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Library Trends

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Collection Evaluation

ELIZABETH FUTAS
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Issue Editors

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EVALUATION
In recent years, collection development—the process of assessing the strengths and weaknesses in a library's collection with the idea of maintaining those strengths while redressing the weaknesses to make a better and more effective collection for the user—has changed both its emphasis and its title. For many, the words collection management have come to mean that process (combined with others) which stresses not the selection and choice in collection development but rather the maintenance and management of an existing collection. In the days when federal monies and other grants were readily available for library resources, selection of materials was the starting point for most programs of collection development. Little time and energy was spent on the management of that collection and even less time was spent on the evaluation of the materials that formed that collection once they were selected for inclusion.

Times have changed, and now emphasis is on maintaining the collection as well as building it. Since budgets have become so crucial, the selection of new material becomes much more difficult. Equally important is the idea that assessment of such items does not stop with their selection for the collection, but continues to be the focus of considerable effort even after the materials are in the library. Just as it has become increasingly urgent for us, as professionals, to evaluate all of the processes we go through in our daily work lives, evaluation of the...
collection also takes on enormous importance to all of us and to the profession as a whole.

Writers of the literature of collection development and management have clearly indicated these are a series of processes that the library and its professionals go through when materials enter and again when they leave the collection. The use of the term *collection management* as the overarching one, including all the processes involved, vies in the literature with the use of the term *collection development*. Which term should take precedence in the hierarchy and which should be subsumed under it, as far as can be determined by examination of published articles and other information sources, depends on one's frame of reference. In technical services parlance (i.e., the American Library Association's Resources and Technical Services Division committee in this area), the term *collection management* seems to be primary; while among reference and public services personnel, the term *collection development* seems to subsume all the individual selection, maintenance and management processes. However, it appears in the literature that both groups agree there is need for evaluation as part of the entire area. Although the importance of the process of evaluation is agreed upon by most of the field, what it entails, what is to be evaluated, when the evaluation is to take place, who is to do it, how it is to be done, and exactly what it means, are not so clear. Evaluation can apply to many things and as the papers in this issue will show, the ramifications of those questions are not limited by format, user, library, or method.

This issue originated during a debate on a summer vacation in the Berkshires, concerning the inherent importance of technical services (for the other side of the debate read "public services") in the process of collection development (management or what have you). We went on to discuss the methodologies and other contributions these two groups could bring to the field in general and collection evaluation specifically. After a few hours of boring those around us with our discussions, we decided to write companion pieces setting out the role of public services (read also "technical services") in collection evaluation. Soon we were discussing the publication of our articles. We wanted them to be together in a periodical which would also give room to the opinions of others in the field as well as discussing other topics in the area of collection evaluation. An issue of *Library Trends* devoted entirely to the subject seemed to provide the ideal vehicle; hence, the issue at hand. As is true of the companion pieces at the end of the issue setting out the differences in the roles of public services and technical services librarians to the process of collection evaluation, there are other bifurcations
within the field that will be immediately recognizable within the context of the papers in this issue and other ideas never before given formal presentation.

One of the first problems facing us was whether we should have articles about procedures of collection evaluation to illustrate the dichotomies of qualitative and quantitative methodologies. Instead of articles on one or the other or both of these methods of evaluating library collections, we decided to let the individual authors decide on their particular affinity to a type of methodology, hoping that in the end there would be a fair distribution of papers dealing with both. And so there are. We have papers concerned with both the theory as well as the practice, and the literature already written as well as research and experimentation. In other words, something for everyone and perhaps something new for each of us.

The first article sets the tone for the issue by focusing on theoretical concepts of collection evaluation. It is titled “Collection Evaluation—Theory and the Search for Structure” by William E. McGrath. McGrath sets the stage for a searing indictment of the lack of theory in our field, and the need to search, if not for immutable laws governing the area, at least some structure on which we can rely as we carry on research. Rose Mary Magrill provides an in-depth look at “Evaluation by Type of Library” with a full literature search on the articles and research that have been done. Within each category, i.e., academic, public, school, and special, there are analyses of appropriate ways to do collection evaluation.

Highlighting “new” formats that libraries have begun to collect, there are two articles, the first by Barbara Rice, who reviews the literature concerning online databases and where they truly belong in the library. Here is a debate over the use of databases in reference as another tool to answer queries, or in the collection as one more item in the subject for patron use. Her article, “Evaluation of Online Databases and Their Use in Collections,” is a thorough analysis of what has been done to date in this new field of study within the area of evaluation of materials. The second, by Jane Anne Hannigan, contains research into the evaluation and use of microcomputer software. A survey of practitioners to determine their approach to this medium and the depth of their involvement with it is reported in “The Evaluation of Microcomputer Software.”

Tony Stankus also undertook a research study—an analysis of a sampling of reviews of monographic and journal literature in one of our primary selection tools—to see if there was a difference in evalua-
FUTAS & INTNER

tors' criticisms of materials based on their format. In his article, "Looking for Tutors and Brokers: Comparing the Expectations of Book and Journal Evaluators," he reports the difference in treatment of these two formats by reviewers for Choice, and interprets the data to determine the reason.

Bill Katz, in "A Way of Looking At Things," sees the area of collection evaluation as an opportunity to give the most attention to the users of the collection. Lee Ash writes how he, as a reviewer of library material, executes the practical process of evaluation in his article "Old Dog; No Tricks: Perspectives in the Qualitative Analysis of Book Collections."

The issue closes with the companion pieces on the role of professional librarians in the collection evaluation process. Elizabeth Futas describes contributions from public service librarians in her article "The Role of Public Services in Collection Evaluation," and Sheila S. Intner does the same for technical service librarians in "Responsibilities of Technical Service Librarians to the Process of Collection Evaluation."
Collection Evaluation—
Theory and the Search for Structure

WILLIAM E. MC GRATH

DAVID H. STAM, borrowing from René Dubos, urges us to think globally and act locally in developing collections, observing, “all libraries are linked in a great chain of access.”¹ Philosophically, a good case can be made for this point of view, while considerable empirical evidence could be gathered to support it. Just how libraries and collections are linked, however, is an open question, particularly important for its implications about how they are accessed and used. The number of ways they could be linked is very large. We could use our imaginations and create all sorts of fanciful images—chain-linked fences, sociological organisms, ecological spaces, food webs, or even galaxies and clusters of galaxies. But library theory is in sad shape when it can only be described by image or metaphor—that a library is like something instead of being something. What a library really is can only be described in its own terms, its own structure. These images may have some redeeming value, though, because they hint of coherent structure. The emphasis is not so much on analogy as it is on synthesis. Atoms bind together to make a molecule, molecules a compound, compounds an organism, and so on. Everything is connected, from the minute to the massive. What binds everything together and what the whole thing looks like goes well beyond imagery. To see the whole and how the wholes are connected to make bigger wholes, and then to apply the insights discovered is the task of research, not rhetoric.

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In other words, we could gather some data, take a good look—which Stam urges us to do with comparative data from the Research Libraries Group—and see what sorts of links, if any, emerge. This approach—the empirical—has always been the best way to test our images. The analogies may be suspect, but the connections must be real. To gather and evaluate data, however, we must have some kind of framework for doing so—for containing the data and a means for evaluating it. From Stam's perspective that framework should be global and that is the perspective in this paper as well.

Thus, the purpose of this paper is twofold: first, to review the meaning and theory of collections and what is meant by structure; and second, to enumerate some of the ways that data on collections can be organized to reveal underlying global structure—the links and connections between collections, parts of collections, and the users of collections—i.e., a typology for evaluation. Evaluation consists of collecting data within some part of the typology, and then submitting the data to analytical procedures to determine the strength or weakness of the relationships.

Usually, analysis requires a prestated hypothesis about a possible relationship and a test of that hypothesis, the result of which may or may not support or explain the relationship. Ideally, hypotheses are stated in the context of some general theory. But our discipline is so devoid of theory capable of yielding viable hypotheses, that we must resort to hypothesis-generating techniques. Little more will be said in this paper about the distinction between hypothesis-testing and hypothesis-generating except to note that one is inferential and the other descriptive and exploratory, a distinction previously explored by this author. Relationships lending themselves to hypothesis-testing in collection development were explored in another earlier paper. The typology presented in the present paper is directed more toward structuring data for descriptive and hypothesis-generating studies.

The Meaning of the Collection

**The Philosophical Image**

We have a very difficult time overcoming the notion that a collection is its own reason for existence. Librarians hired to develop collections do just that—develop collections. They take their jobs very seriously and do a good job of it, whether intuitively, or logically, or systematically, or otherwise. The result is a collection which may or may not reflect the purpose of the institution, may or may not be based
Collection Evaluation

on well-written policy, may or may not be comprehensive, may or may
not meet minimum standards, and may or may not meet the needs of
users. It is still a collection and that is what the profession of librarian-
ship takes for granted as one of its basic and inviolate responsibilities.
The official Guidelines for Collection Development, and "Guide to
Collection Evaluation Through Use and User Studies," compiled by
the Resources and Technical Services Division (RTSD) of ALA, are
testimony to this basic position. On the other hand, much has been said
about another basic responsibility, improving service to users by analyz-
ing circulation and other kinds of use. True, the RTSD collection
development guidelines recognize the study of use—including circula-
tion and interlibrary loan—as valid approaches to evaluation but use is
seen as rationale instead of goal, evidence instead of mission. Develop-
ment of "The Collection," with a capital "C," rather than service to the
user, seems to be the primary mission. Without a collection a library is
as nothing; it does not exist. On the other hand, some thoughtful
authors believe that the emphasis has shifted to access and that, because
of technological advances, good and direct service will be possible and
librarians no longer will try to build and maintain large self-sufficient
collections. Whether a library or indeed librarianship can function
without large collections, however, is not at issue here. Instead, given
the basic reality of collections, how can we reconcile them with use and
how can we characterize them in a way that the insights obtained would
improve the availability, accessibility and, ultimately, user satisfaction?

Reflections—the World at Large

One old metaphor says that the collection mirrors or should mirror
the world at large. The metaphor implies that the world and the collec-
tion can be depicted in the same way. To "mirror" presumably means to
reflect an accurate image of something. "At large" presumably refers to
anything beyond the immediate or purely local community or institu-
tion. The notion is that somehow the components of the collection
should correspond to the components of the environment. The RTSD
Guidelines advise that these components should be expressed in terms
of institutional mission and goals, clientele to be served, and subject
boundaries.

Rather than as reflections, perhaps we should simply think of the
parts of the collection in a progressively broader, more comprehensive
hierarchy beginning with the narrow restriction of the immediate or
highly specialized, progressing to the global, and ending with the
broadest possible universe. A basic distinction needs to be resolved,
however: whether the collection represents the world of knowledge—
what is known—or the population of users or both. So the question is:
To what extent does the collection represent, in terms of subjects and
users, the immediate environment, the institution, the local group of
institutions, the larger population, or the entire universe of knowledge?
The usual way of putting this question is: Does the library have enough
books and materials in each subject area to satisfy the needs of users in
each of the areas or groups it serves? Again, that is not the question
being asked here, though it is a perfectly valid question. Instead, we are
more interested in determining how each of the components relate to
each other within each level of the hierarchy and how each level of the
hierarchy relates to every other.

The idea of hierarchy in librarianship is nothing novel. The quasi-
military structure of the staff organization, with its professional and
nonprofessional ranks (an intrinsic source of conflict, incidentally) is
one type. Classification schemes like the Dewey Decimal system are
others. The empirical components of the latter type, objects or ideas
arranged in graded series, can be very difficult to identify and enumerate.
In taxonomy, for example, to describe a new species of insect is one
thing; to place it in the right genus and family of the taxonomic
hierarchy is another. And in ecology, a fascinating and difficult prob-
lem is to identify the many unrelated species in different phyla of an
ecological food chain—frogs, birds, insects, etc.—and how they relate or
depend on each other.

A chain in which the larger species feeds upon the smaller is
unidimensional—the birds eat the snakes, the snakes eat the frogs, the
frogs eat the insects, and so on. But a chain in which they all feed upon
each other is a web—the wasp eats the spider, or the spider eats the wasp,
and the bird eats either—and is multidimensional.7

We might ask, What ecological chains and webs exist in our collec-
tions or networks? What independent and interdependent groups of
individuals are there? Are there groups of individuals who use each
other’s materials to the exclusion of others? What clusters of subjects are
used by what clusters of others? Are there clusters of library collections
used exclusively for interlibrary loan by individual members of the
clusters? Are there certain forms of materials that are used exclusively by
certain groups of users? Are there certain forms associated exclusively
with certain subjects? And what forms have characteristics in common?
Can these clusters and groups be placed in a library ecosystem? If so,
what is their importance? Are they unidimensional? Multidimensional?
How can we describe this great biblioecosystem?
Perhaps the most important question of all is, What good are these potential insights? We have several good schemes for classifying our collections and we can easily count the number of users and the number of books. There are many studies which have done just that. What else do we need to know? Obviously we do not know what it is we do not know, but we do know that despite our best efforts, we do many things incorrectly or poorly. Why, for example, are less than half of the materials in so many libraries never used? Why are government documents underused? Why despite multimillion dollar book budgets are so many users frustrated in finding materials? Why do so many faculty never borrow a book or journal? And why do engineering students boast of never having set foot in the library? And should we worry about that? Why, in other words, do so many of our precious collections sit on the shelves gathering dust, while so many users cannot find the materials they want? Critics claim that one method is no better than another, but whatever helps to answer questions of this sort should also help to improve both collections and satisfaction.

The Context of Collections

Parts and People

In the early history of libraries, the advantages of bringing large numbers of books to a central location was obvious. The scholar no longer needed to build a larger personal collection. Even so, good libraries were scarce and, of necessity, restricted access to membership, or to their immediate constituency such as students and faculty of a college or members of a local geographic community. Although networking, computers and telecommunications make exhaustive collections no longer necessary, the basic reasons for maintaining libraries have not changed. The advantages are still obvious, but the components of the collection and the constituency—the parts and people—have become much more complex.

There is no need here to enumerate those components. Suggestions for doing so are included in the RTSD Guidelines and other methodological documents. For evaluation and for the typology to be outlined, however, it is necessary to know at least the broad classes. Those classes include the following:

1. The users and user groups. For evaluation, data would be gathered on individual users (anonymously and confidentially, of course) or
individual groups. In a university, an individual might be a physicist, say, while a group might be the department of physics.

2. The subjects. Using any classification scheme, data would be gathered on any group of subjects, subtopics, or larger aggregates of topics within any particular level of a hierarchical scheme.

3. The forms. Since forms may be user-dependent or subject-dependent (e.g., certain groups may tend to use certain forms or subjects more than others) it would be necessary to enumerate the various forms—books, journals, maps, films, etc.

4. The aggregates. Users, subjects and forms may be aggregated in any meaningful way—for example, book > topic > subject > collection > network or scientist > discipline > department > college > university > network.

These broad classes are familiar enough and ordinary; enumeration alone offers no particular insight. But with powerful descriptive techniques developed in recent years it is possible to discover (some analysts say “recover”) some extraordinary insights from ordinary material.

The Paradigms

Standard textbooks on collection development include discussion of various approaches to collection evaluation. These discussions are satisfactory insofar as they attempt to describe or simply list existing practice—the paradigms. All of them are short on theory—necessarily so, since collection development itself is short on theory. A paradigm, as defined by Thomas Kuhn, is the extent to which the practitioners of a discipline agree on its laws, theory and method. Some fields, like physics are high-paradigm fields. Others, like librarianship are low- or preparadigm fields. We have few laws, precious little theory (but lots of philosophy), limited methodology, and therefore little agreement. The diversity of papers in this issue of *Library Trends* and the oft-made comment “that there are no sure methods” are good examples. If there is any agreement in library studies, it is on the methodology: anyone can readily produce a checklist of methods, although we falter on how to apply them, and descriptive methods are often confused with inferential. More importantly, when methods are discussed, we have no clear idea of the theory in which the method resides, nor any clear idea of how the components to be evaluated relate to one another. Good research and good evaluation always set out to define and test the relationships between one thing and another. Citation to authority, list-checking, classification counts and reference to standards rarely do that. They are
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qualitative methods, where personal judgment always seems to be the deciding factor.

Minimums and Ho-Hums

Of traditional methods, perhaps authoritative checklists have the most validity. They at least have been compiled by scholars familiar with a field. Minimum standards, however, have little credibility. There is no empirical evidence whatsoever that some magic minimum number of volumes will automatically bestow quality on a collection. It is ludicrous to maintain, for example, that two academic libraries, both with the same number of faculty and students, should necessarily have equal collection sizes. If one is in a humanities college and the other is in engineering, it is obvious that one requires more volumes than the other. Out of context, one minimum is "as good as another." No institution, to the author's knowledge, has ever been discredited for want of a good collection. Accrediting agencies are quite happy if the collection shows growth.

Theory and the Eleven Concerns of Science

Without scientific method, theory will not develop, and without theory, librarianship will not progress. No one pretends any more that librarianship is really a science, but there is no reason why librarianship should not be concerned with the concerns of science. Those concerns, as listed by Scriven, are observation, description, definition, classification, measurement, experimentation, generalization, explanation, prediction, evaluation, and control of the world (environment). Good science addresses all of these concerns, not in isolation, but as a process, each in the context of all the others. The eleventh concern, control of the environment is, by itself, not so much science but engineering and technology; and it is with this concern that librarianship has been most preoccupied. In the last decade, we have seen major technological applications to traditional library processes, but with little change in old concepts. Bibliographic control and physical description, despite all the argument, is a success, while subject classification and access is a near failure. In the eighties, the microcomputer is all the rage, but theory in librarianship is not a hot topic. Theory has neither relevance, nor importance, neither meaning nor interest to the vast majority of librarians trained to do reference, cataloging, acquisitions, online retrieval, circulation, bibliography, or interlibrary loan—the staples of librarianship. They know what they have to do and can do it without
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worrying about theory—like the young mechanic who can tear down and rebuild an automobile without reference to a manual and without understanding principle.

The number of good references to theory in the library literature are few, and those addressing collection development and evaluation might fill half a page. Buckland addresses theory of library services in many contexts, one of which is collection development and retrieval—about which he concludes pessimistically "that a combination of inability to predict the future, lack of management information, and present technology conspire to make collection development an imprecise art." He adopts a standard definition of theory from Webster's Third New International Dictionary of the English Language Unabridged, "3.a.(1) The body of generalizations and principles developed in association with practice in a field of activity (as medicine, music) and forming its content as an intellectual discipline," giving several examples appearing to fit this definition. One example, "Structure as Theory," is also consistent with one of the two main objectives of this paper: a typology for discovering structure in collections. According to Buckland:

In an important philosophical sense, the description of structure is [Buckland's italics] theory, in that structure is, by definition, the relationship between things... Material on structural relationships in library service constitutes an important part of "the body of generalizations and principles developed in association with practice."  

Hannaford discusses a basic requirement of good theory—i.e., the ability to explain—but concludes only that collection development can be scientific. Hernon writes on the need for theory in the development of government documents collections, particularly by studies involving the development and testing of models and descriptive research.

In a lucid essay on bibliometric theory, O'Connor and Voos expose the inability of inherently univariate and unidimensional methods such as Bradford's Law to contribute to theory of library use: If bibliometric distributions have identifiable causes, then multidimensional analyses may provide more fruitful avenues of research than plotting new hyperbolic distributions. This multidimensional issue has serious implications for the sustained relevance of bibliometric distributions as aids to library decision-making.

In this paper, the multidimensional approach is crucial in the search for structure.
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Theoretical Models

Characteristic of too many theoretical models is their lack of testability. Atkinson presents a model of the contexts in which an individual document is selected: (a) knowledge of the document, (b) fixing its relationship to other documents, and (c) knowledge of the collection, its clientele and what is being published. He concludes that, despite "mechanical" guidelines, selection can never be impartial or objective. Hazen advocates a structured subject approach to collection development in a complex, all-inclusive model containing all possible interlocking quantitative and qualitative variables, while criticizing studies limited to a small number of testable variables. He concedes that his model is "not now qualifiable."

Empirical Studies

Baughman writes that "effective collection building is assumed to rest on identifying a structure" consisting of the overlapping relationships between demand, the knowledge of disciplines and literature patterns. He provides empirical examples of literature patterns, overlapping subject areas and Bradford's Law distributions found in the social sciences.

Two of the most theoretically and empirically important effort recently to describe library use are those by Paul Metz and Stephen Bulick. Bulick has generated elaborate tables of subject areas used by students and faculty in different disciplines at Virginia Polytechnic Institute and State University. His data are invaluable for answering the basic question of who uses what and for looking at interdisciplinary relationships. His finding of a high degree of cross-disciplinary circulation (i.e., reading in a subject field by readers outside that field) agrees with this author's findings, though they differ in degree; and such findings make "it all the more important that library collections serve the needs of 'outside' readers." Metz also explores the relationships between cross-disciplinary circulation and the configuration of branch and department libraries on university campuses. Without question, Metz's study and his thoughtful discussion of the implications is a major contribution to the methodology of collection evaluation and use. Global analysis of the kind of data he has collected should contribute significantly to the theory and structure of collections.

Like Metz, Bulick is concerned with who uses what. Both describe use of subject by disciplines, but they differ in orientation. Whereas Metz is more concerned with specifics and practicalities, Bulick is more concerned with general understanding and theory. He places the use of
libraries and hence the development of collections directly in the sociology of knowledge, citing Kuhn's concept of paradigm development and the concepts of ethnocentricity and supportiveness explored by this author. It is important, Bulick notes, for librarians to understand subject relationships among disciplines. His Chapter VI, in particular, "Subject Use Among Disciplines," explores two questions: (a) which disciplines are net users of subject material from the others, and (b) whether evidence points to the existence of subject boundaries. His data, from the University of Pittsburgh, are arrayed in matrices which readily facilitate investigation of his concerns—basically, crosstabulation of circulation by aggregated LC classes and members of social science disciplines. Though he stops short of multidimensional analysis, his data clearly support the possibility of "a larger dimension to what happens in the library." He concludes that "the social sciences have much in common," and that "it is probably a bad idea to separate collections by social science discipline." Any structure discovered from Metz's data or from that using the typology to be suggested here or from any other must, of course, be theoretical, as Buckland says. But it would be structure discovered through observation and therefore empirical and thus capable of yielding testable hypotheses.

The Methodology of Structure

"Looking for patterns" is a phrase often used to describe virtually any research objective in librarianship. If holdings are ranked by LC class, the resulting table is described as a "pattern." If a relationship is found between two variables, it is described as a "pattern." In a stricter sense, a pattern should be something one can follow—like a path—or trace—like a template. Pattern should also imply something we can visualize or at least diagram, but nothing in the word implies much more than a linear or one-dimensional perspective, though surely multidimensional relationships exist in library practice.

"Structure" may be a better word for multidimensional perspective. If we were to visualize a structure in the familiar sense of the term, we would perhaps see a block, a cube, a house, or even a library—i.e., a three-dimensional edifice with length, width or height. And that is precisely what a structure is—an edifice, except that the dimensions need not be three. They can be one, two, three, or more. The vast majority of empirical studies in librarianship, and in collection development and evaluation in particular, have been one-dimensional or, if more than one, not recognized as such.
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An interlibrary loan study, for example, which concludes that Little Library A borrows from Bigger Library B which borrows from Still Bigger Library C which, in turn borrows from Biggest Library D, like our biological niche space above, would be unidimensional, as in figure 1a. But if the study shows that all borrow from each other, then the structure would be at least two-dimensional: A borrows from C which borrows from B which borrows from A and so on, as in figure 1b.

\[ A \rightarrow B \rightarrow C \rightarrow D \]  figure 1a.

Likewise, our principal classification systems, Dewey Decimal (DDC) and Library of Congress (LC), are unidimensional when used as location codes, since they do not permit a book to reside in more than one location. Books shelved together may also have similarities to books shelved elsewhere in another part of the library, but our unidimensional practice cannot handle this multidimensional reality. To take a familiar example, some books on statistics are classified in sociology, even though they have an obvious relationship to other statistics books classified in mathematics. Though we may not be able to shelve these books together, we should and can find some other way to recognize their multidimensional similarity.

Simple shelflist counts are another example of one-dimensional practice that tells us little about the collection. The list in table 1 shows that Class D has twice as many books as Class A, that E has more than B, and so on, and from it could be computed a total, an average and
perhaps a standard deviation, but little else of help in evaluating the collection would be derived.

**TABLE 1**
**Simple Shelflist Count**

<table>
<thead>
<tr>
<th>LC class</th>
<th>Shelf Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1,500</td>
</tr>
<tr>
<td>B</td>
<td>2,000</td>
</tr>
<tr>
<td>C</td>
<td>1,800</td>
</tr>
<tr>
<td>D</td>
<td>3,000</td>
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<tr>
<td>E</td>
<td>2,300</td>
</tr>
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<td>F</td>
<td>2,100</td>
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</tbody>
</table>

From this count alone, it cannot be determined, for example, what books in D and E, or D and F, have in common. Were this information included, classification, retrieval and evaluation could be improved. Users are familiar with the major limitations of library catalogs: lack of detail in subject headings and the inability to identify alternative access points. Solutions to these problems may lie in systems that supply more detail on co-occurring information in books, subjects and even whole collections. Examples are the number of subject headings held in common by pairs of books in a subject area, the number of copies or titles by the same author held in common by a pair of subjects, or the number of books held in common by a pair of libraries in a network. There may be many other points of similarity not discernible using conventional evaluation methods. "Something in common" is another way of saying "connected," and if something is connected it must have structure.

In short, a "structure" is something we can see. No matter how skillful a writer may be in verbally describing a new automobile, a sculpture, or movie, readers or listeners still want to know "what it looks like"—i.e., to "see it." No matter how well librarians describe their collections, the description would be more meaningful and accessible if it let readers "see" its structure. Traditional research may succeed in finding significant relationships between variables which describe parts of collections or the use of collections, and librarians may make evaluative judgments accordingly, but it is very difficult to see the collection as a whole.

Three methods for discovering structure are multidimensional scaling (MDS), cluster analysis, and tree fitting—familiar techniques in
psychology, marketing, communication, sociology, anthropology, and other social science fields. They are not yet familiar in librarianship, though MDS has been extensively used to describe relationships between scientists and between disciplines using cocitation data. Classic MDS was developed by Torgerson. An excellent and readable treatment of MDS appears in a little book by Kruskal and Wish. Basically, MDS plots the similarity (or association) between two things (like cities) in a set of things as distances on a map. The map can be drawn in one, two, three, or more dimensions—like the straight-line distance between several cities in a row, or a conventional two-dimensional map, or in three dimensions, in which the third dimension would be altitude. Four or more dimensions are not easily plotted, except in two-dimensional combinations. Whenever something in common can be counted (or measured) between all pairs of things in a group of things or all pairs of persons, say, in a group of persons—e.g., the number of times two authors are cited together, or the number of book titles two persons in a group both own—then a multidimensional map can be drawn. The result is a multidimensional picture—a structure—of the entire group.

Cluster analysis, often done with MDS, determines which objects in the group being studied (e.g., scientists, subject areas, journals, animals, books, collections) are most similar to each other and then plots them into homogeneous, or mutually exclusive groups. A good treatment of cluster analysis appears in Anderberg. If done in the context of MDS, and if clusters are truly present, they will show up on the multidimensional map. It is possible that the objects are all equally similar or dissimilar, and thus no clusters will appear. In any case, the clusters, as part of the entire group of objects, can readily be visualized. An interesting application of cluster analysis is the study of subject coverage of online databases by Yerkey. Yerkey's clusters are interpreted in terms of tree fitting.

Tree fitting arranges pairs of objects in an increasingly detailed hierarchical diagram like the branches of a tree. The diagram is sometimes called a dendrogram, and though it is not dimensional, it is readily visualized and easily grasped as in figure 2.

An example of collection-use analysis using MDS with cluster analysis and a tree diagram is given in McGrath. Shepard gives an excellent comparison of results using MDS, cluster analysis and tree fitting. How data are organized as input for these techniques is outlined in the next section.
A General Typology for Discovering Pattern and Structure in Collections

This section contains a typology of models which have the capability of discovering visible structure in whole collections. The terminology follows that of Shepard and Young and Lewyckyj. For the most part these models depart from classic, inferential, hypothesis-testing practice, in that they are initially descriptive and hypothesis-generating. Once the data are collected and processed, then never-before-seen "hidden structure" is presumably discovered. Hypotheses may then be generated to explain that structure, though it is not within the scope of this paper to discuss them. Several explanatory, or inferential and hypothesis-testing methods (e.g., t-test, analysis of variance, chi-square, correlation, and multiple regression) have been used in library research for a number of years, and at least one of them (chi-square) is now commonplace.

Two-Way Input from One-Way Practice

All of the models require input from two-way matrices with many rows and columns of data. Technically, a matrix can be a single row or column, but the power of multivariate methods stem from their ability to handle large matrices—up to one hundred or more rows and columns.
A matrix may have objects in both rows and columns, or objects in the columns and attributes in the rows. Both the rows and columns are submitted to analysis and thus are "two-way." In conventional data analysis, the data are usually one-way where the rows are the unit of analysis and only the columns (variables) are submitted to analysis. (An exception is two-way analysis of variance.) Procedures for submitting these models to analysis can be found in Young and Lewyckyj. There is no limit to the number of objects or attributes possible in any given matrix, though more than about one hundred would strain current computer programs and make interpretation overly difficult. On the other hand, fewer than ten would probably discover little if any structure.

Critical to interpretation of the matrices and their analysis is the definition of the input data. Four data types are listed by Shepard in his taxonomy. These are:

1. Proximity data. Some measure of similarity, substitutability, affinity, confusion, association, correlation, interaction, dissimilarity, distance, closeness, or co-occurrence. Proximity data can also be derived from dominance or profile data. Data can be either in a square matrix in which rows and columns correspond to the same objects or in a symmetric matrix in which rows and columns correspond to different objects.

2. Dominance data. A measure of the extent to which the row object is preferred to, is chosen over, defeats, or otherwise dominates the column object. Data are arranged in square matrices and rows and columns correspond to the same objects.

3. Profile data. The data format is rectangular. Rows correspond to objects and columns correspond to variables (or vice versa). Each entry gives the measured value of one object with respect to one of the variables. The row (or column) of m measured values for any object is considered to be a profile characterizing that object. Proximity and dominance data can also be treated as profile data.

4. Conjoint measurement data. Rectangular matrix, rows correspond to n levels of one variable and columns correspond to m levels of another variable. (This type of data is not considered further in this paper and no examples are given. The reader may wish to explore it independently.)

Examples and considerable elaboration of these four data types are given by Shepard.
Two-Way Input for Multidimensional Output; Eight Models for Data Collection

Each of the following descriptive models are defined in terms of the first three of Shepard's four data types.

1. Subject Structure Model

General Model. This model seeks to determine how subject areas are related to each other. Objects are individual subject areas, which may be defined as subject headings, disciplines, individual classification numbers, or groups of classification numbers. There are no attributes in this model.

Matrix. Square, symmetric or asymmetric. Rows and columns represent the same objects—i.e., subject/subject. (For examples see the appendix under the definitions for symmetric and asymmetric.)

Data. Proximity data. Examples: the number of times something co-occurs between any pair of subjects; the number of subject headings shared by two disciplines, or the number of books which could be classified in any pair of disciplines—e.g., biological statistics, or the history of medicine.

Method. Classic Euclidean MDS and cluster analysis.

Output. Multidimensional maps showing spatial distances between every pair of subjects. Subject clusters may also show on the map; or a tree diagram showing most similar pairs and clusters. The model and the data are defined by Torgerson.

2. User Structure Model

General model. This model seeks to determine the relationships between individual users or groups of users, in terms of their common interests. Objects may be occupations, academic departments, majors, or disciplines. There are no attributes in this model.

Matrix. Square, symmetric or asymmetric. Rows and columns represent the same objects (see table 2 for example).

Data. Proximity data. Example: the number of books with common classification numbers charged out or otherwise used by any pair of user groups. In the example, biologists charged out 39 books having the same class numbers as books charged out by chemists.

Method. Classic Euclidean MDS and cluster analysis.

Output. Maps showing spatial distance between every pair of user groups, clusters of user groups, or a tree diagram. Output may be interpreted as subject use of the collection and evaluated accordingly.

Reference. The model and the data are defined by Torgerson.
Collection Evaluation

TABLE 2
SHARED USE BY USER GROUPS OR USER “OVERLAP”

<table>
<thead>
<tr>
<th>Biologists</th>
<th>Chemists</th>
<th>Geologists</th>
<th>Physicists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biologists</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemists</td>
<td>39</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geologists</td>
<td>15</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>Physicists</td>
<td>9</td>
<td>59</td>
<td>31</td>
</tr>
</tbody>
</table>

3. Subject/user model

*General model.* This model seeks to determine the relationship between subject areas and the users. Individual users or user groups are the objects, and subject areas are the attributes—or vice versa, depending on one’s perspective or research objective. Technically, called “multidimensional unfolding.”

*Matrix.* Nonsymmetric; rectangular, can be square, a special case. Rows and columns represent different things (see table 3 for example).

TABLE 3
USE OF SUBJECT AREAS BY USER GROUPS

<table>
<thead>
<tr>
<th>Biologists</th>
<th>Chemists</th>
<th>Geologists</th>
<th>Physicists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology</td>
<td>113</td>
<td>35</td>
<td>8</td>
</tr>
<tr>
<td>Chemistry</td>
<td>47</td>
<td>153</td>
<td>26</td>
</tr>
<tr>
<td>Geology</td>
<td>9</td>
<td>13</td>
<td>109</td>
</tr>
<tr>
<td>Physics</td>
<td>8</td>
<td>14</td>
<td>19</td>
</tr>
</tbody>
</table>

*Data.* Proximity data. Example: number of books, articles, or other materials charged out or otherwise used on a subject by practitioners of the subject. Typical of data in this model is the larger diagonal; users tend to use more of the materials in their own discipline.

*Method.* Finding structure in rectangular matrices, with multidimensional unfolding, is uncertain. Better results are achieved by rendering the matrix symmetric or, if square, treating it as asymmetric, and then using classic MDS as in 1 and 2 above. Symmetrization methods cannot be discussed here, except to say that correlation of rows or columns works well if data are not sparse.
Output. Four types of maps can be generated with this input model, depending on how the matrix is symmetrized: maps showing distances between (1) user-groups in subject space, (2) between subjects in user-groups space, or (3) a user/subject map, in which the discipline of the user and the subject are treated as the same object, or (4) between subject areas and user-groups, in which case, the input matrix must be doubled by having both rows and columns consist of both user-groups and subject areas.

References. The data are defined by Coombs and an example of output is given by McGrath.

4. User/formats model
General model. This model seeks to determine the relationship between users and specific formats of library materials. Intent is to depict the collection in terms of use by format—i.e., how users are grouped or concentrated in terms of the type of materials they use. Individual user groups are the objects and the formats of materials are the attributes. Multidimensional unfolding model.

Matrix. One or the other of the objects (the user groups) or the attributes (the formats—e.g., books, journals, maps, fiche, film, newspapers, manuscripts, slides) are likely to be more numerous, so that the matrix would be rectangular and nonsymmetric.

Data. Profile data. Example: the number of units of a particular format used by a particular user group.

Method. If classic MDS is used, the matrix must be symmetrized. This model may prove to be awkward to interpret, however. If the number of objects or attributes are not large, more traditional hypothesis-testing methods, such as analysis of variance and discriminant analysis may be more appropriate. These methods would determine whether one format was used more than another, and which formats more appropriately belong to one user group or another. However, if the number of objects or attributes are large, MDS and cluster analysis are better.

Output. Maps showing distances between users in format space.
Reference. The matrix and data are defined by Shepard.

5. Subject/format model
General model. This model seeks to determine the relationship between subject areas and specific format of materials. Intent is to depict the collection in terms of subjects by format—i.e., how subjects are grouped or in terms of the type of materials. Individual subjects are the objects and the formats of materials are the attributes. Multidimensional unfolding.
Collection Evaluation

Matrix. Like the user/formats model, and for the same reason, this matrix would be rectangular and nonsymmetric.

Data. Profile data. Example: the number of units of a subject in each format.

Method. As in model 4 above.

Output. Maps showing distances between subjects in format space.

Reference. The matrix and data are defined by Shepard.46

The following models seek structure in networks, comparing entire collections to each other for the purpose of cooperative collection use and development, shared cataloging and interlibrary loan. Users at the network level would be the libraries themselves.

6. Network Model I: Shared Titles

General model. This model addresses what is traditionally called "title overlap." It seeks to determine the relationship between individual libraries in terms of their shared holdings without regard to what those holdings are. Individual libraries—i.e., their collections—are the objects.

Matrix. Square, symmetric. Rows and columns represent the same individual library collections (see table 4 for example).

<table>
<thead>
<tr>
<th>TABLE 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SHARED HOLDINGS OR &quot;TITLE OVERLAP&quot;</strong></td>
</tr>
<tr>
<td>Library</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>A</td>
</tr>
<tr>
<td>B</td>
</tr>
<tr>
<td>C</td>
</tr>
<tr>
<td>D</td>
</tr>
</tbody>
</table>

Data. Proximity data. Example: number of titles held in common by each pair of libraries.

Method. Classic MDS and cluster analysis.

Output. A map in two or more dimensions showing the distances between library collections. Tree diagram showing hierarchical clusters of libraries.

Winter 1985
References. Examples of output for this model are given by McGrath. The literature of overlap has been reviewed by Potter. The matrix and data are defined by Shepard.

7. Network Model II: Shared Subjects or Subject Overlap

General model. This model seeks to determine the relationship between libraries in terms of their shared subject areas, but without regard to whether they share individual titles. The libraries are the objects, and individual subjects or LC or Dewey classes are the attributes.

Matrix. Rectangular, asymmetric. Rows and columns are different (see for example table 5).

<table>
<thead>
<tr>
<th>Classes</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC</td>
<td>9</td>
<td>5</td>
<td>9</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>AE</td>
<td>4</td>
<td>3</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>AG</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>BF</td>
<td>3</td>
<td>7</td>
<td>8</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>BJ</td>
<td>9</td>
<td>7</td>
<td>6</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

Data. Profile data. Example: Number of volumes held by each library in each class of the LC or Dewey schedules.

Method. Matrix must be symmetrized on the columns—i.e., the libraries. Then classic MDS can be used.

Output. Multidimensional maps of distances between libraries in subject space.

References. The matrix and data are defined by Young and Lewyckyj and Shepard.

8. Network Model III: Cooperative Use of Collections

General model. This model evaluates the extent to which libraries in a network use each other's holdings. A library is both object and attribute—more specifically, user and usee.

Matrix. Square, asymmetric, unfolding. Rows and columns are the same, but data are transitive, or directional. The columns represent
Collection Evaluation

those libraries using each of the other libraries. Each row represents a library that is used by all other libraries (see table 6 for example).

