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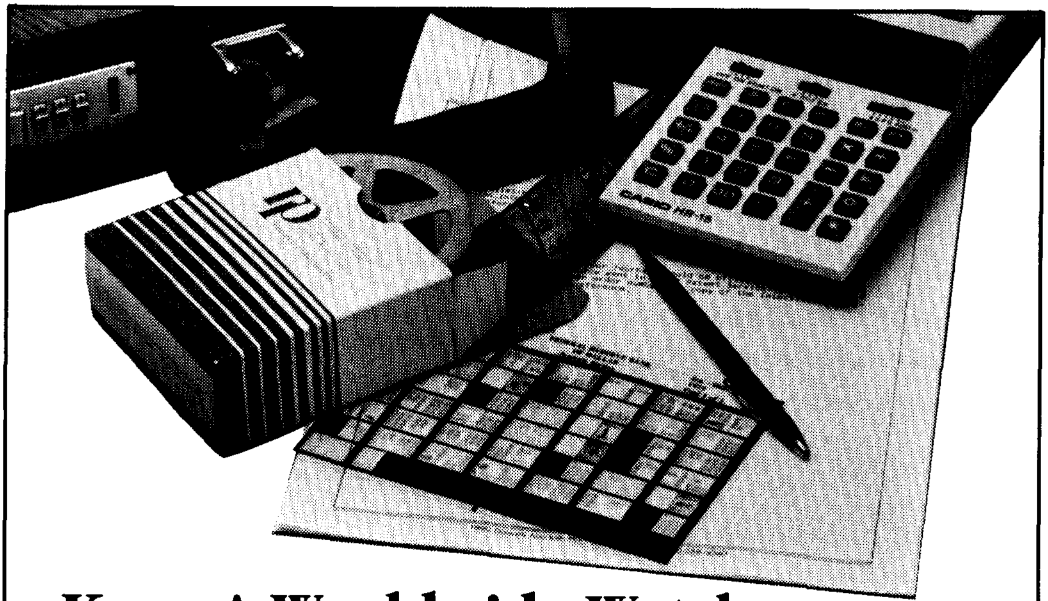

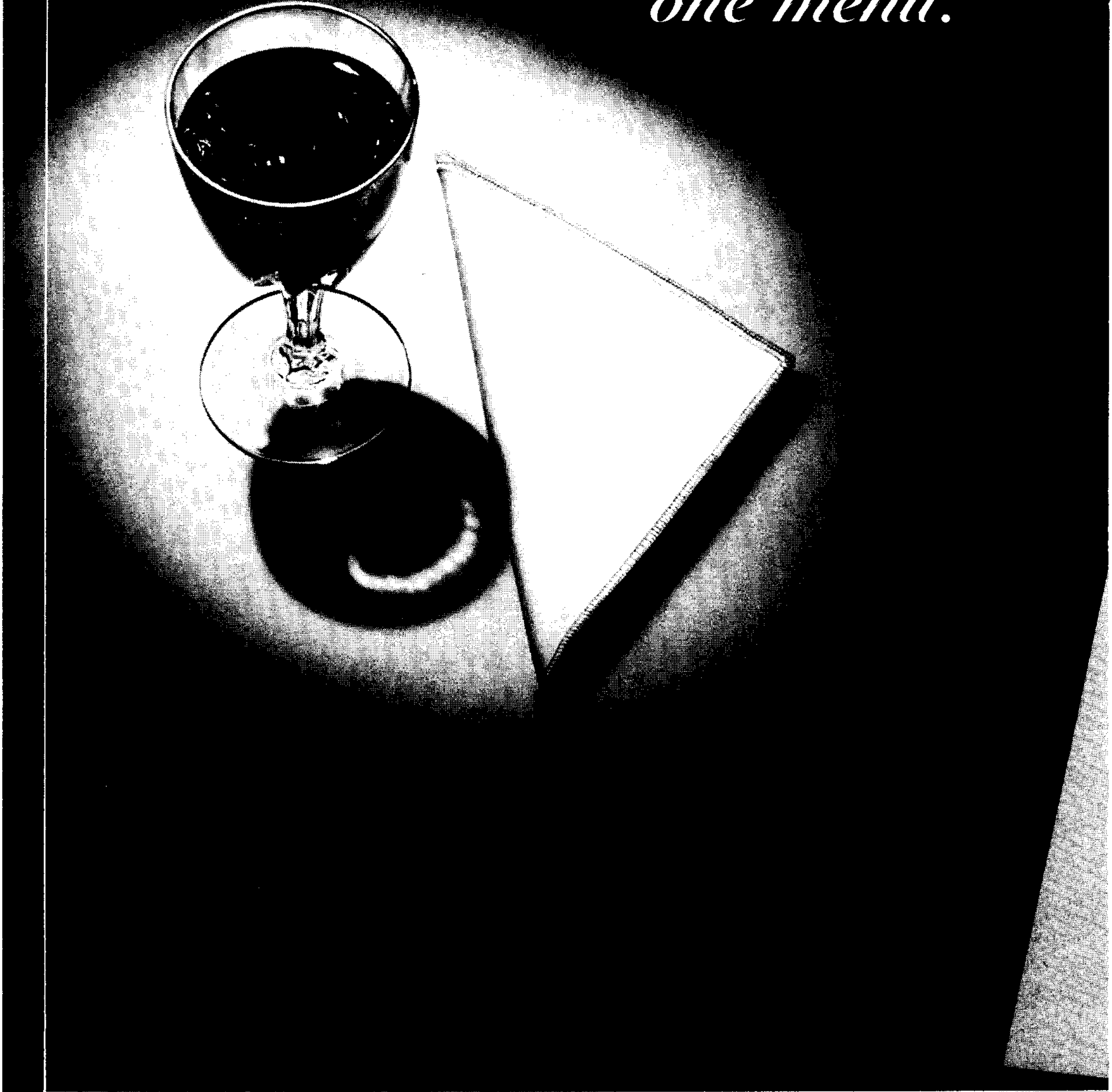

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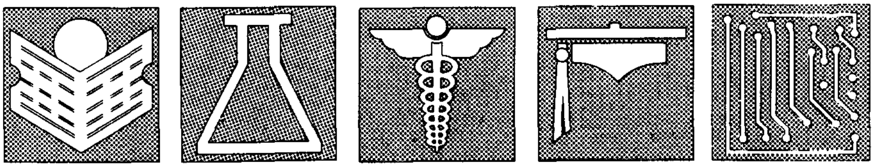

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Ethics for Online Intermediaries

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■ Online searchers face ethical problems which differ in kind and degree from those confronted by providers of information services in traditional settings. Online searchers differ from traditional reference librarians in that they play more of a gatekeeper role and there is often a direct charge to the client for their products and services. The ethical issues addressed in this paper, while not all unique to online searching, are exacerbated by the searcher's gatekeeper function. Issues explored include searcher competence, searcher bias, inaccurate search results, misuse of search results by the client, and privacy and confidentiality. A model for ethical decision making is presented and a list of guidelines for ethical conduct is suggested.

