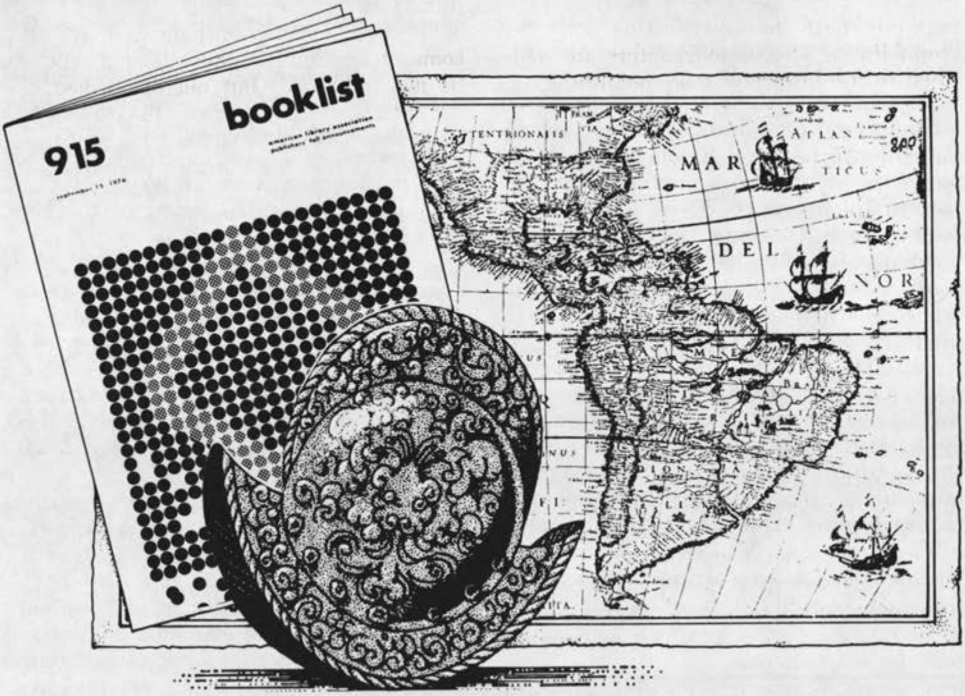
However, micropublishing itself will not come of age until studies about it will not be just published, but micropublished. To the delight of many readers, the present anthology can be read without the assistance of a still-clumsy microreader contraption.—*Joseph Z. Nitecki, Temple University Libraries, Philadelphia, Pennsylvania.*

Blumenthal, Joseph. ***The Printed Book in America.*** Boston, Mass.: David R. Godine, in association with the Dartmouth College Library, 1977. 250p. $30.00 LC 77-79004. ISBN 0-87923-210-2.

The emphasis of this history is on printing as an art, illustrated by seventy plates duplicating pages from books chosen by the author. Most of the examples were selected from books in the Dartmouth Library collections. Forty-eight of them represent books published since 1890. They deal exclusively with letter press and with typography. Illustration draws only incidental attention.

This is a handsome book. The author himself, long the proprietor of the distinguished Spiral Press, did the typography. The Stinehour Press, Lunenburg, Vermont, composed and printed the text. The Meriden Gravure Company, Meriden, Connecticut, engraved and printed the plates—brilliantly. In many cases the reproductions seem to outshine the originals in brightness of ink and paper. To accommodate the format, of course, reductions are inevitable for many books, but the legends include original measurements.

The Printed Book in America invites comparison to the author's 1973 guide to an exhibit of 125 books in the Pierpont Morgan Library, published in hardcover by Godine (and in softcover by the library) as *The Art of the Printed Book, 1455-1955.* The text, which precedes the plates in both works, is longer and more detailed in *The Printed Book in America.* Shining through the text is the clear evidence of the author's own participation in many of the events he describes and his personal association with many of the figures he discusses. This heightens the interest, but the book far transcends the limitations of personal re-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miniscence. The author shows an easy familiarity with the bibliography of the presses he discusses, and he draws copiously on a long list of historical and critical writings ("Selective Bibliography," p. 233–37).

Although the emphasis of the book is on the most artistic products of various presses, the author recognizes the importance of innovations, conscientious craftsmanship, and patterns of influence. Two of his longest sections treat Theodore Low DeVinne and Daniel Berkeley Updike, for example, concluding, however, that neither was a great typographic artist comparable to Bruce Rogers or Frederick W. Gowdy (also treated at length). On a different plane, he even pays unexpected tribute to Elbert Hubbard and the Roycroft Press. He includes and discusses many examples that do not meet, in the author's judgment, the highest standards of typographic art. These increase the interpretive value of the presentation.