TABLE 6
INTERLIBRARY LOANS: AMOUNTS BORROWED AND LENT BY LIBRARIES

<table>
<thead>
<tr>
<th>Borrowing Libraries</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>623</td>
<td>0</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Lending Libraries:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>11</td>
<td>911</td>
<td>13</td>
<td>4</td>
</tr>
<tr>
<td>C</td>
<td>2</td>
<td>5</td>
<td>1218</td>
<td>3</td>
</tr>
<tr>
<td>D</td>
<td>30</td>
<td>19</td>
<td>12</td>
<td>801</td>
</tr>
</tbody>
</table>

Data. Profile data. Examples: each cell of the matrix represents the number of (1) items borrowed from one library by another or, (2) catalog records used by another. In the example above, Library D borrowed 0, 4, 3, items respectively, from A, B and C, but loaned 30, 19, 12 to A, B and C. The numbers in the diagonal would be very large, representing a library’s own use of itself.

Method. Multidimensional unfolding. Results more interpretable if the matrix is symmetrized so that classic MDS may be used.

Output. For the unfolding model, probably a one-dimensional map—i.e., on a line, with the libraries arranged with high users on one end and low users on the other. For classic MDS, at least a two-dimensional map, showing clusters if any.

Reference. The matrix and data are defined by Shepard.52

The above typology is neither formal nor complete. Many other models, objects, attributes, and data sources are possible. The basic intent has been to illustrate the principle of organizing data in rows and columns in such a way that their respective objects or attributes would have meaningful relationships to each other—particularly when the number of rows and columns is large, as it is likely to be in evaluation of the collections. The power of traditional hypothesis-testing models is limited to a relatively small number of variables, whereas the methods discussed in the typology—MDS and cluster analysis—can reduce large matrices to something we can more readily comprehend and visualize.
Discovered Structure

Analysis of data in any of the above models could have any of the following outcomes:

1. A newly discovered structure, with a significant relationship to known functions and thus with profound contribution to new theory.
2. A newly discovered structure with no significant relationship to known functions but, because of the insights obtained, having potential contribution to theory.
3. Confirmation of known structure with a significant relationship to known functions and thus confirmation of existing theory.
4. Confirmation of known structure with no significant relationship to known functions. This is an unlikely outcome; it is difficult to imagine an existing, isolated and meaningless structure with no basis in reality.
5. No discernible structure—i.e., a purely random pattern of similarities with no significant relationship to existing function.

There is no guarantee that the search for structure would be successful, nor that it would lead to any particular discovery. Insights may still be gained, nevertheless, from evaluation of the methodology itself. Then one must determine whether the methodology is deficient, whether some other approach should be used, or whether the search for structure is a meaningful pursuit in the first place.

Evaluation and the Twelfth Concern

In Scriven's scheme, science is not complete unless all eleven concerns are addressed as a process—all the way from observation and description to experimentation, explanation, prediction, evaluation, and control. Much of library research seems contented with itself when only one of the eleven concerns is addressed. Indeed, this paper addresses but one of those concerns, description (or "morphology" as it is called in some sciences)—for that is what the reduction of large matrices sets out to accomplish, albeit in a systematic way. But addressing a single concern is perfectly all right if understood in the context of all the other concerns and that it must ultimately lead to or facilitate the next stage in the process. The other papers in this issue of Library Trends also address but one of Scriven's concerns: evaluation. If all of these papers are taken in the larger context, they could well have substantial meaning for theory. Certainly there can be no argument that the eleventh concern,
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collection of collections, is the rationale for evaluation. The rationale for control, in turn, is the highest possible service to the user. For library and information science and for collection development theory that is the twelfth and ultimate concern.

Appendix

Definition of Terms
(The following terms apply to the eight models described in the text)

Asymmetric. Describes a matrix in which the rows and columns represent the same things, and the values in the upper and lower halves are two measures of the same thing, as in Table A, where both 16 and 25 measure the association between BF and HA.

<table>
<thead>
<tr>
<th>LC Classes</th>
<th>BF</th>
<th>HA</th>
<th>QA</th>
<th>TK</th>
</tr>
</thead>
<tbody>
<tr>
<td>BF</td>
<td>--</td>
<td>25</td>
<td>13</td>
<td>5</td>
</tr>
<tr>
<td>HA</td>
<td>16</td>
<td>--</td>
<td>37</td>
<td>8</td>
</tr>
<tr>
<td>QA</td>
<td>22</td>
<td>32</td>
<td>--</td>
<td>19</td>
</tr>
<tr>
<td>TK</td>
<td>17</td>
<td>16</td>
<td>15</td>
<td>--</td>
</tr>
</tbody>
</table>

Attributes. Characteristics of the objects; analogous to variables. Usually, but not necessarily, rows represent the attributes.

Conceptual space. Space in which distances between objects are plotted. On a real map distances are plotted in geographic space. In this typology, distances are drawn in user space or subject space. Technically, space is Euclidean.

Dissimilarity. An expression of relatedness in which large numbers mean little relatedness and small numbers mean lots of relatedness—like the amount of overlap between two libraries (the number of books held in common).

Euclidean space. The straight-line distance between two points, specifically, the length of the hypotenuse in a right triangle (Pythagorean theorem).

Matrix. A set of data arranged in rows and columns. An individual cell in the matrix represents something characteristic of, or held in common between, or co-occurring between its respective row and column.
**Mode.** Refers to the number of sets of objects or attributes. Usually, the mode is either one or two only. Not analogous to the mode of frequency distributions.

**Objects.** The units being compared: e.g., persons, subject areas, disciplines, parts of the classification system, forms of materials, collections. Usually, but not necessarily, columns represent objects.

**One-way data.** A matrix in which only the rows or columns, not both, have identity.

**Rectangular.** A matrix in which the number of rows and columns are different.

**Similarity.** A number or value on a scale expressing relatedness between two objects, two attributes or between an attribute and an object. A large number means lots of relatedness, a small number little relatedness.

**Square.** A matrix in which the number of rows and columns are the same.

**Symmetric.** Describes a matrix in which rows and columns represent the same things, and the values in the upper half are the same as in the lower half, as in the following matrix:

```
<table>
<thead>
<tr>
<th>LC classes</th>
<th>BF</th>
<th>HA</th>
<th>QA</th>
<th>TK</th>
</tr>
</thead>
<tbody>
<tr>
<td>BF</td>
<td>--</td>
<td>25</td>
<td>13</td>
<td>5</td>
</tr>
<tr>
<td>HA</td>
<td>25</td>
<td>--</td>
<td>37</td>
<td>8</td>
</tr>
<tr>
<td>QA</td>
<td>13</td>
<td>37</td>
<td>--</td>
<td>19</td>
</tr>
<tr>
<td>TK</td>
<td>5</td>
<td>8</td>
<td>19</td>
<td>--</td>
</tr>
</tbody>
</table>
```

**LC Classes**

The upper half is usually not given, but is shown here for illustration. The diagonal is often omitted since values represent perfect correspondence of an object with itself and are therefore meaningless.

**Three-way data.** A set of two-way matrices.

**Two-way data.** A matrix in which both the rows and columns have identity.

**Unfolding.** Refers to a rectangular or square matrix in which the rows and columns correspond to different objects but can sometimes be treated as if they were the same objects.
References


16. Ibid., p. 12.


24. Ibid., pp. 95-99.

25. McGrath, "Ethnocentricity and Cross-Disciplinary Circulation."

38. Ibid.
40. Ibid.
41. Torgerson, Theory and Methods of Scaling.
42. Ibid.
46. Ibid.
52. Ibid.
53. McGrath, "Morphology and the Structure of Libraries."
Evaluation by Type of Library

ROSE MARY MAGRILL

The purpose of this paper is to provide an overview of the ways in which collection evaluation may differ from one type of library to another. Although there is often a dissimilarity in the approach to evaluation in libraries of different types, the approach may also vary among libraries of the same type. Some of these variations are due to the diversity of possible motivations for undertaking collection evaluation and to the different benefits expected from such a process.

Whatever the type of library, collection evaluation is usually undertaken because of a specific need for information. The impetus for formal, systematic collection evaluation may arise from a variety of circumstances, some related to long-range planning and policy development and others of a practical, short-term nature. Collection evaluation may be a necessary prerequisite to the development or revision of a written collection development policy or of a materials budget allocation formula. Information generated by collection evaluation may be used to demonstrate how the library contributes to the corporation, institution, agency, or community of which it is a part; to document for the library's funding authority what has been accomplished with the money provided for collection development; and to justify future budget requests. In certain cases, the results of a collection evaluation project may furnish valuable evidence that the library administration is sensitive to the library's assigned purposes, to the special interests of its potential users, and to the limitations of its resources. On a more practical level, library

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directors often find that they need quantitative—and in some cases even qualitative—data about the collection in order to respond to surveys and requests for statistics, as well as to provide necessary information for directory entries.

Even though a specific, short-term need may force the inauguration of a collection evaluation project, benefits often extend beyond that initial need. Everyone who participates in such an evaluation project becomes more aware of the strengths and weaknesses of the collection; and this fact alone may lead to the development and revision of collection development policies, to better-documented budget requests, and to the collection of additional data useful for the future management of the library.

Collection Evaluation Questions

Dissimilar motives for collection evaluation produce different questions or sets of questions to be answered in the course of the project, although some questions are more likely to be asked in certain types of libraries than in others. Questions about a collection can be strictly quantitative and the answers to them may provide a profile, expressed in numbers, of the collection, of acquisitions over the past year, or of acquisitions over a longer period of time. Quantitative questions may be concerned with the library's present holdings and focus on the formats of materials collected, the subjects collected, the various categories of users to be served, or the specific purposes for which the collection is being built.

Questions such as the following might trigger a collection evaluation: What percentage of the collection is held in a particular format? How is the collection divided among the subjects (expressed in either broad or narrow terms) for which the library is responsible? How do selected subsets of the collection compare with the total number of works published or distributed in that subject or format? How old is the collection? Are some parts of the collection older than others? How many items in the collection can be identified as appropriate for any particular group of users? How well does the collection match (in terms of percentages of the whole) the teaching or research program(s) to be supported by the library?

While some quantitative questions focus on numbers of items held in certain categories, others emphasize the allocation of funds. How much money was spent during the current year on various forms of materials or on particular subjects? How many items were actually
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purchased in various categories during the past year? What was the average cost per item? How much was spent per user group? How much was spent per teaching area or research program?

In the case of all quantitative questions, figures for the current or most recently-completed year may be compared with previous years. How many monographs in the social sciences or in the humanities were acquired in each of the last five years? How does the number of current journal subscriptions in the sciences, in medicine or in technology compare with the number five years ago? What trends in collecting activity and expenditures can be observed over the past few years? What would be the effect on the collection if these trends continue into the future?

Qualitative, or subjective, questions may also be asked about the collection. Sometimes the expert opinions of outsiders are obtained in person, but often they are gained from selected bibliographies and other published lists. The question, How well does the collection measure up to what experts think is best? may be operationalized as, What percentage of the items listed in a standard bibliography are owned by the library? Qualitative questions may be very broad: How good is the collection overall? Historically, what are the strengths and weaknesses of the collection? Qualitative questions may also be asked in specific terms. For example, the collection may be divided by format, by subject, by materials selected for a particular purpose (e.g., research project or outreach program), or for a particular group of users. Each of these subsets may then be evaluated for strengths and weaknesses. Questions about quality may also focus on the strengths represented by particular sets or individual items that are included in the collection or on weaknesses represented by missing titles. Which sets of importance in a given field have been acquired? Which significant titles are missing?

Other questions about quality concern those closer to the collection. The primary users of a collection may be asked, in a formal way, to give their own expert opinions about the condition of the collection, although potential users express opinions every day about the collection by their use or nonuse of it. How much is the collection used by those for whom it was gathered? Which part is most heavily used? How much is the collection used in terms of what it costs?

Evaluation may also focus on the extent to which the collection is actually available to specified groups of users. In some large libraries with extensive holdings, the questions about the collection are not concerned so much with what the library owns but with the accessibility of those materials to the users. What percentage of the library materials
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wanted by users is actually found and checked out? Does the percentage vary from one part of the collection to another?

In addition to questions about quality as perceived by outside experts or by primary users, there are evaluation questions that call for comparisons. Often these are questions with both quantitative and qualitative answers. For certain types of libraries the question of how well the collection meets state or national standards is an important one. Many librarians want to know how their collections compare with those of other libraries. In general, how well does the collection being evaluated compare with collections in peer institutions or communities? More specifically, how does the journal subscription list in a given subject area compare with that of similar-sized libraries, or larger libraries, or libraries supporting comparable academic programs? The emergence of cooperative programs has made comparative collection evaluation questions more important. Which library in the consortium has the strongest collection in a particular format or in a particular subject?

Additional Factors Influencing Collection Evaluation

Beyond the underlying motivation for collection evaluation and the specific question(s) that may trigger such a project, there are other factors that influence collection evaluation. Since these factors may also be distinguishing features between types of libraries, they are related to the differences in evaluation techniques and points of view from one type of library to another.

One of the most obvious differences among types of libraries is the purpose for which the various collections are established and toward which collecting activity is presumably aimed. The traditional division of libraries in the United States has been by public, school, academic, and special. There are major differences among libraries on the basis of their purposes, sizes, and the settings in which they operate. Some libraries—elementary school, high school, community college, liberal arts college—operate in settings that are primarily educational; that is, the library exists principally to support instruction. Other libraries—in corporations, research institutes, certain government agencies—exist primarily to support research and development programs. University libraries, law school libraries, medical school libraries, and other special libraries in academic settings have dual responsibilities—i.e., to support both instruction and research. Public libraries and other libraries not attached directly to another organization may have such a
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multiplicity of purposes that it is difficult to determine what the focus of
the collection—and therefore of a collection evaluation project—should
be. The specific question to be emphasized in collection evaluation and
the technique(s) to be used to answer it will be different in the library set
up to stimulate creative use of leisure time from the situation in an
information center organized to support a specific research program.

Variations in the planning and execution of collection evaluation
projects are often related to the organization and governance of the
library (or system) planning the project. When a library is part of a
school, college, university, corporation, government agency, etc., the
motivation for collection evaluation and even the questions to be asked
may come from outside the library. On the other hand, if the library has
an independent status, there will be more freedom to choose the guiding
questions and to design the project. Again, if a library or information
center is part of a system of libraries or an information network, the
direction taken in collection evaluation will be much influenced by the
considerations important to that type of organization.

The clientele of a library—their strength in terms of numbers,
intensity of use of the collection, activity in making suggestions for
additions—may affect the timing and organization of a collection eval-
uation project. The sophistication and interest of users may be a deter-
mindng factor in how much weight circulation statistics and user
opinions are given in collection evaluation.

The size of a collection, as much as the type of library, has an effect
on collection evaluation procedures. The smaller the collection, the
more thoroughly it can be scrutinized. The larger the collection, the
more likely it is that easily-collected quantitative measures will be
allowed to substitute for a time-consuming assessment by outside
experts. Also, the larger the collection, the more likely that it will be
broken into subsets for evaluation and that the timing, techniques,
questions asked, etc. will vary from one part of the collection to another.

Resources available for a collection evaluation project may influ-
ence the direction of the project as much as, or more than, the type of
library. The size of the library staff and the total number of people
available to work on the project will determine how many questions
may be studied and what part(s) of the collection may be included in the
project. The money available for the project and the presence or absence
of a firm deadline will, in a similar way, set limits on the project and
restrictions on the techniques that may be used.

The urgency of the need for information generated by the collection
evaluation project (which may be related to whether the motivation for
collection evaluation comes from inside or outside the library), as well as the intended applications, determine the extent, direction and intensity of collection evaluation. If one particular item of statistical information is needed to answer a questionnaire or to prepare a budget request, the evaluation of the collection may be limited and sharply-focused. On the other hand, if a general interest in assessing the collection stimulated the project and there is no firm deadline for gathering data, a project may spread in many directions, take up many questions, and extend into the indefinite future.

Public Libraries

Collection evaluation questions in public libraries range from the simple questions that can be answered by gathering statistics on holdings, circulation and expenditures to questions of access or availability. The most important questions seem to be these: How is the collection distributed by subject and by format? How old is the collection? How many items in the collection can be identified as appropriate for any particular group of users? How much money was spent during the current year on various forms of materials or on particular subjects? How many items were purchased in various categories during the past year? How much was spent per user group? How much is the collection used? How much is the collection used in terms of what it costs? What percentage of the library materials wanted by users are actually found and checked out?

A project to improve the book collection at the Windsor (Connecticut) Public Library is a good illustration of the ways in which quantitative data may be used to evaluate a collection. For many public librarians, the first step in evaluating the collection is to develop a profile of it in order to understand what is already in the collection and what is currently being added. The Windsor Public Library project began with analysis of a shelflist sample to determine subject distribution of the collection, average age of materials in various categories, rate of circulation in relation to subject and age of individual items, and the percentage of the collection that was missing. The same study also gathered information on circulation for six, one-week periods, use of the nonfiction reserve list, interlibrary loan requests for one year, and reference questions for one year not satisfactorily answered by the reference staff. With these data in hand, efforts were made to determine relationships between acquisition patterns and circulation and to establish congruence between circulation and budget allocation. (Other
results of this collection evaluation were the identification of one purpose of the library—recreation—as very important to its patrons and the attempt to make budget allocations consistent with that priority.)

Questions about who uses the library collection occupy much of the attention of public librarians. Zweizig and Dervin pointed out in a review of the literature on public library use and users that, as financial pressures on municipalities have led to reassessment of the services (unique or otherwise) of all public service agencies, librarians have been encouraged to gather information on the use of all aspects of the public library's services, especially the use of the collection.\(^2\)

Use of the collection may be studied by analysis of circulation records or through questionnaire or interview surveys of a sample of those who live in the library's taxing district or who come to the library. Circulation statistics may be analyzed for selected groups of users, subjects or formats. Automated circulation systems make the analysis of such statistics much easier, but even circulation data gathered through a manual system can provide some useful information on how well the collection development program is operating. Of course circulation data alone cannot provide information on the needs of nonusers, or even the unmet needs of active users. Surveying users means focusing on individuals, rather than on records, and asking patrons whether, how much, in what way, or why they use the library. Questionnaire and interview surveys are more difficult than many librarians realize and the responses to poorly-planned surveys are relatively worthless.

The need for better guidance on how to obtain patron feedback about collection quality was partially answered by publication of the Public Library Association's *A Planning Process for Public Libraries*. Intended to be the kind of document "needed to guide public library service in the 1980's," *A Planning Process* presents techniques for monitoring and adjusting objectives as community conditions and needs change.\(^3\) Since one of the major features of the library that must be monitored and adjusted is the collection, statistics and performance measures relevant to collection evaluation are presented and explained.

According to *A Planning Process*, measuring availability of materials through the library's collection is one of the best ways to evaluate the appropriateness of the collection:

Because each public library is different, we have chosen not to select collection measures which depend on some standard list, or even on the library's shelflist, since even that may not reflect needs of the patrons. Instead, we feel that collection measures should depend on the real demands made on the collection by its users.\(^3\)
To this end, availability analysis, based on specific user requests, is proposed. This kind of analysis applies only to those people who come to the library for specific material needs. All users, or a sample of them, may be studied for a specified period of time. Those who come to the library to obtain known items are asked to provide, through short questionnaires or interviews, information about their success or failure in locating the items they want. Searches that end in failure are analyzed in order to determine the causes of that failure.

In addition to the availability analysis techniques proposed in *A Planning Process*, there are other explanations in the literature of the way in which to conduct material availability studies. Wiemers described an approach to measuring availability of materials in a small- or medium-sized library and illustrated the use of his techniques with a report on a study conducted at the Champaign (Illinois) Public Library and Information Center.5

Another indicator of success in providing materials that may be monitored is the amount of time it takes public library patrons to obtain the materials they want. Data-gathering in the course of keeping reserve lists and processing interlibrary loan requests can provide the necessary ingredients for an analysis of time delays. Analysis of this type of data can have implications for collection development and also for circulation and reserve policies.

Although much emphasis is given to use and availability of materials, some public librarians are still interested in the question of how good (by an external standard) are the materials that have been added to the collection. Goldhor has proposed and applied in several situations an "inductive method" of evaluating a book collection.6 This method consists of drawing a sample of titles from a library's holdings and searching these titles in each of several retrospective bibliographies, current reviewing journals, or other lists of recommended works. This approach to collection evaluation is based on the assumption that listing in a reviewing source or retrospective bibliography is an indication of quality:

Those titles found in all or most such bibliographies are likely to be valuable and desirable books; those found in only one or two such tools are probably of lesser quality; and those found in none of the lists are of questionable value or are local publications.7

**School Library Media Centers**

The need for evaluation of school library media center collections is recognized officially in the latest set of standards, *Media Programs:
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*District and School,* where, in the section on collections, the statement appears: "Collections are reevaluated continuously to insure that they remain current and responsive to user needs." Other authorities also remind school library media specialists of the importance of collection evaluation. Mancall, in a review of pertinent studies on the evaluation of media centers, pointed out that media specialists must search for ways to "demonstrate the value of media collections to users." She continued:

Evaluation permits us to describe what exists in relation to what is needed, and thus sheds light on the effectiveness of current collection management policies. We can test whether collection policy is in line with curricular programs, and target limited monetary resources to areas that need attention.

Van Orden, too, noted the media specialist's need for information about the collection, in order to make intelligent decisions.

In school library media centers (and in other libraries serving institutions where maintaining accreditation is a concern), questions about the collection are frequently asked in terms of state and national standards. Collections can be examined against the quantitative recommendations in *Media Programs: District and School,* as well as against any relevant state standards. Questions are also asked about the size of the collection in comparison to libraries in similar types of schools and the strengths or weaknesses of the collection in comparison to lists of recommended titles. All of the questions about size, growth, and expenditures that are asked in the public library may also be asked in the school library media center; but, in addition, there will also be questions about the relationship of the collection and the school's curriculum. Van Orden included among a list of questions that might be answered by collection evaluation: "Is the collection responsive to changes in the school's program? Does the collection support curricular and instructional needs?"

Examples of techniques used in collection evaluation in school library media centers may be found in Daniel's review of performance measures for school libraries and in Mancall's review of the literature on collection evaluation in school library media centers. In addition, Mancall and Drott have published a detailed description of the results of a study using their methodology for collecting information about the materials students actually use in school-related assignments and about the general information-seeking habits of students.
Collection description, collection analysis and collection assessment are all terms used to cover collection evaluation activities in large university libraries. Collection description is the gathering of statistics to develop a quantitative profile of the collection. Collection assessment typically refers to a judgment of quality, particularly in terms of announced goals or objectives for the collection. Collection analysis can involve a broad range of activities, including determining institutional goals and objectives, reviewing the history of the collection, formulating policy statements, judging quality, and adjusting allocation procedures.

Mosher has outlined the history of formal collection evaluation efforts in university libraries, beginning with a series of surveys in the 1930s and continuing into the 1950s. These surveys were usually descriptive rather than analytical and ordinarily involved the use of faculty members as subject experts or evaluators. Some of the most systematic of these surveys utilized the extensive checking of standard subject bibliographies and other recommended lists. Increased attention to collection evaluation in university libraries since 1960 has, according to Mosher, been largely due to the increasing influence of librarians on all aspects of collection development:

The move of primary collection development responsibility from the faculty to the library, the increase of attention devoted to collection development which resulted, and the common attempt to systematize, rationalize, and improve the planning and procedures of library collection development during the ensuing decade and a half...has been one of the most significant and original contributions to the growth of professional librarianship in the United States during the last generation.

In recent years, the Association of Research Libraries (ARL) has taken the lead in helping large university libraries develop techniques for analyzing and evaluating their collection development programs. ARL's Collection Analysis Project (CAP) was initiated in response to the economic and institutional pressures forcing change on large universities during the 1970s. Several assumptions influenced the design of CAP: that limited funding requires closer attention to the management of collections; that evaluation of the success of a collection development program should include consideration of both the institution's goals and objectives and the important research collections already held by the library; that faculty representatives should be involved in establish-
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ing collection development policy, but not in carrying it out; and that, "collections must be managed with regional, national, and inter-library cooperation and resource-sharing as integral parts of the planning."\textsuperscript{18}

Descriptions of collection analysis or assessment projects at several university libraries can be found in the literature. ARL published a Systems and Procedures Exchange Center (SPEC) Kit in 1978 with examples of guidelines, procedures, and projects from nine large university libraries.\textsuperscript{19} In the same year ARL published an interim report on CAP which included reports from the Massachusetts Institute of Technology, Arizona State University and the University of California at Berkeley.\textsuperscript{20} Another SPEC Kit was published in 1982, containing eight examples of collection assessment techniques and excerpts from several CAP reports.\textsuperscript{21} In addition to using materials from ARL's Collection Analysis Project, some university libraries have developed their own manuals. An example is the Collection Assessment Manual prepared by Hall for Brigham Young University.\textsuperscript{22}

University librarians must often answer questions about size and growth rate of the collection, the distribution of the collection by subject, the distribution of the collection by format, and the rate of expenditure and distribution of funds by all those categories. The importance of size as a measure of the quality of a university library collection is emphasized by the membership requirements of the Association of Research Libraries, the common practice of ranking university libraries on the basis of size of holdings, and the ARL/ACRL "Standards for University Libraries." In the latter statement, the first standard (B.1) under the section on "Collections" requires that: "A university library's collection shall be of sufficient size and scope to support the university's total instructional needs and to facilitate the university's research programs."\textsuperscript{23}

Determining the extent of a university library's holdings in various subjects is not always easy. In some large university libraries, evaluators have resorted to measuring shelflist cards to make estimates of volume holdings. Black, for example, outlined procedures used at Southern Illinois University to estimate nonperiodical collection size in a science library.\textsuperscript{24} Those who are uncomfortable with shelflist counts argue that a high percentage of titles in a given subject may not be classified in the relevant class letters or numbers. Saunders and others proposed two alternatives to shelflist measurement—one based on a modified shelflist count and the other using a random selection from the author/main entry catalog.\textsuperscript{25}
In addition to overall size, growth rate of the university library collection has come to be an important indicator of quality. Leach credited Fremont Rider with asserting, "the truism that there exists a direct correlation between continuous library growth and the educational effectiveness of any university...." Voigt suggested a model for determining the minimum annual acquisition rate for a university library. Using variables similar to those found in Formula A (for calculating collection size) of the ACRL "Standards for College Libraries," Voigt's model starts with a basic acquisitions rate of 40,000 volumes and adjusts that figure on the basis of such factors as number and type of advanced graduate programs, advanced graduate professional schools, undergraduate students, sponsored research, and lack of access to other research libraries. Taking a different approach and using data from a sample of academic libraries of varying sizes, Hodowanec developed a multiple regression equation to calculate the number of books to be added to a collection per full-time-equivalent enrollment. The two best predictors of acquisition rate, according to his analysis, are circulation per student and number of courses offered per student.

Many projects designed to evaluate in depth a selected subject collection in a university library use, as one approach, the procedure of identifying authoritative lists of published materials to check against holdings. Comer described the various ways a library's holdings may be compared with one or more lists of selected titles and discussed the advantages and disadvantages of this collection evaluation technique. Reports on projects using checklists at Stanford University, the State University of New York at Binghamton, the University of North Carolina at Charlotte, the State University of New York at Buffalo, and the University of Colorado have all appeared in the literature. Evaluation by this technique is based on the assumption that lists can be found that include the most important titles in a given subject field. Since, however, large university libraries tend to have the "core" materials in most areas and need to be evaluated on how well they cover the materials beyond the core, it is often difficult to find appropriate published subject bibliographies. As one university bibliographer who tried the checklist technique noted: "The choice of bibliographies to be sampled was the most difficult and critical task."

When university librarians want to use the checklist method of collection evaluation, they must turn to something far more exhaustive than Books for College Libraries. Subject bibliographies can sometimes be identified (Tjarks proposed twenty-nine bibliographies useful for evaluating resources in English and American literature and lan-
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guages\textsuperscript{32}); but often special lists must be constructed. McInnis proposed drawing a random sample of works from the research published in a selected discipline and checking the citations in those research works against the library's holdings.\textsuperscript{33} Lists of references may be constructed from dissertations recently completed, either at the university being evaluated or at other institutions.\textsuperscript{34}

Attempts to evaluate a research collection at more than a superficial level have led to variations on the traditional checking of standard bibliographies. When those in charge of collection development at the University of Florida wanted to determine the depth of their collections in twenty-eight subject fields, they chose the printed catalogs of the Library of Congress as the external standard.\textsuperscript{35} Samples were drawn from the Library of Congress catalogs and searched in the university library catalog. Another citation checking procedure, proposed by Lopez, also aims at measuring depth of a collection.\textsuperscript{36} This technique involves selecting a random sample of references from a subject bibliography, checking for those works in the collection and then taking a new random sample of citations from the works located in the first sample. The evaluator continues checking holdings and drawing new samples of references until the collection fails to supply any of the items drawn in a sample. Each succeeding sample is assumed to represent a level of greater depth (or ability to supply research materials) of the collection. Weighted scores may be assigned for each citation successfully located in the library, with highest scores going to citations found in the last sample (or highest level) searched.\textsuperscript{37} Nisonger has published reports on the use of this technique in several university libraries.\textsuperscript{38}

Evaluation of the collection through use and user studies is now such a standard procedure that the Resources and Technical Services Division of ALA has issued guidelines on the subject.\textsuperscript{39} The main types of use and user studies outlined in these guidelines are circulation studies, surveys of user opinion, in-house use studies, document delivery tests, shelf availability studies, and citation studies. Other general discussions of the advantages, disadvantages and techniques of use and user studies have been provided by Broadus, Burns, Lancaster, and Osburn.\textsuperscript{40}

University librarians have been actively involved in the debate about the use of circulation studies as a measure of collection value, particularly since the publication of the University of Pittsburgh study in 1979.\textsuperscript{41} Proponents of circulation studies argue that the use of any item in a collection is the most valid measure of that item's worth to the library and that the problems of collection development must be consi-
Critics generally agree that circulation studies have some place in collection evaluation, but they also contend that too many assumptions are made in such studies and that too much confidence has been placed in the technique. Nevertheless, the presence of automated circulation systems that allow librarians to do detailed and long-term analysis of circulation statistics make it likely that circulation studies increasingly will be used. With studies of their circulation data, university librarians may answer several questions: What parts of the collection are used? How often are materials used? Who uses various types of materials? A report on a statistical analysis of five years of monograph circulation data at Ohio State University lists some of the hypotheses that may be tested by such analysis. Axford, speaking from the perspective of a university librarian, predicted in 1980 that, "there is every reason to believe that the long-term collection use study will become widespread and that it will result in fundamental changes in the way library collections are managed in the decade ahead." 

Although circulation studies are usually conducted with data representing use of the materials held in the library's own collection, borrowing patterns for materials not owned may also be studied. New and Ott suggested that preliminary identification of weak areas in a collection may be made through an analysis of interlibrary loan requests.

In addition to studies of user's characteristics based on circulation records, questionnaire or interview surveys may be carried out to gain information on users' perceptions of the collection and how well it meets their needs. The Association of Research Libraries, through its Systems and Procedures Exchange Center, has collected and distributed examples of general user satisfaction surveys from several university libraries, and also examples of user surveys on specific issues. Bonn observed: "Of all the ways in which to evaluate a library's collection, finding out what its users think of it comes closest to an evaluation in terms of the library's objectives or missions." In spite of the obvious advantages of such a technique, there are limitations. Even in a university library, which serves a relatively sophisticated group of users, respondents may not always be able to state what they need or expect from the collection. Their own reports of their library use patterns may also differ from their observed behavior.

Studies of the use of materials within a library are usually more difficult to conduct than circulation studies, but they provide data needed to form a complete picture of collection use. Periodical use, for
example, is often in-house and difficult to assess. Shaw reported on a study at Case Western Reserve University of bound journal volumes in which pressure-sensitive labels were applied to volumes and issues as they were reshelved. Data were collected by counting and recording the location of labels at regular intervals. For a study of unrecorded use and “at-the-shelf discovery” of materials from the general collection of two campuses of the University of California, Lawrence and Oja collected data through the use of questionnaires inserted in monographs and bound periodicals.

A fairly recent trend in university library collection evaluation has been to try to assess the library’s capability of providing prompt access to the materials users need. This may take the form of studying what is available on the library’s shelves at a given time or evaluating total resource adequacy—the holdings of the collection surveyed plus the external resources also available to users of that library through cooperative arrangements. Reports by Kantor, Saracevic and Shaw on availability analysis studies at Case Western Reserve University illustrate how these techniques may be used in university libraries.

Small- and Medium-Sized Academic Libraries

The primary purpose of most small- and medium-sized academic libraries is to support the teaching (and sometimes service) programs of the parent institution. Collection evaluation projects in this type of library usually focus on such questions as these: How large is the collection? How is the collection divided among the subjects represented by the institutions’ academic departments? How well does it match the degree programs offered? Have the basic works and important sets in each discipline been acquired? Which significant titles are missing?

In most small- and medium-sized academic institutions it is important for the collection to meet the appropriate standards for accreditation. Both two-year and four-year colleges have guidelines or standards that provide recommended collection sizes. The ACRL “Statement on Quantitative Standards for Two-Year Learning Resources Programs” specifies the size of the collection that should be available in “bibliographical unit equivalents,” where a unit (BUE) consists of a specified amount of written material (e.g., one periodical volume, five uncataloged microfiche); recorded material (e.g., one cataloged 35-mm slide program, fifty cataloged 2x2 slides not in sets); or other material (e.g., one cataloged map, one cataloged kit). Recommended collection size is
stated in terms of BEU's by type of material (written, recorded or other) and in relationship to full-time-equivalent enrollment. The ACRL "Standards for College Libraries" provide a formula (Formula A) for calculating the number of volumes that should be readily available to students and faculty.52 Formula A begins with a recommended collection (85,000 volumes) and suggests addition to that on the basis of numbers of faculty members, students, major or minor fields, and degree programs.

As their colleagues in other types of libraries, academic librarians need information about the nature of their collections. Goldstein and Sedransk presented a technique for identifying collection characteristics by taking information available on a sample of shelflist cards.53 Summaries of characteristics such as (1) publication date, (2) country of origin, (3) language of text, (4) type of publisher, (5) format, and (6) type of edition (e.g., original, reprint, facsimile) may be obtained in this way. Bolgiano and King reported a project to develop a profile of a periodicals collection in a medium-sized academic library.54 Their profile included data on extent of index and abstract coverage of current subscriptions and congruence of the periodical holdings with (1) recommended lists, (2) an analysis of current titles in relation to the academic programs they might be expected to support, (3) interlibrary loan requests for periodicals, and (4) journal citations in theses accepted by the university over a five-year period.

Since cataloging, acquisition, circulation, and other files are automated in many academic libraries, quantitative studies of collection characteristics are relatively easy. Kim described the way in which the University of Lowell used OCLC-MARC tapes to analyze new acquisitions.55 At Knox College, a locally-developed automated acquisitions system is used to monitor characteristics of new acquisitions (e.g., publisher, subject).56 Townley reported on the procedure, involving manual data collection and computerized analysis, used at a regional campus of the Pennsylvania State University "to address three collection-related concerns: (1) book use, (2) book loss, and (3) duplication with Penn State University Libraries' bibliographic records."57

Determining the relationship of the collection to the academic programs of the institution is an important feature of many library collection evaluation projects. A common way to answer the question of how well the collection matches the academic programs of the institution is to assign classification numbers to all courses in the curriculum, based on official catalog descriptions, and then to match this list against a shelflist count of the appropriate classification numbers.58 An exam-
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Example of this approach is a collection evaluation project at Gonzaga University, which involved the typical reviewing of official descriptions for all courses and assigning of Library of Congress class numbers to each. Class numbers were then matched against a count of the library's holdings as recorded in the shelflist to determine extent of the collection's support in the four major academic divisions: arts and sciences (further subdivided into fine arts and humanities, language and literature, social sciences and history, and natural sciences); engineering; education; and business administration. In other projects, circulation statistics have been analyzed by class number and academic department to determine, first, which volumes bear a subject relationship to each academic department and, second, the circulation-per-volume related to each department and circulation compared with the number of students in each department. Such comparisons identify departments with smaller relevant holdings, as well as areas of the collection with high and low use.

Using checklists to evaluate the quality of small- and medium-sized academic library collections is fairly common. Shabowich describes the way in which a collection of less than 90,000 volumes was checked against Books for College Libraries in order to judge its quality. In the previously-mentioned study at Gonzaga University, a shelflist sample was drawn to develop a profile of the collection; but, in addition to noting date of publication, language of publication, and type of publisher for each card drawn from the shelflist, librarians at Gonzaga also checked each title in the sample to see if it appeared on any of a selected group of recommended lists. The use of lists for evaluation and for development of retrospective collections go hand in hand. Clarke, in a discussion of recommended techniques for strengthening academic collections, listed bibliographies that might be checked. Schad and Adams also recommended an approach to evaluation that combined quantitative analysis, gathering of reactions from users, and conducting preliminary bibliographic surveys, using basic lists of one sort or another.

Use by students and by faculty has become an important point of interest in small- and medium-sized academic libraries. A project conducted under the sponsorship of the Associated Colleges of the Midwest and the Council on Library Resources, and based on testing of the procedures at Knox College, Lake Forest College and St. Olaf College, resulted in a manual for measuring circulation use in a small academic library collection. The manual contains a step-by-step guide to initiating the study, preparing the staff, collecting and analyzing the data, and
applying the results. Questions which such a study is designed to answer include: What proportion of the collection circulates? What is the average age of materials within each discipline? Is there a relationship between the age and use of materials in each discipline (subject area)? Are portions of the collection underused? Are portions of the collection more heavily used than their size would indicate?