SINCE THE DEVELOPMENT of computerized indexes and abstracts in the 1960s, the profession of online searcher has grown and matured, and the need for guidelines of appropriate conduct has deepened. As Trauth states in a 1982 article in *Computers & Society*, "In an increasingly technological and information-intensive society those who manipulate the tools and thereby manipulate the information must be held morally accountable for the power they

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This paper was delivered in a shorter format by Donna Shaver at the National Online Conference in New York, May, 1985.

possess." (*1*) At Online '83, Childress presented examples of ethical issues in online searching and noted that even under the umbrella of reference service, virtually no attention has been given to ethics in online searching. (*2*)

The American Library Association has long been concerned with the development of ethical standards for librarians and has written and adopted three formal statements of professional ethics since 1939, most recently in 1981. However, for several reasons this "Statement on Professional Ethics" is not adequate for the discipline of online searching. First, while traditionally most searchers were librarians, the increasing heterogeneity of backgrounds and work settings of the searcher population means that many searchers come from outside the library profession. They have not completed a library graduate program, do not work in libraries, and cannot be expected to subscribe to the mores of the library community.

Second, the ALA Statement includes a section on privacy which is in conflict with ethical practice in many organizations. Section III states: "Librarians must protect each user's right to privacy with respect to information sought or received, and material consulted, borrowed, or acquired." (*3*) Such conduct is indeed appropriate in many settings. However, in a special library where a company is paying the salaries of the searcher and the client in addition to the search costs, both client and searcher are accountable for proper use of online services. Search logs must therefore be open to management review. In addition, many companies consider it a function of the librarian to alert a client to the fact that someone else in the company is working on the same topic, thus saving the costs of duplicate searches and duplicate effort. While it is true that this situation exists in a corporate setting even in the absence of online services, the costs associated with searching make it particularly visible and more closely monitored.

At present, then, no existing set of guidelines or code of ethics is sufficient to cover the unique problems of information service through the new technologies.

Unique Characteristics of Online Searchers

Some would argue that the ethical conduct of online searchers does not differ from that of reference librarians, and it is true that the guidelines for ethical behavior proposed in this article would, with some substitutions or changes in terminology, make good guidelines for responsible reference service. In fact, there are distinct characteristics which set online searching apart from the provision of other reference services.

First, the online searcher is a gatekeeper—an intermediary between the information and the user of that information—to an extent not realized in the largely print-based profession of reference librarianship. While reference librarians serve in varying degrees as intermediaries for printed sources of information, clients who are unhappy with answers supplied by a reference librarian in a manual search generally have the opportunity to search the indexes themselves. When computerized sources are involved, the online searcher has the specialized knowledge, equipment, and access codes required to retrieve the information, while the client seldom has the means to bypass the searcher. The pool of information is hidden away in a distant computer and only that which is retrieved by the search strategy is available to the client. Thus the online searcher can be either a conduit or an obstacle.

Second, anyone can claim to be an online searcher. As Mintz notes in an article on information malpractice, unlike the situation in law and medicine, there are "no statutes prohibiting the unlicensed practice of information." (*4*) Neither the possession of a Master of Library Science degree, nor employment in a library or as an independent information broker, nor online training from a database vendor guarantee search quality. The client is rarely in a position to judge the quality of a professional service and must rely upon "the standards of conduct maintained by the profession and by the reputation of individual practitioners." (*5*)

Third, in many online search settings, clients pay directly for all or some of the costs of a search. When people pay out-of-pocket for a service, their expectations for value are increased. To quote Mintz, "Clients are buying not only information but also, and most critically for the profession, they are buying the quality of know-how." (*6*) Although Mintz is referring to information brokers, the statement applies to online searchers in any situation in which clients are charged; clients who pay are more likely to hold the service provider accountable for the quality of the service.

Ethical Issues for Online Searchers

This article addresses the subject of ethical conduct for individual online searchers. Deliberately excluded are questions for which resolution is outside the province of the individual—issues which reflect institutionally-determined policies (charging for searches or the cancellation of subscriptions to printed indexes) or developments in the information industry (downloading, database quality control). Another development beyond the control of the individual searcher is that of end-user searching, the proliferation of which poses its own unique problems. End-user searching is only in its infancy. It will continue to grow, as will the population which either uses online searching infrequently or is unsophisticated in the use of information technologies and continues to rely on online searchers for assistance.

Searcher Competence

It is often difficult for the client of online services to accurately evaluate the level of service received, the results of a particular search (especially if the subject matter or the literature searched is outside the client's area of expertise), and the skills of the searcher. Clients who are very familiar with their subject matter and their disciplines can recognize incomplete or inaccurate search results. In general, though, the invisibility and lack of browsability of online information serves to shield the mediocre or incompetent searcher.

The searcher needs to be acutely aware of the line which divides negotiation and problem clarification from information counseling. While information counseling may be the highest professional service a searcher can provide, it must be done with searcher awareness and client consent.

Another concern is that of competence in various databases and online systems. No online searcher can be highly competent in, or even familiar with, all systems and databases—just as no reference librarian can be conversant with all reference tools. In many cases, cost considerations or administrative decisions will limit a searcher's access to one or two online systems. Furthermore, most searchers do not have at their disposal all of the manuals, thesauri, and the like for all the databases to which they have access. Occasionally the use of an unfamiliar database is most appropriate for a given request. In such cases it is incumbent upon the searcher to apprise the client of the appropriate database and the searcher's level of expertise, if that may significantly affect the results of the search. Further, it is the responsibility of the searcher to spend additional time in search preparation, using the search aids available and consulting colleagues as necessary (with client permission).

While it may be said that the traditional reference librarian does not go into similar explanations at the reference desk, it is also the case that the client of manual reference services does not generally pay out-of-pocket for the results, as do many clients of onlie services. And, as noted earlier, the client of traditional reference services need not rely exclusively on the expertise of the reference librarian.

Searcher Bias

Most searchers have biases, that is, tendencies or inclinations toward or against certain databases, online systems, or search techniques. A searcher's bias against a particular online system may mean that the most appropriate database for a given search is not used. Biases in online search techniques are most likely to be habits that were developed because they were comfortable or because they were correct on a particular database or system at a particular time. Such search habits may, indeed, be efficient and effective. Some, however, may range from sloppy and inefficient to unproductive and misleading.

Whenever a client chooses to utilize an intermediary, the search request must be filtered through the mind of the online searcher. It is understood, of course, that the online searcher often must use skillful interviewing techniques to help the client express the need rather than to merely accept the request as the client initially states it. However, the searcher may feel a strong temptation, especially with an inarticulate or unsophisticated client, to "lead the witness," to deliver what the searcher thinks the client needs rather than what the client requests. There is an arrogance in this. The searcher needs to be acutely aware of the line which divides negotiation and problem clarification from information counseling. While information counseling may often be the highest professional service a searcher can provide, it must be done with searcher awareness and client consent.