The *History of Printing in America* belongs on the shelves of most academic libraries. The devil that plagues reviewers will not let me pass without noticing two minor lapses that attracted my attention. On page 36 he seems to date Buffon's *Natural History* a hundred years before its publication. His citation to Michael Koenig's article on DeVinne in his bibliography dates it in 1941 instead of 1971. These hardly detract from the importance of the book.—*Howard W. Winger, Graduate Library School, University of Chicago.*

Coping with Cuts. A Conference to Examine the Problems Facing Academic Libraries in the Late 1970's at Holborn Library on Wednesday 13th July 1977. Sponsored by the National Book League Books and Students Committee. London: National Book League, 1977. 98p. £3.20. ISBN 0-85353-268-0.

Academic libraries in England have fallen on hard times indeed: Norman Roberts, writing in the November 1977 *C&RL*, touched upon some of the dire fiscal realities now facing English college and university libraries and enumerated several steps they are taking to curtail spending; the controversial Atkinson Report (reviewed in the July 1977 *C&RL*), recommended a self-renewing library of limited size (à la Daniel Gore) as the government-imposed model for future academic library development.

If this flimsily bound typescript of five short speeches (by a librarian, lecturer, student, publisher, and bookseller) and two discussions represents the only palliative to the severe government cuts in book-buying money and to astronomical inflation that the 133 participants in the conference could suggest, then our English colleagues are worse off than they realize, and we have very little to learn from them in our own efforts to cope with shrinking budgets.

To an American librarian abreast of the professional literature, many of the suggestions for coping seem quaint, outdated, and simplistic; they center around where and what to cut rather than on such creative responses as quantitative analysis of collection growth and use and subsequent redistribution of available resources, the use of sophisticated management techniques to bring more rationality to the budgeting and allocation processes, institutional self-analysis and evaluation of strengths and weaknesses coupled with more formal planning.

Through all the collective hand wringing comes one speaker (neither a librarian nor a lecturer but a representative of the National Union of Students) with the most cogent and thoughtful—though undeveloped—suggestions for doing more with less: sharing of resources among libraries; fuller utilization of existing library resources; improved course planning and lecturer-library coordination; a more collective approach in learning methodologies and student library use; a more sharply defined distinction between research institutions and undergraduate teaching institutions together with corresponding differences in the library resources of each.

For those interested in comparative librarianship there are some revealing contrasts to be seen between England and the United States in higher education financing and control, use of library materials by students, selection and types of library materials, teaching methods, collection evaluation practices, etc., but not enough, however, to compensate for the minor contribution this work makes to the literature of retrenchment and reanalysis.

Some unintended humor worthy of a "Monty Python" script finds its way into the discussion report: "Dr. R.A. Wall: 'This is a very interesting idea. Perhaps Mr. Thompson could comment on it.' James Thompson: 'Well, I think it's a rotten idea myself!'. . . . Martyn Goff: 'I'm going to call a halt at this point.' " (p.83–84) American academic librarians, too, may call a halt at this point if they expect to find in this publication many useful ideas for coping with cuts.—*Albert F. Maag, University Librarian, Capital University, Columbus, Ohio.*

ABSTRACTS

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

Documents with an ED number here may be ordered in either microfiche (MF) or paper copy (HC) from the ERIC Document Reproduction Service, P.O. Box 190, Arlington, VA 22210. Orders should include ED number, specify format desired, and include payment for document and postage.

Further information on ordering documents and current postage charges may be obtained from a recent issue of Resources in Education.

Academic Library Development Program: A Self Study. North Carolina Univ., Charlotte. 1976. 179p. ED 142 227. MF—$0.83; HC—$10.03.

This report presents a 1975–76 comprehensive review of the University of North Carolina at Charlotte J. Murrey Atkins Library undertaken by staff members. Data and information were gathered from faculty, student, and library surveys, interviews, and by task forces in the areas of management and structural processes, human resources, library resources and services, and technology and facilities. The task forces studied the university and its library, the library's environment, the library's goals and objectives, and assessment of needs. Recommendations were made for five major areas studied: organization and management, planning, personnel, cataloging, and collection development. The task force reports are included in the text. The appendixes contain project chronology, library goals and objectives and their analysis, library user inquiry and leadership questionnaires, opinion analysis, human resources survey, suggestions for staff development program, and library holdings tables.

The Use of a University Library's Subject Catalogue: Report of a Research Project. By E. H. Wilkinson and others. Macquarie Univ., North Ryde, Australia. 1977. 99p. ED 142 231. MF—$0.83; HC—$4.67.