Several examples of use studies in small- and medium-sized academic libraries have been published. Last circulation date data were used at the University of Wisconsin—Stout to determine a core collection, based on the percentage of circulation accounted for by given percentages of the collection.\textsuperscript{65} Two types of samples were drawn: one based on items circulating at a given time and the other based on books on the shelves at a certain time. Hardesty, working at DePauw University, chose, "to replicate the University of Pittsburgh study at a college library with a more limited budget, smaller staff, fewer resources, and less comprehensive purpose."\textsuperscript{66} In a separate study, Hardesty also examined use of the reserve collection at DePauw.\textsuperscript{67} Also inspired by the University of Pittsburgh study, Ettelt reported a book use study at a small community college.\textsuperscript{68} In other studies, Schwartz (Fairleigh Dickinson University) and Maxin (Clarkson College of Technology) examined use of periodicals and reported on the procedures for such a study and the implications for collection development of periodical use data.\textsuperscript{69}

**Special Libraries In Academic Settings**

Collection evaluation in departmental libraries and special research collections of colleges and universities tends to be similar to that in general academic libraries, with the possible exception of more emphasis being placed on meeting the needs of researchers. Kusnerz, writing from the viewpoint of art history libraries, listed these questions as relevant to the evaluation of a special library in an academic setting:

(1) Are the reference collections adequate to support user needs? (Substitute “serials,” “exhibition catalogs,” or “monographs in a particular subject area” to evaluate other parts of the collection.)
(2) Which significant titles are lacking? What amount of money is required to purchase these titles retrospectively? (3) What are the historical strengths and weaknesses of the collections? (4) How does this collection compare to peer libraries? (5) Is the library acquiring new publications at a level adequate to support user needs? (6) Is the library collection accessible and available to the users?\textsuperscript{70}
Evaluation by Library Type

Using quantitative analysis to develop a profile of the collection, identifying strengths and weaknesses through citation checking, obtaining the opinions of outside experts, and surveying the library's own users are all techniques that may be applied in special libraries. Results of projects using primarily one method, such as citation checking, or combining a variety of techniques have been reported in the literature. Most reports of collection evaluation projects, however, indicate that the questions of most interest are these: How much is the collection used? How much is it used in relation to its cost? Which parts of it (subject or formats) are used most? How do the regular users rate the holdings?

When subject departmental librarians gather data about their collections by measuring recorded use, they often focus on a particular form of material, such as maps or government documents. Many special librarians, however, for reasons not difficult to guess, appear to be preoccupied with journal usage. In-house use of journals, out-of-library circulation figures, statistics from the reserve collection, and interlibrary loans are all used to answer questions concerning use of a particular part of the collection.

Questionnaire and interview surveys conducted with faculty members appear to be almost as popular as circulation studies. At times more informative than circulation studies, these surveys may uncover patterns of nonuse as well as use. Stenstrom and McBride surveyed, by questionnaire, 226 faculty members from thirteen social science departments at the University of Illinois and concluded that, "the majority of faculty surveyed use the library as a supplementary rather than as a primary source of serial information."

Citation analysis is another popular way to gather information about the ways in which specialists in general use recorded information and the ways in which a special departmental library or special collection may be used. General discussions of citation studies have been published by Subramanyam (science and technology); Fitzgibbons (social sciences); and Koenig (arts and humanities). In special academic libraries, the citations analyzed are usually those found in faculty publications, master's theses, or doctoral dissertations. The question implicit in this activity is how well could the local collection have supported the studies in question.

Researchers continue to be interested in comparing the various techniques for gathering information on the value and use patterns of certain types of materials. Satariano took reports by a group of sociolo-
gists on journals they regularly read and compared these with lists of most frequently cited journals in sociology. He concluded that citations show a "cross-disciplinary focus" that is not apparent in the lists of journals regularly read and that citation studies "underestimate the importance of popular social science periodicals and speciality and regional journals in the reading of sociologists." How useful are "core lists" of journals developed by various methods? Comparisons have been made of the rankings obtained by subjective opinions of experts, citations found in journal articles, and titles cited in online bibliographic services.

Special Libraries In Nonacademic Settings

While librarians in nonacademic settings do not have to be concerned with how well the collection supports a teaching program or, in some cases, even a research program, their other concerns are similar to those of librarians in academic special libraries. Evaluation of government research libraries, professional collections in public or nonprofit agencies, corporate research and professional libraries may start with these questions: What are the strengths and weaknesses of the collection? How much is it used? What can be done to increase the relevance of the holdings? What level of funding will be needed to eliminate weaknesses and continue building on strengths?

Whatever the type of library, collection evaluation projects cannot be planned in detail until a profile of the collection has been developed. An example of this "base-building" step is a report by Craig and Strain on a study of new titles cataloged at the National Library of Medicine over a twelve-year period. These additions to the collection were analyzed by subject, language and processing time. Byrd and others, working in a much smaller medical library, tested a way to use interlibrary loan and acquisition statistics "to graph the broad and narrow subject fields of strength and potential weakness in a book collection." Circulation studies are also conducted in research and professional libraries in nonacademic settings. Circulation records of a group of books selected on the basis of a previously established acquisitions policy were studied by Schwartz to determine how much use they received from an industrial research organization's professional staff. Del Frate reported on the way in which the automated circulation system of NASA Goddard Space Flight Center Library provided information on interest patterns and recent changes in use of staff members there. Drawing data from a monograph collection of the National
Evaluation by Library Type

Oceanic and Atmospheric Administration Environmental Research Laboratories Library in Boulder, Colorado, Wenger and others developed a technique for determining circulation/inventory ratios for each subject in the collection.82

Journals are the most important part of the collection in many special libraries, especially those supporting research and development activities. For that reason usage studies in special libraries often focus on journals.83 Journal use studies at hospital libraries have also been reported in the literature.84 In a related area, Thorpe described how a British pharmaceutical research library revised its journal subscription list on the basis of interlibrary loan analysis and in-library use data.85

 Consortia

Collection evaluation is emerging as a significant feature of cooperative planning for resource sharing and preservation among groups of libraries and information centers. Since successful cooperation usually starts from discussions that are based on thorough knowledge of the assets and liabilities of the individual libraries, it is important that, at the very least, each participating library be able to provide an accurate count of volumes or titles by subject classification number, and/or format.

A "Guide to Coordinated and Cooperative Collection Development," approved in March 1983 by the Resources Section of ALA's Resources and Technical Services Division, notes among "four principal elements" of collection management "evaluation or analysis of the collections."86 In the section of the guidelines covering "Suggested Steps in Setting Up Cooperative Agreements for Collections," the following appears:

8.3.4 Define the subjects, areas, or issues of mutual concern or interest, based on your library's mission, goals, and needs, and on your collection's strengths and areas of deliberately small holdings. Draw upon your knowledge of the collection, collection evaluation or analysis results, shelflist measures, and use or user studies, when possible, to inform your judgements.

8.3.4.1 Preliminary discussions may reveal the need for standardized collection description or assessments....

From the resource sharing point of view, one of the first collection evaluation questions to be asked is which library has the strongest collection (usually defined as the largest number of titles or items) in any given subject. The technique for identifying major characteristics
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(e.g., subject, age, place, and language of publication) of a collection by sampling the shelflist was used by Goldstein and Sedransk to compare the Jewish history collections in seven university libraries. They concluded that their sample technique was "particularly useful in a comparative evaluation of the holdings in one subject area at a number of similar libraries." Using the National Shelflist Measurement Project data collected by a number of university libraries as a guide, members of the Research Libraries Group developed the RLG Conspectus, which is "an overview, or summary, arranged by subjects, of existing collection strength and future collecting intensities of RLG members."^89

Another question of interest in cooperative collection planning is how much the collections of participating libraries duplicate one another. Potter, in a critical review of overlap studies, identified the following factors as being important in trying to reach generalizations about the phenomenon of collection overlap: "(1) the role of the size of the library, type of library, and age of library in the extent of collection overlap; (2) the proportion of titles held by a group of libraries that are unique to one library; (3) the range of duplication between pairs of libraries; and (4) the relationship of methodology to the purpose of each study."^90

Several overlap studies have focused on groups of libraries receiving their primary funding from the same source. Knightly sampled the library holdings of twenty-two state-supported universities in Texas and compared the samples in nineteen subject areas. He concluded that there was extensive overlap, not always related to curricula, but tending to be highest among schools with doctoral programs. At about the same time, Cooper and others conducted a survey to determine duplication of monograph holdings in the University of California Library System.92

The availability of holdings' records in machine-readable form has made overlap studies much easier. Moore and others analyzed OCLC archival tapes of eleven campuses of the University of Wisconsin System for a two-year period and found title overlap of new acquisitions ranging from 18 to 32 percent, with English-language publications from university presses being the most frequently duplicated. The duplication of public library holdings has been studied by Shaw and Stockey in Indiana and Davis and Shaw in two Canadian provinces and Indiana, while Doll looked at collection overlap between elementary schools and the public library in four Illinois communities.94 Overlap among the collections of similar special libraries has also been studied.95
Evaluation by Library Type

As librarians turn more often to cooperative arrangements to provide materials needed locally, the question of how much cooperative schemes actually improve the availability or access becomes one of the most important evaluation questions. What percentage of requested materials are actually provided to a library's users and how long does it take to get those materials? An example of a technique used to answer these questions is the standardized Document Delivery Test, first applied by Orr and his associates to a large group of medical school and biomedical resource libraries. The "Capability Index" produced by the Document Delivery Test is a quantitative expression of a library's ability to satisfy requests for a list of specific items. It is designed to emphasize the speed with which a library can deliver an item, rather than the size or composition of its own collection. If the list of items chosen for such a test is appropriate, the Capability Index should give an indication of how well resource sharing arrangements are working.

Most collection evaluation projects involving groups of libraries have tended to rely on quantitative techniques such as: collecting statistics on the total collection and size of various subject collections, and percentage of overlap of total collections and of new acquisitions. Quality has usually been equated with quantity; the larger collection is assumed to be the stronger. Although checking of standard bibliographies, assessments by outside experts, and user surveys are most often applied to the evaluation of individual library collections, there is no reason (other than lack of staff to carry out the project) that such techniques could not be used in cooperative collection evaluation. Goldhor, in a 1977 study of the nature and extent of U.S. public library holdings of adult nonfiction books in the humanities, used his "inductive method" of evaluation mentioned previously. In this case he took a large sample of titles held in one or more of the nineteen cooperative libraries and checked each title against listings in Public Library Catalog, Books for College Libraries, Choice, Book Review Digest, Booklist, and Library Journal.

Conclusion

While standard collection evaluation techniques—e.g., collecting and manipulating statistics on characteristics of the collection, checking standard lists, asking experts, analyzing circulation and citation data, surveying users on their successes, failures, expectations—may be (and are) used in any type of library, they appear to receive varying
amounts of emphasis from one type of library to another. Differences in the choice of technique arise from differing evaluation objectives (or questions to be answered). The choice of questions to guide the evaluation are themselves determined by the purpose(s) of the library and the additional factors—e.g., governance, clientele, size—influencing and motivating the evaluation. For example, librarians in all types of situations have an interest in how much the collection is used, but those who feel great pressure for accountability from governing authorities or who have a high opinion of the work and abilities of their potential users will have a special interest in gathering information on use and users. In libraries connected with academic institutions, meeting accreditation standards can be very important, so the emphasis of evaluation may be on gathering statistics and measuring size of holdings. In cases where outside influences are not great and the evaluation project originates from the librarian’s desire to know how well the collection development procedures are operating, the way in which collection evaluation is approached may depend on the librarian’s philosophy. A librarian who is primarily concerned with the quality of the materials added to a collection will probably choose collection-centered questions and techniques (e.g., checking of standard lists). One who is more concerned with responding to known demands will plan the project around questions of use and user expectations. Participation or nonparticipation in consortia may affect how collection evaluation is approached. In other words, evaluation can differ from one type of library to another, but differences can also be observed among libraries of the same type. They derive from influences and conditions that transcend simple “type-of-library” distinctions.

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Evaluation of Online Databases and Their Uses in Collection Evaluation

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Some readers may be surprised to find this article in an issue on collection evaluation. Are online databases indeed a part of the collection, or are they a type of reference service? In actuality, they are both. Databases have become an important part of libraries' reference collections and may in some cases serve as a substitute for the addition of print materials to these collections. Online databases, both bibliographic and numeric, have been reported to be part of library collections. The literature will be analyzed from this point of view.

An online database is a machine-readable file of organized information with which the user interacts by means of a terminal connected to the computer housing the file. The terminal may be wired directly to the computer or it may communicate with it via a telecommunications network. The important feature of the online mode is that the user interacts with the information in the computer, sending and receiving messages in an almost instantaneous time frame.

This paper deals only with those databases which can be accessed directly by a user from his/her own library and does not deal with many available in information analysis centers to which the user cannot be directly linked online. Many information analysis centers receive, analyze and prepare online files. These are, for the most part, accessed only by center personnel or others in the information center's host institution or agency. For the most part dial-up access to the information analysis center is not available for libraries. Instead, the library usually submits a

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search to the center, which then performs the search and sends back an answer. The emphasis of this paper is on online access by a library to a database the library staff did not prepare, but which has been made available outside the preparing agency for direct access.

It is only recently that databases have begun to be considered a part of a library's collections. No wonder. They only became available in libraries in the 1970s. The first articles on machine-readable bibliographic databases began appearing in the Annual Review of Information Science and Technology early in the decade. The first chapter on “Use of Machine-Readable Databases”1 appeared in the 1974 volume. As online database availability was increasing, library funds for acquisitions were decreasing. This decrease forced libraries to move from the concept of comprehensive collections of all that their users could possibly want to collections of most heavily used items with a dependence on access to others' collections for lesser used items. Online bibliographic databases provided quick and improved access to others' collections and to information about publications which a library might or might not have in its own collection. The means of access itself, rather than the materials became a component of any individual library's collections.

The collection development literature is slowly beginning to acknowledge this change. Although some standard collection development texts such as Gardner2 now have a section on computer-based materials, Bonk and Magrill3 does not. Even though databases or tapes may be mentioned as items to consider in the sections on selection, they are nowhere to be found in the sections on collection evaluation. George Bonn's4 classic Library Trends article on “Evaluation of the Collection” which appeared in 1974 makes no mention of database evaluation. It was too early. This paper will focus on developments since 1974. The ALA Guidelines for Collection Development5 lists datatapes as one form of material collected but the section on collection evaluation gives no specific guidance on their evaluation or the evaluation of any other of the special forms such as newspapers, manuscripts or audiovisual materials. Online files are not mentioned. So, although some sources view databases as part of the collection, few standard sources evaluate them as such.

The new ANSI standard on library statistics6 does list databases as a part of collection resources and groups them with currently received periodicals in a category titled “currently renewed resources.” The number of databases to which the library provides access for its users is to be reported. In addition, the standard specifies that database transactions should be reported as a subset of reference transactions. Libraries
Online Databases and Their Uses

are viewed in the literature and in the standard as a part of the collections and as a reference service.

The nature of databases and their role(s) in libraries are still evolving. A quick scan of the bibliography for this article will indicate that we have not even decided how to spell database yet. Is it one word or two? Earlier usage was primarily database, but the current trend seems to be one word. This author will use database, as does the journal of that name which began publication in 1978. The fact is that in a very short ten-year period databases have found their way into library services and collections.

Bibliographic Databases

It is primarily in the area of reference that bibliographic databases have gained a secure footing as part of the collection. Bibliographic databases contain those elements of bibliographic description used to describe books, journals, documents, and other publications or portions thereof. In the 1980 Supplement to Sheehy a section on “Data Bases” appeared for the first time which acknowledged that “the use of computer-readable data bases...is now considered to be a normal part of library reference work.” Their presence in Sheehy, however, was short-lived, not because the use of databases became abnormal, but because, as the Second Supplement published in 1982 states, “rapid changes and developments in the field of data base computer searching...” had made it “impractical either to update or augment that earlier list.” So Section F of the 1980 Supplement became in 1982 a listing of recent directories of database services. Walford’s Guide to Reference Material lists magnetic or machine-readable files with the print version.

There are numerous directories of the burgeoning number of databases. Schmittroth’s Encyclopedia of Information Systems and Services, Cuadra Associates’ Directory of Online Databases, Williams’s Computer-Readable Databases, and Aslib’s Online Bibliographic Databases are amongst the most prominent and up-to-date. The fifth edition of the Encyclopedia of Information Systems and Services had 25 percent more entries than the fourth edition, which had been published one year earlier. Cuadra Associates publishes a quarterly supplement to its directory. In the Summer 1980 issue of RQ Danuta Nitecki’s “Online Services” column was introduced. The column deals with automation as it affects public services. A year later, in Summer 1981, RQ began reviews of databases for generalists. Here, editor Helen Jose- phine referred to the databases as “online reference tools,” definitely a
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part of the collection and used to answer questions as the print tools have been. The reviews are for generalists—i.e., reference librarians rather than searchers—and they keep generalists aware of the content and scope of each database. Comparisons between access for the print and online versions of a file are made.

The databases discussed thus far are primarily online bibliographic files which are the online equivalent of print abstract and indexing services, and this probably explains their ready acceptance into reference services. There are, however, in actuality several categories of online databases, all of which will be treated in this article, and all of which have found slightly different placement and use within the library's collections.

The main types of databases discussed in this article are bibliographic and numeric. The bibliographic databases are three major types: online union catalogs of library holdings, such as OCLC and RLIN, henceforth referred to as bibliographic utilities; online equivalents of print abstracting/indexing services such as COMPENDEX, CA Search or INFORM. These seem to have developed no distinctive designation, but are by far the greatest in number and are usually referred to as simply databases or bibliographic databases; and full-text databases of newspapers, journals, directories or court cases such as New York Times Information Bank or Harvard Business Review online, LEXIS, or WESTLAW which contain the full text of the publication online. The numeric databases are files of primarily statistical information—either numeric or brief textual—from which a patron extracts specific pieces of data. Patrons may extract data for further manipulation or, in some cases, may revise data in the numeric file.

Because these databases are constructed in different ways and are used differently in libraries the evaluative criteria applied vary. This paper will not discuss evaluation of their extended subject searching capabilities, but it will discuss evaluation from the point of view of selection for the reference collection or evaluation once added to that collection. Also not considered will be discussions of a library's own online catalog or circulation system, although these are certainly bibliographic databases. The scope of this paper is bibliographic, numeric and full-text databases which are not the library's own and which the library decides to access as a means of developing its collections and/or services. This review will probably raise as many questions as it provides insights, for the concept of online files as a part of collections is still forming.
Online Databases and Their Uses

It is a credit to libraries that they have managed to embrace online databases, have incorporated them into the day-to-day operations of normally slow-moving institutions, and still have had time to report their progress in doing so. Much, however, remains unreported, and many readers will doubtless know of online uses or evaluations of them which exist, but because they are unreported do not appear in this article. This paper is a survey of trends as reported in the literature and no attempt was made to survey existing practice to supplement that reported.

Ready Reference

All three types of databases are extensively used in ready reference. James Sweetland's 1979 article, "Using Online Systems in Reference Work,"
 was the first of a rash of similar articles which appeared in the period 1981 through 1983.

The reasons advanced for their uses in reference varied. Sweetland needed to establish high-level information service in a new library with limited staff and physical size. He specifically selected OCLC, Lockheed and the New York Times Information Bank for searching. In other cases, the introduction of online searching into reference activities was more of a spin-off from the fact that the library was already providing search service as reported by Miko, Cochrane, Droessler, and Friend. Librarians who already knew how to perform subject searches on files such as DIALOG, BRS (Bibliographic Retrieval Services), or SDC (Systems Development Corporation) found themselves itching to use their terminals when faced with verification problems at the reference area. And so some terminals moved from back rooms into the reference desk. Evaluations reported here are primarily compilations of information on the type of searching performed and the cost. Searches performed at the reference desk are primarily for verification of incomplete citations, but other uses—such as providing addresses of authors or publishers, preparing lists of recent works by an author, determining subject headings to use in a catalog search, and determining which library(ies) own a specific title—were reported by these authors and by Durkin and Dolan, who surveyed BRS users in 1979. Online searching is faster than manual searching and is therefore very helpful to staff who, even if their numbers remain constant, face increasing service demands. Online searching provides a wide range of search tools in one place, and may provide access that is not available in print tools. For example, there are usually more access points than the print file and
access points may be searched simultaneously. Online indexes are not at the bindery or temporarily not located for other reasons. With online indexes, the computer system may be down, or a file may be temporarily unavailable while it is being updated, but the online version usually is more current than the print version. Access to the database of a major vendor may provide a tool that would not normally have been purchased for the print collection. Costs that have been reported are not comparable or especially meaningful, since no one includes the same elements for computing cost (e.g., equipment, training, online costs, print cost, librarian's time) for either online or manual searching.

Comparison of uses or costs between libraries would suffer from the usual problems of reference service measurement. What actually constituted a "search" had not yet been defined when the Association of Research Libraries (ARL) compiled a SPEC Kit on "Online Bibliographic Search Services" in 1981. Should a ready-reference online search constitute a hash mark—as part of other reference statistics—or should reference librarians keep separate track of the number of queries which were answered with online assistance? How can we evaluate the quality and not simply the number of searches? What elements must be included when calculating costs? Thus far, no reports of evaluations of ready-reference searching have appeared as part of collection or services evaluations.

Print v. Online Migration

The added advantages of online reference tools as compared to their print counterparts which were just described has led to what has been termed the print v. online migration. Marydee Ojala makes an interesting point when she states that a significant difference between print and online reference tools is that: "With the printed tool, the money has already been spent, and the time involved in becoming acquainted with the peculiarities of the book is not measured in dollars. With online indexes the opposite is true." The added advantages of online reference tools as compared to their print counterparts which were just described has led to what has been termed the print v. online migration. Marydee Ojala makes an interesting point when she states that a significant difference between print and online reference tools is that: "With the printed tool, the money has already been spent, and the time involved in becoming acquainted with the peculiarities of the book is not measured in dollars. With online indexes the opposite is true." The one public librarian went so far as to state that, "instead of buying books, we do online searches on demand. It's much more cost effective to provide materials that people actually need, on demand, rather than buying materials that may or may not meet an actual information need." This is, doubtless, an extreme statement, but as libraries discovered the advantages of accessing online reference materials, it became inevitable that at least some of these libraries would question whether it was necessary to subscribe to both the print and online services. The fact that this consideration exists supports the point that online services are
indeed part of the collections. And it is at this point that collection development staff (if they are not reference librarians) may become involved in the evaluation process. Those articles in the literature indicate that although libraries may be considering cancellation of print titles, few are taking action. A notable exception to this general trend is an article by Pfaffenberger and Echt on the "Substitution of SciSearch and Social SciSearch for Their Print Versions in an Academic Library." The authors selected Science Citation Index (SCI) and Social Sciences Citation Index (SSCI) for study because of their high print subscription costs. SCI and SSCI were removed from the reference area and replaced by a sign which told patrons that they could have a free search instead of doing the search themselves. It was found that it was less expensive to provide the online services for SCI, but that it was not economical to substitute online for SSCI. The primary difference was that there was heavier use of the SSCI and use was primarily by subject, rather than by citation as with SCI.

Most other papers, while they report a perceived migration do not indeed show significant numbers. Childs and Carmel, in a survey of the use of print vs. online Index Medicus in twenty British Regional Health Authority Libraries, found increased or changed use of the print tool when online became available. Lancaster and Goldhor in a 1979-80 survey of 200 academic and special libraries in the United States found that subscriptions to abstract/indexing services were declining, but felt that this was only partly due to availability of online equivalents. Much more important, they stated, was the fact that "subscription costs are increasing while the relative purchasing power of many library budgets is declining." This analysis was confirmed in a more recent paper by Miller and Kobelski who surveyed 198 New York State special libraries. They report that 40 percent of the responding libraries had cancelled some index/abstract journal subscriptions since beginning online searching, but that 50 percent of the responding libraries had also added subscriptions. Only twenty-two (or 24 percent) of the ninety-one libraries who returned the survey stated that online availability was an important factor in the cancellation decisions.

Other major factors considered were cost, volume of usage and whether or not the tool was of primary importance to the library’s mission. Online availability is only one factor amongst those weighed in a collection development decision to cancel a subscription. Lancaster and Goldhor found some evidence to suggest that availability of a tool online might be influencing libraries which never had a subscription before to opt for the online service. An obvious difficulty with selecting
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an online service is that you cannot be assured that it, or all portions of it, will always be online. If it is a tool of interest primarily for current information this is not a major consideration, but if it is of interest also for current and retrospective information this is a consideration.

Bibliographic Utilities in Reference Work

As stated earlier the means of access to other collections when used in lieu of a completely comprehensive collection of one’s own can be considered to be part of a library’s collection. The major bibliographic utilities, Online Computer Library Center (OCLC), Research Libraries Information Network (RLIN), University of Toronto Libraries Automation System (UTLAS) and Washington Library Network (WLN), do not have print equivalents and are used in this way. For the most part, these tools found application in reference because they were already in the library, and staff found them useful for more than shared cataloging or interlibrary loan. However, Sweetland, and Droessler and Rholes made conscious decisions to use OCLC and RLIN respectively at the reference desk even though they were not in previous use at the library.

The primary use made of the online abstracting/indexing services was for bibliographic verification, and this is also true of the reference use of bibliographic utilities. Baker and Kluegel report extensive use of OCLC in reference amongst ARL members. Farmer evaluated RLIN as a reference tool and has trained librarians in California and Nevada in its use as such. Miller summarizes the uses of both OCLC and RLIN, and, in addition, he evaluates the specific reference capabilities of each. RLIN is preferred for reference use because the search capabilities exceed those of OCLC. RLIN has truncation, subject search and combined index searching, whereas OCLC’s primary advantage is retrieval by predetermined truncated search keys and by year(s) of publication. Jacobs et al. came to much the same conclusion, and also they evaluated WLN. WLN, like RLIN, has subject and keyword access and combined index searching is possible. This probably arises from the fact that it was the first among these bibliographic utilities and it was designed primarily as a cataloging database, with later additions of interlibrary loan, acquisitions, and serials union list subsystems. RLIN, which came later, was designed to support not only cataloging, but also shared access to collections and cooperative collection development, and WLN was also designed from the start to support multiple functions. Online bibliographic databases—especially abstracting/indexing services and the bibliographic utilities—have been incorporated rapidly into reference work and their acquisition may be viewed as part
Online Databases and Their Uses

of the building of the library's collections. Their use as part of the collections has not been extensively evaluated, but widespread reference use attests to their ease of use, cost-effectiveness over print resources in some cases, and the improved access which they provide over manual tools.

Selection/Evaluation Of Online Databases

Whether or not to add online services to the library's collection or services usually is considered or evaluated extensively. Evaluation of online databases may occur at the time of initial selection of a database(s) or service provider, when two or more databases are being compared for subject coverage or search efficiency and, less frequently, as part of a collection or service evaluation. Selection decisions are made by considering many of the same elements which enter into subsequent evaluations. The evaluation of whether or not to add an online service to the library centers around its use for subject searching but libraries also consider the database(s) as additions to the collections. The substitution of online for a print portion of the collection has already been discussed.

Vendor Selection

Many directories, abstract/index services, and business or financial files are made available through three major vendors, BRS, DIALOG and SDC. A library may select one or more of these services, and, in so doing, it must acquire hundreds of supporting reference tools. In fact, in selecting a vendor package, many files are often added to the collections which would not have been if considered on a file-for-file basis. In addition, specific files are available from government agencies or professional organizations. The primary consideration in most selection or evaluation decisions is subject. For a monograph or serial the selector asks whether the title is in a subject collected by the library, and the type of treatment of that subject—i.e., basic or research. The selector of a database vendor has a more complex problem, because, as Nichol points out, each vendor has some unique and some duplicate databases. However, an overriding concern is still how well the blend of databases offered match the library's collection development policy. Williams, Nichol, Lancaster, and Stern summarize the other evaluative criteria used. Cost and means of searching are the primary considerations. This results in the following questions being applied to the potential vendor's products:

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1. How simple or complex is the system to use?
   a. How much training is needed?
   b. Is training readily available?
   c. Can users search themselves or must librarians perform the searches?
2. What are the comparative costs for:
   a. online time?
   b. communications?
   c. printing?
   d. royalties?
3. What restrictions on access exist?
   a. Must the library subscribe to some print equivalents?
   b. Can it charge for the products?
   c. Is use restricted to searches from one portion of the searchers’ organization only?
4. How does treatment of important individual databases compare?

These same criteria apply no matter whether one is considering choice of vendors, if broad coverage is to be obtained, or whether or not to obtain a given database direct from a producer when only one or two subjects are being considered. No one consideration dominates and different libraries make different choices based on their clients’ subject needs, library staff skills and interest, budget and organizational structure. The criteria for comparing treatment of a subject area or the same database by different vendors follows.

Selection/Evaluation of Individual Databases

There is ample literature which can help make the choice between individual databases. Most of this has been written from the point of view of the searcher, who is evaluating how well similar databases meet specific user needs. These reports can also be valuable in vendor selection when specific subject areas are more important than others, or when a decision of whether to obtain coverage from a vendor or direct from the producer is being made (in those instances where such choices are available).

First, there are the directories which were listed earlier in the section on “Bibliographic Databases.” These titles typically give subject coverage, date coverage, frequency of updating, availability of tapes, producer, and vendor. Next, there are review articles in the trade literature such as *RQ, Database, Online,* and *Online Review.* And, finally, many journal articles have appeared comparing specific databases or subject
coverage by two or more databases, or vendor coverage of the same
database. The following list is by no means comprehensive, but is
indicative of the scope of published evaluations. Notes are added where
the scope is not clear from the title.

Comparisons of two databases:44

"The IRL Life Sciences Collection and BIOSIS"
"The Use of Online Databases for Historical Research" (compares
HISTORICAL ABSTRACTS and AMERICAN HISTORY AND LIFE)
"The ERIC and LISA Databases: How the Sources of Library Science Litera-
ture Compare"
"Georef/Geoarchive"
"WESTLAW vs. LEXIS: Computer-Assisted Legal Research Comes of Age"

Comparisons of several databases covering a subject area:45

"A Sampler of Data Bases for Searches in History"
"Decision Analysis for Selecting Online Databases to Answer Business
Questions"
"An Analysis of Effective Management Searching: A Comparison of Three
Major Bibliographic Databases"
"Company Information Searching in an Industrial Setting"
"DOE's Energy Database (EDB) Versus other Energy Related Databases: A
Comparative Analysis"
"Database Overlap vs. Complementary Coverage in Forestry and Forest
Products; Factors in Database Acquisition"

Comparison of same database offered by different vendors:46

"A Comparison of BIOSIS Previews as Offered by Different Vendors"
"Online Systems for Legal Research"
"Multiple System Searching"

Methods of evaluation in these articles varied. The "Georef/Geoar-
chive" article47 evaluated recall and precision for twelve subject searches
and also compared timeliness and document type coverage. The "ERIC
and LISA"48 article compared precision and recall also. The authors,
who were comparing results with known items from manual searches,
were surprised at the low (51 and 57 percent) recall percentages for the
online searches. The "IRL/BIOSIS" article49 compared journal-
coverage overlap, indexing practices and currency, but not recall and
precision.

Those articles which covered one or more databases in a subject
area used the following evaluative criteria: subject coverage, file size,
document type, date coverage, quality, and depth of indexing, propor-
tion of unique results obtained, proportion overlap, currency, and cost
for different vendors. Donati50 used a different approach in the decision-
analysis article, selecting business databases in relation to crucial ques-

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tions. The first decision point is whether or not information on a principle, practice or problem is involved, or whether information about a specific product or industry is needed. Further, key questions within each category are then analyzed in relation to ABI, F & S Index, PROMPT, and other business databases.

It is apparent from reading these articles that there is no standard set of evaluative criteria which have been developed for evaluation of bibliographic databases. They, like the spelling of the words database and online, vary. What weight is given to each factor? How does a library reach a decision as to which vendor to select or which databases to search when the problem is so complex? Evaluation of specific systems overlaps with comparison of individual databases within each system. The decision process itself is not reported in the literature. Finding out what happens in practice would involve analysis of how libraries who have recently decided to provide online search services made the following decisions:

1. Should we provide online services?
2. Which databases should be provided (i.e., which titles should be added to our collections/services)?
3. From whom should we obtain the database(s)? The criteria for vendor selection would then apply.

In actuality these decisions may not proceed in the order listed above and each one may be made by a different group(s) within the library’s administrative structure. Some libraries select a vendor with primary consideration being given to subject coverage or comparison treatment of individual databases, whereas in other libraries considerations of cost and staffing impact may prevail. Is there a preponderance of any one consideration over another? What factors cause different libraries to weight criteria differently? Factors which are certainly important are what group(s) is making the decision, where the money will be coming from, what library unit will be administratively responsible for service, prior experience of staff with databases, and the uses which will be made of the system. Articles in the premier issue of the journal Science & Technology Libraries featured articles on planning to initiate online search services and described the issues which the authors’ institutions addressed in the planning process. The articles did not, however, describe how the different factors were weighed in the decision process.

At this point, it should be emphasized again that for the most part these decisions are not made as collection development decisions.
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but primarily as service decisions. Further, declines in library budgets may force libraries to evaluate whether such service should be continued, just as we now evaluate whether to cut monographs or serials, and, if serials—which ones. Databases have been treated as separate entities and are usually budgeted separately, but with their introduction to the collections, some libraries may come to evaluate them in relation to the acquisitions budget and the resource sharing budget (if there is one). At present, though, few libraries would probably extend the concept as far as did Online Libraries and Microcomputers\textsuperscript{52} when it suggested that: “With the proliferation of full-text databases and information sources which are only available online, it makes a great deal of common sense to fund equipment from the acquisitions budget.” In this case the equipment being referred to are the computer terminals, modems and printers required to use online tools. It would not be very different from the situation where a microform dealer offers a reader or reader-printer with large microform purchases. The money in this situation doubtless comes from the acquisitions rather than the equipment budget. At present, database acquisition and maintenance are not usually part of an acquisitions budget, although purchase of print reference tools is. Fees for bibliographic utility use primarily come from the cataloging budget, although the utility may be used for resource sharing. In reality, many libraries have budgets with rigid categories of salary, acquisitions and supplies/equipment. Practically, it is difficult to shift the budget line from which something is taken once precedent has been established.

Full-Text Databases

Bibliographic databases were initially described as falling into three major types: bibliographic utilities, online equivalents of print abstract/index services and full-text databases. Now, full-text databases will be discussed in more detail. Full-text databases have been on the scene since 1977, and in the last two years access to them has begun to change dramatically.

The major and obvious difference between full-text and other bibliographic databases is that the full document is available for search and for retrieval. Let's first consider the effect on search strategy. In the other bibliographic databases, documents are described by information extracted from the document (e.g., author, title, date) and information added by a cataloger or indexer such as subject headings, index terms or an abstract. The searcher retrieves a reference to the document by search-
ing any combination of the extracted information. In full-text searching, a user can search any term in the document in natural language. There is no need to translate his query into controlled vocabulary terms, which usually forces a more general search. On the other hand, the user must know all possible synonyms or ways of expressing the subject for which he searches and must deal with more false drops resulting from the fact that most terms have more than one meaning or context in which they may occur. Perez summarizes the advantages and disadvantages of controlled vocabulary and free text (or full document) searching in newspapers and other general publications.53

Newspapers are examples of a type of publication which are available in two different ways online—either as files which are the equivalent of abstract/index files or in full text. The New York Times is an example of this. New York Times Information Bank (NYTIB) became available online in 1973. It consisted of bibliographic citations and abstracts for The New York Times and other major newspapers. Searching was by descriptor terms, and, in this form it found quick acceptance in libraries within traditional reference—much more quickly than the other bibliographic databases. In 1975, just two years after the first commercially available NYTIB installation began operating, Bachelder54 reported that 50 percent of NYTIB terminals in public, college or university libraries were at the reference desk. Why libraries were so quick to place this database in the reference collection is not clear to this writer, although Bachelder maintains that the reason is "obvious: the Information Bank is an excellent reference tool."55 The problems associated with making effective use of the NYTIB in reference were ably described by Riechel.56

In 1980, search capability was enhanced by providing free-text access to the abstracts, and in July 1981 the New York Times Online was introduced, offering full-text access to the paper from 1 June 1980. In April 1983 The New York Times stopped offering the NYTIB, but made it available through Mead Data Corporation. Mead incorporated the Information Bank and the New York Times Online into its NEXIS service which, since 1979, had offered the Washington Post, AP, UPI, and PR wire services online in full text.

Other full-text systems for online newspaper searching are INFO-GLOBE and VU/TEXT. In addition, many newspapers are available in the index form or index plus free-text searching of summaries. All of these are thoroughly described by Nina Ross.57 Stephen Smith reviewed the changes which had occurred in online news retrieval in 1983.58 Many of the newspaper files exist in combination with other files which
contain information that users need on a very timely basis, primarily business, financial or legal information.

Mead Data Corporation, which produces NEXIS, is also the producer of LEXIS, one of the major full-text legal databases which are commercially available. The other, WESTLAW, is a product of West Publishing Company. The two have been competing for users of Computer Assisted Legal Research Systems (CALR) since their introduction in the early 1970s. Larson and Williams59 review the literature on the evaluation of LEXIS, WESTLAW, and the other CALR systems, JURIS, AUTO-CITE and FLITE. They identify the following interrelated evaluation criteria: time saved, cost effectiveness, efficiency, quality of results, manual v. computer effectiveness, user friendliness and operation by end-users compared to trained specialists. The new evaluative criterion appearing here—not found in those listed when evaluating vendors of bibliographic databases or comparing databases—is end-user searching compared to trained specialist operation. The legal systems were developed by or in close cooperation with lawyers and bar associations to search the text of cases or to trace the history of cases and certain compilations of law, such as the United States Code. Their first widespread use was in law schools, during the time period 1977-80 as reported by Neth,60 Mersky and Christensen,61 and Munro et al.62 Neth63 reports that the terminal at Case Western was installed in the law school and used by students and faculty members. Librarians are not mentioned. Mersky and Christensen,64 describing experience in Texas law schools, imply that the terminals are in libraries when they show that acquisition of LEXIS or WESTLAW depends on the size of the library budget; and they confirm this by reporting that, in most instances, training is coordinated through the law school library or in others by a full-time member of the teaching faculty. In any event, the persons being trained are students, and one would predict that CALR should soon be in great use in law firms. Myers65 in 1978 surveyed the impact of LEXIS on large law libraries. Of the respondents, 86 percent had a terminal, and for most subscribers the terminal was in the library or an adjacent office. Many of the librarians had had LEXIS training. However, most of them were not doing many searches, the majority reporting zero to four per week. Unfortunately, the number of searches done by lawyers was not reported. More recent studies could not be found, but, on the basis of that report, it is safe to say that legal databases do not yet seem to have become as much a part of law library collections (with the exception of law school libraries) as have bibliographic databases. Will this continue in the future?
In 1980, Greguras et al.\textsuperscript{66} described the changing information needs of the legal profession. Probably in response to expanded needs for information beyond the purely legal, Mead and West are now brokering access to DIALOG, BRS, SDC, Legi-Tech and a wide variety of specialized databases to LEXIS and WESTLAW subscribers. Will lawyers learn the idiosyncrasies of DIALOG, BRS or SDC databases, or, needing assistance with these, will the lawyers see that librarians are competent searchers and leave the searching of bibliographic as well as full-text legal databases to librarians? (More will be said on this subject in the section on end-user searching.) Although there is little evidence that full-text legal databases have found their way into library collections, other databases have. The New York Times Information Bank has already been mentioned. Just as the bibliographic and full-text legal databases came of age in the 1970s, the “News and Trends” section of Online Libraries and Microcomputers\textsuperscript{67} predicted that the 1980s may be the age of the online full-text books, periodicals, directories, texts and encyclopedias. Perusal of the BRS and DIALOG database catalogs shows a variety of full-text files. Notes are added to the following titles if the database is not the online equivalent of the same print title:

- American Chemical Society Primary Journal Database (BRS). Full text of 18 primary ACS journals.
- Kirk-Othmer Encyclopedia of Chemical Technology (BRS).
- American Men and Women of Science (BRS, DIALOG).
- Mental Measurements Yearbook (BRS).
- CHEMLAW (DIALOG). Full text of U.S. Federal regulations, as published in the U.S. Code and updated in the Federal Register, for manufacture, use, storage, transportation, and disposal of chemical substances.
- CHRONOLOG NEWSLETTER (DIALOG).
- Critical Care Medicine Library (BRS). Full text of twenty-five prominent medical textbooks in emergency and critical care medicine.