Through excess enthusiasm for the capabilities of online searching, searchers may be biased toward its use even when the needed information may be more readily and cheaply available in other ways—a telephone call or an encyclopedia article. It is easy to oversell online searching, and it is difficult for most clients to make sound judgments about databases and systems other than on the recommendation of the searcher.

An important factor in dealing with searcher bias is the searcher's obligation to inform the client about appropriate databases and systems, their coverage and limitations, and relevant limitations in the searcher's expertise. Ideally, the client will receive adequate and accurate, but not excessive, information. Some publications on the search negotiation process, in detailing all the information which the searcher should convey to the client, suggest something more appropriate to a three-credit course than an online search interview. Just as the physician does not train the patient in medicine, so too does the searcher exercise professional judgment in his or her practice. However, both the good physician and the good searcher work on the principle of informed consent.

The Inaccurate Search

Even with the most careful preparation, the online searcher will occasionally deliver a flawed search, and the inaccuracy may only later become apparent to the searcher. It is sometimes difficult to deal with this "good faith" error. If, for example, the search was done to assist a student with a term paper and the term is over, locating the client and rectifying the error may be difficult. In general, however, the ethical response would be to inform the client and to perform a corrected search at no additional charge.

Misuse of Information

The online searcher, like the reference librarian, may be faced with a dilemma when he or she suspects that the information obtained from a search may be misunderstood or misused. This problem is exacerbated in the case of the online searcher, in that the searcher becomes a party to the abuse. An example would be an author and/or citation search requested for use in a hiring or promotion and tenure situation, in which candidates are evaluated partly on the basis of how much they have published or how many times their publications have been cited by other authors. In such a case, it becomes the duty of the searcher to explain to the client the fallacies inherent in such "evidence": many databases do not list all co-authors; coverage, in spite of the large number of databases, is not universal; the work of other authors with the same name may be retrieved. In the case of a citation search, the client should be made aware that papers are cited for many reasons, not all of which are to the credit of the cited author.

Other instances in which the searcher mistrusts the client's motives may be more difficult to deal with, raising the specter of searcher as censor. Librarians have frequently debated this issue (for example, dealing with requests for information on how to commit suicide or construct a bomb), and online searchers in their role as gatekeepers have a heightened responsibility in such situations. In a brief commentary on the ethics of reference librarianship, Murray warned:

> There is no way to define exactly when the professional who is making a decision as to the best available material to give the patron and elects one set of titles over another has crossed over into the ranks of censor. But if the use to which the material is going to be put or the opinion expressed by the user causes the librarian deliberately to withhold available information, some form of censorship is present. (7)

Another instance of misuse occurs when a client insists on an online search when a print source would be more appropriate. If any of the search costs are subsidized, it may be necessary to have a policy to cover this situation. Otherwise, the searcher's communication skills are called into play to deflect the client from a possibly inappropriate course of action.

Privacy and Confidentiality

In some settings, the client relinquishes the right to privacy by virtue of the manner in which both online charges and client salaries are paid. However, in public and academic libraries, and in the case of information brokers, the confidentiality of online search requests must be as inviolate as that of reference questions.

Problems may arise due to the paper trail that is inevitably created in online searching. While reference questions are logged in some institutions, the major part of the traditional reference interaction is verbal and information is delivered directly to the client by the librarian, or is sought by the client following guidance received. In online searching, however, the client or the searcher typically fills out a request form which will remain in the searcher's files, and the searcher logs the request so that it can be checked against the invoices from the online systems. In some search services, a copy of the search printout is kept on file. The recordkeeping requirements of the online searcher and the client's privacy can both be served if the searcher takes care not to leave the various parts of the paper trail in public view on desktops. Additionally, a records retention policy should be drawn up and adhered to, insuring that search-related records are kept only for the length of time that data may be needed for administrative purposes, and are then destroyed.

For some searches, the online searcher may need to consult colleagues more knowledgeable in the appropriate databases, or who have access to necessary search aids. As in manual reference work, the online client may be better served when the searcher seeks advice in this manner, and it is tempting to simply involve colleagues in formal or informal consultation without regard to the user. Like other professional groups, online searchers would be well advised to seek the client's permission before involving

	Known to searcher	Not known to searcher
Known to client	OPEN	BLIND
Not known to client	HIDDEN	UNKNOWN

Figure 1. Johari Window adapted for online searching

other information professionals, however innocently.

A Model for Ethical Decision Making

In this discussion of ethical issues for online searchers, it is apparent that awareness and searcher-client communication are keys to solving ethical problems. Many difficulties are readily resolved if the client and the searcher have the same understanding of the question, the means to answer it, and the powers and limitations of online searching. This shared understanding can be achieved during the search interview if the searcher is sensitive to what needs to be discussed and clarified. The Johari Window (*8*) is shown here in a version adapted for online searching, and can be used to help the searcher determine the ethical decision points in any given search negotiation. (**Figure 1.**)

Open: The "open" area in the Johari Window is one of shared knowledge about the subject matter, the database(s), and the system(s). However, there is a clear danger of faulty assumptions by both searcher and client. The searcher may assume that the client understands the nature of searching, the content and coverage of particular databases, and/or the limitations inherent in online searching. The client may have requested online searches in the past and may feel that he or she "knows all about it," while having, in fact, developed a faulty idea of the universality of coverage or the reliability of information from a computer. The searcher needs to be aware of the danger of assumptions in the "open" area in order to give the client appropriate information.

Blind: In many online search situations the client possesses relevant knowledge which the searcher, often a generalist rather than a specialist in a particular discipline, does not have. Such situations require in-depth search negotiation to enable the searcher to understand such things as terminology in the client's subject area. If the searcher is new to a field in which he or she will be doing a considerable amount of searching, it is incumbent upon the searcher to reduce the "blind" area by obtaining continuing education in the subject area.

Hidden: As was discussed earlier, the searcher must exercise professional judgment regarding the amount and level of information about online searching provided to clients to assist them in making intelligent decisions. This "hidden" information about databases, systems, search techniques, and the like, is vast. In each situation, the searcher should try to share appropriate information.

Unknown: The online searcher acts as an intermediary for the client in situations in which the structure and protocols of a collection of information are unknown to the client but, presumably, known to the searcher. However, online searchers must be sensitive to their own "unknown" area in order to act in an ethical manner. When the searcher's lack of knowledge or experience might affect the outcome of a search, he or she must make the client aware of these, as when the searcher is unfamiliar with the online system or database to be searched. In addition, the searcher has the obligation to make every effort to prepare adequately for a search, to reduce the extent of the "unknown" in the Johari Window by reading manuals, checking print equivalents, consulting with colleagues (with client approval), or requesting assistance from system and/or database help desks.

Suggested Guidelines for the Ethical Behavior of Online Searchers

A profession's ethical standards are distilled from the mores, tradition, and established practices of the profession. While online searching is a young profession, it has been guided by reference librarians, with departures from reference experience caused by the gatekeeper role of the online searcher and by the fact that many searchers are not librarians. The following is an attempt to define guidelines for the ethical conduct of online searchers.