This report outlines the development and evaluation of a library instruction program at Macquarie University in Australia, designed to help students use the subject catalog more quickly and effectively. Phase 1 of development established (1) objectives; (2) two methods of teaching—performance instruction and simulation of a real library situation; (3) two programs similar in sequence and content—audio-tutorial, with tape and mini-catalog for individuals and tape/slide for group instruction; and (4) three evaluation instruments—objective test on effective use of the subject catalog, performance test on search ability, and attitude survey. Trials revealed a weakness in failure to consider in detail the level of knowledge and skills to be reached by students. Phase II concentrated on curriculum development and combined the original programs. Evaluation instruments included background information, reaction to program, tasks tests, and six parallel versions of skills test. The program was judged successful in methodological aims and partly successful in program aims, based on trial administration to randomly selected students and groups. Plans for implementing the program and suggestions for adapting it to other libraries and age groups are discussed. Bibliography and other references are attached, as well as tests, scripts, evaluation forms, and surveys.

University of Azarabadegan Faculty of Medicine Library Report. By John F. Harvey. World Health Organization. Eastern Mediterranean Regional Office, Alexandria, Egypt. 1977. 21p. ED 136 767 MF—$0.83; HC—$1.67.

This report presents guidelines and recommendations for developing the library that serves the faculty of medicine and its teaching hospitals at the University of Azarabadegan, Iran. The present library situation and recommendations, together with suggestions for their implementation, are offered. Recommended changes include the development of policies for materials collection, services, and processing.

A Technical Report on a Role Analysis Prepared for the Reference Department of Margaret I. King Library, University of Kentucky. By Benita J. Howell and others. 1977. 62p. ED 138 244. MF—$0.83; HC—$3.50.

A role analysis study of the Margaret I. King Library reference department focused on organization of role activities, their evaluation by reference staff, and patron satisfaction. Observation, interview, and questionnaire techniques were employed to (1) obtain staff job history and academic training; (2) inventory activities from which a list of ninety-three role activities was compiled; (3) determine on a seven-point scale, using semantic differential, staff perceptions of activities with respect to importance, interest, complexity, and confidence in performance ability; and (4) determine patron satisfaction and consensus between staff and patrons regarding encounters. Patron service, instruction, and skill maintenance were seen by staff as highly important; the latter two were considered most interesting. According to patrons, librarians determined their needs accurately in 80 percent of the encounters and in 87 percent provided the right amount of information. The study concluded that role analysis provides insights into effective reference service factors and the importance of the librarian as teacher rather than as information source. The appendixes include forms for all interviews and questionnaires.

An Evaluation of a Course in Library Instruction at Ball State University. By Barbara C. Stewart. 1976. 56p. ED 138 246. MF—$0.83; HC—$3.50.

To test the effect of library instruction on learning basic knowledge and skills in using reference tools, thirty-three Ball State University students received such instruction in a course on information resources in libraries. In control groups from basic literature courses, thirty-nine students received course-related library instruction and eighty-one students received no instruction in library use. Students were pretested and posttested using the Feagley Test and responded to questionnaires for demographic information, previous library instruction, library use, and attitudes. Statistical analyses of mean test scores confirmed the hypothesis that students who have taken a course in library instruction will learn to use library reference tools more effectively than those who have not. Descriptive data revealed that previous library use and work experience had more effect on library ability than class level, subject majors, or previous library instruction. The study concluded that students will benefit to a significant degree from taking a formal library instruction course. Further systematic and scientific research was suggested in library instruction evaluation and in the development of a standardized library skills test. Bibliography and questionnaire are appended.

An Investigation of Selective College and University Libraries' Serial Arrangement. By Elizabeth Gates Kesler and Gay Teborek. Rhode Island Univ. Library, Kingston. 1977. 30p. ED 138 261. MF—$0.83; HC—$2.06.

Data from a survey on serials arrangement procedures and policies at academic libraries were used by the University of Rhode Island (URI) Library in changing current serials policies. Ten libraries, four of which have similar serials holdings and user populations to URI, responded to a questionnaire. Information was obtained on classification versus alphabetization of serials, missing issues, cataloging, and title change procedures. Based on analysis of this information, recommendations were made for the URI Library concerning (1) annual publications, (2) bound and unbound serials, (3) newspapers, (4) public catalog entries, (5) computer printouts, (6) incomplete volumes, and (7) title changes. The questionnaire is appended.

Reference Statistics, 1975–1976. An Analysis and Recommendations. By John Lubans. Univ. of Colorado, Boulder. 1977. 21p. ED 139 408. MF—$0.83; HC—$1.67.