At present, use is expensive, but future development of optical disk technology may change this. The age of the electronic journal, predicted for some years is still not with us, although it is certainly closer. More and more full-text databases are available. An advertisement in the April 1984 American Libraries\textsuperscript{68} announced that full text of many of the articles in Magazine Index and Trade and Industry Index would soon be available online.
As more directories and journals become available online, libraries will be questioning whether or not to subscribe to one or both and the print vs. online migration may become more extensive than earlier reported. But in this case the choice is not print or online for a secondary service such as an abstract/index tool, but print or online for the full entity, i.e., American Men and Women of Science, or The New York Times, or a court opinion. Access is usually faster and greater, but costs are higher.

Numeric Databases

A numeric database is a computer-readable collection of data which are predominantly numeric in nature. Numeric databases were developed before bibliographic databases and have been described by Luedke, et al. Initially access to these data was through the information analysis centers, professional organizations, or government bodies that produced them. More recently, the development of software packages for access and further analysis have made feasible the use of numeric databases by other than the producers.

Fried et al. describe an online numeric database as a system—a combination of numeric database and search system which retrieves data and presents it online to the user. The article by Fried et al. was the first in what was to be a series of online columns on numeric databases. Only two such columns appeared.

Economic and financial data are the most accessible commercially. This is probably because there is a fairly large audience for this type of information and thus commercial vendors have a market for it. Major vendors are Data Resources Inc., Wharton Econometric Forecasting Associates, Chase Econometric Associates, and A.P. Sharp, Inc. Information is available either online through a time-sharing system or via direct access to the producer's computers. Although some special libraries doubtless access these systems, there is little use reported. A 1977 survey by Wisdom and Houghton in Great Britain showed that the files were being used primarily by financial analysts, economists or managers. Only a handful of librarians were using data files other than Predicasts. In 1976, Predicasts and Lockheed began the first combined online bibliographic and numeric data retrieval and analysis system, Predicasts Terminal System (PTS). In addition to the Predicasts literature, the system gave access to economic, social and industrial numeric data. It was this venture that doubtless introduced many libraries to
numeric databases for the first time. A 1983 DIALOG catalog listed twelve numeric databases, all in the area of business and economics. The first listing of online nonbibliographic databases in Online Review in 1977 contained 127 entries, and in six months that number had increased to 246.73

Online nonbibliographic databases do not seem to have found their way into libraries to any large extent, with the exception of those available through DIALOG. The major reporting of library use or involvement is in the area of social science data, involving tapes, rather than online use. The Winter 1982 issue of Library Trends was titled "Data Libraries for the Social Sciences." Rowe75 described the need for incorporation of knowledge about machine-readable data files (MRDF) into the reference process but stated that MRDF are normally housed at data libraries in academic departments, research institutes or computer centers. She went on to say that a few libraries have incorporated MRDF into their collections and a few others have acquired codebooks or documentation, but not the tapes. Most libraries, she continued, have done nothing. Those libraries which have are described elsewhere in the Library Trends issue and by Ferguson76 in a Drexel Library Quarterly issue devoted to "Machine-Readable Social Science Data." Jones78 described complete integration into collection and services and Ruus79 described a data library operated jointly by the library and computing center. The difficulties attendant in housing the tapes and documentation separately from the computer may be overcome if these files become available online.

The Summer-Fall 1982 issue of the Drexel Library Quarterly was devoted to numeric databases. Bartkus80 described the use of scientific numeric databases in reference and information services at duPont. There, scientific numeric databases have been selected and used by either the engineering or information services department, whereas access to commercial and business databases has been coordinated through the information services department. Bartkus predicted that numeric databases will tend to be searched by the individual, rather than an intermediary, because other databases will be available to the individual to manipulate the data extracted, and because the individual uses it directly in his work (design, technical computation or economic study). Access to the databases has been centered in the organization of the searcher-user, rather than the library. Bartkus went on to outline several possible roles for the library in the acquisition and use of numeric databases; a clearinghouse coordination or specialist services
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function. Wherever they are selected and evaluated, the criteria described by Ewbank may be applied.

The evaluation process for numeric databases has multiple steps, as does selection of a bibliographic database, since both the database and the system used to access it must be evaluated. The evaluation revolves primarily around the content of the database, the system used to access it, and factors relating to management of the database. Factors to consider relating to content evaluation are scope (dependent and independent variables, precision of the data, level of data evaluation) completeness, source coverage, the process by which data are selected and evaluated, redundancy, references, consistency amongst units measured, and recency. Factors to consider in relation to database management relate to production and maintenance of the file. Is there adequate technical and institutional support? periodic update and revision? adequate documentation?

A key element of evaluation which must be performed in the case of numeric data is that of the access system. As Wisdom and Houghton point out the searcher of a bibliographic database is looking to see whether or not information on a subject exists, whereas the searcher of the numeric database knows what is available and searches to find it. He/she needs a good access system and ways to extract and further manipulate the data. Ewbank recommends evaluation of system documentation, indexing system, availability (hours, downtime), report formats, and protection from user changes. Although his criteria were developed primarily for scientific data, Autrey applies identical criteria for social science numeric databases and then goes on to raise several issues specific to social science files, namely, user training, privacy and confidentiality of computer records of organizations' internal data and those from personal questionnaires and interviews.

Scientists are usually conversant with computers and have used them in their work for a generation now, whereas social scientists have only come to use them more recently. More training or more user-friendly systems are presently necessary in order for social scientists to use numeric databases online. In a 1983 review of "Online Searching in the Reference Room" Bonta specified three different areas of expertise involved in searching online databases: knowledge of the database being searched, knowledge of the search system, and knowledge of the subject itself. Greater knowledge of the subject matter has been suggested to be more crucial for searching numeric databases, and perhaps for that reason they have not found their way into libraries. However,
even in those institutions where persons with advanced degrees are employed as searchers, the user's need to incorporate the information obtained directly into a work product or to manipulate the data further make intermediary searching a hindrance rather than a help. Rumble has summarized the basic reasons why only a fraction of the existing numeric databases in science are actually available online. These are the high cost of data entry, difficulties in database building, lack of obvious economic benefits, a small number of well-articulated demands, and lack of encouragement from major online vendors.

End-User Searching

Just as end users search numeric and full-text databases, especially legal and newspaper files, the time for end users to search bibliographic databases may have arrived. BRS introduced its AFTER DARK service in January 1983 and DIALOG its KNOWLEDGE INDEX service in November 1982. Special evening rates and simplified search strategies are offered to encourage individual users, many of whom have all that is necessary (personal computer, modem and phone) to access these files. A search software package using one language to search the different major vendors—SCI-MATE—has also recently been developed in combination with a data management package by Institute for Scientific Information. In February of 1984, Menlo Corporation announced a software package for use with DIALOG databases which is menu-driven and guides users through searches and database selection. The software is available with several microcomputers. Other end-user software packages are available. Will patrons prefer to do the searches themselves or will they still turn to librarians as intermediaries?

The conditions seem similar to those which have caused users of numeric databases to do the searches themselves, i.e., knowledge of subject content, an easy access system and a tool for further manipulation of the information. Some libraries have already subscribed to BRS AFTER DARK for patron use. KNOWLEDGE INDEX offers document delivery in connection with the service, an attractive feature for the user who would like to avoid the frustrations of dealing with a library and would prefer to have the document delivered to his home or office. On the full-text systems, of course, the document can be printed online, in some cases in advance of when the information is available in print.

Some independent dealers are beginning to offer selective database coverage, either through one of the major vendors or independently. For example, EXEC INFO service offers a combination of full text—
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*Harvard Business Review* and *Academic American Encyclopedia*—and bibliographic abstract/index—Management Contents and ABI/Inform—through BRS for a flat monthly rate. VU/TEXT offers a wide package including full-text newspapers, the Pennsylvania Legislative Database, PTS Prompt, ABI/Inform, and current stock market quotes. These developments are summarized by Smith.92

Although Stabler93 argued at the 1984 National Online Meeting that librarians will continue as intermediaries for the bibliographic databases, her arguments are based on 1983 technology where only a limited number of files are available through the simplified search routines of BRS/AFTER DARK or KNOWLEDGE INDEX systems and the fact that, since the access system has been simplified to encourage end users, search results are not as comprehensive or specific as those performed by librarians. This could change, depending on the success of these new services, users’ direct access to more full-text files, and development of simplified search software.

**Use of Bibliographic Databases in Collection Evaluation**

There are two areas where online bibliographic databases have played a role in collection evaluation. These are in comparison of collections in coordinated collection development and in evaluation of periodical collections.

**Bibliographic Utilities in Coordinated Collection Development**

The ALA “Guide to Coordinated and Cooperative Collection Development”94 states that these functions presume easy bibliographic access not only to cataloged items, but also to automated order and in-process files when available. Online access is easy, especially when compared to no access, use of many microfiche or book catalogs, or making guesses based on known collection development policies. It is well known that online catalogs have revolutionized resource sharing. They are used by selectors considering retrospective purchases to determine whether a title of suspected little future use is held by an institution with which one has a cooperative arrangement or from which one can borrow readily. But moving from sharing of existing collections to a coordination of future collecting is a quantum leap. Pat Battin95 ably expressed the situation when she stated: “When one’s resources are not equal to the demand, dependencies replace resources in the sharing equation.” Before resources can be coordinated, existing strengths and collecting policies must be analyzed. An essential component of this
process, as Reed-Scott states, is agreement on the methodology or methodologies for evaluating their collections. A major product of Research Libraries Group's Cooperative Collection Management Development program is its RLG Collection Development Manual, which describes how member libraries should report existing collection strength and current collecting intensity. Member libraries have completed the conspectus in many subject areas and have accepted collection responsibility for the group in defined subject areas based on analysis of the results. The conspectus results are now online on RLIN. Why online? The information is easier to search this way and there is access by subject words and phrases, institutions, Library of Congress classification number, primary collecting responsibility, and collection level. The multiple access characteristic and currency of information facilitate its use for comparing and analyzing collections. Gwinn and Mosher describe the development of the conspectus and its use in regional and specialized national planning. The conspectus is a powerful collection evaluation tool and Association of Research Libraries has evaluated the adoption of the RLG Conspectus On-Line for use by a larger, less cohesive group of research libraries. The Association of Research Libraries has recommended that it be adopted with modifications to enable national cooperation in collection development to become an ongoing reality. If this happens, collection evaluation results will be online on a grand scale.

Although collection strengths cannot be compared online, OCLC participants can conduct analyses of their tapes between any two or more institutions. Interpretation of the results of overlap studies is not clearcut and they do not seem to have been widely applied in coordinated collection development.

**Serials Evaluation**

In 1978 Barbara Rice surveyed the use of bibliographic databases in collection development activities and found that they were being used in the selection process for verification, but little was being made of them in collection evaluation. While that paper was being written, BRS and DIALOG both announced the availability of a collection development service which lists the total number of times journals are cited in the subscriber's searches for a six-month or one-year period. Lancaster, however, echoes Line's criticism of the use of citation counts to evaluate periodical holdings, and states that, "no measure of journal use other than one derived from a local-use study is of any significant, practical value to libraries." On the other hand, use
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studies are viewed with considerable suspicion by many and the controversy has by no means been resolved. Recently, ALA published its “Guide to Collection Evaluation through Use and User Studies,” and citation studies are listed as one possible type of user study. The guidelines conclude with a warning that no technique alone is sufficient for evaluation and that any one type (e.g., in-house use, citation studies, circulation counts, or document delivery data) has distinct advantages and disadvantages. All use studies are cumbersome; and online citation methods, especially the collection development services, offer a quick way to compile a list of titles which patrons may well have requested from the library. Since Bourne and Robinson’s early article describing the use of references from online selective-dissemination services to test document delivery, there have been a number of articles describing the use of citation counts from online bibliographic databases to identify titles for addition to the collection and for collection evaluation. Hafner, Rice, Seba and Forest, Danilowicz and Szarski, and Trubkin all used lists which they generated from retrospective search or selective dissemination services. Garfield maintains the validity of this technique and has used it to produce his Journal Citation Reports for both Science Citation Index and Social Sciences Citation Index. Sprules pointed out that the technique may be valid for a special, discipline-oriented library, but that it did not work for a large multidisciplinary collection. Part of the problem with all use studies is that each type measures a different use, and opponents and proponents are at odds because we really have not defined what “use” is. When Rice compared lists of chemistry titles generated by BRS’s collection development service with those generated by Journal Citation Reports, an in-house use study, faculty choice, and the “List of 1000 Journals Most Frequently Cited in Chemical Abstracts,” she concluded that no list can match the unique purposes of any one collection. The BRS collection development service seemed most useful for identifying titles which should be added to the collection. However, the BRS and DIALOG services were not popular and are no longer available. Collection development staff and serials librarians obviously did not regard them as valid selection tools.

Conclusion

Bibliographic databases are being widely used in libraries as reference tools and have been evaluated primarily from the selection point of view rather than from the vantage of how well they are meeting library
collection or service goals. Numeric databases have not yet become a part of library collections, as have the bibliographic utilities and index/abstract or full-text bibliographic tools. In addition to becoming a part of the collections, the bibliographic databases have also been used to evaluate holdings in coordinated collection development programs and to evaluate the serial holdings of a given library. The field changes rapidly and the picture then, especially with respect to full text and numeric databases and end-user searching may well be different. The on-demand library described by Aveney may well come to pass, but its time, like that of the paperless society 's, remains in the future.

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EVALUATING AND SELECTING MATERIALS for libraries has long been one of the most important responsibilities of the profession. With the advent of each new technology, in this instance the microcomputer, yet another set of problems and concerns in this evaluation of materials has emerged. Microcomputer software provides the logic instructions to the hardware and enables the machine to translate those instructions into desired outcomes. Alan Kay has suggested the metaphor of a musical score as a means of grasping just what microcomputer software is and does.\(^1\) Essentially it is not software in general that is so important, but what specific applications software permits us to do in the best possible fashion to reach our objectives.\(^2\) Software offers the opportunity to do something, but it does not explain how that "something" may be applied to library problems.

Virtually all libraries are now using some form of microcomputer technology in their internal operations, and the number offering user-specific microcomputer services is increasing rapidly. One of the most difficult things to do in writing about the evaluation and selection of microcomputer software surrounds the distinction that must be drawn between acquiring software for managerial purposes within the library and acquiring software for general patron use. This article draws the distinction and introduces some of the basic types of software both for

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library management and for patron use. Then it examines some of the problems in the evaluation and selection of software, and finally it reports on a brief pilot study and responds to the concerns voiced there by suggesting the beginnings of a model for library staff development.

**Acquiring Software for Managerial Purposes**

Technology has imposed on librarians and other professionals the need to respond ever more quickly and with greater knowledge and detail when addressing administrative issues. At the same time, the microcomputer is a tool that offers a variety of means for addressing such issues. Word processing software, spreadsheet software, database management software, online public access software, and electronic messaging software are but a few of the examples of software for managerial purposes now being used in libraries. As the use of such software increases, librarians must develop the skills to evaluate and select these materials efficiently and effectively. The difficulty for many librarians at this stage is that they do not yet have a clear enough understanding of how, for instance, database management programs can help us in our work to make the critical evaluative distinctions among various database management software.

**Word Processing Software**

Word processing programs permit the establishment of easily created, stored and retrieved text files for targeted communications such as letters, memos, procedures, manuals, publications, guides, and reports. Such files may be used repeatedly with only minor revisions, saving a great deal of time and offering a more cost-efficient way to communicate and to conduct business. Word processing programs may also be useful in the preparation of more complex planning documents or grant proposals. Often staff have used dedicated word processors (those computers modified in the factory to perform only as word processors) and find essential the use of function keys, the elaborate menu screens and the clean approach to control of texts and text files. Dedicated word processors, such as those from Wang and Digital Equipment Corporation (DEC), make the task of word processing simple and comfortable for the user. The move away from dedicated to multiple-function machines is a cost-efficient one, but also it is one which reflects the desire of staff to exploit the versatility of the computer. Software programs are now available that are highly derivative of traditional dedicated word processors. An example is MULTIMATE, which provides some of the best features of a dedicated program. This is
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just one of many word processing programs now on the market, and the competition among word processing software producers is fierce. Since a great deal of time and effort are required to master most word processing programs, users often develop an almost disciple-like loyalty to their particular software. Obviously, the selection of word processing software should be dependent upon the needs of the institution rather than on a popularity contest among items in the marketplace.

Among the key questions in selecting a word processing package are:

1. Who will use the word processing software and what skills do they bring to a new software package?
2. What tasks will the word processing software be employed to perform?
3. Can the word processing software be modified or customized to meet user needs?
4. What extra features are provided with the word processing program such as checking spelling and merging addresses for mailing?

Often potential users believe that they need a sophisticated program, when all that is required is a rather simple text-editor/formatting program. If footnotes, elaborate citations and complex formatting of the pages are required, then obviously the word processing program must be able to accommodate this complexity. The training time required for highly elaborate word processing programs may be a factor in their decreasing acceptability to staff. For example, many users find WORDSTAR's on-screen menus make it easier to learn than MULTI-MATE, FINAL WORD or WORD PERFECT, although much of that decision is based on willingness or unwillingness to learn intricate command structures.

Spreadsheet Software

Spreadsheets permit budget analysis that was not possible without a great deal of time and expertise in the past. It is now feasible to plan and print out alternative budgets that change according to changes in projections made by administrators and staff. The financial planning aspects of spreadsheets are a realistic contribution to planning processes. However, it is far too easy to fall into the trap of producing complex-looking documents that have little or no substance. All too often, elaborate printouts of spreadsheets are used as a means to "snow" a board, staff or others from whom support is sought. Spreadsheets are
not meant to avoid the obvious responsibility of cost-efficient planning. Staff need to grasp what is feasible as well as what is possible in the planning cycle. One obvious criterion for selection of a spreadsheet would be to know what configurations of the budget might be best explained or documented through a spreadsheet software package. Spreadsheet programs may also be used for inventory control and may be helpful in keeping track of collection management decisions. To select a spreadsheet, one needs to be assured that it will hold the full dimensions of the budget or inventory as well as all of the formulas needed for computation. It should have clear and precise report features and it should be easy to edit the cells—i.e., each of the “slots” in the rows and columns on the spreadsheet.

**Database Management Software**

Selecting a database management program is one of the most rigorous selection problems. The ability to store and rapidly retrieve information that is indexed by keyword is a basic requirement. Boolean logic should be operational for retrieving data in a search. The potential user should critically examine the report functions and the resulting report formats supplied by the database management software. It is a question of both size and speed of sorting. An example of a simple software package is PFS-FIFILE that offers a small database structure but does not have the capacity to do all of the tasks that might be essential in library operations. Software such as dBase III is much more powerful, but it demands more skill of the user in setting up the files and records needed to make this relational database work. A key factor in the selection of any database program is size retention. How much space does the program allow for a record and how large can an individual file field be? For instance, improvements in earlier versions of dBase II are evident, and dBase III offers greater record space and speed in processing records, but it also offers users assistance through on-screen help menus. The isolation and intimidation of the “.” prompt on the screen in dBase II are now gone.

**Integrated Software and Window-Oriented Display Software**

A great deal of interest is engendered by the concept “what you see is what you get.” The user’s need to be sure that what appears on the screen is precisely what will appear on the output is a prime force in some selection decisions. Of course this is an aspect of the move to increased “user-friendliness,” which may not be as important as we have been led to believe. If the objective of microcomputer software is to make compu-
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ter use easier, and if a secondary objective is to provide the power evident in mini- and mainframe computers, then *windows* are a move in that direction.

There are programs that combine two or more of the previously discussed functions through Integrated Software and Windowing which creates an operating environment for the user. Some software is written at the system operational level while other software accommodates to the applications level of existing software. Software such as the earlier versions of LOTUS 1-2-3 or the sophisticated packages FRAMEWORK or SYMPHONY, or the newer packages VisiON or DesQ are examples. As new software packages penetrate the market, new demands will be placed on administrators for keeping up the quality of managerial output while simultaneously shortening the timeframe. Some newer integrated software packages are heavily derivative of the work done by the Smalltalk research group at Palo Alto (PARC) that employ hand-held mouse devices and bit-mapped displays. Overlapping windows and pointers are growing in popularity and seemingly attract the user as a more useful and comfortable approach. Both FRAMEWORK and SYMPHONY are integrated software that offer users a great deal of capacity in one program. Some have indicated that FRAMEWORK is more attuned to word-oriented persons but has the power comparable to number crunching programs, whereas SYMPHONY is more attuned to numbers.

Windows permit users to bring up separate boxes on the computer screen that may hold different portions of their work. The new systems permit movement among these boxes thus allowing the building of a total environment. When choosing a system of this type, certain questions are important to ask:

1. Can the institution afford to replace existing applications software to purchase a new system?
2. Can the institution afford to have customized software written to permit full use of this type of new environment?
3. Will current files be transferable into this new environment?
4. Is the box (window) structure one that is comfortable for users?
5. Does the new software have bit-mapped or character-based graphics?
6. What will be the timeframe in learning a new program *v.* the cost savings once that program is operational?
7. Are there additional or hidden costs—e.g., is additional hardware required to accommodate the new environment?
Online Public Access Catalog Software

The area of software for the stand-alone online public access catalog (OPAC) is growing, particularly in small libraries such as those in schools. A study examining the question of standardization of entry is in progress at Columbia University. Here the questions of standardization of entry in both input and output are critical, especially as we move toward a future in which local area networks (LANs) may be more and more important. Some software is limiting in what it will permit at the input stage, thus forcing users to enter either abbreviated or truncated forms or even to omit data. Such decisions are left to the user and lead to a lack of standardization. Nonstandard records are particularly significant in resource sharing, where it is desirable to search and index records by field elements. The decision to purchase stand-alone systems should be made with care and with a realistic vision of just what is wanted from the system. Many stand-alone systems are large enough to hold the number of entries for a small school or public library (between 20,000 and 60,000 volumes), but they require a hard disk unit. Since such programs have a predetermined input pattern, adjustments may have to be made to satisfy the needs of a union catalog. In addition, the question of increased multitasking is a question that should be addressed in selection. Frequently such multiple tasks as acquisitions, circulation and even inventory systems are now included in these stand-alone systems or such tasks are potentials for later inclusion.

Bibliographic Citation and Presearch Software

Another area of increasing concern involves the use of bibliographic citation/control software packages. Although most often used by individual scholars, such software packages are of growing importance in libraries, most often for reference staff or for those responsible for bibliographic instruction. Victor Rosenberg's software, PERSONAL BIBLIOGRAPHIC SYSTEMS, is complex, but it seems to address the scholarly need for complete citations, including all media formats. Truncating data elements and truncated search capabilities may be desirable in bibliographic databases, and some bibliographic software packages allow a great deal of abbreviation and truncation. This differs from program to program.

Increasingly, reference services are using microcomputers as front-end processors to access large database services such as DIALOG or BRS. The new software for offline search formulation and database access is of importance. IN-SEARCH permits setting up a search stra-
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tegy at the microcomputer before invoking the costly online time connections to the commercial database/vendor service. The key question in this instance is whether these software packages are the most useful approaches for reaching client needs or whether they simply are devices for drill and practice for library staff. In some cases, especially with less-experienced searchers, these software packages may actually be cost-efficient methods of searching large databases.

Electronic Messaging Software

Electronic messaging software is increasingly important. Many institutions, particularly colleges and universities, are moving toward centralizing their communications and computer technology. Librarians are finding they must become involved in the organizational restructuring that centralizes administrative support for computer technology. Although decentralization may be a major trend, there will be a critical need for interfacing various functions among decentralized units. Communication protocols are critical. More and more faculty and students in universities have microcomputer access and seek to communicate electronically. What Thomas calls “telecommuting” may become important even in libraries, since some personnel may seek to complete a great deal of their work at home. For instance, it might be possible to complete database searches at home or to develop bibliographies, manuals or guides, and send them into the office via the modem. Software that allows institutional communication and extra-institutional communication is something which libraries must be alert to in the immediate future. One popular program is KERMIT which functions as a communication protocol and does it efficiently. For instance, it is now possible to connect through KERMIT to the Decnet System at Columbia University and to access the Serials Project at Teachers’ College through a hosting protocol. From home, a user connected through KERMIT may check which journals are available in the Teachers College collection. This project is only a beginning, and it will be enhanced by the online public access catalog, Columbia Libraries Information Online (CLIO). Such varied uses of electronic messaging software show that routing protocols must be applied and examined in some library situations. 20

Another aspect is desirability and applicability of using and accessing various electronic mail (e-mail) systems for library applications. These systems permit the user to enter various electronic bulletin boards and to communicate with others across the country. Standard communication devices (modems and language protocols) are needed. For exam-
ple, using a Hayes Smart Modem with SMARTCOM II as the protocol language, it is possible to communicate with databases and a variety of institutions in a network mode. The development of the American Library Association's ALAnet is an example of the increasing interest in and use of a system devoted to library activity. Using ALAnet permits the various users to contact one another throughout the country and to communicate quickly and efficiently.

Acquiring Software for General Patron Use

Should libraries collect microcomputer software for their clients' use? If so, what kind of software should be collected? Should it be allowed to circulate or does the library provide a microcomputer for on-site use by patrons? How may access be assured to the hardware as well as the software? If the library assumes the responsibility for providing software for home use, how many and which version(s) of the software will be purchased, for which mutually incompatible microcomputers? Should a faculty member in a major university expect the library to have a variety of database management programs to use and to experiment with for courses and research? One excuse some librarians use to avoid dealing with such problems is saying that public access software should not be provided because it is too easy to copy most disks. At the same time it seems many libraries have chosen not to provide software to the public rather than to concern themselves with either the managerial or the intellectual issues at stake. From a managerial point of view, librarians may be required to develop guidelines for use of licenses that may differ from those applying to the general public or to the profit-making sectors. Intellectually, if we consider software to be a type of content that permits a user to interact in some specified fashion, does not the library have a responsibility to make this content available to its clientele? Just as a faculty member should be able to examine a variety of sources in making a decision about course materials or about a research design, so too, a faculty member (or other member of the library's public) should have available a variety of software. For instance, all libraries have dictionaries in their collections. A first level of use for such dictionaries is spelling verification. But how many libraries offer their users a program that checks spelling? When the *Oxford English Dictionary* (OED) is on disk, will libraries purchase it or refer the user to hard copy only? To be sure, this is not a simple problem to solve, but we need more study of the role of the library in providing public access to software. We must seek a model of acceptable practice.
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Once a library makes the decision to provide software for clients, questions regarding the evaluation and selection of items that might be appropriate for the collection must be considered. For example, should libraries collect software broadly representative of the entire collection? Should they purchase only popular items that would be in constant demand? Where will the collections of record be?

The problem of adding increasingly complex computer games and adventures is something that must be dealt with in any selection policy. Now there are highly creative games emerging that clients may wish to see and use. Certainly one could make a valid case for using adventure games and other computer games as a means of developing logical thinking and sharpening intellectual skills.

In the field of education, it may be relatively easy to devise a collection model. There are clear-cut choices of administrative software for classroom management and testing. Then there are the easily distinguished drill-and-practice clusters of software available in almost all subject disciplines. Finally, there are the subject-oriented simulation and other creative software items that are often useful adjuncts to the curriculum. Given these distinctions, setting up a collection policy that offers clientele a rich resource for research and practice is not so difficult in schools as it might be in other types of libraries. Even in the school setting, however, one must address the question of whether or not the school library media center should provide software for recreational, non-school-related activities. It is much more difficult to establish collection development guidelines in other libraries where lines of demarcation among software are not as clean.

The question of dealing with software for multiple varieties of hardware is somewhat easier, since the purpose of a collection is to have at least one item for use. Unless a purposeful decision is made to circulate software, using a one-item/one-machine system should be appropriate and should create less stress in the selection process. It may also presuppose that if only one or two types of machines are available this will be a factor in software evaluation.

Evaluation and Selection of Software

There are at least five key criteria for the evaluation and selection of software:

1. Does the program do what it says it will do?
2. Does it make use of the computer in an appropriate fashion?
3. Does the software require additional hardware in order to run satisfactorily?
4. Is the documentation clear and communicative? Will back-up services be available to the purchaser?
5. Is there a satisfactory reason to purchase the software for the institution?

If the computer software is used to mimic previous technologies and ignores the potential of what the new technology can do, it fails the user. If a program stops working when you are using it and leaves you hanging, it is not a useful program. Although drill-and-practice, computer-assisted instruction, and classroom maintenance programs are all useful and even desirable, in some situations, they may be the best choices for stimulating computer use. Programs designed for children like ROCKY'S BOOTS and PINBALL CONSTRUCTION SET demonstrate a creative structure that increases the logical ability of the user while being entertaining.

The traditional sources for selecting microcomputer software for consideration are not as readily available as are those for other forms of media. Innumerable lists, both in hard copy and in online systems, exist for such selection. (See appendix A for list of selected sources.) We still have not reached the equivalent of software approval plans or large-scale distributors and jobbers such as Blackwell/North America or Baker & Taylor.

Certainly one reason the approval-plan concept has not reached the software market is the ease of copying most disks. While libraries would not necessarily copy disks rather than purchasing them, it is conceivable that an individual reviewer might copy a disk whether or not the library approved the item for purchase. Increasingly, however, a disk is almost impossible to copy beyond one backup after which the disk is encoded to prevent additional copies being made. Indeed, many programs cannot be copied at all, or, if copied, it is clear on the master disk that this has been done. We have permitted circulation of recordings for years and few stop to consider how easy it is to copy a recording to a tape. Perhaps LANs will perform a switching service to load and control applications software for users in the individual libraries in a system. The confusion between the technology and the content remains to be resolved.

Licensing Agreements for Microcomputer Software

A critical distinction in microcomputer software is between copyright—which protects all software—and licensing, under which most expensive software is sold. Licensing only permits one to use the
item on the specific disk and only allows the making of a defined number of backup copies. The rigor of this system is interesting, and usually the customer benefits by being able to deal directly with the company that produced the item to obtain supporting documentation, replacement copies or new versions. This is a fascinating concept. When we order and purchase a book, we have no direct contact with either the author or the publishers. When purchasing software under license, we have a potentially intimate arrangement with the “author” and “publisher.” But all of this is dependent on the licensing concept. The customer who purchases dBaseIII produced by Ashton-Tate purchases the license to use that program, and the customer may telephone Ashton-Tate for assistance in program applications or for help in using it. Ashton-Tate will ask for the customer’s license identification number, and with that the licensee is entitled to their help. (It does not matter whether the software was purchased from a discount house, a computer store or even a department store rather that directly from Ashton-Tate.)

Factors in Evaluation

Often, one may use alternative means for either examining or selecting microcomputer software, such as:

1. the professional colleague or informed hobbyist who has used the software and can offer information and criticism;
2. the review that appears in a reliable journal (this often means use of those journals devoted to microcomputers rather than traditional library journals);
3. the listing of the particular piece of software in books, articles or exhibits with enough frequency to catch attention (name recognition);
4. attendance at various conferences and exhibitions that concentrate on microcomputers; and
5. visitations to computer stores.

Although similar sources of information are used for the evaluation and selection of all types of materials, the specific persons, journals, books, conferences, etc. are often outside the traditional library sources.

The critical decision to purchase a given piece of software often is dependent on the knowledge of a staff member who has some familiarity with the software, and who suggests the item as a best buy. Although this may prove helpful, it should be seen as no more than a suggestion that should be examined in light of institutional needs. To accept the suggestion without examination may lead to a mind-set that forces users into a mental vise, precluding real analysis of why and how any given
program may work for the library or information agency. In short, knowing something about a particular program does not always lead to the best possible choices among the various programs available.

**Timeframe of Evaluation**

The timeframe allocated to evaluation of microcomputer software creates a problem in the paradox of extended time v. life of a program. By life of a program is meant the extent to which a program is viable in the marketplace. If we encumber evaluation of software with elaborate systems, we risk the possibility of finally achieving a superb evaluation only to discover the product evaluated has been replaced with a newly marketed item. Obsolescence in microcomputer software is remarkably swift and may be significant enough to plan alternative approaches for the timing of evaluative procedures. For software evaluation, the systems that have worked in the past are not necessarily valid. Elaborate systems such as that of Educational Products Information Exchange (EPIE) need to be contrasted with less complex systems that highlight only a few critical components to test.\(^{31}\) *Library Technology Reports* have also contributed to overall understanding of evaluative procedures.

**Cost of Software**

Software prices normally range from approximately $50 to $700, with most management applications priced at the upper end of the range. With discount software houses, the prices are markedly reduced. Still, for most libraries, each dollar is hard-earned and care in expenditure must be exercised. It is doubly difficult to justify the cost of software when it is so likely to become obsolete in relatively short periods of time. One of the costs hidden in the purchase price is updating the software by new releases of programs and creation of peripheral software packages to aid in use. We need to stop treating software as if it were a unique phenomenon and recognize that, just like the book or other sources of information, we continue to update, replace or simply add to the collection. In some cases, the cost of updating is borne by the producer and the purchaser gets it free (that is, without additional expenditure).

**Access to Actual Software**

There are very few examination centers in the United States that offer a wide range of software. Selectors fortunate enough to have a large computer store nearby may be able to preview software there, but this is not the normal, and certainly it is not the ideal, setting for evaluating
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and selecting library materials. Most distributors will not permit use of an item before purchase, although some software design companies will offer demonstration disks, not unlike the preview versions of audiovisual media. Unfortunately, however, some of these demonstration disks do not really provide enough information about the software or enough experience with the full range of the software capabilities, so it is difficult to use "demo" software as the sole basis for the selection decision. IBM and Prentice-Hall/Chambers have collaborated on what is called the IBM PC Apprentice Program which offers to students (high school through post-secondary education) workbooks and disks containing either the entire program (live code version) or at least a reasonable modified portion of the program.32 This program will include a very large range of software including JACK 2, OPEN ACCESS, SUPERCALC 3, WORDSTAR, WORD PERFECT, dBase II, dBase III, and UCSD PASCAL. The programs include some of the most commercially viable and have only been changed to permit limited use (fifteen records or five pages of text or some such device) by the student. What this will permit is less expensive access to a large amount of software (mostly business-oriented) so that some experience might be offered to users before a full-scale investment is made.33

Pilot Survey of Microcomputer Software Libraries

Although the literature does demonstrate an increased interest in and awareness of microcomputer software, it is not year clear to what extent libraries have actually become involved in software acquisition and in the necessary staff development that go along with this process. A small pilot study was designed to investigate library involvement in software acquisition and related tasks and to offer some descriptive data.34

Thirty librarians in leadership positions in United States libraries—nine from academic, ten from public, and eleven from school libraries—were queried by telephone to survey their degree of involvement with staff development in microcomputer applications. (The author claims no more for the survey than that it tests the waters.) The following questions were asked and, in some cases, some additional commentary followed on the topic:

1. Is your library involved in any formal or organized evaluation of microcomputer software?
2. Does your library collection include microcomputer software? For administrative use? For client use?
3. Is microcomputer software included in the format statements of the collection development policy?
4. Is the software evaluated for staff use or patron use?
5. Who is involved in the evaluation? Administrators, reference librarians or technical services librarians?
6. Is the involvement by job responsibility or through personal interest?
7. If you had a staff development program, which objective would you rank as the most important (a) to develop an evaluation form for the library? (b) to make decisions about acquisition? (c) to raise questions on the applicability of software?

The responses to this national telephone mini-survey reveal only an indication of possible trends and of direction. Of the thirty interviewed, twenty-eight were involved in the evaluation of microcomputer software. The two, who were not—one academic and one public librarian—indicated that they expected to become involved in the immediate future. All respondents indicated that their libraries' collection development policy statements were broad enough to include all media, even microcomputer software, although several indicated that they would encourage revisions to be specific in mentioning this area. Of the thirty librarians interviewed, twenty indicated that the software purchased was for library applications; five school librarians indicated both administrative and patron use, with most emphasis on software for student use; and three public librarians indicated both. Twenty-eight indicated that staff were involved in evaluation and selection, with administrators and reference staff the most frequently cited. Answers to this question did not pinpoint precisely who was involved, since the response most often given was "a variety of staff." No one indicated that this form of evaluation was a specific responsibility within a job description, although many indicated that it was assumed and probably would be added in this next year. Some comments indicated that most often the evaluation and selection of software was started by one staff member with some experience with microcomputers. The last question on goals for staff development showed seventeen respondents placing the objective of decisions about acquisitions as a first priority, while ten indicated that development of an evaluation form was their priority, and three indicated that applicability was their chief concern.

One last question was asked on the general need for staff development programs which address the problems related to the evaluation and selection of microcomputer software. Overwhelmingly, the respondents (twenty-seven) indicated that they felt such a need. Many
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indicated that trial and error was the path they had followed and it was quite costly.

Although a rather primitive study, this survey does reveal that evaluation of microcomputer software is of some importance and that similarities of concerns emerged among the different types of libraries. The only notable difference was in the emphasis on users among school librarians. They indicated that library applications were the most difficult to acquire and justify. I started the pilot hoping to obtain some new information but only confirmed what I had suspected; that is, libraries were involved with software evaluation but staff development was not a major part of their concern. Only when I mentioned the advantages of staff development programs did I get positive response.