- The online searcher has an obligation to his or her institution and to the user to maintain awareness of the range of information resources available in order to fairly and impartially advise the client.
- The online searcher must strive to maintain a reasonable skill level in the systems available for searching.
- The online searcher must eschew bias in the selection of appropriate databases and systems in order to meet the needs of the client.
- The online searcher must make the client aware of the searcher's level of expertise in searching a given database or system if that may affect the search results.
- The online searcher should be aware of

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the level of confidentiality required by both the setting and the request, and he or she should respect those boundaries.

- The online searcher must make clear the appropriateness of the online search in meeting the client's needs and the limitations of the search process for the client's intentions.
- The online searcher must guard against tendencies to fill the client's needs as the searcher sees them or as the client initially states them, but rather must utilize appropriate interview techniques to ascertain the client's needs.
- The online searcher must, if appropriate, apprise the client of major errors in previous searches, both in strategy formulation and database selection.
- The online searcher must resist attempts by the client to select inappropriate databases and/or systems.

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The Information Resources Specialist as Group Facilitator in an Organizational Setting

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■ Many of the characteristics of the group facilitator are similar to the characteristics of the information specialist as one who gathers information, clarifies questions, builds up and breaks down knowledge, presents balanced points of view, and defines a problem and strategy for problem resolution. Consequently, the information specialist has direct accessibility to the organization's problems and the opportunity to meet organizational needs through traditional library operations. The role of group facilitator also provides greater visibility and the opportunity for the information specialist to see and be seen by the organization's staff.

THE TERM *FACILITATE* appears fairly frequently in library literature. However, it is rarely used as a noun, *facilitator,* to characterize the role of the information resources specialist functioning as a change agent within group decision-making or problem-solving processes. Most information managers recognize their importance in facilitating the dissemination of information. Few information specialists have broadened that capability beyond even nontraditional library services to take on the role of organization facilitator—or one who integrates one's self into direct organizational decision making and participative management functions. However, one example of such a move into the organization's decision-making process as a group facilitator occurs at the Minnesota Department of Transportation. The Information Resources Specialist has found this new service area to be a mechanism for direct integration of information center resources into the organization.

This article is adopted from a talk presented at the 1985 SLA Conference in Winnipeg.

Many of the state government agencies in Minnesota use facilitators to assist various agency committees. At the Minnesota Department of Transportation, the information resources specialist's time is split 75%–25% between the department library and the Office of Organization Development as a group facilitator. Because the library staff includes two professionals, the appointment of the information resources specialist as a group facilitator has not left the library professionally unattended. In fact, agency justification for a second professional information specialist was predicated upon the fact that the specialist would also perform in the role of group facilitator. The decision to use an information specialist as a group facilitator was made more in response to pressures to increase the department's cadre of facilitators than it was to an analysis of the contribution an information specialist might make to the facilitator role. However, after one year's split appointment, the Information Resources Specialist has experienced a rather smooth transition into the facilitator role due to the many similarities in the requisite skills of information managers and facilitators.

The word *facilitate* already has broad application for many of the activities performed by information specialists. An online literature search of LISA produces uses of the term such as: "to facilitate the circulation of information"; "the library should facilitate free access for all to information in all its forms"; "facilitate bibliographic control"; "facilitate the international exchange of authority records."

Not only is the word *facilitate* one which information managers recognize, but it is also a word that relates to the manner in which these managers make information accessible to their patrons. Further aspects of the facilitator role occur when information managers are involved in small group decision-making activities such as participation in departmental meetings, objectives-setting sessions, committee memberships and task forces. In this latter instance, information managers are part of a decision-making process that attempts to achieve implementation to produce a final outcome, which is often consensus driven.

Margaret K. Parks departs from traditional thinking regarding facilitation activities of information specialists by advocating several responsibilities of information managers in the area of group decision making. Writing in *Special Libraries,* Parks cites Harrison's model of group decision making as an effective method information managers can use for structuring group process. She states that "certainly it seems likely that professionals trained in problem-solving techniques as part of their schooling or inservice education will be better equipped for group decision making than those who have not had this opportunity." She further states that one responsibility of the information manager is to design information systems that facilitate decision making. Concluding her discussion on the use of the Harrison model, Parks notes:

> The library and information sciences may well be the most important fields missing from Harrison's list of contributed disciplines for integrated decision making. Systematic application of well-known information packaging techniques within the framework of group decision making could substantially improve such processes.

While it comes as no surprise to information specialists that they are not sought after by organizations to participate directly in management decision-making teams, some analysts who describe organization decision-making systems identify elements of the process which converge with the expertise of the information manager. Writing for the *Academy of Management Journal,* Tushman and Nadler state that "a critical task of the organization is to facilitate the collection, gathering, and processing of information about how different components of the organization are functioning, about quality of outputs, and about conditions in external technological and market domains."

A review of recent participative management literature shows some consistency with regard to the importance of problem-solving and information collection and gathering techniques in the support of participative management functions. Stemming from principles derived from research on groups and group processes, the techniques applied in participative management functions have gained wide acceptance among various organizations in both the public and private sectors. With the advancement of many organizations toward participative management, the information manager may examine opportunities in the organization environment for new application of traditional skills.

Quality Circles

Quality circles within participative management can be studied for a clear definition of the role of group facilitator. Originally a Japanese management technique of the Sixties, quality circles are successfully utilized now among both private and public sector organizations in the United States. Jenkins' and Shimada's definition of the quality circle is a "group of people doing similar work who voluntarily meet on a regular basis to identify, analyze and solve quality and other work-related problems in their work areas." The quality circle team is comprised of the quality circle leader, the quality circle members, and the quality circle facilitator. Advocating the establishment of quality circle management as an option for libraries, Martell and Tyson describe the following activities of the quality circle facilitator:

- Serving as a resource to the circles under his [sic] responsibility by providing his own expertise in QC tools and techniques or by making sure that other expert sources ... are available for consultation;
- Conducting much of the leadership training and assisting in the design of new training requested by the circles;
- Reporting circle progress, on request, to the steering committee. . .;
- Handling projects involving more than one circle;
- Assuring proper communication among circles;
- Helping circles to prepare presentations for management; and
- Maintaining budgets and keeping cost records for circles.

A closer study of the utilization of quality circles shows that successful circles address clearly defined problems, assume a basic foundation of teamwork, and can improve quality throughout the organization. Companies that successfully use quality circles are Maytag, Delta Airlines, 3M Company, IBM, and Hewlett-Packard.

Less structured than quality circles are the numerous decision-making groups that exist in almost any organization, but most certainly in all organizations adhering to principles of participative management. The groups may range from employee committees to executive strategic planning teams. Evolving from the latest phase of management theory, participative management oftentimes emerges as a team approach to problem solution. Much research on team decision making has been conducted by Rensis Likert, whose System 4 theory of management emerges as one of the more recent research-validated systems based on organizational theory. According to Likert, participative management and decentralized decision making enhance productivity by affecting the motivations, satisfactions, and behavior of the members of an enterprise.