This study analyzes statistics of seventeen public service units of the University of Colorado at Boulder libraries, measuring frequency of question asking, types of questions, and staff responsibility. The study seeks to determine fluctuations of reference service workloads over time, department staffing, and training needs and to provide supervisors with a quantifiable understanding of reference activities. More than 500,000 transactions occurred in 1975–1976, suggesting successful marketing of services. Volumes of directional and circulation questions indicate a need for directional signs and for examination of circulation procedures in some departments. The success of user education programs is reflected in a high volume of instructional and research questions. Students and support staff handle large numbers of questions, with students answering all types, indicating a need to examine staffing patterns. Public service librarians recommend: (1) establishing a training program for students and a higher job level for students working weekends and evenings; (2) creating half-time graduate assistantships with subject expertise for reference services on weekends and evenings; and (3) converting several student positions to a full-time staff position. Question recording forms and question type definitions are appended.

A Comparative Study of Charges Made through an Automated Circulation System in the Colorado State University Libraries. By Robert W. Burns. Colorado State Univ. 1976. 122p. ED 139 420. MF—$0.83; HC—$6.01.

To determine use of portions of the collections at Colorado State University libraries and to identify heavily used sections, the collections were divided into 204 blocks according to Library of Congress classification letters. The number of charges made in each block was counted during a 1975 quarter for patrons, charges made to the reserve desk, and interlibrary loan. The number of pieces within each block was estimated by dividing the linear inches of a block by its average thickness. A coefficient of use was calculated for each block by dividing the number of charges made by the number of pieces available. Multiplied by 100, this indicated that for each 100 items in a block, there were *X* circulations, and enabled comparison of blocks regardless of size. Both absolute circulation and coefficient of use identified three most heavily used blocks: BF (psychology), HQ (the family), and GV (recreation). Sixteen blocks had zero use, and 47 percent had less than 100 circulations. The study concluded that: (1) some areas of the collections received higher proportionate use than size indicates, and (2) demands on portions of the collections can be monitored and usage compared, regardless of size. Statistical tables are included.

Computer Output Microfilm (COM): An Alternative to Card Catalogs for SOLINET Members. By Randall Cravey and others. Southeastern Library Network, Inc., Atlanta, Ga. 1977. 91p. ED 139 437. MF—$0.83; HC—$4.67.

The Southeastern Library Network (SOLINET) Committee on Computer Output Microfilm (COM) is drafting a plan for SOLINET's role in computer catalog production for member libraries. The primary purpose of this report is to record information on microfilm catalog production and utilization. The report presents alternative designs for SOLINET's role in microfilm catalog production. The supportive features of COM and cost justification are discussed, and descriptions are given for terminology in micrographics, library/data processing, and COM catalog production. Procedural flow charts and descriptions are provided in overviews of COM and COM catalog production processes. Additional aspects of COM catalog production considered are: (1) data base construction and maintenance, (2) local and commercial operations, and (3) microfilm systems and equipment. A description of the COM catalog at Georgia Institute of Technology, correspondence with companies, directories of COM systems service centers and vendor/service bureaus, and SOLINET retrospective conversion statistics are appended.

Community College Library Cooperation: A Behavioral and Dynamic Model. By Joanne R. Euster. 1977. 81p. ED 140 818. MF—$0.83; HC—$4.67.

This study examined the psychological and behavioral determinants of community college library cooperation, primarily through interlibrary loans, in the Washington Community College Library Cooperative. Fifty-nine of ninety-one Washington community college library professionals responded to a questionnaire on attitudes and expected behaviors. A dynamic computer simulation model incorporated organizational and behavioral variables over time to their effect on the organization's utility and future existence. Respondents felt that cooperation is valuable and will increase in importance during the next five years. Applying the criterion that a cooperative activity will be included if 65 percent or more of respondents are in favor of it, the study concluded that the decision group, composed of library directors, selects different options than does the user group of library professionals in the system. Successive tests using the computer simulation indicated that the behavior of individual library professionals, seeking to maximize their libraries' return from cooperative behavior, may contribute to the ultimate overloading and collapse of the cooperative system. A bibliography is appended.

Analysis of Requirements of On-Line Network Cataloging Services for Small, Academic, Public, School and Other Libraries: A Demonstration Project Using the OCLC System. Final Report. By Barbara Evans Markuson. Office of Education (HEW), Washington, D.C. 1977. 60p. ED 140 861. MF—$0.83; HC—$3.50.

This report results from a project using the Ohio College Library Center (OCLC) system to provide catalog services to small libraries. Alternatives described include: centralized cataloging, centralized book processing, sharing of OCLC terminals, and use of dial-up terminals. The OCLC data base was found useful for all types of small libraries. It is recommended that network planners give more attention to how small libraries can economically use library networks.

Summary Cost Data from 300 Reports of Library Technical Processing Activities. By Charles P. Bourne. Inst. of Library Research, California Univ., Berkeley. 1977. 76p. ED 140 871. MF—$0.83; HC—$4.67.