A Model of Competencies for a Staff Development Program

One of the obvious questions that emerges in this examination of software evaluation and selection in libraries is that of the competencies of the individuals doing the actual selection. What knowledge, skills and abilities should software selectors have? It is not the purpose here to set up a model evaluation form; there are many of these.\(^{35}\) Rather, the competencies a staff member needs to make such decisions will be listed:

1. Fundamental skill in using a microcomputer, although not necessarily programming competence.
2. Fundamental ability to recognize what the mission or task of a specific program is and how that task/mission is matched to a particular library purpose or goal.
3. Ability to read and analyze documentation which accompanies software.
4. Ability to recognize error and/or false information if presented in the program. This would imply subject competence in the area.
5. Knowledge of a wide range of programs within a generic category. (For instance, knowledge of a number of word processing programs and spreadsheet programs rather than only the specific programs called WORDSTAR or VISICALC.)
6. Recognition of the value of communication beyond the immediate environment such as that offered through electronic mail systems and networks that permit interactive conferencing and other alternative means of communication.
7. Increasing ability to compare and contrast a variety of programs which have similar objectives.
Staff Development Options

The obvious question to ask is what implication the above competencies will have for either library education or staff development. Where is the staff to gain such competency? Those students currently completing graduate library/information service programs should be competent in these areas. The library might provide alternative programs for staff to acquire specific competencies or library schools might offer new patterns of continuing education targeted to library needs in microcomputer software selection. Self-tutorial programs designed at library schools may prove useful along with training programs sponsored by the libraries and taught by those who have the specific knowledge needed. (See appendix B for a list of corporate agencies in the training field.)

Many software packages provide either tutorials online or demonstration disks that offer the user a chance to test the program for the capabilities and applications desired. Other programs are so popular that additional tutorials have been developed by outside agencies and are on the market. Some have led to the establishment (and the demise) of a business. Additional approaches are provided with programs such as the IBM/Prentice-Hall/Chambers Apprentice Programs described earlier. These tutorials are useful in the development of general familiarity with a variety of programs necessary for selectors.

An alternative means is the use of both audio- and videotape as a self-tutorial approach. The Apple Macintosh has an audiotape for the beginner that introduces the system. Several businesses have developed alternatives to the online approach with their video tutorials. Many short courses or workshops—most of them geared to specific software—are offered by training agencies and are options as a means of gaining competency in microcomputer use. Traditionally, such training was offered by sales representatives, universities or software developers, but increasingly it is provided by organizations for which these workshops or training sessions are the primary business (see appendix B). In making a decision to use a training agency certain questions seem to be in order:

1. What is the ratio of students to teacher/instructor?
2. Where will the classes take place?
3. Will the sessions provide "hands-on" experience with both machines and software?
4. What materials will be available to the participants in the workshops?
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5. Will the material covered be at sufficient depth for the levels of understanding among the staff?
6. Will there be follow-up sessions for participants?

These training workshops might be used to provide orientation to specific software but also to provide a form of evaluation session for a variety of applications software.

Conclusions

The responsibility for collecting microcomputer software is a part of the overall collection management function of any library today. It requires a sizable amount of energy for library professionals to acquire competence in making decisions about microcomputer software packages. Certainly, the microcomputer user community, both within and beyond the library profession, will lend support to these concerns and will share its expertise. One of the truly frightening aspects of handling software decisions is that each day new journals, new software and new hardware enter the marketplace and these entries offer new and enticing options for software collectors and users. Librarians' efforts in acquiring competencies in software selection and evaluation will be rewarded in the professional community and in the larger user community to which librarians belong.
Appendix A

Selected List of Sources for Selection of Microcomputer Software

Selected Online Sources

(It should be noted that these sources have an online connect time fee attached to the use.)

Bibliographic Retrieval Services After Dark. 1200 Route 7, Latham, NY 12110 (518) 783-1161.

CompuServe. 5000 Arlington Centre Blvd., P.O. Box 20212, Columbus, OH 43220 (800) 848-8990.

The Source. 1616 Anderson Road, McLean, VA 22102 (800) 336-3366.

The Knowledge Index. DIALOG Information Services, Inc. 3460 Hillview Ave., Palo Alto, CA 94304 (415) 858-3777.

NewsNet. 945 Haverford Road, Bryn Mawr, PA 19010 (800) 527-8030.

Selected Guides and Sources


The Infopro Directory. Infopro, Inc., P.O. Box 22, Bensalem, PA 19020 (215) 750-1023.

InfoWorld Report Card. 375 Cochituate Road, Box 887, Framingham, MA 01701 (800) 345-5730.

LIST. Redgate Publishing Company, 3407 Ocean Drive, Vero Beach, FL 32960 (305) 231-6904.


Resources in Computer Education (RICE). Northwest Regional Educational Laboratory, 300 S.W. Sixth Ave., Portland, OR 97204.


Software in Print. Technique Learning, 40 Cedar Street, Dobbs Ferry, NY 10522 (914) 693-8100.

The Software Source. Software Source, Inc. 2701 CW 15th Street, Plano, TX 75075 (800) 621-5199.

Selected Public Domain Software

(There are a number of public domain catalogs that are available but perhaps the best access is through the electronic bulletin boards for specific computers and that are often a
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part of a computer club. Access to such online systems is often free or at a minimal cost.)

Catalog of Public Domain Software for IBM Personal Computer. New York Amateur Computer Club, P.O. Box 106, Church Street Station, New York, NY 10008.

Kingcomm. Kingwood, TX (713) 360-1316.

Invention Factory. New York, NY (212) 431-1194.

The Software Library. Rockville, MD (301) 949-8848.

IBM PC Information Exchange. Chicago, IL (312) 882-4227.

Appendix B

Selected List of Training/Tutorial Companies

Self-Tutorials

(The companies listed below provide computer tutorials or other self-teaching products related to various software products. Most of the items available for purchase are within a $50 to $500 price range.)

Advanced Systems, Inc. 2340 S. Arlington Heights Road, Arlington Heights, IL 60006

American Training International. 3770 Highland Ave., Suite 201, Manhattan Beach, CA 90266

ASI Microtutor Division. 155 East Algonquin Road, Arlington Heights, IL 60005

Cdex. 5050 El Camino Real, Suite 200, Los Altos, CA 94022

CES Training Corporation. 680 Kinderkamack Road, River Edge, NJ 07661

Edutronics. 55 Corporate Woods, Overland Park, KS 66210

Knoware. 301 Vassar St., Cambridge, MA 02139

Peat Marwick. 810 Seventh Avenue. New York, NY 10019

QED Information Sources Inc. P.O. Box 181, Wellesley, MA 02181

Reston Publishers. 11480 Sunset Hills Road, Reston, VA 22090

Training Workshops

(Training in the for-profit sector is often provided through an outside agency. The firms listed below offer training packages within a range of software applications. Some of the companies listed above also offer such training packages.)

Arthur Anderson & Co., Center for Professional Education. 1405 N. Fifth Avenue, St. Charles, IL 60174

Control Data, Inc. 8100 34th Ave. S., Minneapolis, MN 55420

Datapro Research Corporation. 1805 Underwood Blvd., Delran, NJ 08075

IBM Product Center. Retail Marketing, P.O. Box 2150, Atlanta, GA 30055

Systec Resources Corporation. 4324 Promenade Way, Suite 110 Marina del Rey, CA 90292

Touche Ross & Company. 250 E. Wisconsin Avenue, Milwaukee, WI 53202.
References


2. There are three types of software: systems, applications and programming languages. (Among the most common systems software are: CP/M, MS/DOS and UNIX.) The concern in this article is with applications software. It should be pointed out, however, that no applications software can be run without a disk operating system. This article does not attempt to explore systematic methods of designing, implementing and maintaining new software in a theoretical sense. A true science of software development which will lead to quality in software is explored in *IBM Journal of Research and Development* 28(Jan. 1984). For those interested in UNIX as operating systems software, see the series of articles by Eric S. Raymond, "Live Free with UNIX"; Mark Zachman, "Understanding Unix"; Kaare Christen, "Taking the Cue from UNIX"; ________. "A UNIX to be Proud of"; and Tom Plum, "A Classy Idris in the UNIX Neighborhood." All in *PC: The Independent Guide to IBM Personal Computers* 3(29 May 1984):145-76, may prove helpful.


7. Since word processing programs should be assessed in terms of what they help accomplish, it is wise to read at least one standard text on writing such programs, such as: Fluegelman, Andrew, and Hewes, Jeremy Joan. *Writing in the Computer Age*. New York: Anchor Books, 1983. In addition, several computer journals contain reviews and lengthy critiques of specific programs such as: Krasnoff, Barbara, et al. "The Word on Word Processors." *PC* 3(4 Sept. 1984):112-86. The reader may find additional points of significance in "Publishers and Librarians: A Foundation for Dialogue." *Library Quarterly* 54(Jan. 1984):1-104.

8. For some programs the training time required for highly sophisticated use of a software package may be up to twenty person-hours and then, only with added time for practice does the person become proficient.


10. Although there are many spreadsheet programs available, at least three are among the most used and most powerful: SuperCalc 3. San Jose, Calif.: Sorcim Corp., 1984; VisiCalc. San Jose, Calif.: VisiCorp, 1979; and MULTIPLAN. Bellevue, Wash.: Microsoft Corp., 1983.


Evaluation of Software


An interesting note is that KERMIT is the communication protocol sold with SCSS for the IBM-XT.


27. Landa, Ruth K. Creating Courseware. New York: Harper & Row, 1984 is a rather interesting example of educational design tools that lead to software development.


30. It is important to recognize that a number of journals that provide excellent reviews and analyses of software as well as directions in the computing field are not what we would include in the traditional lists of library journals. It is essential that librarians read such journals of the microcomputer field such as BYTE, Popular Computing, Datamation, Computing Teacher, Electronic Learning, Creative Computing and any of the journals of a specific computer and its software.

31. EPIE offers a wide range of reports and rather elaborate evaluation systems. On the other hand, Electronic Learning offers a simple set of forms to be used in evaluation (see Electronic Learning Nov./Dec. 1983).

32. It makes use of site licensing and offers alternative programs to teachers and thus to students.
33. This series provides an exciting and innovative approach to learning popular software applications, computer languages and concepts, involving many of the industry's leading software developers and publishers.

34. The survey was completed in Aug./Sept. 1984.

35. EPIE (Educational Products Information Exchange) "gathers and disseminates descriptive and analytical information, along with empirical information on performance and effects on learners—about instructional materials, equipment and systems."


Looking for Tutors and Brokers: Comparing the Expectations of Book and Journal Evaluators

TONY STANKUS

Library collections contain information resources in a variety of different formats. Two of the principal physical forms in which libraries collect information are books and journals. In traditional libraries, these comprise the bulk if not the whole of all holdings.

Evaluating books and journals inevitably raises questions. What criteria do evaluators apply, with equal emphasis to both formats? Which qualities seem to be more sought after in one format or another? Perhaps equally important, when do the differences among the literatures of science and technology, the social sciences and the humanities affect what evaluators feel they should see? Are the pitfalls to be avoided in selecting or retaining a given library item the same whether it is a book or a journal? What is the basis for making distinctions?

This author believes that some answers can be found by tabulating and comparing the critical comments made by book and journal reviewers in a leading selection guide, Choice, a work that also serves as a basis for the leading retrospective evaluation checklist—i.e., Books for College Libraries. This approach and these particular guides have insights beyond academic libraries. Bonn reminds us that college libraries face formal and frequent evaluation procedures with general implications for other libraries. This study helps identify basic criteria for those examiners who are evaluating a collection by the direct inspection of recent acquisitions and ongoing subscriptions.

Methodology of the Study

One thousand book reviews appearing in Choice between February and September 1983, were analyzed for explicit emphasis in praise or complaint, yielding 1996 comments. Two hundred forty journal reviews, appearing between September 1974 and August 1983 were similarly examined in Choice's "Periodicals for College Libraries" column, excepting that greater allowance was made for implied criticisms. This latitude in evaluating comments and the greater time span were necessary because substantially fewer reviews of journals appeared in each issue and the researcher wished to reach a more comparable number of comments—1044 in all—for this format. While only the most explicit comments were allowed for in reviews of books, a lengthier examination of journal reviews ferreted out the criticisms of journals. Most journal reviews are longer than book reviews, providing more potential material—positive and negative—on journals. The discussions that follow treat remarks in approximate order of their importance, and in the tables, the remarks are organized first by discipline and then according to specific comments made in the reviews. The percentages in parentheses following each comment represent its share of the total number of comments for books or journals in that field (see tables 1 and 2).

Positive Expectations for Both Books and Journals

Well-written, Readable, Accessible and Interesting to Undergraduates

Both book and journal reviewers mention these qualities frequently. They placed first or second in book reviews across all disciplines and were similarly first or third among journal reviews. These criteria are at the core of Choice's philosophy: Good materials that will be used by undergraduates. Contents must be clearly presented in terms this level of reader can understand, and done so in such a way that he or she will be attracted and sustain interest.

Features Chapters or Articles with Useful Bibliographies, Bibliographic Essays, Etc.

Reviewers tended to regard favorably books or journals which helped readers find additional material on the topic discussed in the work. Further complimentary remarks were made if the bibliographies seemed especially current, complete or featured annotations.
Looking for Tutors and Brokers

TABLE 1
1472 FRANK, POSITIVE COMMENTS IN 1000 BOOK REVIEWS RANKED BY IMPORTANCE IN DISCIPLINARY CATEGORIES

<table>
<thead>
<tr>
<th>Science &amp; Technology (334 titles)</th>
<th>Social Sciences (333 titles)</th>
<th>Humanities (333 titles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good bibliographies &amp; indexes (20%)</td>
<td>Well-written, readable,33 accessible, interesting (15%)</td>
<td>New slant on old material (16%)</td>
</tr>
<tr>
<td>Well-written, readable, accessible, interesting (16%)</td>
<td>Superior analysis, well-documented (18%)</td>
<td>Well-written, readable, accessible, interesting (10%)</td>
</tr>
<tr>
<td>Good layout, illus., figures, binding, etc. (14%)</td>
<td>New slant on old material (11%)</td>
<td>Good layout, illus., figures, binding, etc. (8%)</td>
</tr>
<tr>
<td>Author's, publisher's credentials, reputation (12%)</td>
<td>Good bibliographies &amp; indexes (9%)</td>
<td>Good bibliographies &amp; indexes (8%)</td>
</tr>
<tr>
<td>Comprehensiveness (10%)</td>
<td>Author's, publisher's credentials, reputation (7%)</td>
<td>Highly current, topical (8%)</td>
</tr>
<tr>
<td>Logical progression of topics, good examples (9%)</td>
<td>Comprehensiveness (6%)</td>
<td>Superior analysis (7%)</td>
</tr>
<tr>
<td>Highly current, topical (4%)</td>
<td>Highly current, topical (5%)</td>
<td>Author's, publisher's credentials, reputation (7%)</td>
</tr>
<tr>
<td>Misc. comments (15%)</td>
<td>Better than other works in field (4%)</td>
<td>Best edition of several available (6%)</td>
</tr>
<tr>
<td>Misc. comments (30%)</td>
<td>Multidisciplinary (5%)</td>
<td>Misc. comments (20%)</td>
</tr>
</tbody>
</table>

Source: Choice 20-21(Feb.-Sept. 1983)

Good Layout, Illustrations, Typography, Binding

A surprising number of comments dealt with the quality of book or journal design and production. This was more understandable in the case of books and journals in the arts and science technology fields where illustrations are often critical to clear understanding of the text. Nevertheless, reviewers in such humanities subjects as theology and literature also stressed visual details, even though illustrations are rarely crucial in those fields. Their comments tended to show some appreciation for the physical book or journal issue as an art form that should be suitably matched to the well-crafted writing it contained.
## TABLE 2

<table>
<thead>
<tr>
<th>Science &amp; Technology (76 titles)</th>
<th>Social Sciences (97 titles)</th>
<th>Humanities (67 titles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well-written, readable, accessible, interesting (12%)</td>
<td>Well-written, readable, accessible, interesting (14%)</td>
<td>Editor's, contributor's credentials, reputation (14%)</td>
</tr>
<tr>
<td>Affiliated with major Institution or Prof. Soc. (11%)</td>
<td>Features book reviews, biblio. essays, etc. (11%)</td>
<td>Features book reviews, biblio. essays, etc. (8%)</td>
</tr>
<tr>
<td>Features book reviews, biblio. essays, etc. (8%)</td>
<td>Editor's, contributor's credentials, reputation (7%)</td>
<td>Wide variety of topics, broad surveys (7%)</td>
</tr>
<tr>
<td>Features regular columnists, news items, calendars, etc. (8%)</td>
<td>Features regular columnists, news items, calendars, etc. (7%)</td>
<td>Rigorous refereeing, responsible editing (7%)</td>
</tr>
<tr>
<td>Good layout, illus., figures, binding (8%)</td>
<td>Features theme issues (7%)</td>
<td>Multidisciplinary (6%)</td>
</tr>
<tr>
<td>Wide variety of topics, broad coverage (8%)</td>
<td>Wide variety of topics, broad coverage (7%)</td>
<td>Reviews of media, concerts, exhibits (6%)</td>
</tr>
<tr>
<td>Editor's, contributor's credentials, reputation (8%)</td>
<td>Multidisciplinary (7%)</td>
<td>Good layout, illus., figures, binding (6%)</td>
</tr>
<tr>
<td>Rigorous refereeing, responsible editing (7%)</td>
<td>Affiliated with major Institution or Prof. Soc. (7%)</td>
<td>Affiliated with major Institution or Prof. Soc. (6%)</td>
</tr>
<tr>
<td>Controversial correspondence replies to criticism (7%)</td>
<td>Serves special interest group or alternative views (5%)</td>
<td>Well-written, readable, accessible, interesting (6%)</td>
</tr>
<tr>
<td>Highly current, rapid publication (7%)</td>
<td>Rigorous refereeing, responsible editing (5%)</td>
<td>Features theme issues (5%)</td>
</tr>
<tr>
<td>A leader (7%)</td>
<td>Prints summaries of articles from other journals (4%)</td>
<td>Features interviews, biographical articles (5%)</td>
</tr>
<tr>
<td>Misc. comments (9%)</td>
<td>Misc. comments (19%)</td>
<td>Misc. comments (24%)</td>
</tr>
</tbody>
</table>


**Authors, Editors, or Publishers are Famous or Well-credentialled**

Book reviewers almost always gave the current university affiliation and/or academic pedigree of authors, often mentioning their earlier publications. Similarly, journal reviewers tended to mention the name and background of the chief editor at least. In the humanities, particularly in literary small press reviews, it was common to list a string of recognizable contributors as well. Journal reviewers particu-
Looking for Tutors and Brokers

larly emphasized publishers especially if they were professional or research societies. Book reviewers seem to favor university press productions.

Broad Coverage of Field, Comprehensiveness, Wide Variety of Topics within Discipline

Book reviewers clearly favored titles that covered all the major points within the announced topic. Journal critics did not expect each issue to cover all the subdivisions of a discipline. Rather, they favorably recommended journals which regularly featured broad overview articles and which, through a variety of topics covered in each issue, would eventually cover the entire field over several issues.

Multidisciplinary Perspectives

Works which featured authors from differing academic or professional backgrounds were most frequently endorsed by book critics looking at materials with a humanities emphasis. To a lesser degree science and technology publications combined with a social science (or ethical) consciousness were also commended with regularity. In social sciences literature, an occasional combination with archaeology or literature received favorable notice.

Timeliness, High Currency

This quality was everywhere esteemed, although it took on different nuances across the disciplines. In the sciences it generally meant, "contains the latest developments." In the social sciences it often meant, "of use in some current controversy." In the humanities it often meant, "in time for a revival of interest in this topic." In some journals, an added meaning concerned quickly printing papers accepted for publication.

Leading Publication, Better than Others in the Field, Superior Analysis

The notion of comparison and competition recurred in reviews of books in the social sciences and humanities and journals in science and technology. In the social sciences and humanities, where there often is a broad assortment of readable works on a given topic, critics felt obligated to assist librarians with fairly frank comparisons. By contrast, in science and technology book publishing, there may be less similarity among a smaller number of titles directed toward undergraduates and book-to-book comparisons seem less urgent. But science and technology journals provided a contrary example. Often there were several
comparable titles in a field, all of them expensive. Economic pressures on serials budgets and the availability of published citation rates prompted reviewers to make comparisons among science and technology journals.

**Serves Special Interest Groups or Alternative Viewpoints Well**

Both book and journal reviewers seemed well aware that a library containing only totally balanced presentations on topics that are already popular, is itself biased in favor of the status quo. While journal reviewers seemed more readily inclined to recommend purchase of alternative viewpoint titles, book critics were prepared to go along only if a work called attention to its viewpoint with a certain polish and without clumsy distortion.

**Negative Expectations for Both Books and Journals**

*Absurdly or Deceptively Biased*

Book and journal critics have repeatedly registered disdain over awkwardly argued, biased works, particularly in the social sciences and humanities. Additionally, they generally did not recommend works that had a bias but did not clearly profess it in the front matter—e.g., prefaces, foreword, introduction—or by subtitling or other prominent methods. In the criticisms for science materials, bias had a different nuance. It meant neglect of one topic or theory for another in what purported to be a comprehensive treatment.

*Second-rate, Duplicates Functions of Better Works in an Already Crowded Field*

Book and journal critics were particularly sensitive to titles that attempted to compete with already established works. To a certain degree, the reviews of the later works were almost always more exhaustive. The enumeration of advantages of the new title often included criticism of obsolescence in older books, or mention of some sort of stodginess in journal editorial policies. Weaknesses cited by book reviewers were suspicions that a kind of gutless, no-risk “cashing in on the wave” publishing venture was involved. Journal reviewers might pan a duplicative journal by saying that its papers were likely to have been rejected by the better journal(s) in the field.
Looking for Tutors and Brokers

Superficial Treatment of Topic

Books and journals in virtually all disciplines appeared to receive poor reviews for too shallow a treatment of their subject. Critics would note in a review that the book or the journal's articles might well be readable, but would not recommend it for a library collection that supported serious instruction or research.

Too Specialized, Too Advanced, Too Narrow a Geographic Focus

The reverse of superficiality—i.e., over-specialization—was also common as a negative comment. There were several variants by discipline. In science and technology fields, one meaning was, "the work is concerned with a subject only rarely dealt with in the undergraduate years." In the social sciences one might find this comment, "the title is dominated by authors from a consortium of lesser-known institutions focusing on problems peculiar to their locale." In the humanities there were elements of both variants when reviewers considered whether regional small press magazines were important, or when reviewers decided whether certain particularly esoteric symposia had enough introductory material to help undergraduates understand them, or enough background to provide them with a context.

Poor Layout, Print, Illustrations; Flimsy Binding, Skimpv Issues

In science, technology and humanities books, and in the journals of all disciplinary groups, a poor quality or overly meager physical product could expect to be criticized. This included details such as binding, even of individual issues. While there was some allowance made for products of underfinanced or inexperienced publishers, Choice's reviewers had a distaste for typescript or camera-ready-copy publications. Interestingly, the 1970s and early 1980s saw many representatives of this speedy and economic, but often unattractive, genre. The advent of more widespread and more sophisticated office word processors with multisized and multistyled character fonts may reduce this aesthetic complaint, while retaining the original advantages in publishers' cost savings and speedy production.

Poor Internal Indexes; Not Yet Indexed by Others

While the details of these criticisms understandably differed between books and journals, the central issue was the same—no matter how good the contents are, they cannot be easily and systematically explored without good finding guides. The value of books as ready reference tools is considerably diminished when terms they might define
Tony Stankus

or tables they might offer are not indexed. Flipping through journal issues might provide some serendipitous insights for researchers, but might just as easily cause them to miss the original object of their research through inefficiency and frustration.

Excessive Price

While the frequency with which this complaint was made was surprisingly low—and possibly Choice and "Periodicals for College Libraries" may avoid reviewing extremely costly materials altogether—its occurrence usually was occasioned by a specific grievance. For books, the critics usually attacked the number of pages for the price. With journals there was a kind of vicious circle: There were too few potential specialists at a typical institution to merit the investment in the high subscription rate, which was due to the fewer subscribers over which costs could be spread.

Expected of Books, but not Frequently of Journals

Logical Progression of Topics, Good Examples

Critics did not seem to expect journal issues to provide step-by-step instructional pieces; however, they noted this as a favorable characteristic of books. Examples and problem sets were also favored, particularly in science and technology fields.

New Slant on an Old Topic

Book critics noted this attribute most frequently when dealing with social science and humanities titles. While some science and technology books and articles in the journals of all disciplines were of similar character, the critics found book-length treatments especially commendable in this category. This receptivity may be due in part to the purposefully disarming "apologia for another book" with which most humanities and social science authors begin their works. Upon reading the better of these, critics seem willing to give authors the benefit of the doubt. Neither authors' justifications nor their works are likely to end. No interpretation ever seems final, nor are all social problems likely to disappear. The last book-length treatment of Shakespeare or unemployment is yet to be written. Evaluators will read each piece and judge it worthy of collection, largely, if it attempts to offer something new.
Looking for Tutors and Brokers

Handy Compendium

This attribute was rarely ascribed to journals, but was frequently mentioned in book reviews. While compendia may contain chapters or papers by a wide variety of authors on a central subject, the items discussed in connection with this comment typically were anthologies or collections of the writings of a single author. These compendia frequently have introductory or integrating essays, chronological tables, a biographical sketch of the author, and often a bibliography. Critics noted that compendia saved time in searching the literature and provided convenient reference matter, and they paid particularly close attention to just how representative the selection writing was.

Best Edition of Several Available

While a comparative and competitive perspective was very common in most book and journal reviews, only among books could virtually identical texts be found. Critics found themselves comparing details such as the introduction, commentary, glosses, physical production, and price. (These are similar to the criteria used for compendia.) In the humanities, there might be a further critical examination of whether the version of the text was the earliest, most authentic, the one favored by the author, etc. Another critical inspection occurred when the edition was one of a standard publisher’s series. Some mention usually was made of whether this particular volume met the standard of earlier numbers (see tables 3 and 4).

Negative Comments More Commonly Mentioned with Books

Verbosity, Turgid Argumentation

Book critics in all the disciplines savagely attacked works with unnecessarily elaborate vocabulary or lines of reasoning that were bizarrely complicated. In many cases, the critics suggested this style cast suspicion on the author’s understanding of the topic and ability to reason clearly, rather than indicating the topic was beyond an undergraduate’s understanding. Journal critics rarely mentioned the difficulties of overly technical language or argumentation, perhaps conceding that sophistication in the topic was more likely to occur in professional research journals.

Obsolescence

Obsolescence was rarely criticized in reviews of journals, save for the delayed appearance of manuscripts submitted long before publica-
tion. Science, technology and social sciences books were closely examined for their currency, not only in facts and interpretations, but in references as well. Obsolescence was usually a damning criticism and the guilty book often was not recommended.

Misleading Title, Neglect of Stated Aims

Book critics were quick to point out cases where the announced goals of the work were hardly dealt with in the text. Apart from concerns about wasting the reader’s time or the library’s money on an inappropriate title, there seemed to be doubts of the writer’s competence to understand the problem or to advance a particular cause beyond a mere statement of thesis.

<table>
<thead>
<tr>
<th>Table 3</th>
<th>524 Frank, Negative Comments in 1,000 Book Reviews Ranked by Importance in Disciplinary Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Science &amp; Technology (334 titles)</strong></td>
<td><strong>Social Sciences (333 titles)</strong></td>
</tr>
<tr>
<td>Bias, imbalance of topics (25%)</td>
<td>Flawed premises, failed argumentation (22%)</td>
</tr>
<tr>
<td>Misleading title, neglect of stated aims (14%)</td>
<td>Bias (12%)</td>
</tr>
<tr>
<td>Poor bibliographies &amp; indexes (13%)</td>
<td>Verbosity, turgid argumentation (12%)</td>
</tr>
<tr>
<td>Superficial treatment (8%)</td>
<td>Superficial treatment (12%)</td>
</tr>
<tr>
<td>Uneveness of contributions in multicontributor works (8%)</td>
<td>Overspecialized, too much background assumed, too narrow focus (8%)</td>
</tr>
<tr>
<td>Obsolescence (8%)</td>
<td>Uneveness of contributions in multicontributor works (8%)</td>
</tr>
<tr>
<td>Poor layout, illus., figures, binding (5%)</td>
<td>Superfluous work in already crowded field (8%)</td>
</tr>
<tr>
<td>Frequent or annoying errors of fact (5%)</td>
<td>Obsolescence (8%)</td>
</tr>
<tr>
<td>Verbosity, turgid argumentation (5%)</td>
<td>Misleading title, neglect of stated aims (8%)</td>
</tr>
<tr>
<td>Misc. comments (9%)</td>
<td>Misc. comments (2%)</td>
</tr>
</tbody>
</table>

Source: Choice 20-21(Feb.-Sept. 1983)
Frequent or Annoying Errors of Fact

Critics felt that recurrent small errors detracted from the professionalism of a book. For example, they complained at the consistent misspelling of names, or repeated confusion over which of several people with similar names did what deeds on which dates. Repetition of an error was not always necessary to do damage to the writer's credibility. An incorrectly printed table of values could cause confusion for students using the table to work problems. Journals rarely seemed to get this sort of close scrutiny, but perhaps they have a self-checking device in being able to insert corrections in later issues.

Flawed Premises, Failed Argumentation

In Choice, only books were examined thoroughly enough to conclude whether or not the extended arguments they contained were valid—that is, in the opinion of the reviewer. When the reviewer disagreed with an author, one of two explanations was generally offered:
the thesis was promising, but not convincingly argued; or the argumentation was eloquent, but the author had a poor case to begin with. It should be noted this category of criticism did not invariably end with a negative purchase recommendation. Reviewers seemed to feel that in some cases, lessons could be learned by the reader just in an exploration of the issues involved.

Unevenness of Chapters in Multicontributor Works

While journal critics have come to tolerate a certain variation in the style and length of papers in a journal issue, reviewers of multiauthored books perceive this as a lack of editorial control. This is somewhat unreasonable in light of the current critical favor for multidisciplinary works. It is not at all clear that authors from different traditions can be expected to use the same structure and pattern of argumentation and to bring in their chapters within a two- or three-page variation. However, book critics seem to suggest this is indeed possible within the confines of a single volume—and that a reader deserves no less.

Self-Indulgent, Self-Serving

Book-length works purporting to give "inside information"—including some memoirs and assisted biographies—were closely scrutinized for real substance, factual accuracy and potential importance to their fields. Works which tended to make their participant-author a hero, or which served as a chopping block for the author's enemies, or seemed to be attempts of family or friends to cash in on a favored topic of dubious value, generally were not recommended. According to Choice's editors, many of the more obvious examples of the genre were not even selected for review.

Expected of Journals but not Frequently of Books

Rigorously Refereed, Responsibly Edited

As a factor of quality, Choice's critics often indicated whether or not a journal's research articles had been examined by experts. During the preliminary reading, these referees will suggest revisions in the texts before they appear, and indeed they will often reject poor material outright, thereby saving the reader's time and insuring a certain reliability in the journal's contents. While books certainly have editors who suggest revisions to authors, and who often reject book-length manuscripts, editors are usually full-time employees of the firm and not hand-picked experts in each field covered by each book. Book editors were rarely mentioned by Choice's critics, and in fact, book editors'
work and contributions of an author's colleagues in reading book manuscripts before publication seldom receive much attention outside of the author's preface. In contrast, while anonymous refereeing of individual articles in journals remains the norm, an increasing number of journals publish annual lists of their referees, nominally to thank them. In a real sense, this practice serves to alert the readership to what amounts to an extended editorial board of experts willing to associate themselves with the journal.

**Features Current Book Reviews, Bibliographic Essays**

While books are valued for their references and bibliographies, only journals are capable of current reviews on a continuing basis. Journals scored well with critics when their reviews were signed, fairly extensive, seriously prepared, evaluative, numerous, dealt with the most recently published titles, and appeared regularly.

**Features Regular Columnists, News of the Field, Calendars of Professional Events, Etc.**

Journals often were expected by Choice's critics to provide some items of general interest in each issue. This is partly a hedge against those times when no research papers appeal to a given reader, or, as is frequently the case with undergraduates, the reader has yet to develop full subject literacy. This task generally is given to permanent staff writers in larger circulation journals, or to contributing editors who turn out signed columns in each issue. These pieces can be monthly overviews of the profession, popularizations of hot research topics, columns for teachers of the subject, editorials from the association's president, news on governmental actions affecting the field, and others. Book reviews, already discussed, were the preeminent feature column noted by Choice's journal critics, but each of the following kinds of columns merit some independent discussion.

**Features Current Reviews of Nonprint Media and Entertainment**

While there are certainly entire books consisting of reviews of films, concerts and exhibitions, Choice's critics stated that publishing such reviews in journals had advantages of currency and continuity. While most such reviews understandably were in humanities journals, some social science, science and technology journals were cited for reviews of instructional audiovisual materials. Much as they did with book reviews, the critics tended to differentiate superior quality media reviews on the regularity of their inclusion and on the reviewers' sophistication in the media they reviewed.
Features Controversial Correspondence, Replies to Criticisms, Open Refereeing

Journals of all disciplines which published letters raising issues in their subject area, or more often letters criticizing previously published papers, were viewed as more lively. The effect may well be to make the reader feel a part of the academic forum. The letters encourage the reader’s impression that a given journal’s articles are followed closely, and that their readers care enough, have sufficient credentials and a sense of obligation to offer competent feedback. A more recent trend in some social science journals, with which some of Choice's critics were impressed, is the openly-refereed journal. Here articles are published along with the signed commentary of several reviewers. While this practice goes against the dominant tradition of anonymous review, it offers the advantage of beginning debate and discussion straightaway.

Features Interviews, Biographical Articles, or Obituaries

While there are certainly many book-length biographies of major figures, usually the well-established ones in most of the professions, there are many more article-length pieces on contemporary figures. If the interviewer is sharp, and the celebrity is candid, the piece increases a reader’s sense of involvement in the field. Particularly in the humanities, interviews of literary figures, artists and performers by journal staff writers or by contributing editors received positive emphasis and special mention.

Features Abstracts, Summaries, or Reprints of Articles from Other Journals

While books that are essentially collections of articles reprinted from journals have been praised as “handy compendia,” there is a parallel trend, for journal critics to praise journals that carry short summaries of papers published in other journals. Reviewers founded their praise on three premises: (1) the reader's time is saved; (2) awareness of the professional literature is increased; and (3) perceptions of the journal’s involvement with the field are heightened.

Features Theme Issues

Journal criticism is not without contradictions. While a variety of papers and feature columns is still probably the favored approach for most journals, theme-issue journals are becoming increasingly popular. Ironically, accumulating papers on a single subject is the closest a journal comes to serving traditional book functions. Indeed, many
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journal publishers sell individual theme issues separately. Examples in our own profession include Library Trends, Drexel Library Quarterly and some Haworth Press titles such as Science and Technology Libraries, Special Collections and The Reference Librarian.

Negative Criticisms Leveled Primarily at Journals

Irregular Publishing Schedule, Chronically Late

While this complaint was noted by critics less frequently than expected by this author, when remarked upon it was seen as violating the currency attribute of journals. A certain dishonesty was suspected when there was a doubling up of issues as numbers failed to appear. Books, of course, can be published later than their announced dates. But it is not quite as common or as easy to determine how late a book is since its cover rarely features its alleged day or month of issue or the date for which it was originally promised its readers.

Predominantly Written by Staff

Though it was considered praiseworthy that journals have staff-written feature departments (just as book authors and editors were expected to be responsible for the entire contents of their works), there was some suspicion of academic journals whose research articles were overwhelmingly staff written. One underlying suspicion was of narrowness or bias of viewpoint. Another criticism questioned the “vanity publication” tinge of such works. A third suggestion was that the journal could not attract papers in sufficient quantity from its field.

Why Are Expectations Different?

Expectations of Choice’s reviewers for books and journals are different owing to a contrasting view of the proper functions of each format. The reviewers expect books to be tutors. Undergraduates spend an extended, important time of their formative lives with books. The book-as-tutor is expected to take its naïve pupils slowly and systematically along a well-planned path, and therefore, the book-as-tutor must be as complete and balanced as possible. It cannot assume that the student will have read much in advance or is reading much concurrently. As is the case with a good tutor, the book will try to introduce the pupil to a new and enlarged view of some piece of the world. It will attempt to show off the best of a range of topics in the field, gathered together to save the student’s time and to develop a sense of taste. The book-as-tutor expects the pupil to come back to it from time to time to be
refreshed with a reintroduction to old concepts in times of uncertainty with words that have been read before. While the book-as-tutor tries to be as up-to-date as possible at the time of its first meeting with the student, its strength is much more in reassurance than currency. The individual book-as-tutor probably will last longer in the memory and affections of its pupils than any journal’s articles.

*Choice’s* reviewers see journals as brokers. The journal-as-broker is as much a vendor of pieces of information as anything else. The key to the journal-as-broker is the involvement of the student in the ongoing bustle of the professional world. The ideal journal-as-broker for *Choice’s* reviewers has in-house account representatives who, with their feature columns, vie with experts from field offices who come in more occasionally with their research papers to win the “commission” of students’ attention. The editors are viewed as senior partners; for them, the preference of the student for any partner is to the benefit of the whole firm. Further, while the same editor seeks research articles of some durability, the nature of both the field and the publisher’s self-interest is seen as dependent on students’ valuing the most recent issues at least as much as an older one, and yet recognizing that the forthcoming issues will still need to be seen.

The journal-as-broker expects the student will also be reading other journals; there will have to be competition, issue after issue. The ultimate competition is not just for a continuing subscription; it is for the recruitment of the best of the students to become, themselves, contributors and editors. The identification of a scholar with a journal is held together less by the kind of affection engendered by the book-as-tutor—i.e., “first love”—as it is with repeated, mutually satisfying transactions at a particular brokerage.

Library collections require both tutors and brokers, just as readers want and need the particular qualities each has to offer. Though certain common threads should be present in both forms—i.e., readability, good writing, presence of bibliographies, well-respected authorship, thorough coverage of the field, timeliness, and quality of the physical productions—unique attributes exist that make the sum of the criteria by which they are judged differ considerably. Far from being interchangeable, this author believes books and journals function differently with their readers, each furnishing part of the total learning and information-seeking process integral to college and university settings as well as to other library environments.
Looking for Tutors and Brokers

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1. Association of College and Research Libraries. *Choice: Books for College Libraries*. Middletown, Conn.: ACRL, 1964-. (This current review journal appears eleven times a year and should not be confused with the retrospective bibliography derived from it and published by the same American Library Association division.)


A Way of Looking at Things

BILL KATZ

Collection evaluation is governed by the infinitely varied characteristics of the reader, and, strictly speaking, the attitudes of librarians. The administrator is eager to show the maximum use of resources at minimum costs. The professional librarian shows a stage preference for either playing the role of the arbiter of taste, or claiming to outperform popular television stars. Somewhere in among management, librarians, and the collection is the user, underfoot and always on the verge of being missed. The difficulty is to discover an evaluative process which will satisfy all attitudes and, if only by inference, the expressed and unexpressed needs of the elusive reader.