The Facilitator's Role

In many organizations, a key individual on the team, committee, quality circle, or decision-making task force is the group facilitator, a neutral activist in assuring that the group performs effectively. *A Manual for Group Facilitators* defines many aspects of the group facilitator's role as well as important techniques a facilitator can call upon to elicit group response. Common to all facilitation is the premise that "the facilitator's job includes keeping the discussion focused on the topic, clarifying (or asking for clarification) when something seems confusing, and helping create and maintain a situation where everyone can participate in a cooperative manner." General categories of facilitator behavior during a discussion are: equalizing participation; keeping on the subject; clarifying and interpreting; summarizing; pacemaking; and "processing" or helping group members work well together on an interpersonal level. The techniques important for group facilitation and for group problem solving are similar to certain skills information managers use to extract essential information from a user's request, to identify an information resource to fulfill a request, and to clarify information provided in an information resource.

The techniques important for group facilitation and for group problem solving are similar to certain skills information managers use to extract essential information from a user's request, to identify an information resource, and to clarify information.

In January 1984 the Minnesota Department of Transportation hired an information resources specialist whose job responsibilities included participating in group decision-making processes as a group facilitator. Some of the concerns of the specialist in assuming this new role were in the areas of training, methodology, and general ability to perform in an unknown process. However, the department provided one and one-half days of training before the specialist was allowed to participate in group facilitation. Also, various written source material was available to the specialist through department book collections, the department library, and through the use of a regional interlibrary loan network. Lastly, the first exposure of the specialist group facilitation involved the use of a highly structured process that was very adaptable to the skills of the initiate.

During the course of one year, the information resources specialist was assigned to facilitation activities including several sessions involving a major division of the department, one office director-secretary meeting, one district organization design and classification study, one research planning session, and one agency action plan implementation project. The protocol for involving the specialist in facilitation activities originates in the Office of Organization Development, of which the library is a unit. Within the office, a full-time management analyst/facilitator coordinates department requests for the use of facilitators in meetings. The management analyst chooses facilitators from a pool of trained individuals, who vary from engineer to maintenance supervisor.

As a result of one year of experience in the facilitator role, the information resources specialist at the Minnesota Department of Transportation Library has observed similarities in the library specialist and facilitator roles. (See chart on page 250).

Dissimilarities

Differences between the roles of facilitator and information resources specialist also exist. One is in the number of individuals served during an encounter. The information specialist usually deals with a patron on a one-to-one basis. The facilitator deals with a small group of individuals, usually not more than twelve.

Another dissimilarity between the two roles is that the facilitator must enforce certain ground rules required for effective meetings. These include keeping group members on agenda topics, preventing criticism of ideas and proposals, and ascribing group rather than individual

Information Resources Specialist	Facilitator
1. Uses a structured, organized approach in the coordination of information resources	1. Uses a structured approach to organize a group process for effective outcome
2. Uses a problem-solving approach in response to information requests	2. Uses a group problem-solving approach to identify constraints, obstacles, and solutions
3. Breaks down or builds up information request for gathering appropriate sources to fulfill the request	3. Collects and gathers as much information as possible from the group through brainstorming techniques
4. Remains neutral in response to information requests as well as selection of materials	4. Remains neutral and objective about ideas expressed by group members; acts to prevent an individual member's domination of the group
5. Clusters or summarizes information in pursuit of sources that focus on information required	5. Using input from the group, clusters and summarizes ideas for prioritization and implementation of solutions
6. Must listen to individual patron	6. Must listen to all members of the group
7. Responds to requests for information sometimes outside the expertise of the librarian	7. Performs as facilitator in solution of problems in areas unfamiliar to the facilitator (in fact, unfamiliarity is usually an advantage as the facilitator can probe by asking "dumb" questions)
8. Uses public relations—speaking skills in assisting patrons or in teaching use of the library	8. Uses communication skills to elicit group expression
9. Is people/service oriented—resourceful with regard to materials and service	9. Is people/service oriented—resourceful with regard to materials, facilities, and service
10. Needs a broad perspective on the organization for collection, development, and anticipation of information requests and services	10. Needs a broad perspective—does not need to be subject specialist among group members
11. Needs to ask questions to clarify patron's information request	11. Needs to ask questions so that all members are clear as to the input of any one individual

ownership of ideas generated by the group.

A third dissimilarity in the role of information specialist and that of facilitator is in the use of various techniques by the facilitator to elicit responses from a group. However, information managers are already familiar with techniques for such matters as handling the problem patron, becoming an assertive librarian, or delivering effective bibliographic instruction. Like the techniques information managers are already using, many facilitation techniques are straightforward, concise approaches for strategizing output. Sources are available which define facilitator techniques that are effective for differing group situations. Often using a cookbook approach to group dynamics, the techniques help the facilitator achieve certain desired results from the group. The following techniques are commonly used by group facilitators:

Brainstorming—a method for rapid, uncensored listing of all group member's ideas or issues.

Clustering—a method of identifying items or issues that have a logical connection.

Nominal Group Technique—a process whereby each member of the group participates in a round robin generation of ideas or facts which the facilitator records and clarifies.

Pareto Analysis—a technique used to separate the *trivial many* issues from the *important few.*

Group facilitation techniques are easily accessible in published sources and are usually derived from some prior research. In addition to the work of prominent theoreticians such as Maier and Harrison, practical facilitator techniques are usually validated by unreported research in the field before they are made available for public consumption. An information specialist need not be an accomplished social scientist to understand the application of facilitator techniques. However, it is helpful for the specialist to understand the evolution of facilitator techniques so that precautions can be taken against unreasonable violation of the technique as it is described in a published source.

Benefits

Participation by the information manager in the organization's decision making processes has benefits for the library as well as the organization. With regard to direct benefits, the exposure and visibility of the information manager offers him or her the chance to market library resources, learn more about the organization, and propose the use of information resources in response to needs that arise during problem solving sessions. At the Minnesota Department of Transportation, the information resources specialist has produced bibliographies of library resources to accompany one facilitation session, has offered the use of library resources to an organization restructuring committee, and has produced a bibliography of retrospective and current sources in facilitation and group dynamics.

Indirect benefits gained by the information resources specialist as a result of facilitation include a better understanding of the department's technical services and research functions—two areas where the specialist facilitated problem identification and recommendation sessions. A second indirect benefit of the facilitation assignment is that as a newcomer to the department, the specialist quickly made contact with many members of the department at both high and low levels. This exposure has been very valuable in an organization that employs over 4,000 people. A third indirect benefit gained by the information specialist involves a greater familiarity with the organization and its structure.

The many direct and indirect benefits gained by the information specialist/facilitator can translate into more informed strategies for improving library services. The specialist's direct contact with a broad range of organization problems has ramifications for book selection, promotion and use of automated and nonautomated services, and how the information specialist responds to certain information requests. It is also hoped that the effort and time given by the information specialist to participate in facilitation activities will have some influence during budgeting sessions when dollars are allocated for the library.