Data collected from an extensive review of 300 publications dealing with library cost studies are presented in sixty-three graphs. This probably includes most of the published data on costs of library technical processes up to the early 1970s. All data shown in this report have been corrected for general inflationary trends by converting the source data into constant 1967 dollars. This is a summary of preliminary research done by the author, whose main objectives are to show that there is much such information available and that it clearly shows an upward trend in all unit costs.

ERIC On-Line With No Extra Staffing. By Ilene F. Rockman. 1976. 13p. ED 143 307. MF—$0.83; HC—$1.67.

Through active user participation, Washington State University Education Library was able to provide ERIC computer searching services to students, faculty, and community members with no additional library staff. Specialized training for the two librarians, as well as rental of a terminal for the library, resulted in over 100 searches in 1974–75. Appended are informational materials for use by search requesters to enable them to actively participate in the search process, both during descriptor selection and during the computer run.

The Viability of Merging Three Academic Libraries in Worcester. By David Kaser and Jinnie Y. Davis. Carnegie Corp. of New York, N.Y. 1977. 178p. ED 143 346. MF—$0.83; HC—$10.03.

This study was undertaken to determine whether the libraries of Worcester Polytechnic Institute, the College of the Holy Cross, and Clark University should be merged. Four types of data were collected: (1) objective—quantitative analyses of faculty and student use of the libraries and collection duplication/triplication; (2) subjective—opinions and judgments of faculty, students, librarians, and library administration; (3) historical—comprehensive review of success and failure of past interlibrary cooperation; and

(4) systems—individual systems requirements of each library and potential for economics through joint action. Costs, monetary and nonmonetary, were found to outweigh the benefits of library merger. Two-mile distances between the three colleges rendered it impossible for one library to replace all libraries. The eight recommendations included (1) study of direct borrowing privileges to students from the other institutions and (2) placement of a single computer output microform catalog of recent acquisitions of all three libraries adjacent to all card catalogs. Descriptions of the libraries and outlines of studies conducted are included.

Urban Studies: A Study of Bibliographic Access and Control. By Barbara E. Anderson. Inst. of Library Research, California Univ., Berkeley. 1977. 79p. ED 143 349. MF—$0.83; HC—$4.67.

This paper analyzes (1) the bibliographic access to publications in urban studies via printed secondary sources; (2) development and scope of classification systems and of vocabulary control for urban studies; and (3) currently accessible automated collections of bibliographic citations. Urban studies is defined as "an agglomeration of interdisciplinary approaches to common phenomena and/or problems that have come about as a result of urbanism and urbanization" and includes approaches to the understanding and/solution of these problems. Secondary sources, most described in detail within the text, include indexes, bibliographies, retrospective sources, government publications, research and report literature, review literature, and current awareness sources. Specific examples from classification systems and the merits of the most important subject heading systems are discussed. Fifteen computerized data bases relevant to urban studies are described with accompanying bibliography. Lists of compared title coverage of urban studies periodicals in three indexes and of most frequently cited journals are appended.

A Survey of Salaries of Medical School Librarians in the United States and Canada, 1976–77. By Peter Stangl and William Neff Hoke. Lane Medical Library, Stanford Univ., Calif. 1977. 152p. ED 143 365. MF—$0.83; HC—Not Available.

Prime objectives of the survey were to (1) relate age, sex, geographical area, status within the institution, educational level, etc., to salary received; (2) provide timely data on salaries; and (3) test feasibility of applying similar survey techniques for the entire Medical Library Association membership. Questionnaire forms were designed: one to obtain information regarding library personnel policies, administrative structure, and compensation structure (sent to directors of 114 U.S. and 16 Canadian medical school libraries, with 119 replies received); the other to be completed by individual librarians and administrators (878 replied) regarding personal data, educational background, professional experience, present level of responsibility, and salary. Data obtained were reduced and analyzed using standard coding sheets and Stanford Center for Information Processing's IBM 370-168 computer. Results are discussed and tabulated in categories of organizational structure of the library, geographic area, administrative responsibility, sex and minority status, academic level, and others. The appendixes contain all tables, variable charts, and sample questionnaire forms.

Library-Use Instruction for Engineering Students. By Rao Aluri. 1977. 11p. ED 143 367. MF—$0.83; HC—$1.67.

Instruction for students in the use of libraries and their resources has been neglected in engineering education. Librarians can team teach courses on technical writing and introduce students to the major information sources in their fields. They can give presentations, publish handbooks, bibliographies, and pathfinders on library resources, and present audiovisual programs for library orientation. Engineering instructors and administrators should realize that library resources are important and that librarians are willing to work with the instructor in developing instructional programs to improve students' library skills. Advantages of such instruction to students are: (1) they can collect background information more efficiently; and (2) they have the opportunity without undue dependence on an instructor's guidance. A list of thirteen hints on conducting a literature search, modified from University of Nebraska at Omaha courses to be more universal, is attached.