How then does one evaluate a collection based upon past, present and probable future use; as well as the fidgeting of the public, administrators and the librarians? One need not despair that there are no ever present or monotonous answers. The limitations of the whole evaluative process are such that, since there are so many variables, evaluation is only effective as long as there is a clear understanding both of the public and of library materials. The whole process of matching collections with users requires continued galloping toward understanding.

Despite the quick-witted, the slow, or the downright stupid user study, which normally obeys the propriety of painful prose, the collection-user evaluative process is not only a glint of research reflected in a single, or series of articles, it is a daily—usually informal—method of trying to discover the link between the collection and the user. The results are speculative, albeit often practical.

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What follows too, is speculative. It is a view of the paradoxes and the intellectually challenging problems which must be considered before and during the daily evaluative process. The soliloquies accentuate the necessity of seeing more before turning to the necessary specific methods and techniques of evaluation. The “more” is the relationship of the librarian to the user.

Basic Concerns

Librarians concerned with the materials of service—from books and periodicals to videocassettes and computer software—have an odd relationship to the public. Many people are willing to admit that they don’t understand science, painting or sociology, but they expect the librarian to be conversant in all subjects. A librarian’s professional sense of excitement is closely involved in fulfilling that commission by building, cultivating, weeding, and otherwise encouraging a luxuriant, useful collection. Beyond the library are the splendid possibilities of networks, intricate cooperative schemes and instant communication patterns which give an added dimension to acquisitions. Every internal and external development seems to reassure the public that the librarian is a navigator without challenge.

This somewhat egocentric view is shaded by the ever wary controller who begins to tally expenses, finds the cooperative approach is delightful, but asks: “What does it cost?” When the figures are revealed, naturally the library comes before the user, and so charges appear for interlibrary loan requests, photocopying, online searches, and anything else which can be considered beyond normal service.

The library without walls has now shifted to a bargaining institution without much sense of what the budget may mean to the user who may want to share the treasures. The problem, then, with evaluation is that the interests of the library and the average user may not be the same. Until that is appreciated, no amount of analysis will afford a faithful, intimate direction for collection development.

Three examples in the way of understanding may suffice. The library budget dictates a charge for online searches. A person desperate for information is not inclined to appreciate the rational reason for the bill. A lover of gothic novels is rarely persuaded that the librarian’s suggested alternative is fitting. The conclusion that x or y periodical is not suitable because it is twisting close to pornography, sedition or religious blasphemy will not close the door on the user’s desire to read such a magazine.
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A great deal of evidence has accumulated to show that there is an irritable inclination to put the library before the user. Signaled by budget necessity or impervious management attitudes, these effects are a subject for increasing concern. Most alarming is the extraordinary assumption that ordinary people may be deprived of traditionally free library service in order not to disturb the technological process and, by inference, the needs of a few who profit most from the shift of concentration on collections to the concentration on processing and delivering.

The librarian must take charge of the situation, and despite less-than-accurate understanding of people, make evaluative decisions which do affect the user. A case in point might be whether to subscribe to an index which may be expensive, but much in use, or to cancel the subscription and use only the online service, which is less expensive to the library but more costly to the user. Furthermore, an exclusively online index may eliminate some users. The important factor that the librarian must be aware that such decisions affect not only users, but those who may not go to the library.

User Studies

Awareness comes from observation and willingness to learn from others. The preferred method of learning about an audience is to be part of that audience, or, to be in constant contact with individuals who use (or do not use) the library. Every librarian participating in policy decisions should be required to spend at least ten hours a week serving the public on a one-to-one basis behind a reference, information or circulation desk. The only way to find out what people need is to talk to those people, to hear their complaints and be part of their triumph when they fathom the Dewey Decimal system or the online catalog.

There is more to than that, and here is where the ubiquitous user study is useful. In the course of hundreds of narrow and broad examinations of people who do and do not use the library, truths and suggestions have been introduced which are valuable for the user part of the collection evaluation process. They may be divided in many ways, although essentially the majority are concerned with (1) the characteristics of the user and the nonuser, (2) the types of materials for which there is the greatest or least demand, and (3) the degree of satisfaction or dissatisfaction with the library by the user. Answers dictate policies of collection, planning and selection.

Except for some rather broad, expected conclusions, most of the answers are constantly shifting, and liable to injure the library if taken
too seriously. The user part of collection evaluation today is pretty much what it was thirty-five or forty years before when Bernard Berelson authenticated what another thirty-five or forty years previously many librarians knew anyway about the public.¹ This is not to confuse commonsense observation with the perfection of mathematically secure studies, surveys and models; it is to say there is something intrinsically tiresome in repetition.

One may learn to execute every trick of the research report and come up with nothing. Something more is needed, or as one enthusiast for research puts it: "Evaluation is as much a way of looking at things as a body of techniques and tools."² It is with a way of looking at things that evaluation is really valuable, a key to understanding the collection and its varied uses and users. The best models, studies and surveys consider this reality, but too many more are exercises rather than battle plans.³ Despite the massive amount of writing on the subject, little really explains the relationship of the user to the collection, or the broader mission to the purpose and objectives of the library. Some explain the failure in terms of poor research methodology, too close attention to the descriptive, the particular situation in which the evaluation was performed, or simplistic goals. A more likely explanation for the small impact of research on the daily lives of users and librarians is failure to go beyond the basic analytic procedures. What is needed and rarely found is the next step: synthesis. The study or survey can help gather facts, but is purely an exercise in uncertainty when there is little effort to relate the data to library's operational procedures.

The uphill road to understanding the user is never easy, and while one appreciates the help these various studies offer, when all is said and done, what is their exact application to daily collection development? Addressing himself to descriptive studies in general, D'Elia observes, as many have before him, that they "have little usefulness in explaining adult library use."⁴ Methodology and particularly techniques are only one blockade. Others include reports in the jargon of Jabberwocky, repetition of known and accepted facts, and failure to focus on issues of real concern to the working librarian. These are silly barriers to understanding, but even a cursory glance at research in the limited area of collection evaluation in academic libraries supports the opinion.⁵

The Individual User

Are broader studies of more assistance? Yes, in that it is amazing how little changes from generation to generation. National surveys
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conclude that only 10 to 25 percent of the adult population regularly checks out books from a library. More children and young people may use a library, but their numbers drop to an average of 10 to 25 percent when they pass into the adult stage. Library-centered individuals are middle-class, educated (usually with courses, if not always a degree from a college or university), economically secure, and active in the community, the arts, and on the telephone. Most watch television, yet manage to read more magazines, newspapers, books and go to more movies than the nonuser. This varies with age and, though less so today, with sex. With 50 percent of women now working, the days of women as major daytime occupants of the public library is rapidly fading. Library fans are gregarious; warriors for the sensible, well-ordered life; and remind the librarians that the public, school, academic, and even the special library is a province of a recognizable middle America.6

True or not this portrait of the library user does much to shape the collection and it influences the shape of much research. There should be other ways of looking at audiences and the collection that might explain or indicate why so few people bother with the library.

The Task Force on Library and Information Services to Cultural Minorities suggests one way of looking at things which must be of concern to all librarians. If the rich are getting richer, the ranks of the poor are growing too. Furthermore, the population of Blacks, Hispanics, Asian-Americans, and American Indians is increasing faster than the white American population, “and by the year 2000 will grow from today’s 40 million to 78 million persons.”7 Most of these millions are nonusers and the task force is making recommendations which are based on, among other things, an evaluation of collection needs for people who otherwise feel shut out of the library.

One may accept or reject the thesis of more, not less, service, but it is necessary to have the courage of conviction—courage based on careful analysis of the mission of the library. This requires understanding, if even only an impressionistic understanding, of who is or is not a library user.

Impressionistic Approach

The major argument is that before the librarian may understand the system, the public and the collection, it is necessary to have the courage of one’s individual convictions. The standards committee is not the way—at least not the way to begin.
Evaluation from the point of view of what Lancaster calls the "impressionistic approach" obviously has its drawbacks. It is true the librarian can become the standard against which the collection is measured, but this seems ideal only if—and that is an emphatic if—the librarian takes into consideration personal biases of the users and potential users. Not everyone should embark on such a journey. Librarians who lack a strong commitment have no business evaluating. If one believes first and foremost that the librarian is an intellectual in the best sense of the term, then it seems he or she is outfitted to wage war with bias, to fight for the "best" of everything which will lure, attract and otherwise draw people to the library. The important assumption is that the librarian is willing to trust in self, to take pride in being a professional. It seems to this writer that without the sense of professional certainty and pride, the "impressionistic approach" is no more valid than the typical user study.

The librarian must know what he or she likes, whether it be a book, videotape or recording. At the same time, the pleasure which that knowledge brings must be supported with objective criteria that shade judgments. One must be able to explain, if only to self, what is good or bad about a novel, an encyclopedia or a government document. To say only: "I know what I like," or worse: "I know what they like," is to commit the ultimate stupidity, an unforgettable breach of trust between the librarian and the user.

As readers, the public expects librarians to have the confidence and the knowledge to exercise judgment on their behalf. To shrug off that responsibility is to betray the profession.

Local Studies

Simple observation, followed by formal discussion among other librarians inside and outside the same system, will do more in the short run to help detail the real patron than more costly and time-consuming efforts. Questions may be put to people who use the library; and there are other well-documented techniques and methods for collecting and sifting data. Countless individual studies are dutifully listed in Library Literature and available from nonprofit organizations.

The slight complication is that a user study should not be performed in alienation from the working collection. The two types of studies are in a constant, flirtatious relationship with each other. An excellent example of how the two studies may be one and the same is found in the three-part Coordinated Cooperative Collection Develop-
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ment for Illinois Libraries\textsuperscript{11} where both the local library and the system are given specific instructions on collection evaluation. Particularly recommended is the second volume:

A how-to-manual for local libraries which describes step-by-step the procedures to be used in collecting data on holdings, use, and acquisitions, and interpreting and using these data for local collection development decisions. It includes specific instructions, worksheets, forms, and numerous examples.\textsuperscript{12}

One can't help but note of late the lack of enthusiasm for the community survey.\textsuperscript{13} This method of the 1960s is no longer in favor, primarily because it is costly, time consuming, and usually repetitious of other such studies made by everyone from the local newspaper and television station to the community college and better business bureau. Librarians are less than interested in such massive projects particularly when they have problems with daily service. They see the relevance of such studies, are prepared to accept them as useful, but don't want to be actively involved.

Here for example, are some of the difficulties recently facing one librarian in a community study:

The difficulties we encountered gave us a quick initiation into the pitfalls of community studies for libraries. Selecting unbiased samples, constructing adequate questionnaires, and finding time—all pose formidable problems. Before the survey is launched, the library must assess its strengths and weaknesses in the light of its resources. In defining the target population, one must look beyond the census data. Develop contacts with key community leaders and you will get a better view of the community. To identify target groups, use as many lists of names (e.g., telephone directories, city directories, ethnic societies, etc.) as possible. We learned that there is no one list that could become a basis for a "random" sample. Study other similar questionnaires as convenient and then devise your own. Collect as many model questionnaires as convenient and then you may choose to modify questions according to local needs. Direct contact with people is the first important step you take to make your survey a success.\textsuperscript{14}

Realistically, a modest evaluative study based upon limited interviews and questionnaires may be as effective as the more ambitious and costly overview of the community. At the same time these studies should be paralleled by collection evaluation which will reveal the volume of activity at any given time in a day or week, the frustration of failure points of service, and other facts which will not only assist users, but will do much to explain why others do not use the library.
No matter what the librarian's attitude toward evaluation, it is an absolute necessity to separate the misleading from the genuine motives for service. In order to do all of this, one must have a clear notion of mission. It is an obvious cliché that the librarian can hardly launch projects to encourage library use unless there is certainty as to the library's primary, and even secondary, objectives.

Generally, the library's goals are summarized in the collection policy statement, and whether that be a page or a small volume, inevitably it begins by defining audience. The usual procedure of public libraries is to use such descriptors as "services for all people," or "serving interested individuals." In no case is the door shut on anyone who wants to use the facilities. Academic, school and special libraries consider the user in terms of curriculum, culture and special interests; but, once again, close no one out who is a member of a somewhat narrower community.

While not all agree a policy statement concerning the library's objectives is necessary, at least working toward such a statement serves the worthwhile purposes of fostering discussion and consideration of the types of people for whom library services are intended. At the same time one is forced to consider limitations and to conclude that even under the best of circumstances the library is not for everyone. As the objectives are divided and subdivided by statements of intention and purpose, the librarian begins to get a better picture of the people being served or not served.

Difficult Questions

Policies, user studies, articles, and discussions all make certain basic assumptions which try to explain the exotic service which apparently appeals only to 10 to 25 percent of the adult population. The sometimes euphuistic style and presentation fails to consider a vast number of people who really have no choice in the matter. Provoked by facts, rather than vague welcome gestures, the librarian must decide whether to evaluate in terms of users only or to consider the others.

The "others" who do not use the library tend to be of two types. There are those people who are too far away from the library, don't read much, or for a variety of personal reasons, rarely if ever pause in front of the library. Most are educationally and economically sound and speak with the voice of the middle classes. Most of these people are willing to
support the library—if only for the kids—because they sense it is a worthwhile community asset. By and large the greatest group of nonusers is in another category. They don’t use the library for the simple reason that they can’t read and can’t cope with books and magazines. True, the library does offer more than books and periodicals, but nonreaders rarely understand that aspect of service.

The American Library Association is vitally concerned with fighting illiteracy, but the problem is overwhelming. In a Harvard study, it was found that 13 percent of the nation’s 17 year olds are illiterate and 40 percent have reading problems. Education Secretary Terrel H. Bell told Congress in 1982 that “a total of 72 million people function at a marginal level or below” of literacy. True, the definition of literate and illiterate is debatable, but even the most optimistic American booster admits too many people simply cannot read well enough even to write a check or fill out a job application, much less to take on a book. There is consensus among educators that, at a minimum, 23 million adults cannot read above the fifth- or sixth-grade level.

The economically and educationally disadvantaged (and they tend to be much the same) are locked out of the library by barriers which need to be carefully studied. Reaction to this may manifest itself in several ways, and one might evaluate why one librarian calls for an Information & Referral program while another may say:

Public librarians should concentrate on the full ten percent who use the library, not the empty ninety (who do not use the library)....We know how to improve service to users, but we don’t know how to convert the nonuser. The logic of our situation suggests that we focus on the users, and do what they have suggested throughout 30 years of being asked: Accumulate more books.

Limiting Service

Martin puts it like this: “Policy reactions by library administrators have been paradoxical. Lacking funds to serve adequately those who come to it, the public library has been reaching out to attract non-users. Lacking the materials that people seek, it has cut back on book funds while holding on to staff.”

Martin adds: “There are two contrary ways to react to limited budgets: you can cut back on the number of things you buy so as to maintain quality in what you do get, or you can continue the full range of purchases while sacrificing quality.” The assumption here is that the library should “cut back” and cut out all but those who are able to cope with “quality.” Others who put the human factor first, and then
figure out what to do with the budget, may be accused of being unrealis-
tic bleeding hearts, although, God knows, there is enough to bleed
about these days, from the lack of universal free library service to the lack
of proper assistance for the poor and illiterate. Martin may call all of
these concerns "an overload of good works." Others call them a
necessity.

Objectively, the arguments for outreach, for expanding rather than
limiting possible library audiences are well known, and equally—or so
it seems to this writer—valid. Withdrawal is to limit service and a
strategy which in turn invites death. Libraries are not business opera-
tions (although some administrators these days do have that concept),
they are public service institutions which by definition must serve all
the public, not a segment of that public. Libraries seeking funds are
strengthened—not weakened—by more service, accompanied, to be
sure, by advances in communication techniques from online reference
to software loans. The weakness in support for libraries is not so much
failure to concentrate on a narrow group of users, but failure to impress
and advertise. There is also the equation of a community which may not
use the library, but takes pride in it as a cultural institution serving all.
This is a traditional, although fragile, relationship which could be
destroyed if the librarian figuratively slams the doors on all but accepta-
table types.

A common complaint of those who wish to focus on a limited
audience is that libraries, particularly school and public, fail to stress
reading and books. The assumption is that too much interest in other
media is destructive because it funnels off money for books and other
reading matter. It is true that books are the primary focus of any library,
but the demand for other media should be met. Readers tend to be heavy
users of all media, not just books. Other media may be the best, if not the
only way to make the library meaningful to many nonusers who can’t
immediately cope with reading.

Research Failure

The real failure is the confusion of purpose linked to a rather vague
notion of the public served, usually resolved by generalized polls which
fix the audience as middle class. Here there is latitude in that an
individual patron may be old, handicapped or a member of a minority
ethnic group, etc. and still be middle-class. The literature is filled with
material on improving services to borderline nonusers. R.R. Bowker,
for example, is issuing a series of books "serving special population"
groups. Sometimes one has the sense that the concerns with these variations on a theme are missing the point about the vast number of people who do not use the library. Moreover, there seems to be more fascination with so-called "problem" users than with the less treacherous nonuser.

A secondary failure is research focus. Too much user survey research is concerned only with the professional and how information is located for an individual with highly specialized needs. It does seem extraordinary that in the annual Library Literature listings under "research" and in the various bibliographies, almost total interest is in "information services" and "college and university libraries" and related "catalogs," "serial publications" and "interlibrary loan." There is less than a wink at school libraries, some attention given to existing users of public libraries and little interest in the nonusers—relegated more and more to speculative studies, but not to collection-user evaluations.

Perspective Needed

The fascination with specialists fails to consider the average individual who makes up the largest percentage of the user (and nonuser) population of libraries. They are interested in social sciences and the humanities (including fiction and biography). Applied and pure sciences are a concern, but not anywhere in proportion to the interest shown their users in the literature and in research studies. The typical reader is not involved with citations, but in whether or not new material can be found on the library's shelves.

It is important to make the distinction between information and knowledge, between, in fact, different types of users. Knowledge, as Boorstin points out, is a combination of education, instruction, amusement, and information. It is of primary concern to those whom he calls the "autonomous" readers who should be the "end-all" of our libraries.

Evaluation must be based, then, not so much on the obvious collection concerns of the new technology, but on the individual who may believe the primary purpose of a library is something more than research and financial victory for those delving into lasers or the stock market. The library should be evaluated on how it helps in the enhancement of the quality of life. A Grolier study, for example, finds that 96 percent of parents polled "regarded enriching the quality of life as a primary purpose of education. Seventy-five percent said they considered
financial rewards a major purpose....Those who ranked income potential as the primary purpose came mainly from what the report described as those subject to cumulative disadvantages"—e.g., low income, limited education.27

Another check on narrow, specialized studies is the type of library under consideration. There are more than one hundred large research libraries in the United States, certainly functioning as more than government and business libraries. There are small public libraries which make up some 80 percent of the total number of public libraries in America. The average rural library (serving 25,000 or fewer population) has an annual budget of about $28,000.28

Notwithstanding the advances in computers, networks and library cooperation, perspective is needed on the average user, often left out in the literature—cold, stamping to keep noticed.

The pleasurable notion is that with a rise in unemployment more people use the library. Regular users may, indeed, spend additional time in the library, but the overall figure of use does not increase at all:

It is unrealistic to expect people for whom libraries have never been part of their lives whilst employed to flock to them when unemployed....People might stop activities when unemployed because they are too expensive, [but] they are unlikely to adopt them because they are inexpensive....It follows that the best, and perhaps the only, way to increase dramatically the use of public libraries by unemployed people is to increase their use by them whilst they are still employed.29

User Satisfaction

The library is only as effective as the user is satisfied. The catch:

Determining what users need is far more difficult than simply adding up what they say. My own experience...has convinced me that the poverty of library services users will accept knows no limits. They have certain books and periodicals they would like the library to buy, and that's where their demand stops.30

An expert in such matters, DeGennaro claims that user satisfaction is not simply achieved by the number of books, serials and other material added to the library.31 If this were so, the larger the library, the happier the user. It doesn't work that way, and while there is some correlation between size and satisfaction, other elements—from staff attitudes to ease of use of the catalogs—determine ultimate evaluation. The real key is effective management of resources, effective evaluation of not only the collection, but of how it is employed by staff and by users. Here, failure can be as important as success.
Fortunately, there are a growing number of user studies devoted to failure analysis—a technique to explain factors which result in library users leaving without the information they need, or the wrong information, or not enough data. Online searchers sometimes ask all their customers to indicate satisfaction or lack of satisfaction, usually with a brief questionnaire attached to the printout. More formalized approaches are suggested by Childers whose numerous studies are less than reassuring—e.g., only 55 percent of the time, an actual answer may be given at a reference desk, and only 84 percent of the time is that answer mostly correct.

While no one will debate the need to perfect objective techniques of discovering user satisfaction, there is confusion on how to achieve an accurate guide which will relate to collection development. The difficulty arises because many such studies are confined to generalities about the library with the expected result that most users are satisfied. When evaluation is linked to the shape of the collection, one enters the sensitive area of how much attention the librarian should pay to user demand, particularly for popular materials. If the librarian is on the side of quality, the public may be less than enthusiastic. Conversely, one may adopt the Baltimore County Public Library's (BCPL) approach by evaluating collections in terms of popularity, and not only buying titles that are much in demand, but purchasing multiple copies. Here it seems the library seeks to survive by maximizing some users' satisfaction, possibly at the expense of others. The Baltimore experiment and others like it may not be entirely successful.

Saturation buying of popular titles does little for the 35 percent of respondents to a county-wide survey who claimed to use other libraries than BCPL; half of these respondents said that these other libraries have materials they needed that were not available at BCPL. One-quarter of the population sample and almost half of the users surveyed in the county claimed they made direct use of the Pratt public library system in Baltimore; better than 60 percent of the survey respondents were aware of interlibrary loan services. Our efforts to satisfy “demand” should recognize the full range of service needs and be responsive to them.

Much is written about the verso of this question: censorship. Here evaluation is entirely subjective in that the librarian decides to eliminate would-be controversial books, even if they are popular. The potential conflict between the library dedicated to mass appeal and the librarian nervous about controversy is beyond this paper, but it has fascinating psychological overtones.
With regard to the more specific argument about demand vs. long-range quality objectives of the library, it is a fruitless discussion. It falters because it suggests that only an "either/or" situation is possible, which rarely is the case. It is more a hypothetical discussion than a real one, particularly as the majority of small libraries rely on popular reading and reference works and look to the larger centers for more lasting titles. The larger public libraries have little choice, although they can, and do, modify from time to time particular emphasis in popular areas of collecting. They would risk mass desertion should they close down online services to buy more copies of a best-seller. Academic and school libraries solve the problem often by going too far the other way. There they tend to forget that students and teachers read as much for relaxation as for information, that they enjoy the fruits of browsing. The result is often a collection overbalanced with research materials and lacking in basic, popular reading.

**Beyond the Marketing Survey**

No matter how the collection-user relationship is established and evaluated, the library does remain a cultural institution. Librarians can learn much from the experiences of other similar institutions.

For too long, librarians—perhaps anxious to justify the "science" in library science—have turned without question to the Harvard Business School, to marketing experts at Proctor & Gamble and to the statisticians from the television networks for guidance. It is foolish to deny the worth of some of these guides, but it is more obvious to seek evaluative measures of service and collections closer to the bright sunshine of culture than the sometimes dulled lava flow of strictly for-profit operations.

There is no reason the library can't be as popular, say, as the local art museum. Not too many years ago, art was considered to be the province of the few, perhaps briefly seen in the pages of *Life* or *Time*. Pressed as much by need to justify public funding as the democratic spirit, museum directors set out to win a new group of art enthusiasts. They succeeded, not by reversing collection policies, not by hanging popular illustrations on the walls, but by consciously evaluating their past and future publics. They dropped old habits—from awkward hours to pretentious guardians of the gates—and adopted new approaches to encourage use. Look also to ballet which today is considered almost an American sport by people whom a few years ago thought it an esoteric stage of sleep. From art to dance, culture is no longer an extraordinary situation.
A Way of Looking at Things

One may take exception to the philosophy of using the techniques of Revlon or Proctor & Gamble in the library, yet find in the avalanche of materials about marketing the library some useful bits of information on audience analysis. Some give specific information on collecting and using data, sample forms for a community profile, sample tables for analysis of survey responses, and the like.

Leisure Time

Marketing surveys, particularly, are useful for broad pictures of population trends. One of particular interest to librarians is that growth of eighteen— to thirty-six year olds who represent one-third of the population. They are a formidable audience for a library, as well as an army of consumers with massive amounts of leisure time.

What is this group of Americans doing with that time? About three to four hours a day is devoted to television, or about half of their not-at-work time. Few watch television continuously, but it is a presence which hardly is conducive to reading: Asked "what do you do every day or almost every day, [Americans answer] watch television, 72%; read a newspaper, 70%; listen to music at home, 46%. [Much further down the list comes] reading, 24%; working in the garden, 22%; and engage in sexual activity, 11%." An irreverent note: according to a correspondent for The Manchester Guardian: "The British lower middle class, more than any other, find that television in the bedroom gets in the way of sex...some 17 percent...said that television interfered with their reading."

One aspect of marketing surveys often is overlooked. They can be humorous, a picture as much of the searchers and their heads, minds and sensibilities as the audience they study.

The nature of leisure time and mass culture is gradually changing: both are becoming more pervasive than ever before. The meanings are numerous, but certainly one of them is that more emphasis will have to be placed on education for life rather than education for occupations. Another aspect of leisure time is that as technology reduces the need for labor, the government is faced either with massive unemployment or with sharing the lighter work week. The latter alternative seems most likely, and the question then is: How will people, accustomed to spending most of their lives working, adjust themselves to the situation in which they will be on the job only three or four hours a day?

In a recent television interview of older people—people over 65—the primary method of spending time for those interviewed was "walking and reading." Older people, then, are an ever increasing audience,
particularly as there are more of them as health and economic standards improve. Types of aesthetic and relaxation reading have little to do with age, and those who thumbed through junk in their youth continue to do so in their nineties. Still, certain types of reading matter are of particular value to the older person who needs help with questions from home maintenance to health problems of aging. Essentially, though, the librarian is back to the main center—how people can profitably spend their time, and how can they be taught to appreciate the joy of passing the days without worrying about a job.

Within the leisure-time framework, one must consider education as a factor. More people are high school graduates today than ever before, and about one-third of the 75 percent who receive a degree go on to college or university. At the same time, fewer and fewer jobs require so much practical instruction. According to one study: "Of the 20 leading occupations in producing numbers of new jobs...only two—teaching and nursing—require a college degree."

At this point, the librarian may use outside data to discover a line drawing of the user and needs. In the next decade it is going to be someone who is better educated, who has more leisure time, and, while devoted to television, is more likely to be looking for other attractions. Here the vital point seems to be that fewer, not more, people are likely to be making strict information demands on the library. Circulation will continue to increase, but there will be more demand for materials which help the individual to pass time. Whether the passage be in terms of learning, self-improvement, self-education, or simply recreation and enjoyment, depends upon the individual. Despite the flood of writing to the contrary, there are likely to be fewer job-oriented requirements—fewer, not more, highly trained specialists with equally esoteric needs.

Rational Decisions

There are many other ways of looking at collection and user evaluation. The assault of studies is not likely to cease, and as they become more subtle, perhaps they will become more comprehensive and applicable to the daily lives of users, nonusers and librarians.

The gestures of analysis may or may not be valid, but it is a tribute to the evolution of the profession that more and more librarians are making their own evaluative decisions based as much on tried-and-true models and techniques as on broader considerations about the immediate public, and the public as it is likely to change over the decades.
A Way of Looking at Things

ahead. At the same time there is a hope that professional researchers will bring new methods and models to bear on the library user and nonuser.

It is true that our libraries are full of technologies and infinitely marvelous possibilities for service. At the same time, the task is to help individuals by building and evaluating collections which are near to individual needs. That is not hard to understand and presupposes some idealism. A librarian need not ride with St. George to appreciate that there are other ways of building a collection than those governed by the standards of budget and acquisition procedures. Sometimes it seems there is a deep cynicism in libraries built upon a mockery of the public and a worship of the system. It is not overly fastidious or idealistic to ask the librarian to consider another—if you will, a traditional—way of looking at the people outside the library's doors.

References

20. Ibid., p. 23.
21. Ibid., p. 20.
Old Dog; No Tricks: Perceptions of the Qualitative Analysis of Book Collections

LEE ASH

TWENTY-FIVE YEARS OF WORKING with projects concerning collection development have taught me that there are two principal functions that can be reduced to simple either/or choices expressed through a variety of simplistic formulae: in/out, add/subtract or—in more familiar library terminology—acquire/discard.

My use of these formulae requires, ultimately, a method of subjective evaluation of nearly every book individually by using a library's catalog, selective bibliographies, and examination of the books themselves, all the while studying the history of the library’s acquisitions. This requires special techniques that range all the way from checking titles against bibliographies to application of the accumulated knowledge of specialized bookpersons qualified to understand why a book should be added to or removed from a collection.

“In”: The Acquisitions Policy Statement

A decision with regard to a collection, whether considering classes of subject literature or a single pamphlet, is “in or out?” The answer should be based upon previously established guidelines written down in an Acquisitions Policy Statement, hereinafter called an APS.
Lee Ash

The style for writing an APS may vary from a formal statement to a brief outline. Whether it is written as a subjective statement or as an analytically mathematical formula based upon circulation, volume counts, budget, or some other factors, it is meant to answer that question: "In or out?"

Nothing in a library—whether the library serves a great university, a small rural community or a business facility—is so important as the written APS. From the administrator's point of view, the APS serves the library in the same way as a national constitution does. It expresses the ideals and goals of a group dedicated to a particular purpose and meaning, and it helps them to strive together to attain reasonably well-defined objectives through a realistic growth pattern. Like the United States' Constitution, however, it can be amended. Changing needs of the community the library serves must always be considered, and the statement can be revised without destroying or damaging the basic and sound purpose of a library.

The APS for a large library should be written at several levels—for the overall institution, for its divisions, sections, or branches; similarly for a smaller library; and even for a one-person staff in a one-room library—a stated policy should be written and it must be understood by all who will be affected by it.

Only in this way can a proper and worthy collection be acquired, maintained, directed, and controlled; and only with a written APS can there be provision for continuity of policies affecting the future of the library. Administrators and librarians come and go, but as they do, the APS can help to hold the library on a steady course.

As I have suggested, the APS is not an inflexible law that supersedes the need to change, to vary policy or to inhibit intelligent redirection. I do not think that the APS is ever meant to be a rigid and unchangeable document. Indeed, I believe that any APS should be under study constantly and always kept in mind, respected as a library's guiding light. Nevertheless, at the same time, there should be a regular formal review of its content, applicability and efficacy insofar as it has served for the previous years and seems relevant to the long-term future. I suggest formal review and discussion of interim recommendations every third or fifth year (preferably the latter) in order that the statement may be applied over an adequate testing period.

Having proposed that within an institution, an APS should be written at every level, so should each department's special statement be reviewed and coordinated with revisions of statements at levels above it to avoid conflict of purpose or contradictory changes. As to the process
of revision of the APS, I believe that everyone at the library should have a
say at the appropriate level with which he or she is associated. The
knowledgeable persons should (or ought!) to be the librarians who work
with the collections, but everyone with ideas should be invited to
contribute—all professional staff, student assistants, pages, volunteers,
faculty, and any regular patrons of the collections. In the area of special
collections, even donors should be given a voice and so should Friends
of the Library, where such supportive groups exist.

The purpose of the APS is inspirational and policy should be
trimmed of broad generalities and—at any level—should be as specific
as necessary: “The library will collect such and such in depth; it will
collect foreign language materials except exotic scripts and similarly
unusual characters; recognizing the much older collections at the
nearby university, it will not collect early literature (before 1900) except
for important authors basic to the subject and then only in the best
standard editions....” and so on.

All or any part of this kind of statement can be changed to meet new
needs—a new course, a changing population, an increased (or
decreased) budget allowance, disuse of the collection, or no foreseeable
responsibility to maintain or even to retain it for any reason, etc. At
lower levels, even price range restrictions may be made: “All purchases
of $100 or more will be approved by ________; or “should be consi-
dered by the Book Selection Committee;” or, “will be discussed with
faculty or a cooperative purchasing library,” etc.

Desiderata Files

Nearly as important as the Acquisitions Policy Statement is the
continuing growth of a systematic review of all relevant literature by the
book selectors. In order to assure the viability of a collection, as defined
or directed by the APS, it is necessary that the selectors should constantly
review the literature in their fields and be aware of publications, availa-
bility, cost, and relevance. To this end, desiderata files are as useful as
the APS but they should be revised continuously.

In my experience, very few people know the way to build a really
helpful library desiderata file, but over the years it has become obvious
to me that there is only one way to assure a file’s usefulness: believe that
there is no limitation to accessible money. In any case, do not decide that
“we couldn’t afford that; we need this more,” and then fail to add a title
to the file.

First of all, money may really be available from a generally unknown
or obscure source. Second, the responsible book selector who is keeping
collections up-to-date, or reaching for standards of excellence, is serving as a guide for collection development and money must not be a deserving factor in considering a title, even though it may be the decisive one.

That important but expensive title must be added to the desiderata file. A file of quality and excellence built on this basis helps a great deal when funds are available for retrospective buying, when money comes from unexpected sources, or when pressures of readers' needs insist that available money has got to be spent because the book is indispensable. More importantly, the file keeps staff alert to collection inadequacies or weaknesses that should, in time, be repaired by acquisition of these very tools that were passed over and have not been superseded. As a simple but effective rule, then, always treat the desiderata file as though there is no limitation on money and as a nearly perfect instrument to use in retrospective buying.

Along with many factors that are clearly a part of collection development, the Acquisitions Policy Statement and the desiderata file are two that I feel are the most necessary and effective ones. Thus my consideration of the "in" element at this time.

"Out": The Case For Library Review

Nothing diminishes the effective vitality of a collection, large or small, so much as dead books on the shelves. In conjunction with this belief, let me remind readers that, as a professional librarian, consultant for collection development, researcher, and antiquarian bookseller, I am extremely conscious of the intellectual, social, historical (and, yes, monetary), values of old books. A library that does not aim at "collections of record" in its APS, however, is doing disservice to patrons who deserve the best and who want either to use books or to browse in stacks for serendipitous finds.

The quality of collections whose shelves are burdened with textbooks must be considered dubious if the texts are more than five or ten years old—almost no matter what the subject. Specialists reviewing the shelves will know the important books (even some textbooks) to be retained, but what a kindness it is to readers to remove all of those old Introduction to..., Manual of..., Handbook for..., Laboratory Guide..., and similar titles that can, mostly, be chosen for discard by spine-reading at the shelves or by riffling through the library's catalog.

At one large university library where I used this method recently—in a field I know well, of course—I literally threw out one third of the entire nonhistorical open-stack collection. Circulation then rose by over 50 percent within six months, apparently for no other reason than
increased viability of the collection after removal of the dead titles. We threw the books out because—of the better ones—we had offered nearly 2000 titles for sale to students, faculty and others, at fifty cents each over a week’s time, and sold no more than forty. Thus was the quality of the lot!

Of course, weeding programs must consider books other than textbooks and similar publications because all books, like people, do not ease into old age gracefully. They fall apart physically and many of them (perhaps most) lose much of their perspicacity just the way the rest of us do—and, think of it, books are only the verbal expressions of people. Perhaps recognition of this fact may help us to moderate our absurd and almost universal veneration of every book. Incidentally, for several years I have been trying to introduce the term library review program or library review project, rather than use the word weeding. The latter has a very negative connotation and irritates library boards, donors, patrons, staff, and newspapers in particular, even though the procedure is both a necessary and a useful one. “Reviewers” are not destroying the collection, they are improving it! “Weeders” are thought to be dismembering collections.

If the review project is to be consummated properly and with some consistency, I believe that the persons best qualified to undertake it are the librarians who work with the collection. Unfortunately, I know of too few librarians today who are bookpersons in the sense that they are well grounded as readers or as students of the retrospective literature of subjects with which they are dealing and I am not sanguine for the future. This is not my place, though, to argue counter-arguments, so I will propose a solution that I have found to be an effective and enjoyable approach for librarians even though it requires much additional staff work.

“Additional staff work!” “We’re already swamped.” “Couldn’t possibly.” is what I have usually heard, with all the expected explanations and excuses. Well, in the performance of two of my major collection surveys (most successfully at the Toronto and Vancouver public libraries), staff time was assured by administrators who guaranteed the availability of a set number of hours or regular work time for every staff member in every department concerned with the projects. Objections persisted of course, but the time was ordered to be taken, with all kinds of schedule adjustments, because the libraries’ administrators recognized the absolute need for the review projects. I should add that both of these library projects were scheduled over two years during which time I visited every other month for two weeks. In my absence, staff continued
at their project-assigned tasks during the hours scheduled for them and within their regular working hours. There was no overtime work.

My system for operating requires many hours of staff time, lots of internal cooperation and understanding, some ingenuity, some insight, some originality, and, also essential, subject awareness. For these reasons—mostly the time element—the administrative costs of these projects can be large, and, though the results make for a good analysis of the collections, achieving this goal must be acknowledged to be of great importance before an administration can encumber itself with such a demanding commitment of staff time and money.

At this juncture it is expedient to digress momentarily and note that most reviews of collections need not cover a library’s entire holdings at the same time, nor at all, though it is important to set dates by which time certain areas will be completed. Small parts of a classified library can be examined separately, which will take fewer hours of work. The Canadian projects had to be completed within time limits in anticipation of scheduled building programs and regional planning.

I should return, momentarily, to the matter of staffing, having said that is is most desirable that the library staff should review the collection. This is possible and successful under the procedures described in this paper; on the other hand, it has always been my experience (in spite of what still may be said in library schools) that it is generally a mistake to ask faculty members to participate in a collection review. Perhaps at another time, in a more appropriate place, I will set forth my reasoning; but my argument begins long before the brief remarks in my small book, *Yale’s Selective Book Retirement Program* ¹ and I urge its perusal on anyone participating in a review project. I am not stubborn about it, but I seem never to have had cause to modify my opinion, which is indeed, unfortunate and disappointing.

**The Review Process**

Perhaps I am too ignorant of the possible valid use of various statistical or mathematical formulae proposed in the library research literature today. My understanding has been, though, that while these formulae may have been shown to have worked in one library, they are usually too costly in time and too difficult to apply—in terms of learning their techniques, modifying their controls, and selecting data for interpretation—to consider using them in other libraries. Most of them are based upon circulation records, publication dates or other data seldom referable directly to patron use. Even worse, they take the charac-
Old Dog; No Tricks

ter of the books' contents out of the game for anyone who cares for such and believes it to be significant.