Information specialists who seek opportunities to broaden their roles within organizations can look to group facilitation as a mechanism for becoming integrated within the organization's decision-making process. Because of similarities in the information specialist and facilitator roles, traditional information management skills ease the transition from information specialist to facilitator. The recent trend toward participative management among public and private sector organizations presents the opportunity for information specialists to define a role for themselves in this new area. At the Minnesota Department of Transportation, the utilization of the information resources specialist in the facilitation function has mutually benefitted the library and the organization at large. Securely planted in important organizational functions, the specialist has gained direct access to the organization's concerns and the opportunity to introduce both the skills and resources of the library to department staff.

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Management Strategies for Personal Files: the Berkeley Seminar

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■ **Librarians can have an impact on their organizations by participating in the development of effective personal information systems. Researchers often seek advice on the organization of reprint collections, especially now that personal access to computers is common. The fundamental importance of reprint files, typical methods used in their organization, and an instructional program predicated on the growth and change of these collections are discussed.**

"I DON'T SEE what that has to do with the library" was an initial reaction to the proposal that the General Library system of the University of California at Berkeley sponsor a seminar on reprint management. In a narrow sense, the personal collections of our users may seem of no concern to the library, but there are compelling reasons why librarians, especially academic librarians, should become involved in this area.

Personal files are a researcher's working set of documents; researchers use their files for writing publications, communication with colleagues, and research. Increasing the efficient use of these files through improved organization and workflow should significantly increase a researcher's productivity. In spite of the importance of personal files to researchers, most disciplines do not provide any formal training for their graduate students in the control of literature in their field. Even those that do

This article is adapted from a presentation given at the 1985 SLA Conference in Winnipeg.

stress library research (whether taught by the academic department or by the library) do not often worry about the organization of the material once retrieved. Unless a graduate student is fortunate enough to work under a professor who has developed an efficient system, instruction in this aspect of documentation management is usually ignored. That researchers perceive a need for help in reprint file organization has been demonstrated by the overwhelming response to the faculty seminar program at the University of California at Berkeley on this topic.

The value of a personal file lies in the fact that it is *personal:* the documents in the file are familiar, they have been selected for retention based on their relevance, they are arranged along personal research lines, and most crucially, they are right at hand.

Librarians are knowledgeable in the principles of document organization and are practiced in efficient document processing. Library users naturally tend to come to the library with the information problems that their personal files have failed to answer. While there are important differences in the organization of personal files and of library collections, librarians understand the principles of information use and organization that make it only reasonable for researchers to look to us for advice.

Libraries have a mission to provide information services in support of research and instruction within the organization. This is particularly true in academic libraries, which have a recognized teaching role. We could take the narrow view that our role ends at our library's door and that the information problems researchers face when they leave, photocopies in hand, are their own problem. But if we choose to interpret the library's mission more broadly, it is clear that one of the contributions that the library can make to the institution is that of assisting in the development of researchers who can successfully handle information, both in the library and once they leave. This broader role is consistent with the trend for librarians to adopt the responsibilities of information managers, no longer narrowly defining their jobs as management of a given collection, but being concerned about the total information needs of their users.

Personal Files/Reprint Files

Personal information files are commonly called reprint files by researchers. Technically, reprints are printed copies of articles that the journal publisher supplies to the author for personal distribution. In fact, most reprint files today contain far more photocopies of journal articles than reprints and are also likely to contain preprints (prepublication manuscripts), papers delivered at professional meetings, technical reports, and other documents of research interest.

The value of a personal file lies primarily in the fact that it is personal: the documents in the file are familiar, they have been selected for retention based on their relevance, they have been evaluated, they are arranged along personal research lines and, most concisely they are right at hand. Yet, as the collection grows—as it inevitably will—many researchers find that its organization poses problems. In preparing a seminar on reprint management, this author spoke with a number of scientists regarding the arrangement of their reprints: Almost all expressed dissatisfaction with the organization of their own files. Common complaints included the time-consuming aspects of keeping up with filing, inconsistencies in indexing, lack of adequate access points, and loss of known documents within the file.

Individualistic Approaches

The literature on reprint files falls into three distinct categories:

- General research into the use and value of personal files to researchers. Soper (*17*) and Jahoda (*10*) review the general characteristics of personal files and Burton (*4, 5*) reviews recent changes in personal information systems due to increased computer accessibility.
- Material which reviews a number of methods of reprint file managment. Stibic (*19, 20*) Jahoda (*11*) and Foskett (*8*) are good examples of this approach.
- A large volume of "how to" articles, usually written by individual researchers or clinicians detailing their own personal arrangements and targeted toward their colleagues in the field, appear in the literature on reprint files. This category of material reveals the individualistic approach all researchers take in developing and maintaining their files. Solutions found in the literature start with the simple: arrangement of all reprints by a single subject (*14, 16*), to more complex approaches such as uniterm card systems (*9*) or carefully coded edge-notched card systems (*1*). Fully indexed and computerized systems are described for main frames (*12, 13*), for minicomputers (*2, 6*), and for microcomputers (*3, 15*). Nonstandard methods also appear in the literature, such as Van Ree's system, which holds up to 900 references on a programmable calculator, complete with extremely abbreviated citations and an algorithm to compress subjects to four-letter codes (*21*).

The methods cited above represent only a fraction of the literature in this category. This seemingly bewildering array is actually quite understandable: since all researchers have unique subject interests, their reprint files will be different in content; since their files vary in size, the files will require different degrees of maintenance and complexity; and since each researcher organizes and assimilates information differently, one would expect to find a wide variety of organizational methods.

Very little has been written on any library instruction programs in reprint management aimed at end users. St. Clair (*18*) discusses instruction of medical residents in a single method of maintaining personal files. The problem with such instruction is that, given the reasons just mentioned, no single method will work successfully for all individual researchers. More generalized instruction, covering a range of management strategies and targetting a diverse audience, is necessary if a course is to be useful to a wider audience of researchers.

Basic Principles and Common Goals

The instructional problem this need poses is twofold: to convey practical advice and basic principles of a wide range of management strategies without confusing the issue with too many details and contradictory solutions, and to emphasize that successful reprint management is uniquely tailored to the information use patterns of the individual who will use the file. Instruction must present a limited array of seemingly set methods while stressing the need for the researchers to implement elements of these methods and organize a system which best satisfies their unique needs.

In spite of the diversity of approaches taken by researchers, there are some common goals for all personal document systems: the file should be a select collection of key papers; the system should prevent information from being lost; the system should provide for subject retrieval; the system should provide for author retrieval; the system should facilitate the evaluation and organization of knowledge for research or professional practice; and the system should make scholarly and technical writing easier.

In reviewing the literature on personal files, it is clear that there are principles for addressing the above goals which, while rarely stated explicitly, are essential to successful management. These include:

- Every system needs to plan for change; all researchers' interests will change over time, as indeed entire disciplines will change focus.

- Every system needs to plan for growth; even the most rigorously weeded collection will grow over time.
- As a collection grows linearly, the difficulty of finding a given item is likely to increase exponentially; size seems to be the primary factor leading to the breakdown of any given system and most often forces the decision to restructure a file.
- There is an inverse relationship between the effort expended in placing a document into the file and the effort necessary to retrieve that document later.
- If a system requires too much effort to maintain, it will fail. Therefore, it is essential to develop the simplest system which still meets the researcher's needs. The payoffs must be worth the effort expended, or the researcher will fail to maintain the file.