University Library Organization and Administration in Latin America: The Development of a Pragmatic Model. By Earl Wassom and Robert Rees. Western Kentucky Univ., Bowling Green. 1976. 236p. ED 136 765. MD—$0.83; HC—$12.71.

Presented is an assessment of the organization, procedures, personnel, fiscal support, and physical plant of the University of Los Andes library system. Field visits by a consultant team that placed assessors on the site for a total of ninety-seven days were made during the March to June 1976 period. Assessment instruments were developed and administered to gather factual data. Personal interviews with librarians, support staff, university administrators, professors, and students to determine attitudes and needs were conducted. Instrument responses and interview data were analyzed and synthesized to present a coherent picture of the situation. A rationale was developed compatible with objectives and purposes for a Venezuelan institution of higher education. The assessment findings and rationale were melded into a proposed model for the structure and functions of the University of Los Andes library system. Problems in organizational structure, fiscal support, physical facilities, staff qualifications, operational procedures, and technical processes were identified; solutions were proposed; and recommendations were made.

OTHER PUBLICATIONS OF INTEREST TO ACADEMIC LIBRARIANS

Amstutz, Mark R. *Economics and Foreign Policy: A Guide to Information Sources.* International Relations Information Guide Series, v.7. Detroit: Gale, 1977. 179p. $18.00. LC 74-11566. ISBN 0-8103-1321-9.

Basil, Douglas C.; Gillis, Emma Jean; and Davis, Walter R. *Purchasing Information Sources.* Management Information Guide, no.30. Detroit: Gale, 1977. 240p. $18.00. LC 76-7037. ISBN 0-8103-0830-4.

Provides annotations for books and periodical articles in the field of purchasing.

Buenker, John D., and Burckel, Nicholas C. *Immigration and Ethnicity: A Guide to Information Sources.* American Government and History Information Guide Series, v.1. Detroit: Gale, 1977. 305p. $18.00. LC 74-11515. ISBN 0-8103-1202-6.

Burr, Robert L. *Toward a General Theory of Circulation.* Univ. of Illinois Graduate School of Library Science Occasional Papers, no.130. Champaign, Ill.: Graduate School of Library Science, Univ. of Illinois, 1977, 55p. $2.00.

Butler, Addie Louise Joyner. *The Distinctive Black College: Talladega, Tuskegee and Morehouse.* Metuchen, N.J.: Scarecrow Pr., 1977. 169p. $7.00. LC 77-22756. ISBN 0-8108-1055-7.

An analytical study of three black colleges that investigates their institutional histories in an attempt "to account for the unique character" of each.

Cargas, Harry James. *The Holocaust: An Annotated Bibliography.* Haverford, Penn.: Catholic Library Assn., 1977. 86p. $4.00. ISBN 0-87507-005-1. (Available from: Catholic Library Association, 461 West Lancaster Ave., Haverford, PA 19041.)

Lists 415 books and articles about the slaughter of Jewish people during World War II.

Chielens, Edward E. *The Literary Journal in America, 1900–1950: A Guide to Information Sources.* American Literature, English Literature, and World Literatures in English Information Guide Series, v.16. Detroit: Gale, 1977. 186p. $18.00. LC 74-11534. ISBN 08103-1240-9.

Conversations with Writers. Conversations Series, v.1. Detroit: Gale, 1977. 302p. $18.00. LC 77-9142. ISBN 0-8103-0943-2.

Thirteen in-depth interviews with prominent writers. Provides insight into how each author views his or her writings and profession as a whole.

Cultural Conformity in Books for Children: Further Readings in Racism. Ed. by Donnarae MacCann and Gloria Woodard. Metuchen, N.J.: Scarecrow Pr., 1977. 205p. $8.00. LC 77-22174. ISBN 0-8108-1064-6.

Twenty-six articles discuss monocultural and biased practices in the educational system and, in particular, in children's books.

Directory Information Service. A Reference Periodical Covering Business and Industrial Directories, Professional and Scientific Rosters, and Other Lists and Guides of All Kinds. Information Enterprises, 1977–   Issue no.1– $36.00/3 issues. (Distributed by: Gale Research Co.)

Describes new directories and new editions of established directories. Some of the information provided includes title and subtitle, publisher address, coverage, arrangement, indexes, and frequency.

Gray, Michael H., and Gibson, Gerald D. *Bibliography of Discographies.* Volume 1, Classical Music, 1925–1975. N.Y.: Bowker, 1977. 164p. $19.95. LC 77-22661. ISBN 0-8352-1023-5.

Intended as a five-volume series. This volume covers discographies of classical music found in publications from 1925–75.