To begin a description of the methodology of subjective collection reviews, which is the only way I can conceive of my doing it, I first talk to the entire assembled staff or, at least, to all who are to be concerned with the review project. This talk is meant to explain objectives, to relieve any fears about "destroying the collection," to encourage anticipation by suggesting that it will all be lots of fun (like relearning subject fields) and lots of hard work that will interfere with routines but which the administration says must be done, and to assure staff that my own direction is only meant to be helpful, to give some guidance and to keep the train on the tracks and moving at a regular pace within the time allowed to us. I emphasize the fact that we will write a report together, which means that staff will have an opportunity to read it and correct my misjudgments, and, while I may not change a statement of my opinion unless I am shown to be in error, if an opposing opinion is of real importance it will be included in the final report. In the Toronto survey, for example, the music librarian disagreed with my qualitative evaluation of this part of the collection when I quoted a young Yorkville musician's ardent opinion that the library's collection of printed materials "just isn't with it." Over a page of text was allowed to the music librarian's response, with which I was not in total agreement.²

Next, I explain that, library department by library department, I will meet with the staff members to discuss their problems and objectives, and that they are to choose for their individual selves those parts of their departmental collections on which they wish to work. When libraries are classified by the Dewey Decimal classification, I ask the staff to divide their department's Dewey tens (e.g., 700, 710, 720) among the members of the department staff. Dividing the Library of Congress classification presents only a few additional inconveniences. Since many libraries do not have an APS, this is the time to review what may have been considered policy or to work on a draft APS in the briefest form, in order to provide some guidelines at least for the review project.

For each of the subdivided parts of the classification, I ask the person responsible for it to find ten annotated or qualitatively evaluating bibliographies. This is not always possible but, teacher-like, I insist on five even though they may have to resort to borrowing through interlibrary loan. Even on projects where I work alone, I make the same demand upon myself. For an explanation of how I study to review collections for appraisals, see two articles in AB Bookman's Weekly.³ When the five to ten bibliographies are in hand, we discuss their usefulness, and the reviewers are off and running. A library's own copies
of bibliographies may usually be pencil marked; borrowed books are
copied and marked if they are to be marked.

Bibliographies are studied and, where related to the first brief draft
APS, they are checked against the library's cataloged holdings. Symbols,
arbitrarily designated, are noted in margins—such as "have," "don't
have," "should have," "don't want," or otherwise. The "should haves"
are transcribed by clerks assigned to the project, thus making separate
card entries for the desiderata file. The desiderata file can be divided as to
must orders and titles for possible later acquisition. The project clerks
also keep any desired counts of titles against bibliographies, and so on.

If my contract requires that I must provide a written qualitative
report for collection development, and a written draft of an APS for
consideration, I must study the checked bibliographies and the evolving
desiderata lists; do an at-the-shelf examination of the collection; and
talk further with departmental staffs, administration; and make a sam-
pling of users—public, student or faculty. Actually, for myself, as a
bookperson, the most informative part of this phase of the selection is
my own examination of the books on the shelves. Why this is, it is
probably impossible to say and equally difficult to understand, but—as
most bibliophilic scholars have put it, without sensible discussion—it is
generally laid to a "sixth sense." Subjective? Yes!

Really Reviewing

In reality there is considerable risk to allowing what I have called a
"bookperson" sole responsibility for selecting what should remain and
what is to be removed: in/out. It is likely that years of specialized
knowledge have been applied to building a collection that ought not to
be torn apart no matter what self-confidence the bookperson may have. I
can hardly be accused of excessive humility, but even after nearly half a
century with books in all subjects, and my diligence in preparing for a
review project (as described in the second of the two articles in AB
Bookman's Weekly, 4 I know that it really is not necessary for me to take
all the responsibility, and that I really should not be allowed to do so.

In a library—with projects such as the Toronto and Vancouver
reviews—the staff are themselves reasonably able to make the decisions
about a collection or subject area for which they have direct responsibil-
ities and, insofar as I was concerned, my job was to give direction to the
collection review. In an academic situation that will not involve the
faculty nor the library staff directly, there is another way of achieving
what must be done.
In an academic institution, representative faculty may be invited to review the selections, but, as I have mentioned (and discussed in the matter of the Yale project\(^5\)), this is seldom a helpful or desirable way of working. The most efficient and successful pattern that I have discovered was used over a long survey of several years' duration (one week a month, October through May), at the American Museum of Natural History's library collection of nearly 200,000 volumes); similar procedures were used at the Yale University Medical Library's stack collection, and are presently underway at the Peabody Library of Johns Hopkins University. All three of these collections were of about the same size and I have been the sole selector.

My "way out" of ultimate responsibility was first instituted at the American Museum of Natural History Library where full authority to act on my own judgment was given by the director of the museum and two successive chief librarians. My challenging directive was to go through the entire collection, book by book, to indicate any valuable items that would contribute to a new division of the library that I would establish relative to "the history of natural history, and rare books" in the collection. I was also to determine which books should be refubished, repaired or rebound (by a large in-house conservation project that at that time paralleled the collection review project), and to select those books identified as duplicates or out-of-scope and salable by various methods not pertinently described here.

The chief librarian and I worked out the parameters of the definitions that were to be applied to each of the three objectives just listed, and the procedure went forward under my unrestricted direction. Details of selection were my own and, to begin, the reference and acquisitions librarians and I made appointments so that together we visited each of the curatorial departments before I began to attack the book collections. We asked that the entire department meet with us to discuss present and anticipated use of the library's materials in their fields, and as they foresaw the direction of their researches for the next five, even ten years. These discussions were particularly helpful to us. At this time we explained the review project carefully and invited the curators' ideas over the next years. The curatorial departments were considered as faculty departments, which indeed they are. The next step was for me to spend as much time as necessary in my examination of the books on the shelves.

The true review began when, after I had put color-coded "p-slips," referable to the three categories for which I was selecting (used consistently in all my projects: blue, transfer to rare books; green, repair; pink,
sell), into all of the books about which I had made some decision. The chief librarian then sent notice to every member of the scientific staff—not just the curators of the department directly involved—that I had completed my survey and invited them to examine my selections at the shelves. Since there was no question of eliminating books chosen for transfer to "rare books" or for repair, they were asked to limit their attention to the books marked for withdrawal and sale. The reason for inviting all of the scientific staff to the review was that their fields all overlap and an ichthyologist might well be concerned with books about amphibia or an ornithologist with astronomy.

Invited staff were given a full month in which to visit the stacks to conduct their examination of the results of the review project's selection; longer in the summertime when they might be off on expeditions or vacations. If they disagreed with my decisions they were to initial and date the pink slip. At first, during the "lack of trust" period there were lots of decisions that they questioned, and often I learned a great deal from staff members when I returned the next month to examine their selections and discuss the books with them. As the years went on, however, and intimacy and trust grew between us, fewer and fewer of the staff came to review the "out" books and, indeed, the staff turned to the acquisitions and reference librarians, and to me, for advice about both library and personal book purchases. I must emphasize again that projects like those described here, if done correctly, must plan on the regularly scheduled use of a lot of staff time and unless this is allowed will not be completed satisfactorily, so it can be a costly effort.

That's it, essentially, based upon nearly fifty years of working with books and libraries. I will very likely always believe that, for the practicing librarian, subjective approaches—rather than mathematical formulae or statistical devices—are the only realistic solutions for the qualitative evaluation of collections. I believe in the value and importance of selectors' personal relationships with book collections. The methodology is essentially subjective, as is much of the process by which books first enter the library.

References

Old Dog; No Tricks


4. __________. "Handling Book Appraisal Projects."

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The Role of Public Services in Collection Evaluation

ELIZABETH FUTAS

The role of the public services department in the process of collection evaluation is to assess the collection in qualitative terms, to plan the collection of materials in the long run, and to assist in making decisions from a management point of view in the areas of budget, staffing and services as they impinge upon the collection, its users and the services imparted. It is peculiarly apt for this role to fall upon those in the public services area since, by tradition, they have the closest ties to individual users of the collection, to the selection of materials for the collection, and for the services based upon reference and research collections. From these ties it becomes possible for public services personnel to obtain knowledge of the trends, goals and objectives of users. It is easy then to determine what the library's long-range plans might be to meet the needs expressed by users in their day-to-day interaction with the collection. The type of information that reaches those in the public services can lead them to make useful input to management decision-making, especially in the realms of staffing, services and budgets as they relate to collections. Such information can be used by management of libraries in making informed decisions concerning administration and financing.

A great deal has been written about various audiences for whom the process of collection evaluation has been undertaken, about numerous formats of materials and how each is to be evaluated, and about types of methodologies employed for carrying out evaluation. Less has been written about who should be evaluating collections and why whoever it is should be doing it.

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In determining who is best suited to carry out the process of evaluation, it might be wise to begin with a precise, working definition of the process itself. Collection evaluation is the process of assigning value to the library's collection based on three different criteria:

1. what kinds of material are in the collection and how valuable each item is in relation to other items which are not in the library; (2) the kind of community served, in order to decide whether the materials in the collection are actually appropriate to that clientele, regardless of how valuable they may be in terms of an abstract evaluation of their worth; (3) the purposes which that collection is supposed to accomplish given that particular community of readers.

Public services departments usually consist of persons who deal on a daily basis with the user community—i.e., patrons who make information requests at the reference desk. Since public services staff deal with those needs by finding answers in collections that the library has (at least as a first attempt), these individuals also have strong knowledge of items that make up the collection. In fact, they may have a stronger grasp of collections on an item-by-item basis than they do of them as a whole. Those in the technical services department of acquisitions might have a better idea of what the collection looks like as a whole. In addition to close contacts with individual patrons and individual reference items (and even individual circulating items, since reference hardly stops with reference collections), those in public services also tend to have close ties to selection of items that make up collections:

Selection has increasingly become a library responsibility.... Even in science libraries, where the teaching faculty's role was greatest, the proportion of librarian selection was 75 percent; in humanities and social sciences, the determination of what went into the collection belonged almost entirely to librarians. Other studies document a trend toward greater library responsibility in selection even in institutions where faculty influence had traditionally been strong along with a wide sharing of decision-making in allocation, policy-making and selection, particularly among reference and branch librarians.

In recent years, public services librarians tend to make up the majority of bibliographers or selectors for academic libraries. In public libraries, the job of selection is usually held by a public services librarian or in some cases, by several public services librarians. Selection responsibilities fall upon public service librarians in small branches of large systems where one librarian is in charge of everything, or, in the case of the central library, collections are divided into subject areas where reference librarians tend to control not only selection of reference works,
The Role of Public Services

but, on the basis of librarians’ subject expertise, the circulating collection too. As Bonn points out:

The selection process in public libraries has a long history and it has successfully adapted itself to changes in philosophy and method over the years, largely, no doubt, because selection has always been in the hands of public service librarians who have been in a position to know and to react quickly to the changing needs and moods of the community.³

Where school and special libraries are concerned, selection is either the same as in public libraries, in that it is done by a committee composed of professionals from several school media centers, or it is likely to be done by one individual who is doing not only selection but reference and any other professional duties needed to run the library. In either case, selection is a very important task in relation to collection evaluation, since the evaluation is really a test of how good this selection has been over time. Where there is more than one professional employed in the library, the selection is most apt to be done in conjunction with public services than with technical services. In all, it would appear that public services professionals have a lot to do with the individual components that make up the process of collection evaluation.

The first criterion upon which a collection evaluation is made is of the kinds of material and their value in relation to other material not in the library, and it can most easily be judged on a daily basis by public services librarians. This judgment will be made every time a patron comes to the reference desk and asks a question and librarians there seek to find answers for that query in collections of materials at their disposal. Although this is a subjective analysis of the reference process, surely no one else could determine the relationship of items in the collection to those not in the collection better than the person who must use only those items in the collection to answer the queries. A really good reference librarian will know a lot about items not in that particular collection because it is incumbent upon this professional to send the patron elsewhere to answer a query that cannot be answered by the library’s own collection. Therefore, this knowledge of what is actually out there—even in other libraries—held by all really good reference librarians, helps to achieve a subjective, daily assessment of the value of items in the collection in relationship to those which could have been purchased. Since, as Bonn says: “During the past forty years or so selection more and more has become the responsibility of public service librarians....”⁴ and selection consists of having knowledge of publications and then choosing the best of what is available, these selector-
reference librarians must know not only what is in their collections (since they have done the selecting), but also what is not in their collections (since these are the items that they have rejected in favor of the ones selected).

The second criterion for assigning value to a library's collection is to know the community that is being served. Only if one knows the community can it be determined if the collection "fits" the library. This must be considered regardless of the absolute value of any items. A most worthy item on its own merits might have no business being in a particular library's collection due to the community that that collection serves. Public services personnel do get to know patrons by questions they ask at reference desks. They even get to know some nonlibrary users who may call in their questions but who never actually come into the building to borrow a book or to use any of the library's other services. It behooves public services personnel to keep up with the world outside that of the library's collections and patrons by being open to all forms of mass communications and other information sources that may abound in the area served by the library. These other sources afford the librarian a knowledge of the community surrounding the library, and this community includes library users, nonusers and potential users. Bonn states:

Competent professional librarians make the difference between a general collection and a dynamic, well-used, highly regarded library. They are the links between the community's needs and the library's collection on one side, and between the library's collection and a specific user's needs on the other. They interpret the community to the library through selection and they interpret the library to the members of the community through public service. The proper evaluation of a library's collection must, therefore, take into consideration the presence or the absence of competent librarians in the important areas of selection and public service.5

It would appear then, that those librarians who might be expected to know the community best—again, from a subjective point of view derived from contact with that community—reside in the public services area.

The third criterion for assessment of the library's collection is knowledge of the purposes that the collection is supposed to fulfill, given the user community. This would entail a knowledge of the goals and objectives of the library and the equivalent goals and objectives of the larger administrative body in which the library is located—i.e., university or college in the case of academic libraries, town or municipality in terms of public libraries, and school system or corporation in
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terms of school media centers and special libraries respectively. Nowhere is it written that a knowledge of these goals and objectives is the particular purview of public services librarians, and it probably isn't. Certainly it is likely that with what is in the public services sphere, it would come as no surprise that public service personnel would also have broad knowledge of the policies of the library in which they work. They do have very good knowledge of patrons and collections, so it would be logical for public services librarians to understand the purposes of that collection given those patrons, just from doing their jobs. It is a mark of a professional to look at the larger picture of the processes a professional is asked to carry out, and it would be impossible not to know the purposes of the institution when working so closely with its parts. Therefore, although it cannot be proved, it is probable that those working in the public services department would have knowledge, albeit subjective, of the purposes of the collection in terms of the community served.

Qualitative Analysis Methodologies

With a clear and precise definition of collection evaluation, the next stage is an indication of processes that encompass collection evaluation and how they relate to the concept of the role of public services departments in evaluating the collection. To some, the process of collection evaluation "is exercised on an ongoing basis by judging it against qualitative standards, that is, through consultation of knowledgeable people and through comparisons of the collection with standard, general and specialized bibliographies." It appears that in some practical sense, all collection development must be done on a more or less qualitative basis, since even the most statistical of methodologies of collection evaluation have aspects of the qualitative in some of the judgments and assumptions on which their implementation is based. As a rule, in most literature evaluation, there are two types of evaluation processes: qualitative and quantitative. In almost all of the policy statements, when evaluation is mentioned, the qualitative aspects are more commonly stressed:

Evaluation of the collection, as the word implies, is exercised continually by judging it against the qualitative standards, that is, through consultation of knowledgeable people and through comparison of the collection with standard general and specialized bibliographies. No quantitative goals are stated here, not only because these must inevitably fluctuate as the university grows, as the research needs of its
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faculty develop, and as the depth of instruction offered in various fields increases, but also because statistical assessment is useful only as a means of comparison with other collections or with standards suggested by expert opinion, both of which are subject to frequent change, and because such assessment gives no information concerning the content of the collection. Therefore, the size of the collection will be considered adequate only when it meets the increasing needs of the clientele of the library.

Although the two previous statements on the importance of qualitative evaluation over quantitative were written ten years apart, they are similar. Both are taken from actual written collection development policies. Obviously, over time, practitioners have retained the opinion that qualitative evaluation methodologies are most important in collection evaluation.

A large number of libraries have policy statements, but many such statements do not address evaluation or its procedures. Those that do tend to be along the lines of the ones just quoted. The lack of concern for comparisons of library collections can be described as being even more pronounced in the public library sector than it is in the academic sector—where there has been a movement among some large university libraries to develop long-range goals and objectives based on results of longitudinal quantitative collection evaluation studies. Generally, all types of methodologies have a thread of subjectivity running through them. In an early survey of evaluation methodologies, S.E. Ifidon concluded that:

First, by means of statistical techniques—regression and multivariate analysis—some empirical basis has been established for qualitative evaluation of academic library collections. Secondly, by way of contrast, all the published standards for collections are based on the "best" general practice which cannot be tested empirically. Thirdly, the analysis of citation counts is fast gaining ground because it is a useful method of undertaking objective qualitative as well as quantitative evaluation of library collections.

It is left then to go through several types of methods used for evaluation of collections to see how unique attributes in the public services area can be utilized in their procedures.

Among those methodologies usually considered qualitative, the most common is list-checking. It is the consensus that:

[The] most widely used system of evaluating a collection is that which compares a library's holdings with one or more lists of selected titles....The assumption is made that such lists, which represent the composite judgment of many librarians, will pick up the most important titles in the several subject fields.
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There are many advantages and disadvantages to evaluation by list-checking which are not of great concern here, except one; and it introduces a different kind of checking in addition to the published list. What the list-checking method fails to take into account are those items which are in the library and are exceptional but which have not made it onto the list of selected titles. The converse of using a selective or selected list for qualitative evaluation of the collection is to check what is in the collection through several lists to see if what is owned is on any lists. This would show how many of the “best” books had been purchased for the library, and it would tell how many of the total purchased for the library were considered “best” books by some reputable, outside source. The public services librarian is ahead of the game in this methodology, since it is usually this librarian who knows of various selected “best” books lists. Since public services personnel use selected “best” books lists in their reference work, they are more familiar with them than are many other librarians. The public services librarians are most familiar with items that have been purchased and may be on some of these lists since they provide services from all of the collection. Most list-checking would be done under the public services department, and under the general direction of reference librarians. Whether the list checked is a published catalog of another library, a bibliography of a particular subject field, or an ad hoc list made up by using recommendations of faculty or subject specialists, it is public services librarians who have the best “feel” for what is in the collection and to whom the task of coordinating this type of methodology must inevitably fall.

A type of ad hoc list usually created by those who are carrying out the checking is citation counts. This method is considered an improvement over a straight quantitative methodology because it is a measure of quality at the same time. Since the list that is checked is available in the library and comes from those who are able to choose whose citations to look at and what are the best journals in which to find citations, this methodology definitely falls into the category of qualitative analysis. Although judgments of what to use in doing citation counts generally come from subject experts rather than public services or other librarians, still it is reference librarians who can identify who on the faculty, in the community or in the corporation is likely to be able to come up with lists which can be checked with some confidence in the authority and quality of the works included on them. For that reason, public services librarians can be said to be the best people for the job.

A second type of qualitative methodology also used in collection evaluation is impressionistic or direct observation. Commonly, it is
used in academic or special libraries, and an expert observes only that portion of the collection in his or her area of expertise. Who, in a library, is most qualified to look at a collection to assess—based on background and experience—what are the best books and whether or not the library has them? If not done by outside consultants, certainly the only librarians with such expertise must be those with selection responsibilities in subject fields, and they tend to be public services librarians. In fact, collection development librarians “work in smaller academic libraries as well as in the largest research libraries, and they are less likely to devote their time exclusively to selection....[T]hey often work only part-time in collection development, with a primary assignment elsewhere in the library. That assignment is typically in reference....”

A third type of qualitative methodology used in evaluation of library collections is survey of user opinions:

The goal of a user survey is to determine how well the library’s collections meet the user’s information needs by gathering written, and/or oral, responses to specific questions. Information from user surveys can be used for:

A. Evaluating quantitatively and qualitatively the effectiveness of the collections and services in meeting users’ needs.
B. Providing information to help solve specific problems, modify particular programs, or assess the needs for new services.
C. Defining the makeup of the actual community of library users.
D. Identifying user groups that need to be better served.
E. Providing feedback on successes as well as on deficiencies.
F. Improving public relations and assisting in the education of the user community.
G. Identifying changing trends and interests.

In general, user surveys have distinct advantages and disadvantages. For the most part they do tend to give a picture of how services and collections of the library are fulfilling expected needs of library clientele. In the ordinary way, on a day-to-day basis, public services librarians get feedback every time they answer (or cannot answer) a query from a patron. This is why most of these professionals believe they know how the library’s services and collections are being received. What a survey can do, aside from other kinds of information listed previously from the RTSD Guidelines, is to validate what librarians have known or surmised all along. The only problem with daily feedback on the collection’s strengths and weaknesses is that each professional on the reference desk may be receiving only a part of the answer to users’ questions, which would produce a skewed vision of how collections and services are perceived by users. A carefully designed survey of users will
enable the librarians to have confidence in their own interpretation of the feedback. Users of a library's collections are better at knowing the extent to which material in library collections fulfills objectives of the library. Heavy users of any library will be familiar with collection strengths and weaknesses in their subject areas of interest. In academic settings, both faculty and students who use the library's collections on a regular basis can give good information about their worth. In looking at the results of a survey, it is those types of users that can really help to measure the effectiveness of the collections and services in meeting users' needs.

If the library designs the questionnaire with precision and skill and with an eye to the type of information really needed from such a survey, answers to questions can provide information on missing items, on areas where the collection is weak or out-of-date, or other types of problems that may hinge on the reception of the collection by its users. For example, a user survey might point to a need to change certain services—e.g., reservation of materials or photocopying of such—or it might point to a need for a different type of material in the collection—e.g., videocassette recordings. These answers may be prompted by a questionnaire's design as well as being generated by respondents. Well-constructed questions will focus on policies, services and subject areas on which feedback is most desired. Questions should not encourage users to ask for collections and services the library lacks the resources to provide, unless the survey's purpose is to get feedback on users' priorities for possible future offerings.

A survey questionnaire administered to those who come into the library can give a good picture of actual users of the library. Reference and interlibrary loan personnel may not have a good indication of all types of users, since a great number of people may never use the services of the reference department, interlibrary loan or online searching. Many users may do all research for themselves and may visit the library mainly to borrow books and other material. Asking only the reference librarians who the patrons are might greatly skew the data on users and their interests.

Before a survey of users is taken, it is always wise to know as much as possible about the community that the library serves. In that way, it will be easy to determine what groups need library services but lack them because they do not come into the library. Once groups of nonusers are identified, something can be done about getting them to use the library's services and collections. If a nonuser group is identified by a community survey, outreach or extension services usually come into...
play. Outreach and extension services professionals can be used to contact the public outside of the library building. In most cases these librarians tend to be in the public services department, too. Therefore, initial contact with nonuser groups is made by public services personnel.

Public services librarians are in a good position to get feedback on their successes and on the strengths of the collections. Patrons may come to the reference or circulation desk to talk over their reading. They may thank the reference librarians for help in answering a question, but patrons are less likely to return to the desk to report their failures to find answers in sources the librarian selected. If an answer is not forthcoming, most users simply walk out the door. Somehow in the daily life at the reference desk, patrons have to be educated to report not only successes, but also failures. Patrons must be encouraged to see that these are not their failures, but failures of either the sources or the librarians that led them there. It is necessary for librarians to learn from mistakes and to accept that they are made. As in many other professions, this is a difficult task. Yet, by accepting negative feedback, public services librarians can learn from their mistakes and improve the coverage of any part of the collection that does not measure up to expectations.

One of the jobs taken over by public services personnel is that of teaching library skills, now called bibliographic instruction. This new service, begun in earnest ten to fifteen years ago, has improved the public relations between the library and its clientele. Bibliographic instruction sessions also give the instructors feedback on how the library's collection and services are being received by those who attend the instruction sessions. In all, public services librarians' daily jobs put them in a position to get feedback and to act as public relations officials for the library.

In obtaining users' opinions, there is one particular group whose use of the collection should not be overlooked. To aid in the subjective evaluation of the overall quality of the collection, it might be wise to ask the opinion of those who use the collection most of all. And who are these people? Why, the public services librarians, of course! Gardner says: "In considering users, library staff members should be consulted as well as patrons. Often, staff members, particularly those in reference positions, have an even greater knowledge of a collection's strengths and weaknesses than the average user." It seems rather commonsensical that reference librarians should be asked their opinion, and yet in a majority of user surveys, no professionals are asked how they view the collection. An objection to asking the librarians seems to be that their
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answers will be self-serving. Actually, the survey cannot count on anyone being completely objective. What does it matter if in a qualitative evaluation, another user group is asked to give opinions about the quality of the collection? Most analyses of user surveys have found that users tend to be much too generous with their praise for the library and that praise leads administrators to think that libraries are doing a good deal better than they actually are. In any case, since survey research is fraught with subjectivity, why not ask the librarians for their subjective reactions, too?

Bonn cites another reason for asking those in reference to participate in user surveys on collection adequacy: "The best in-house evaluators of the collection, according to one recent writer, are the reference librarians. They can tell 'what is sufficient, what is adequate' for this library, and they should be in touch with what the public of this particular library wants." In this respect, asking reference librarians for their opinions about the library's collection actually answers two purposes in the evaluation of that collection. Not only may the librarians give their perceptions whether or not the collection has helped answer patrons' questions, but these professionals can consider the users' needs with respect to the collection at hand. It is the reference librarians who know what is needed by their library for the particular patrons they serve. This knowledge ties together the library's goals and objectives and users' opinions. In the end, this type of information helps librarians make long-range planning and management decisions.

The fourth type of methodology used is applying prescribed standards to the library's collection. There are numerous types of standards available—e.g., for public libraries, school library media centers, junior college libraries, college libraries, university libraries, and medical and law libraries. Standards tend to come in two different varieties: qualitative and quantitative. For that reason, when looking at types of evaluation techniques, linking the collection to published standards is often considered to be a quantitative methodology, since reference to quantitative standards makes it possible to compare two libraries:

Some library standards, such as those promulgated by national library associations, are concerned with setting minimum criteria for collections, services, staff, etc. in specific types of libraries. Although these statements of standards usually include quantitative guidelines, emphasis in recent years has been on the quality of the collections, especially as it might be judged in terms of the goals and objectives of the library in question. In addition to the type-of-library standards, there are sections on libraries and library collections in the statements of standards developed by regional and professional...
accrediting agencies. These standards also tend to emphasize quality of the collection without offering many quantitative guidelines.\textsuperscript{15} In the past twenty years, most published standards have been qualitative because setting quantitative minimum standards has been seen as a threat to the bigger and better libraries’ gains. To make the point: when minimum standards are set, then there is no yardstick or reason for measuring excellence above these minimums. For those libraries whose administrators must rely on standards to gain budget increases for better facilities, larger collections or more services, minimum standards can only act as a barrier to improving the library’s quality. For that reason qualitative standards have been in fashion for the past few decades. At the same time, there has been a trend toward combining qualitative and quantitative standards to measure a library’s achievements in relation to its goals and objectives.

Another change in the standards as libraries switched to qualitative measures was “the almost universal stress on quality rather than on quantity as the decisive factor in making evaluations.”\textsuperscript{16} Both quality and goals and objectives are hard measures to pin down when doing the type of evaluation that accrediting agencies do for libraries. In any case, the people in a library most suited to grasping these very difficult measurements of a library’s worth tend to be those who have close connections with both users of libraries and materials in the library—the public service librarians and other personnel in that department. Throughout this close examination of the qualitative approach to library collection evaluation, in almost every case, those most suited to carry out the evaluation are those who are in the public services areas. It is their unique position in the library that allows this to be so and it is to them that library managers turn when trying to decide who is to do the evaluation using qualitative methods.

In determining who is to do the evaluation, no matter what kind of qualitative methodology is called for (see Intner’s article in this issue for the quantitative approach), the discussion has centered on public service librarians as most qualified. It is these people who direct the qualitative methods mentioned so far, although in several instances they are not the ones who carry it out. In the list-checking method, after selecting the catalog or bibliography, or after creating the ad hoc list to be used, the role of the professional might be over (except for overseeing the project), and it would be up to support staff to carry out the actual checking. After checking was done, it would again be up to public service librarians to interpret results of what was found. In fact, list-checking is not an easy analysis since: “No one has ever set a standard as
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to how many books on a list should be held by a library in order for it to be considered an 'A' or 'B' library.\(^\text{17}\)

If the library is attempting impressionistic or direct observation methods, most likely an outside consultant or public services librarians would do this analysis. There are many disadvantages to any direct observation method. Some exist no matter who does the analysis. Without proper advance planning and without consultation with staff, using an outside consultant may introduce tensions and it may impair the utility of the analysis. Public service librarians may not have the subject expertise for evaluating the coverage of all areas of the collection, although they can sometimes contribute an idea of what actually is in the collection and where subject inadequacies may lie. This methodology can prove a good starting point for a weeding project as well as for an evaluation of the collection. A consultant hired from the outside may not understand and may not be given information on the goals and objectives of the library or the relationship between users and collections. It becomes a tricky operation, especially if there is no written collection development policy. Even with access to a written policy, it might be better if the consultant had opportunities to review the evaluation report and its recommendations with library staff. If there is sufficient staff expertise and interest, and if they are given release time to do it, the public service staff could do all or help the consultant out with much of a collection evaluation.

The user survey method would be done mainly by support staff handing out questionnaires to those entering the library at designated times, but the initial questions would be designed—or at least influenced—by the knowledge and experience of the public service librarians. It might also be important, if the survey was conducted by interviews, for librarians to do the interviewing. In that case, those with whom the public had had the most contact would be doing the interviewing.

Most methodologies—even quantitative ones—contain a good deal of subjectivity in their approach, and they rely implicitly or explicitly on decisions made from knowledge and experience. No matter what type of qualitative methodology a library decides to use, among the best for the job are the public service librarians, especially those who serve at the reference desk.

Long-Range Planning and Public Service

In assessing the role of the public services division of the library, the second aspect of collection evaluation for which these personnel are
most ably suited is long-range planning for the library's collection. It might also be true that reference librarians are equally useful in making long-range plans for services, staff, and budget, but for the purposes of this paper, only planning as it relates to collection development and evaluation will be discussed.

What kinds of information are needed for long-range planning? How do the methodologies which public services personnel are so capable of handling get needed information for long-range planning? First, consider some of the possible long-range goals associated with collection evaluation. Certainly, one of the most impressive of these goals would be a distinct change in the direction the collection would take. What this would mean is that goals and objectives of the library might be changing and these might entail changes in subjects or parts (or of the whole, in the case of special libraries) of the collection. Other long-range changes might arise in differing formats of materials being collected in the library. For example, this might mean going from print to microform periodicals or from 16mm and 8mm film to videocassette recordings. If the library is to decide on changes in its collections, it would seem to take quite some time to decide the direction to take. There are a number of long-range goals which, of themselves, might not be directly concerned with the library's collection but which, if made, might affect those collections equally as much as long-range collection planning. One such long-range goal might be a change in the audience that the library is attempting to reach, or a change in the manner by which the library is attempting to serve an audience it already has. In the former case, an unserved part of the community might be targeted, or an entirely different type of clientele might enter into the community. In the latter case, the long-range change would probably be initiated by a new objective for the library. In either case both would entail a long-term change in the composition of the collection.

Other changes in long-range planning might eventually affect the collection, even though, at the start, they would seemingly have more of an affect on the staff, services or even the building. Given the kinds of planning that are typical of the long-range as opposed to the short-range, what role does the public services department have in each? Since public services personnel work with the collection daily, it is apparent that they would be first to see any needed changes in subject, direction or format. In the public library, reference librarians keep up with trends in people's interests, since these appear in the reference questions that are asked. If the reference collection is not equal to the task of providing answers to questions on a particular topic, it can be pretty certain that
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The circulating collection is also weak in the area. For that reason, it would be those at the reference desk who might be able to see new areas where the collection needs work. In an academic library setting, with students doing papers on the “hot” topics of the day, and faculty doing research at the “cutting edge” of knowledge, it is not surprising at all that those librarians who help get sources for these assignments and topics of research are the first to know of any substantial changes needed in the collection.

In their capacity as selection librarians, subject bibliographers would know of any curriculum changes or trends not currently supported in the collection in a subject or area of their expertise. When dealing with various faculty members in subject fields in their charge, it is subject bibliographers who would know whether the department was looking for a faculty member whose research field was in an area in which the library’s collection had not been developed. Bibliographers might be knowledgeable about any topic-related institutes, areas of specialization or degree programs about to become a reality in the college or university. The public service librarian should be first to know of changes in subject coverage in an academic institution almost as soon as the faculty members such changes affect.

Any librarian who daily is helping students to find material on a particular subject is also the right person to tell if there is too little (or too much) material on a subject in the library’s collection. Passing row upon row of unused material, sometimes in duplicate and triplicate copies, means that the topic is no longer of as much interest as it had been in the past. This is a good indication that one of the long-range goals for planning in collection evaluation might be the weeding of the collection. Similarly, passing shelf upon shelf emptied of materials because they are constantly in circulation might be an indication that more books are needed in these heavily used areas of the collection. A reference librarian’s knowledge of what the collections of the library can handle may be a useful addition to the information required to make such decisions. Information gleaned from use can also be a way of evaluating a collection in long-range institutional planning. In a school media center, in some ways very similar to the academic setting, the librarian can often tell the direction of the curriculum by what the teachers are looking at in the library. In this case the information comes not from the students but first from the faculty members. In a special library, it is imperative that the librarians have a close knowledge of the direction that the firm is going or else the highly specialized collection will fail to meet new information needs. Therefore, it is especially
important for the special librarian in the corporate setting to recognize trends at a very early stage to insure enough lead time to change or augment the collection of material for the firm's use.

Another change which can be seen by public services personnel is the acceptance (at least down the road) of some kind of format change in the material used in the library. This may come about naturally, as the acceptance in a good number of libraries of video format to replace and add to film collections; or it may come about because of the library's financial or space needs. For example, space limitations may lead to half-hearted acceptance of microfilm to substitute for print material, especially in collections of periodicals. In either case, new formats require a great deal of initial outlay. To justify the cost, there needs to be some indication of support by the public services personnel, who can see these changes and who, by their very attitudes, can "make or break" the new format. Staff acceptance of the new format and their willingness to deal with the public's problems must be considered in any long-range planning along these lines.

Changes in audiences—which might imply changes in the collections—could certainly first be seen by those serving new audiences. A change in interest of a portion of users of a library's collection can be seen in the circulation department and the reference department. In the circulation department, changes in materials being checked out can be seen. In the reference department, in-house use of materials can be better judged. Combined, these changes can show new directions in audience needs. If the changes imply that there might be a new audience—either one not previously served or a new one moving into the service area—reference librarians and circulation staff are bound to recognize this at a relatively early stage. It is important for public service personnel to keep up with changes in user interests and in the community, no matter what kind of library is being discussed.

Long-range goals that affect the growth or spread of the collection will most likely be seen at an earlier stage by public services librarians than by either the technical or administrative personnel in the library. For that reason, it would be beneficial for the library to invite the comments of public service librarians at the early stages of any long-range planning. Not only are public service librarians good at predicting in the long run what the collection will (or should) look like, but they are also able to set priorities on the order in which these changes might best be carried out.

Only those who have an in-depth knowledge of users can predict how they might react to such changes and what the best way of enacting
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them might be in order to help users adapt. The public services librarian is, therefore, a good interpreter for long-range planning and will be especially valuable in implementing long-range planning decisions.

Decision-Making and the Role of Public Services

A consequence of involving public services personnel in qualitative analysis and long-range planning for the collection is that they will influence decision-making on collection evaluation throughout the library. Even in written collection development policies, the role of the public services department in collection evaluation "will cause a significant refinement of the selection policy, and, hopefully, will form the basis of a strong statement, founded on facts, for greater financial and space commitments for the university." The largest impact these plans and evaluation procedures are likely to have is on financial aspects of the library and its collections. Needs for additions or changes in coverage because the collection does not give users what they want, or because there is a change in the makeup of the community, might lead to more money being made available for materials. In turn, more materials or changes in the ways patrons use the library might lead to a requirement for more space. In today's economy, the space is apt to be for second-level access—i.e., better use of what is already available. Still, the impact an evaluation can have on library administrator's decision-making might be enormous. As Palmour explains:

Library management requires a system of data, or statistics, to provide information for decision-making, to meet the reported requirements of local, state and federal authorities, and to allow for comparison with other libraries. In addition, the long range plan developed in the initial cycle of the planning process requires specific data that will:

1. Measure the library's performance in meeting objectives.
2. Update the library's understanding of its environment and population.
3. Fill in the gaps in the information gathered in the initial cycle.
4. Monitor and evaluate the library or system plan and the continued relevance of current library services to community library needs.

Information required for answering three of the four specific data requirements can be gotten through qualitative analysis and the day-to-day knowledge public service librarians have of the audience served, the collection being serviced, and the goals and objectives of the library. Without actually collecting data in a formal, scientific style, reference librarians have long known the most about the collection and its audience. Now, when we have begun to formalize the data-gathering
processes, it would be a shame to ignore the insights of those who always have been involved in the working of the collection and its users. It is always better to have trained personnel to carry out even the most formal of surveys and statistical designs because of the impressions and knowledge they bring to the study. Public services staff may be able to spot problem areas on user survey questionnaires far sooner than those whose work is behind the scenes. Who more than an online searcher, an information desk librarian, or a clerk at the circulation desk would know about the idiosyncrasies of the library's users? For example, public services staff might know that fewer people come on Tuesdays, because Wednesdays are the day that the date-due stamp is changed each week, or that late Thursday nights are bad for patron attendance because many in that particular community watch "Hill Street Blues." The more that can be accounted for when dealing with a survey questionnaire, the more confidence can be had in the results obtained. It is especially true when it comes to survey information that will be used in decision-making, which very often has repercussions on the budget. The better the information from an evaluation, the better will be monetary decisions resulting from the survey. Since there are numerous types of evaluative studies that can be done, it is only fair that the choice of evaluative methodology must be based on the type of information needed by the administrator; and the goals of the survey should determine the methodology chosen, not vice versa. In a discussion of collection evaluation methodologies, Holt mentions a number of methods and how each yields different sorts of information which the administrator may use as problem-solving tools:

Designing appropriate evaluative methods is an important part of assessment; collecting the information is very time-consuming and may be expensive, but the results obtained can provide managers with reliable information for decision-making in collection development. When the study is considered in library planning, improved library collection and upgraded services will be the outcome.

Conclusion

It has been the thesis of this paper that the people most suited to do collection evaluations using qualitative methods are those in the library's public service departments. It is these librarians and other personnel who have developed unique backgrounds from dealing with both the community of users and the collection. Most of their abilities in applying qualitative methodologies stem from this knowledge and
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experience. In addition to aiding in the evaluation, their information can also contribute to long-range planning, especially in defining and changing goals and objectives for subject collections and audiences for these collections. In addition, the knowledge that public services personnel get from daily feedback at the reference desk can prove beneficial to the decision-making function in library administration. In these three areas, the role of public services in collection evaluation cannot be overestimated.