While these principles will come as no surprise to librarians who are familiar with the organization and use of large document files, most researchers have never stopped to think about these points prior to devising their reprint file systems. One sees experienced researchers nodding in agreement about these points in the course of the lecture—they have learned these principles the hard way!

The challenge, then, was to develop a seminar to address, within a two-hour period, the basics of reprint file management for an audience drawn from diverse disciplines and coming with existing files of vastly differing sizes and varying support levels (in terms of personnel and materials). Specific objectives included a discussion of some principles regarding personal files, regardless of the type of organization used; an outline of representative methods; consideration of various user needs ad their implications for both manual and computerized systems; and discussion of the trade-offs involved in various choices, especially with respect to computerized systems.

The Course at Berkeley

The course begins by setting the problem in context and reviewing the basic principles, as outlined above. To structure discussion of specific systems, a developmental approach is taken by starting with methods appropriate to small collections and then progressing to the more complex arrangements suited to larger collections. This approach works well for a number of reasons. As a teaching device, it lends an organizing principle to the range of material to be covered; it allows the instructor to highlight each method for the size of file for which it is best suited; and many researchers' own files will follow such a developmental course during their careers. The researcher learns to anticipate changes in a growing system so that current decisions about storing records can be consistent with the possible future needs of a larger system.

Methods are divided into three basic categories: single access systems, manual multiple access systems, and computer assisted systems.

Most collectors start out by taking a linear or single access approach, arranging papers in file folders by subject or by first author, with no added access points. This straightforward approach does not pose problems of organization, but it does pose problems of access for two reasons: the first author is not necessarily the recalled author, and subject retrieval is difficult. Most researchers feel a need for some subject access and, in single access systems, will design a file arranged by subject. Therefore, the seminar addresses the value of a controlled vocabulary for subject assignment, sources for subject heading lists, and the use of subheadings. Also discussed are the pros and cons of using a classified or hierarchical subject organization versus a straight alphabetic arrangement.

Manual multiple access systems are discussed next, wherein the papers' arrangement is supplemented by additional indexes. To avoid confusion, examples are restricted to a few index card-based systems which illustrate the basic principles of organization. Briefly, the types discussed include: keeping the file in subject order, but adding an author index on index cards; keeping the file in author order, but indexing each paper under a single subject; keeping the file in author order, but assigning multiple subject headings to each paper; keeping the file in author order, but using various methods to coordinate the topics (for example, using accession numbers on uniterm cards).

For each of these methods, the effort expended versus the benefits accrued are highlighted. Also stressed is the value of building into the file whatever mode of access is likely to be most used. That is, if a researcher is most likely to remember a paper by author, then the papers themselves should be arranged in author order.

It was clear that while most of the participants wanted to know about microcomputer-based systems, interest in manual systems is still very strong, especially among graduate students just beginning to develop collections of reprints large enough to require thoughtful management.

Throughout the lecture, listeners are urged to try to determine just how it is that they remember and use the literature in order to develop a reprint system that is consonant with their information use patterns.

Other manual methods are discussed, such as edge-notched card systems or optical coincidence cards, but these are not emphasized because the necessary materials are not always easy to obtain.

Since many manual multiple access systems depend on the development of a "record" in the index, this leads naturally into the most sophisticated arrangement: computer-assisted systems. If the record already exists, a computerized system is a design and input problem, but not an indexing problem.

For individuals interested in using a campus computing system for managing reprint systems, mention is made of some of the database management systems and consulting services available. However, personal computers seemed to be of most interest to those attending the course who were considering computerizing their reprint files. General purpose database management systems can be adapted to this purpose, but many software packages are being developed specifically for personal scale bibliographic files (see appendix). The seminar stresses the characteristics of these specialized programs; even those researchers who intend to use a general purpose database management system can learn from these readymade programs in designing their own systems.

Researchers are urged to consider any bibliographic software in terms of their own needs. As Burton (*5*) has pointed out, "sophistication and flexibility are certainly not the major characteristics of the bulk of the microcomputer systems offered to support personal systems." Therefore, it is necessary to emphasize how most software packages meet some, but not all, of the goals of document management. Points to evaluate include:

- speed and ease of use (many menu-driven systems seem very cumbersome after a short time);
- constraints on the records themselves, either in terms of the length of the fields and/or record, the types of fields needed, the need for multiple equivalent fields (for example, multiple authors and subjects) or the need to use foreign character sets or scientific notation (most packages cannot accomodate this);
- ability to accept imported files (for example, files downloaded from bibliographic utilities);
- searching capabilities, with varying levels of sophistication available and/or needed;
- report generation (for example, can one get a short author listing to meet a simple inventory need?); and
- output in varying formats for publication purposes.

The tradeoffs involved in choosing software, such as whether to give up searching capability on all fields in exchange for much faster searching on only one or two fields, are discussed. The value of accepting a less than perfect system is considered in lieu of doing considerable programming oneself or customizing those packages that allow it.

As a wrap-up to the course, a few points are discussed: keep the system as simple as possible, although it should still meet the researcher's needs; take care in the assignment of subject headings ("Garbage in, garbage out" refers to both computer and manual systems); test a new system on a small portion of any existing file and work out the bugs before converting the whole file; and keep the investment of time and money in line with the final results, since unless the benefits are worth the effort, the system will inevitably break down. Factors of size, selectivity, time, and delegation are also discussed.

Evaluation of the Program

The course outlined above has been offered by the library system at the University of California at Berkeley campus for the past two years. This two-hour course, entitled "Where Did I Put That Paper? Managing Your Personal Information Files," was first offered in fall 1983 as a part of the General Library's faculty seminar series. Demand for the reprint management seminar has been substantial. In two years, four sessions have been offered with an attendance of over 200 faculty, graduate students and staff members. The seminar is now offered as a regular course in the faculty seminar program each fall. In addition, the program has been repeated for idividual courses at the request of faculty members. Even though the seminar was designed to meet the needs of researchers in the physical and life sciences, researchers from all disciplines registered. The participants have ranged from art historians to zoologists, with everyone from chemists to economists to law professors to theologians mixed in.

Participants were requested to fill out an evaluation form at the end of the seminar, asking whether they found the session "very useful," "useful," or "not so useful" and asking for any comments. Of the 150 returning evaluations over two years, 64 percent found the program "very useful" and 35 percent found it "useful."

From the response during and after the sessions, it was clear that while most of the participants wanted to know about microcomputer-based systems, interest in manual systems is still very strong, especially among graduate students who are just beginning to develop collections of reprints large enough to require thoughtful management. There was also great interest in more specific information on those software packages that were compatible with hardware and software already owned. Other individuals were setting up their own systems using general purpose database management systems and were anxious to learn what they could about the capabilities of ready made programs as an aid in the design of their own systems.