Harmer, Ruth Mulvey, comp. *A Consumer Bibliography on Funerals.* Washington, D.C.: Continental Assn. of Funeral & Memorial Societies, 1977. 14p. $1.00. (Available from: Continental Association of Funeral and Memorial Societies, 1828 L St., N.W., Washington, DC 20036.)

Hatch, James V., and Abdullah, OMANii, comps. and eds. *Black Playwrights, 1823–1977: An Annotated Bibliography of Plays.* N.Y.: Bowker, 1977. 319p. $18.50. LC 77-11890. ISBN 0-8352-1032-4.

Henderson, Robert W., comp. *Early American Sport.* A Checklist of Books by American and Foreign Authors Published in America Prior to

1860 Including Sporting Songs. 3d ed. rev. and enl. Cranbury. N.J.: Fairleigh Dickinson Univ. Pr.; London: Associated Univ. Presses, 1977. 309p. $27.50. LC 74-30537. ISBN 0-8386-1677-1.

Hoffman, Herbert H. *Small Library Cataloging*. Santa Ana, Calif.: Headway Publications, 1977. 213p. ISBN 0-89537-003-4.

A guide for cataloging in a small library for those who have not had formal instruction in library cataloging.

Holmes, P. L. *On-line Information Retrieval: An Introduction and Guide to the British Library's Short-term Experimental Information Network Project*. Volume I: Experimental Use of Non-Medical Information Services. British Library Research & Development Reports, no.536OHC. London: British Library, 1977. 61p. £5.00. ISBN 0-905984-02-1.

Hughes, Catherine A. *Economic Education: A Guide to Information Sources*. Economics Information Guide Series, v.6. Detroit: Gale, 1977. 267p. $18.00. LC 73-17576. ISBN 0-8103-1290-5.

Industrial Research Laboratories of the United States 1977. 15th ed. Ed. by Jaques Cattell Press. N.Y.: Bowker, 1977. 828p. $65.00. LC 21-26022. ISBN 0-8352-0986-5.

Kaganoff, Benzion C. *A Dictionary of Jewish Names and Their History*. N.Y.: Schocken Books, 1977. 250p. $10.95. LC 77-70277.

Laird, W. David. *Hopi Bibliography: Comprehensive and Annotated*. Tucson, Arizona: Univ. of Arizona Pr., 1977. 735p. $7.95 paper; $13.50 cloth. LC 77-9563. ISBN 0-8165-0566-7 paper; ISBN 0-8165-0633-7 cloth.

Madubuike, Ihechukwu. *A Handbook of African Names*. Washington, D.C. Three Continents Pr., 1976. 233p. $9 case; $5 paper. LC 75-25943. ISBN 0-914478-13-3 case; 0-89410-029-7 paper.

Magocsi, Paul R., and Mayo, Olga K., comps. *Carpatho-Ruthenica at Harvard: A Catalog of Holdings*. Englewood, N.J.: Transworld Publishers, 1977. 149p. ISBN 0-917242-03-3.

Lists more than 1,000 titles at Harvard dealing with the Carpatho-Ruthenica. "The term Carpatho-Ruthenica refers to the civilization of the Carpatho-Rusyns, a Slavic people that inhabits the foothills and valleys of the northern arc of the Carpathian Mountains, territories that today are within the Transcarpathian Oblast' of the Ukrainian Soviet Socialist Republic, the Prešov Region in northeastern Slovakia, and the Lemkian Region in southeastern Poland."

Marchant, Maurice P.; Smith, Nathan M.; and Stirling, Keith H. *SPSS as a Library Research Tool*. Brigham Young Univ. School of Library and Information Sciences Occasional Research Paper, no.1. Provo, Utah: School of Library and Information Sciences, Brigham Young Univ., 1977. 44p. $1.50. LC 77-85367. (Available from: Nathan M. Smith, Editor, 5042 HBLL, Brigham Young University, Provo, UT 84602.)
Several subprograms included in the Statistical Package for the Social Sciences (SPSS) are discussed as related to a library research topic.

The Martial Arts Encyclopedia. By Larry Winderbaum. Washington, D.C.: Inscape Publishers, 1977. 215p. $19.50. LC 76-43250. ISBN 0-87953-600-4.
Provides information on all the oriental fighting arts. Includes short entries on prominent people in the arts.

Myers, Gerald E. *Insurance Manual for Libraries*. Chicago: American Library Assn., 1977. 64p. $5.00. LC 77-24524. ISBN 0-8389-0236-7.

The National Faculty Directory 1978. An Alphabetical List, with Addresses, of about 449,000 Members of Teaching Faculties at Junior Colleges, Colleges, and Universities in the United States and at Selected Canadian Institutions. Detroit: Gale, 1977, 2v. $115.00. LC 76-47916. ISBN 0-8103-0488-0.