What is it about individual public services librarians that makes them successful at their jobs and gives them the information that is essential to conducting collection evaluations? Bonn states:

Continuous evaluation, at least to some degree, seems to be common in well-run, smaller public libraries and seems to have a relatively speedy effect on acquisitions, possibly because good public librarians are (and must be) close—and sensitive—to public opinion, which is...a good barometer of the adequacy of a library’s collection.21

So it is not just that public services librarians tend to be the people who can get this information. Only public services librarians who are sensitive to users’ interests and who see the larger picture of library goals and objectives are capable of extracting qualitative evaluations of the collections from their experiences with the people they serve. It is good public services people who can make the most of their positions and add the knowledge that libraries so desperately need in order to evaluate their collections, plan for the long-term, and contribute to decision-making as a whole. As many have said, the best evaluator is an experienced and intelligent librarian,22 preferably one with a good sense of humor!

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Responsibilities of Technical Service Librarians to the Process of Collection Evaluation

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The role of technical services operations in the collection evaluation process is multifaceted and significant. The role of technical service librarians to the process, however, is not necessarily clear or universally recognized, resulting in conditions that are becoming increasingly counterproductive to efficient and effective efforts to evaluate the relative quantity and quality of a library's holdings in subject areas, formats and so on to determine future needs of the institution.

While public service librarians are currently being drawn into planning operations for online catalogs—formerly the exclusive territory of technical service staff members—no comparable trend involving technical servants in collection evaluation or development programs appears to be in progress. Collection evaluation, where it is explicitly defined and practiced, is usually part of a larger system of collection development or management under the public service or reference unit, composed of specialists in the disciplines or media being examined. Even where collection development/management officers are part of a technical service unit, their relation to the rest of its staff may only be to provide a conduit for transmitting selections for purchase to the acquisition department. The determination of needs and subsequent translation into titles selected for purchase are performed beyond the pale by bibliographers, with or without input from the public. Current trends in collection evaluation indicate the importance of examining the responsibilities of technical service librarians to the process as well as to

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the development of new strategies to incorporate them more thoroughly into the system.

A Definition of Technical Services

Technical services, traditionally defined, comprise the functions of acquisition and cataloging, two operations in which interaction with the public is not required. In the last several years, application of computers to these two services exposed their natural relationships with circulation and interlibrary loan services as well as separate serials control systems. All of these functions and services are based on files containing bibliographic data identifying titles and/or individual items in a library’s collections. This mutual dependence on the same information enabled online circulation systems to be used, at least by staff having access to them, as catalogs and shelflists almost immediately upon their implementation despite their inherent drawbacks—lack of subject access, authority control or complete entries. What they did not have in appropriate design was more than offset by their currency, speed, status information, and convenience. By the same token, the establishment of large machine-readable files of bibliographic data for cataloging also became a vehicle for the most effective interlibrary loan systems ever devised.

Thus, modern definitions of technical services need to include, at the very least, acquisition, cataloging and some aspects of circulation and interlibrary loan. Insofar as serials control is the process of acquiring, cataloging and circulating materials published in parts intended to continue indefinitely, it too should be included in the definition. Some distinction also needs to be made between the methods and procedures for preparing bibliographic records and displays of the data intended for public use. Computers have also exposed the difference between the production side of cataloging—i.e., public displays used by clients—and its operational side—e.g., the use of a bibliographic utility to create entries. Not only are the public service functions of catalogs being recognized lately, but in some institutions public service staff members are making decisions about catalog structures and designs heretofore reserved for catalogers alone.

This blurring of the lines between what constitutes public and technical service operations is new, but notions about the need for objectives that transcend departmental divisions and focus on end-users is not. Osborn, in his seminal article “The Crisis in Cataloging,” painted a dismal picture of services to clients by legalistic, perfectionist...
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Exhortations to consider the user have never stopped, with Berman and others carrying the torch to this moment. Still, the convenient departmentalization of libraries into reader/public services and technical services does not appear to have changed radically to accommodate end-users. Circulation, interlibrary loan, serials control, collection evaluation, and selection of materials often are subsumed under the public service rubric, while acquisition and cataloging, including authority over the public catalog, still reside under the technical service heading.

For the purpose of this discussion, technical services include all the functions and operations directly based upon a library's bibliographic files—its catalog(s) and shelflist—in whatever form they exist. The balance of this article investigates relationships of each of these functions to collection evaluation, and the responsibilities and contributions of librarians performing these functions to the process.

Acquisition and Collection Evaluation

Systems for purchasing materials are the primary concern of acquisition librarians, with some small percentage of their energies devoted to other methods for obtaining them—e.g., gifts and exchanges. The larger an institution, the more likely it will employ a complex of acquisition methods and dealers depending on whether materials are monographic or serial in nature, whether they are foreign or domestic publications, whether they are in book or nonbook formats, whether they are new or old, and whether they are products of ordinary or specialized publishers, academic presses, scholarly organizations, or other types of production agencies. Larger libraries also have bulk order methods, approval plans or blanket orders, supplemented by traditional title-by-title orders for materials not included in them. Almost all libraries, large or small, commit large portions of their materials budgets to ongoing expenditures for periodicals and serials subscriptions.

What has all this to do with evaluation? One normally thinks of acquisition activities as following several other procedures which themselves follow a determination that materials need to be added to the collection.

Examination of acquisition patterns should become a routine step on the part of evaluators to insure that the weaknesses and gaps are being addressed. Furthermore, acquisition statistics, including numbers of titles ordered, their subject/discipline breakdown, and vendor performance in their provision, can become key factors in fore-
casting the problems evaluators will face in the future. Not only will numbers of titles ordered be useful, but also the priorities they are accorded in the process of acquisition. Which titles have been earmarked for rush receipt, probably at lower discounts than usual? Which are likely to take months to arrive, if they arrive at all? What proportion of titles may be unwittingly duplicated, arriving both as part of bulk orders and title-by-title orders? Is there a pattern of nonreceipt? How does this pattern relate to the relative priorities of collection evaluators-developers-managers?

The answers to these questions indicate how well the acquisition process is responding to needs identified first in an evaluation cycle. Furthermore, input from acquisition officers should be part of the next evaluation round. Suppose, for instance, a college French department hires a new faculty member whose research and teaching is in an area new to the curriculum. Materials to support his/her interests will need to be added. Evaluators will note this gap and selections will be made to fill it. Suppose, also, the dealer through whom French-language materials are purchased is notoriously slow, a fact likely to be known only to the acquisition staff. If there is free interaction between evaluators and purchasers, a potential problem can be nipped in the bud and timely arrival of the new material may be assured in one of several ways—e.g., ordering from another dealer or asking for a rush delivery in return for subtracting discount points; or by developing alternate strategies in the event all efforts fail (e.g., locating appropriate titles at another institution which might be interloaned if necessary). If there is little or no communication between evaluators and purchasers, the materials would probably be ordered in the usual way, not only arriving late, but with no early warning to the selector, department or faculty member concerned. Even though the evaluator identified the need in the course of an evaluation round, there would be no mechanism for feedback from one group to the other. Once the evaluator was made aware of the situation with French-language materials, however, future needs might be treated with higher priorities or a wider variety of materials might be ordered to insure the arrival of enough titles to support basic needs of curriculum and research.

If purchasers try to obtain all materials as fast as possible, discounts may go by the wayside and the number of titles acquired would be far fewer than expected. Feedback between acquisition and evaluation operations enhances the coordination of needs and purchases in order of importance to the institution. Ideally, essential materials will receive the highest priorities and discounts for these may be sacrificed; while
other materials with lower priorities, though useful and important to
the public in the long run, can be delayed in order to maximize dis-
counts and stretch budget dollars as far as possible. News that certain
types of material are especially difficult or expensive to obtain may
constitute an environmental constraint to be considered in performing
overall evaluations.

Acquisitions personnel provide, in these and other instances, quan-
titative data—i.e., acquisition statistics and patterns—which the evalu-
ator can use to make critical judgments and forecasts, the qualitative
decisions necessary in the performance of the collection evaluation.

Cataloging and Collection Evaluation

Even further from the process of evaluation than acquisition are the
cataloging procedures by which materials are incorporated into a
library's organizational scheme. Looking at this from the evaluator's
point of view, however, the placement of materials on shelves, their
bibliographic description and subject cataloging are critical to forma-
tion of a collection rather than merely a mass of materials. All the
various methods of evaluating collections involve examination of mate-
rials according to some organization pattern originating from the cata-
loging department, e.g., shelf arrangements or class numbers, subject
headings, authors and/or titles, etc. These techniques presume all cata-
logers will treat materials in the same way, that materials on a subject
will always be collocated on the shelves and in the catalog, and that
items listed in subject bibliographies or the catalogs of other libraries
are easily matched against the entries in one's own catalog, all of which
may or may not be true. Some items could be part of a collection being
evaluated, but may be missed. The importance of these "missing"
materials depends on their numbers, cost and impact on the process.

Library catalogs are evaluators' most important tool and they
perform their function well or poorly depending on how they are
constructed and maintained. Many libraries have not always conformed
strictly to a single, uniform authority file of names and/or subjects, with
the result that the works of an author may be dispersed in the catalog
depending on the form of name under which particular works were
entered. Catalogers have differed widely in their attribution of works to
editors, compilers and corporate entities, with the attributions depend-
ing on the catalogers' perceptions of the relationships and contribu-
tions of the possible main entry choices to the work in question.
Furthermore, when the rules by which such choices are made have
changed, few libraries have gone back to previously-cataloged works to upgrade the access points. Rather, they rely on such devices as split files linked by cross references, or, even more confusing, interfiling of similar, but not identical entries, and also, perhaps most difficult for users to endure, the maintenance of separate catalogs for different forms of description and entry.

Where a library relies on a relatively static form of catalog display, such as book or computer-output-microform (COM) catalog, users must always check whatever updates supplement the main catalog. In such circumstances, the main catalog is perpetually out-of-date, no matter how frequently it is cumulated. Still another consideration is that of backlogs, less problematic today than in the early 1970s, perhaps, but still a factor in large institutions facing budget squeezes that force them to choose between materials and the personnel for processing them. No matter what the form of catalog, entries waiting to be filed are absent and materials waiting to be processed are even further from being found in the catalog. (One advantage to computer-based online catalogs is the ability to link with other modules containing on-order and in-process files, combining all bibliographic information into one tool for the searcher. The number of libraries in which this has already occurred as of this writing is extremely small, however.) No matter the reason, the number and pattern of entries missing in the primary tools used for collection evaluation may determine the accuracy of its outcome.

The point of the foregoing discussion is that library catalogs, while not intended to be fictional or mysterious, often leave a great deal to be desired in their completeness, accuracy and ease of use. When they are employed in the evaluation process, their weaknesses—whatever they are—should be known to the evaluator and accounted for in the final determination of collection strengths and weaknesses. The catalog could probably benefit from periodic evaluations, too, in which its problems are defined and prioritized for future action.

Catalogs are not the only organizational tool used in evaluating collections. Shelf arrangements and/or shelflists are also important parts of the process. Intellectual and logistic difficulties exist in classifying and arranging library materials on the shelf; each can confound an evaluator’s efforts. A basic problem is relying on classifiers’ judgments as to the primary topic of a work when it contains several possibilities. Recently, researchers in many previously well-defined disciplines have incorporated topics outside their subject area, or combined with those in other disciplines to form multidisciplinary groups. Information
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studies are a prime example of this sort of amalgamation, combining topics from the study of communications, management and computer science along with traditional topics in librarianship. Classifiers are at a loss to accommodate these groups, except to choose a number indicating the first topic, the topic comprising the largest number of pages (or frames, grooves or files), or the topic the classifier thinks will be the most appropriate to the library's needs. The classifier also may be directed by departmental policy to accept a number appearing in a bibliographic utility without regard to its relevance to that individual collection. Indications are that different classifiers may make different judgments for the same work; and, still worse, that the same classifier will choose differently for the same work at different times. How, then, is an evaluator to trust that the shelflist or a reading of the physical items on the shelves will reflect all materials a library owns in a particular subject area?

There is much to be gained from interaction with classifiers and feedback on classification policies in practice in a particular institution. Major shifts in policy which occur from time to time, such as those regarding the placement of biographies and bibliographies (in the subject area or in a separate class), should be known to evaluators using the classification scheme as a tool.

Relying on the shelflist to indicate what materials are actually available may be unwise if policies concerning missing and lost materials are not clear, and if they do not require frequent and timely updating of these records. Some libraries wait years before considering an item gone for good, while others do not remove cards from the catalog unless the item will not be replaced. The least welcome task of collection managers is weeding out or deseleting materials, and its avoidance is probably ubiquitous throughout the profession. Ignoring materials that are already physically gone is one way to sidestep an unpleasant duty, and, in defense of collection managers, shelflist maintenance is probably not very high on anyone's list of priorities.

Evaluators need to spot-check, at least, to determine the accuracy of shelflist records if they use them at all. Should they work directly at the shelves, inaccuracy may also be a problem if shelf-reading is not done continually. Spot-checking all catalogs for accuracy in filing and entry is also a safeguard against assuming perfection in primary tools which, by virtue of their being prepared by humans, must necessarily be imperfect.

Not only are there problems of internal consistency when using a library's own catalogs and shelflists for evaluation, but when evaluators
match their catalogs, shelves or shelflists against lists of materials produced outside the institution—i.e., by other libraries, bibliographers or experts in the subject literature—they do so on the assumption that external consistency of entry reigns. Without belaboring the issue, it should be reiterated that all the problems identified about description, entry and classification are compounded in the use of "foreign" lists, too.

Large academic libraries frequently possess automated cataloging systems, usually part of a national network or computerized bibliographic utility such as the Online Computer Library Center (OCLC). While computer systems tend to be more accurate than human beings, anyone who works with data from the utilities is aware of their limitations (attributable, to a large degree, to errors people make when inputting data) and the cautious approach one must take before deciding a specific work is present or absent. The enormous size of the databases and their lack of integrated authority controls exacerbate their problems. Filing errors may be avoided, it is true, but data entry errors, transmission blips, and other errors of omission and commission muddy the crystal clarity of this marvelous pool of information. In addition, using entries arranged by call number from a computer printout, whether or not they are correlated with other factors, does not alter the intellectual problems of classification previously outlined, nor does it improve the retrieval ratio over a card-formatted shelflist. Nevertheless, people using computer systems tend to forget this, believing they have found a solution in the ease and speed of delivery and elegance of arrangement that computers provide.

Few technical service librarians are willing to use their records of online cataloging—i.e., the archive tapes—for online catalogs without editing (sometimes extensive editing); therefore, why should they be the answer to collection evaluators' needs without similar repair work? Yet, the computer's inherent ability to perform all manner of statistical manipulations in the twinkling of an eye and produce interesting and complex reports seems to have captivated managers to the extreme, holding them in thrall. If an archive tape is available, it may become the faulty foundation for a host of collection evaluation maneuvers destined not just to reflect, but to magnify every error that tape contains. Archive tapes or other records of cataloging activity can be useful to evaluators, provided the information is accorded its proper weight in the array of data sources used, particularly if it is matched against statistics from acquisitions departments. Comparing these two sets of figures—which should bear some resemblance to one another—can help target ques-
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tionable areas and alert evaluators to statistical or logistical errors. Using “dirty,”—i.e., unedited—tapes should include qualifying the results with an increase in the error factor, or accepting them with sufficient reservation.

Catalogers and classifiers play an important part in the collection evaluation process. First, they create and maintain the primary tools used for organizing materials and examining them systematically—the catalog and shelflist; second, computer-produced records of their activities may be used in analyzing collection growth (though sometimes without the caveats catalogers themselves would heed if those records were to be used for technical service products). Interaction between collection evaluators and technical services librarians seems the most cost-effective method of avoiding the pitfalls when using technical service products as a basis for evaluating collections. Once again the technical service librarian—this time the cataloger—produces objective information, quantitative data, to be used in performing a qualitative analysis.

Circulation and Collection Evaluation

Circulation activities provide statistics frequently cited to justify collection evaluation decisions. The Pittsburgh study\(^{13}\) compared use rates of various materials in the university’s holdings, attracting attention by demonstrating how little-used the bulk of them were. Some libraries cannot afford to purchase materials that may not be used, while others are judged by how fast their collections turn over. In both of these situations, circulation statistics are used to determine how well collections match user interest, i.e., how “good” they are. The number of libraries committed to purchasing materials even if they will not be used heavily, or willing to obtain materials now for their research potential at some future time, are dwindling rapidly. Even these libraries are concerned lest precious budget dollars be spent on marginal titles rather than those with recognizably greater appeal.

Circulation records have thus become valuable data for collection evaluation, describing collection use within the period for which they are taken. These records may be kept daily, weekly, monthly, quarterly, and/or annually. They may even be kept hourly, especially to study the best deployment of circulation personnel between the front-line jobs of charging and receiving materials and the back-room jobs of preparing or mailing overdue notices, bills and recalls. These are relatively short-term periods, however, and long-term studies of circulation are not
commonly reported, if they are done at all. Since circulation statistics represent short-term use patterns, collection evaluation studies based upon them would necessarily tend to make decisions for the future on behavior in the immediate past. This is not accurate or precise forecasting, but it may be better than employing other variables or guessing in the dark without the benefit of any hard data at all.

The practice of making purchasing decisions on the basis of use patterns has been questioned over and over throughout the history of the library profession. Buying what circulates, regardless of its intrinsic intellectual or artistic value, challenges fundamental tenets of librarianship. The obligation to accumulate and preserve our intellectual heritage may sound simple on the surface, but even in the 1870s, arguments were put forth on methods of choosing only the best of that heritage, avoiding at all costs the lesser-valued items. Ideas change about what is without value, creating entertaining debates in the literature from time to time, and many items currently held in respected collections would have been shunned by them less than three decades ago. Without judging the issue on its merits, it should be obvious that use statistics are most important to libraries that wish to maximize their circulation totals and have to be recognized as valid measures of collection activity everywhere.

Providing use statistics, however they may be applied to the evaluation of the collections, is only one of the ways circulation may interface with evaluation. Another activity with important implications for evaluating collections is monitoring loss rates and patterns. Items that disappear or become "permanently borrowed" are known first to the circulation department, though they are rarely under any obligation to analyze and report on them to anyone. One of the simplest reporting functions of automated circulation systems, however, are lists of lost materials arranged by call number prepared for shelf searches. These lists may turn out to have greater value as indicators of the loss rate in particular subject areas or patterns of loss, should patterns emerge from careful examination of the lists. Collection evaluators need to be informed without delay about losses that seem to be concentrating in one or more subject areas, since examination of the catalog and shelflist could not be expected to reflect them so quickly. Absence of any specific item from the shelves may merely indicate it is in use, so examination of the shelves cannot always be taken to mean items are gone from the collection. On the other hand, inclusion of an item in the catalog/shelflist may also not be certain evidence that the item is still part of the collections and will be available to a borrower within a reasonable
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period of time. If an item is listed in the catalog but missing from the shelf, corroboration of circulation records must prove it is still part of the collection, not overdue for many months by someone long gone from the population served by the library—e.g., a student who has graduated or a former resident who now lives elsewhere.

The frequency with which shelf-search or missing-material lists should be examined depends on the type of library and its primary clientele. Academic libraries, though they often serve researchers who may not have specific timetables, are usually geared to a semester-long or, at most, a year-long cycle of material needs. Curriculum-related materials need to be available during the period classes are taught or they lose some of their value, though not all, since they may well have other uses and classes are usually repeated. Lists may require more frequent checking to determine specific subject areas where losses can seriously devalue a particular collection.

Public libraries are under no such pressure, though they risk losing their credibility and goodwill if too many wanted items are always unavailable. Since part of the mission of public libraries is to provide popular materials, public libraries may use missing or shelf-searching lists to determine the need for additional copies of a much-in-demand title. Where academic libraries purchase single copies of most titles, public libraries acquire many copies if they believe all of them will circulate. Best-sellers may be borrowed dozens of times in a year and be worn out completely. In any case, whether worn beyond usability or missing from the shelves for other reasons, when a title appears often on the missing list, it would be a likely candidate for replacement in multiple copies.

If it is the policy of the public library to add copies when holds multiply for a particular work—a fairly common practice—then the hold list provides additional circulation-produced input for the evaluator. It is impossible to predict with complete accuracy which titles will pique the public interest and become blockbusters—library equivalents of films that attract millions of moviegoers—but experienced evaluators usually know the proportion of the total budget they will require, if not the exact titles. Though the specific works may change in each evaluation cycle, a few titles will consume a far larger amount of the materials' budget than their inherent worth might indicate. Occasionally, they will assume a permanent place in the collection after their stardom is over, at least one or two of the remaining copies. The decision to keep or not to keep some best-seller whose current demand is zero is sometimes a problem. If a television version of the work is produced, or the author
dies, or some other unforeseen event brings the name of the work to public attention, it may enjoy another round of literary and library success. If the work is void of literary, artistic or information merit, it may simply die a quiet death, never to be requested—or circulated—again.

Using circulation statistics to evaluate collections is a delicate job, requiring analysis and coordination of measures of use, lists of missing or overdue titles, and requests for materials. Analysis of the statistics is anything but simple. Libraries typically count the total number of circulations as a measure of the amount of service being given. Less typically, they may track circulation by department, subject area, audience, or some other kind of breakdown furnishing different information about patterns of use. Furthermore, one measure rarely produces useful information all by itself, but rather becomes useful if compared either to identical measures taken over time or to other kinds of measures taken in the same time period. It takes a great deal of experience and intuitive judgment to interpret the figures and, even then, one can be wrong. Past use patterns may be acceptable tools for forecasting future use, but they are neither the only such tools nor are they infallible. They would have been utterly useless in predicting the shift in education away from using textbooks to the literature search-and-synthesis teaching methods popular today in secondary and undergraduate education, and even, to some degree, in elementary education. Past use predictors tend to perpetuate the status quo, or, at least, to resist change by making next year's subject breakdown look like this year's. (Of far greater use, perhaps, than circulation statistics are examination of faculty syllabi, examinations and research-in-progress. In public libraries, community demographics and building patterns would be of use.)

One final circulation activity impinging on collection evaluation is the maintenance of materials on the shelves. A misshelved book (or film, or recording, or media kit) is as good as lost. One enterprising library school student lacking integrity deliberately misshelved items which had to be used regularly, explaining the behavior as simple survival. Though few people resort to such extremes and misshelving is rarely by design, inattention to proper arrangement of materials on the shelf can have impact on the evaluation of any collection; at least, it should have an impact if the evaluator is not relying only on catalogs or shelflists and also examines the shelves.

Libraries often relegate shelving and shelf-reading to the lowest-paid and least-trained members of their staffs. This policy may be
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counterproductive in the long run if adequate quality controls are not also maintained. It makes little sense for an institution to purchase materials (expensive, to be sure), process them carefully and prepare them elaborately for the shelves (even more expensive), and then leave to chance their continued availability. That is, however, what is commonly done, and the tendency has spread particularly in the years since pinched budgets have been limiting the staff size.

Even more difficult for good shelf maintenance are policies dictating use of several classification or shelving schemes simultaneously, leaving shakers as well as clients in confusion. At a major academic research library just a few years ago, five classifications were in use in its East Asian Library (EAL): Dewey, Library of Congress, Nippon Decimal, Korean Decimal, and the Harvard Yen-Chin classification for Chinese materials. To exacerbate the considerable problems faced by EAL shakers, the Dewey numbers on older Western language materials were preceded by a “D” to denote a departmental library collection rather than that of the main university library and were frequently mistaken for the LC “D” schedule. Fortunately for this library system, a decision was made to change entirely to LC for all materials, producing a unified and integrated collection, in keeping with current trends in East Asian scholarship toward both multilingual and multidisciplinary studies. Vestiges of the four other schemes will probably remain forever as a testament to previous policies and practices.

Evaluators, too, may be confounded in judging collections fragmented by any of the shelving problems described above—i.e., lack of care in maintaining order, deliberate or frequent accidental misshelving, and use of several shelf arrangements for related materials.

In sum, circulation activities generate both hard and soft data of great significance to evaluators: use statistics, lists of materials that are overdue or lost, and hold lists. They also control the processes of maintaining physical access to materials. Librarians are in some danger if they attend only to some of these data—especially the number of circulations—without consideration of other meaningful factors in the overall system. (The charge could be leveled at librarians, however, that they tend, consistently, to ignore hard data in favor of their own judgments. Perhaps some over-compensation is justified under the circumstances.)

Interlibrary Loan and Collection Evaluation

If an item is desired that is not part of a library’s holdings, or if an item is unavailable even if owned, another way of satisfying the request
more quickly and cheaply than purchasing a copy is to borrow it from a neighboring institution with whom such activity is prearranged. Interlibrary loan (ILL) is intended to be reciprocal, although some libraries borrow more than they lend or vice versa. Once applicable only to a minimal proportion of titles falling largely outside institutional collecting policies, ILL has become an important and growing method of document delivery for two reasons. First, libraries now realize they can never own all (or even most) of the materials their clients want; and, second, online bibliographic networks offer thousands of library participants instant access to all other participants' catalogs plus a convenient, speedy and low-cost communication system for sending ILL requests.

The illusion still persists among librarians that ILL is not a substitute for owning materials, despite publishers' charges to the contrary. ILL codes may contain prohibitions on lending or requesting popular or new materials, but, in practice, these proscriptions fail when librarians see things sitting on the shelf in their libraries that could be out generating higher circulation figures, justifying previously-made purchasing decisions, and, at the same time, insuring their own future requests will not go unfilled. Obviously, if an item is so popular it is always in circulation it will not be interloaned—but not because of any ILL policy statement. Gore pointed out the cumbersome ILL structure in place in most libraries is far too costly and complicated. He is probably right. In spite of it, ILL continues to mushroom.

When will the invisible line between interloaning v. purchasing be made explicit and be defined clearly and precisely? The answer is: probably never. Yet, evaluators recognize the value of perusing ILL requests as source data for identifying gaps in a collection. Certainly for serials, the issue is much clearer, since more than three requests for the same item in a year would qualify as a violation of copyright, and the requestor should have to purchase the title in question outright. Assuming the entire serials budget is already committed, however, what title(s) will be dropped in order to purchase the one for which a fourth ILL request was denied? If this limitation works for serials, why not apply it to monographs? How far can this argument be carried to refuse more than a certain number of ILL requests for titles no longer in print or already owned by the library, but unavailable because they are out in circulation, lost or overdue?

The use of online bibliographic networks for resource-sharing, not only at the national level, but within regions, states or localities, has always been a stated purpose of their development. Whether this aim
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received a high or low priority differed from system to system, but it was rarely absent altogether. The Research Libraries Group, through their RLINK Conspectus, seem to be the most sophisticated and advanced in using a computer network for shared collection evaluation and development.

Evaluators need to be concerned with ILL requests in general, but they should accord them one kind of status in traditional, noncomputerized settings in which it is a matter of weeks or months between request and receipt of material, and they should assign them a different status where a computer system for ILL is available. At the same time, the notion everything wanted but not owned or immediately available that cannot be bought should be interloaned seems to put an inconceivably large burden on the ILL system, regardless of the mode in which it operates (i.e., with or without a computer). Perhaps the issue here is to determine when an area in which much ILL activity occurs should be considered a gap in the collection needing attention, and when an area already well-covered is steadily decreasing in interest, so demand for as yet unowned works can be relegated to the indirect, or secondary procurement level afforded by ILL. (It is easy to imagine there is a balance here, when none exists. More likely there will be seven areas needing attention to every one that shows decreased interest.)

Preservation and Collection Development

Extending the definition of technical services to include those activities concerned with preserving collections for the future may be somewhat questionable here, but preservation is often subsumed under the technical services department. Preservation activities are seen, all too often, as only the binding or rebinding of books, encasement in plastic covers or insertion of security devices (which may, indeed, prolong the life of a book or recording within the collection). This article, however, is more concerned about preservation activities with more far-reaching effects, especially the administrative tasks of setting long- and short-range goals for an institutional preservation program, selection of collection areas for attention, and determination of what treatments should be applied to materials. These decisions are within the broad scope of an evaluator's job, yet they lie beyond its narrow definition which tends to be limited to questioning only the presence or absence of materials. Preservation issues are really future evaluation issues addressed in the present to avoid collection disintegration as time passes. Simple logic dictates that preservation decisions, to be most
effective, should be compatible with evaluators' conclusions and recommendations. Evaluators, on the other hand, need to take into account preservationists' evaluation of current collection durability in making their judgments. They are intimately related, a double star system, each revolving about the other.

It is most obvious that short-range preservation goals and selection of collection areas for treatment are going to be felt by evaluators immediately, or in the very next evaluation cycle they undertake. The effects of long-range goals and the treatments themselves are equally important, but it is far less obvious how they may act upon collections. Suppose, for example, that one long-range goal/treatment plan is to convert all periodical and newspaper backfiles to microform. This is probably not an unusual kind of preservation decision, particularly since, for most libraries, the magazine-or newspaper-as-artifact is irrelevant. At some point in the future, however, this decision must also include expansion of such things as microform facilities, equipment, staffing, cataloging and processing, and corresponding shifts in materials. The change in physical form may alter the collection very little, though the access route has changed considerably. Now consider making the same decision for major portions of the nineteenth-century English literature collection. Presumably no loss would occur of rare or valuable items—those being retained and preserved—but what effects might his decision have on other evaluation components? How might catalogs be affected? If, as is likely, the microforms are sets of titles grouped by genre, author or publication date, the catalog would probably reflect bibliographic data only for the set, not each individual work within it. What is an evaluator to do in order to determine which items have been retained in the new format and which have not? Can this access be considered the same as the former full cataloging for each individual book? And, supposing the bibliographic data for individual works is entered in the catalog. These microreproductions are cataloged as if they were the printed originals, with physical descriptions given in numbers of pages. A person must read down to the bottom of the entry (sometimes on into a second or third card in a card catalog) to find data about the microform version. Will evaluators have to be cognizant of these arcane issues as well?

When students search for these works, how many will find them? How many can spend the hours necessary to read them in the library, sitting at readers? How many can afford to print them out for later review outside the building? Can it be that changing the physical manifestation of these works has greater significance for use than antici-
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pated? For example, what might happen to circulation statistics for the English department or the literature subject area, should this switch be made? Will it become necessary to provide circulating copies of microbooks with portable readers or microreader-rooms in dormitories, departmental offices or homes? While all specific problems are not fully outlined here, the implications for collection evaluation clearly are going to be felt in many different ways.

In the long run, other new technologies will also have to be recognized in preservation plans, such as building full text databases for students to access from personal computers or campus-wide computer networks, and video disks which, despite some commercial setbacks, have much to commend them as tools for scholarly research.

Still more problematic would be the collection evaluation effects of a preservation decision to limit physical access to materials without providing alternative formats for client use. Supposing no budget was available to treat a particular portion of a European history collection in such poor condition it could not be used. Isn't a likely choice for those materials to store them under the best possible conditions for prolonging their existence—i.e., in the dark, at low temperatures, optimal humidity—while seeking to develop funding for treatment or replacement? It seems a fairly logical scenario, surely preferable to simply allowing the materials to disappear entirely, forever. How does the evaluator handle this kind of decision? Are the materials to be considered gone or still present? If an evaluator opts for the former—i.e., "gone"—does that mean new materials must be purchased and, if so, from what other subject areas will an allocation be drawn? If the evaluator opts for the latter—i.e., "still present"—how would one explain the gaps on the shelves and in the repertory of items available for use? There are no simple solutions to any of these issues.

Conclusions

What general conclusions may be drawn from the foregoing discussion of technical service activities relating to collection evaluation? Aside from the discouraging enumeration of problems without definitive solutions, there seem to be three underlying principles throughout:

1. Technical service operations produce quantitative or descriptive data rather than qualitative data for collection evaluators. Acquisition statistics, circulation statistics, bibliographic or subject data all tend to be neutral in character, containing no inherent judgmental attributes.
2. Technical service data is useful primarily in developing short-range goals and objectives for the library collection. This is not to say there are no long-range plans in which technical service activities may figure prominently, particularly regarding preservation; but, overall, purely descriptive data changes and are only valid for a limited period, while judgmental evaluative data have greater applicability for the future.

3. Technical services, while contributing importantly to collection growth and change cannot direct them. Despite all the many caveats for evaluators throughout this article not to ignore or overlook the significance of statistics and collection description produced by technical service activities, the essence of collection evaluation remains judgmental in nature. Taking all the technical measures and tools of acquisitions, cataloging, circulation, ILL, and preservation into account, the evaluator must interpret, weigh and evaluate them. Making an evaluation without these inputs is sheer suicide; but, permitting them to be the sum total of an evaluation is either ignorance or cowardice.

The issue was raised at the outset that evaluators are too frequently unrelated to technical services staff, being drawn usually from reference staff, subject specialists or bibliographers, or other public services personnel. To be sure, a collection evaluator/developer/manager may sometimes report to the head of technical services; but she or he remains, like preservation officers, a breed apart—unconcerned with achieving greater efficiency and managing diverse clerical routines—as are acquisitions and circulation officers—or with resolution of esoteric entry rule questions and access conundrums—as are catalogers and ILL officers. Nevertheless, to do a proper job of evaluating collections (and this is seen as an ongoing cycle of activity, not an ad hoc operation) there must be constant and considerable attention paid to the details of each technical service function, both in its current status and in its development over time. The channels of communication to and from each function manager must be open and free. Personal preferences, hierarchial stratifications, or extraneous professional issues should not interfere with the flow of information from technical service staff to collection evaluators and feedback from evaluators to technical service staff. To be effective, collection evaluation should be seen as the multidisciplinary, multi-departmental function it truly is, retaining its links to both public and technical service activities and people. Though collection evaluation is an evaluation, it will prove to be only as good as the information upon which it is based.
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References

1. Tauber, Maurice F., et al., Technical Services in Libraries. New York: Columbia University Press, 1954, p. 4. Tauber added the technical parts of circulation and reference services performed behind-the-scenes without interaction with the public to his definition of technical services—a radical departure from the traditional inclusion only of acquisitions, cataloging and such physical preservation as binding.


4. At Columbia University, the user interface for the forthcoming online catalog was designed primarily by public service staff members, though technical service staff were not excluded or absent entirely from the committees devoted to the task. "Online Catalog—Online Reference," the ALA 1983 Preconference held in Los Angeles, explored these relationships, too. The notion that catalogers do not always keep the end-user in mind precedes computer applications and was entertainingly reiterated by Sanford Berman in his essays. See for example: Berman, Sanford. "The Cataloging Sh"fik." Library Journal 101(1 June 1977):1251-53.


6. Libraries which began with the intention of cumulating frequently have cut back and instituted annual supplements instead, because of rising costs of producing entire new microform masters for their catalog every month, quarter or trimester.

7. Though there is no absolute consistency in the policy governing these works, the current trend is to put biographies with their subject and bibliographies in a separate class.

8. The four national networks, or bibliographic utilities, are the Online Computer Library Center (OCLC), Research Libraries Information Network (RLIN), University of Toronto Library Automation System (UTLAS), and Washington Library Network (WLN).


16. Many public libraries with excellent reputations now purchase and circulate Harlequin romances and other gothic novels, children's mystery stories such as Nancy Drew and The Hardy Boys, and academic libraries buy all manner of contemporary fiction and popular nonfiction to support a variety of disciplines, e.g., contemporary culture and history, areas studies, communications, and the arts.


18. "Model Interlibrary Loan Code for Regional, State, Local, or Other Special Groups of Libraries"; and "National Interlibrary Loan Code, 1980." RQ 20(Fall 1980):26-31 (both include allusions to popular materials as being outside the limits of acceptable ILL. The National Interlibrary Loan Code specifies: "Most libraries will not ordinarily lend...[material] in high demand at the lending library..." [p. 30]).


24. The recent exit of RCA from video disk production may or may not be an omen of a general failure of the consumer market to embrace this new medium.

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Procedures for Proposing & Guest Editing
an Issue of *Library Trends*

**Scope**

*Library Trends* focuses on library and information science topics of interest primarily to practicing librarians and information scientists and secondarily to educators and students. The style and tone of this quarterly are formal rather than journalistic or popular. *Library Trends* issues review the literature, summarize current practice and thinking, and evaluate the directions practice is taking. Papers must represent original work, published for the first time in *Library Trends*. Extensive updates of previously published studies are acceptable, but revisions or adaptations of published work are not sought.

**Processes of Proposing and Publishing**

An issue editor proposes the theme and scope of a new issue, draws up a list of prospective authors and articles, and provides short annotations of the articles’ scope or else gives a statement of the philosophy guiding the issue’s development. The issue prospectus is examined by the Graduate School of Library and Information Science (GSLIS) Publications Committee and requests for clarification or modification may be made before the prospectus is approved.

Once the prospectus is approved by the GSLIS Publications Committee, the issue will be scheduled for publication and the issue editor begins by inviting authors to write for the issue. The Publications Office will alert the authors to issue deadlines and will send them “Instructions for *Library Trends* Authors.” The issue editor also will be sent a copy of the instructions along with “Suggestions for *Library Trends* Issue Editors.” The suggestions are culled from our experience in editing and dealing with questions raised by issue editors and authors. Included are the typical stages an issue passes through; responsibilities of the issue editor; the responsibilities of the Publications Office editorial staff; and the typical timing of the writing, editing and production stages. Generally, it takes 1-2 years from proposal to publication.

**Soliciting Readers’ Ideas**

We publish *Library Trends* using theme suggestions of GSLIS Publications Committee members and our readers. We welcome ideas for issues and for writers that our readers would like to hear from. We also encourage readers to volunteer to be issue editors or to suggest others who may be willing. Please write us with your ideas or inquiries: GSLIS Publications Office, University of Illinois, 249 Armory Building, 505 E. Armory Street, Champaign, IL 61820 or call: Susan Dingle (Associate Editor), or James Dowling (Managing Editor) at 217/333-1359 or Charles H. Davis (Editor) at 217/333-3280.
Library Trends

Forthcoming numbers are as follows:


Summer 1985, Media Collections in Academic Libraries. Editors: Phyllis Ahlsted, Media Coordinator, Stockton State College, Pomona, New Jersey; and Paul Graham, Cataloguer of Special Formats, Alexander Library, Rutgers University, New Brunswick, New Jersey.

Fall 1985, Women and Leadership in the Library Profession. Editor: Rosemary Ruhig DuMont, Associate Professor, School of Library Science, The University of Oklahoma, Norman, Oklahoma.

Winter 1986, History of Library and Information Science Education. Editors: Don Davis, Associate Professor, Graduate School of Library and Information Science, The University of Texas at Austin; and Phyllis Dain, Associate Professor, School of Library Service, Columbia University.