Neuberg, Assia. *The State of Israel: An Annotated Bibliography, Volume II, 1969–1975*. Jerusalem, Israel: Centre for Public Libraries in Israel, 1977. 534p. $50.00.
Lists 4,718 books, pamphlets, and collective works published between 1969 and 1975 that deal with subjects relating to Israel. Each publication is listed in the language of the original, and annotations are given for most entries.

Norback, Peter G., and Norback, Craig T. *Educational Market Place*. N.Y.: McGraw-Hill, 1977. Various paging. $29.75. LC 77-12427. ISBN 0-07-047130-4.
Directory of sources for equipment, services, supplies, facilities, and information on organizations. For administrators and teachers in elementry school through college.

Ojo-Ade, Femi. *Analytic Index of Presence Africaine (1947–1972)*. Washington, D.C.: Three Continents Pr., 1977. 181p. $22.00. LC 77-71232. ISBN 0-914478-92-3.

Orlando, Thomas A., and Gecik, Marie, comps. *Treasures of the Chicago Public Library: A Contribution toward a Descriptive Catalog*. Chicago: The Chicago Public Library, 1977. 149p. $12.50 (Plus $1.00 for postage and handling). LC 77-85329. (Available from: Special Collections Division, The Chicago Public Library, 78 East Washington St., Chicago, Il 60602.)

Orlando, Thomas A., and Gecik, Marie, comps. *Treasures of the Chicago Public Library: An Exhibition of Notable Acquisitions 1872–1977*. Chicago: The Chicago Public Library, 1977. 16p.

Rath, Frederick L., and O'Connell, Merrilyn Rogers, eds. *A Bibliography on Historical Organization Practices*. Volume 2: Care and Conservation of Collections. Comp. by Rosemary S. Reese. Nashville, Tenn.: American Assn. for State and Local History, 1977. 107p. $10.00. $7.50 (AASLH members). LC 75-26770.
Annotated bibliography that lists resources for the care of paintings, documents, books, photographs, and other artifacts.

Robbins, J. Albert, ed. *American Literary Manuscripts: A Checklist of Holdings in Academic, Historical, and Public Libraries, Museums, and Authors' Homes in the United States*. 2d ed. Athens: Univ. of Georgia Pr., 1977. 387p. $16.00 LC 76-49156. ISBN 0-8203-0412-3.

Rosenberg, Paul M., comp. *The Urban Information Thesaurus: A Vocabulary for Social Documentation*. W.T. Dürr, Director. Prepared by the Baltimore Region Institutional Studies Center. Westport, Conn.: Greenwood Pr., 1977. 375p. $25.00. LC 76-52604. ISBN 0-8371-9483-0.

Sak, Ludmila, *Czechoslovak National Bibliography*. Rutgers Univ. Graduate School of Library Service Occasional Papers, no. 76-4. New Brunswick, N.J.: Graduate School of Library Service, Rutgers Univ., 1977. 58p. $3.00.

Sapienza, Anthony F. *A Checklist of Maltese Periodicals and Newspapers in the National Library of Malta and the University of Malta Library*. Malta: Malta Univ. Pr., 1977. 1v. unpaged. £1.95.

Simpson, Antony E. *The Literature of Police Corruption*. Volume 1: A Guide to Bibliography and Theory. N.Y.: John Jay Pr.; Berkshire, Engl.: McGraw-Hill Book Co. (UK) Limited, 1977. 214p. $10.00. LC 76-30895. ISBN 0-89444-003-9 John Jay Pr. (Available from: The John Jay Press, 444 West 56th St., New York, NY 10019.)
A review of historical and contemporary literature on police corruption.

Sources of Serials. A Bowker Serials Bibliography. N.Y.: Bowker, 1977. 1547p. $52.50. LC 77-015833. ISBN 0-8352-0855-9.
Includes serial publishers and corporate authors arranged under 181 countries, listing 90,000 current serial titles they publish or sponsor.

Sweden, Utbildningsdepartementet. *Pliktexemplar av skrift*. Stockholm: Allmänna Förlaget, 1977. 263p. ISBN 93-38-03665-7.
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Who's Who in American Politics 1977–1978. 6th ed. Ed. by Jaques Cattell Press. N.Y.: Bowker, 1977. 1170p. $49.95. LC 67-2504. ISBN 0-8352-0926-1.

Young, Margaret Labash; Young, Harold Chester; and Kruzas, Anthony T., eds. *Subject Directory of Special Libraries and Information Centers*. 4th ed. Vol.1: Business and Law Libraries. Vol.2: Education and Information Science Libraries. Vol.3: Health Sciences Libraries. Vol.4: Social Sciences and Humanities Libraries. Vol.5: Science and Technology Libraries. Detroit: Gale, 1977. 5v. $30.00/vol.; $125.00/set.