Conclusion

Engelbart (*7*) makes a strong case for information specialists to become involved in the development of effective personal information systems: "In the final analysis, it is always an individual who marshals the arguments, generates the hypotheses, provides the drive, etc., upon which each forward step is dependent. It is the problem-oriented individual who is the basic module in our intellectual community. It is his [sic] effectiveness which must be the ultimate concern of anyone wishing to see that community perform better."

Our broad charge as information managers is to help the individual researchers in our organizations become more adept at information handling. This course is one step in that direction. It is through efforts to make end-users more effective in their information use that librarians and information specialists can make their most effective contribution to information management within their institutions.

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Appendix: Software for Reprint Management

(a selective list of software specifically designed for the management of bibliographic citations on a personal scale)

Bibliog (Microdynamics of Texas, P.O. Box 40691, Houston TX 77240, (713) 937-9525—IBM PC/XT, AT&T PC

Bibliotek (Scientific Software Products, 5726 Professional Circle, Suite 105, Indianapolis IN 46241, (317) 244-6163)—Apple

Bookends (Sensible Software, Inc., 24011 Seneca, Oak Park MI 48237, (313) 399-8877)—Apple

Citation (Eagle Enterprises, 2375 Bush Street, San Francisco CA 94115, (415) 346-1249)—IBM PC/XT; also CPM 1.4 or later

FYI 3000 (FYI, Inc., P.O. Box 26481, Austin

TX 78755, (512) 346-0133)—IBM PC/XT; also CP/M, MS-DOS

Library-Mate (Geosystems, Inc., 802 E. Grand River, Williamston MI 48895, (517) 655-3726)—Apple

Paperbase (Wight Scientific, 44 Roan Street, London SE10 9JT Great Britain)—written in BASIC

Paperfinder (Axon Instruments Inc.; Software Division, 1437 Rollins Road, Burlingame CA 94010, (415) 340-9988)—Apple, Franklin Ace 1000

Professional Bibliographic System (Personal Bibliographic Software, Inc., P.O. Box 4250, Ann Arbor MI 48106, (313) 996-1580)—IMB PC/XT, Apple, Victor 9000, TERAK

Quick Search Librarian (Interactive Microware, Inc., P.O. Box 771, State College PA 16801)—Apple

Ref-11 (DG Systems, 322 Prospect Avenue, Hartford CT 06106, (203) 247-8500)—IBM PC/XT, MS-DOS, CP/M-80, DEC

Sapana: Cardfile (Sapana Micro Software, 1305 South Rouse, Pittsburg KS 66762, (316) 231-5023)—IBM PC/XT, MS-DOS

Sci-Mate (Personal Data Manager & Universal Online Searcher (Institute for Scientific Information, 3501 Market Street, University City Science Center, Philadelphia PA 19104, (800) 523-4092)—IBM PC/XT, Apple, TRS-80, CP/M

Searchlit (Medisoft, Medical Professions Bldg, Suite 350, 1595 Soquel Drive, Santa Cruz CA 95065, (408) 476-7106)—IBM PC/XT

Superfile (Software Marketing Associates, 4615 West Bee Caves Road, Austin TX 78746, (512) 327-2882)—IBM PC/XT, Apple, CP/M-80, MS-DOS

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The Canadian White Paper on Copyright: As a Librarian Sees It

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National Library of Canada
Ottawa, Ontario.

■ The Government of Canada has recently tabled in its Parliament a *White Paper on Copyright* which sets forth the Government's proposals for the revision of the Canadian *Copyright Act.* Many of its proposals are of concern to libraries and, if adopted by the legislature, will have an important impact on library services in Canada. A number of selected proposals relating to copyright exemptions, fair use, copyright societies, public renting right, the right to authorize etc. are reviewed by the author with suggested modifications in the interest of libraries.

THE PRESENT Canadian Copyright Act came into force on January 1, 1924. While it now incorporates minor amendments, it has not gone through any major revision since its adoption. The legislation is both antiquated and inadequate for a changing technological environment. Several important studies of the law were done during the past few decades. In 1957, the Ilsley Commission published its report, (*1*) making a number of recommendations to improve the current copyright law. In 1971, the Economic Council of Canada published its study (*2*), suggesting general guidelines to tackle specific copyright problems in revising the present Act.

In 1977, A.A. Keyes and C. Brunet jointly published the results of a study under the auspices of the Department of Consumer and Corporate Affairs and called *Copyright in Canada, Proposals for a Revision of the Law.* It affords an extensive analysis of the copyright issues confronting Canadians and makes a host of proposals for revising the law. However, for one reason or another, none of these studies was adopted by the government as its official policy position. The antiquated Copyright Act has remained untouched.

Subsequent to the publication of the Keyes and Brunet paper, an Interdepartmental Committee on Copyright Law Revision was established. The Committee is composed of representatives from some 15 federal departments and agencies, including the Department of Consumer and Corporate Affairs, the Department of Communications, and the National Library of Canada, which are directly concerned with copyright law revision. The Committee received over 120 briefs from various interest groups in the private sector and commissioned several in-depth study projects resulting in the publication of a series of excellent research papers by the Department of Consumer and Corporate Affairs during the period from 1980 to 1983.

Based on the results of these studies, the Government of Canada tabled in the House of Commons, first in May 1984 and then again in January 1985 after the election of the new Progressive Conservative Government, a document which sets forth the Government's proposals for the revision of the Copyright Act, titled, *From Gutenberg to Telidon, a White Paper on Copyright: Proposals for the Revision of the Canadian Copyright Act.* For easy reference by readers to the key proposals, another document was simultaneously issued, namely, *From Gutenberg to Telidon, a Guide to Canada's Copyright Revision Proposals.* Both documents have been disseminated for comments by interested parties in the nation's cultural community. Briefs were invited, particularly in relation to issues on which a final position has not yet been taken by the Government, e.g. first ownership of copyright in employee-created works, *droit de suite,* home taping, etc. (*3*)

The purpose of the *White Paper* is to modernize the Canadian copyright law in a way that takes into account both the new technology and the different interests of copyright proprietors and those of users. It has taken a number of important approaches to facilitating the use of copyright works, including statutory exemptions, compulsory licenses, a new system of fair use, the creation of copyright societies, the retention, improvement, addition or exclusion of certain rights which would have some impact on libraries, and the inclusion of new subject matters for copyright protection. These measures will work together to meet, to some degree, the needs of libraries.

Nearly all the proposals in the *White Paper* are of some interest to libraries, but only a selected number of issues which are of immediate concern to the library community of Canada are described here.

Reproduction for Archival Purposes

The *White Paper* proposes a limited exemption to permit libraries and archives to make a limited number of copies of unpublished, out of print or otherwise unavailable material already in their collections for reference or preservation purposes. This is a very narrow exemption, which will not apply to materials currently available but not easily obtainable, nor to the reproduction of materials obtained through interlibrary loans. For the purpose of preventive preservation, libraries should be in a position to copy an item before it is out of print or becomes unavailable or in anticipation of its deterioration. The proposed exemption is not broad enough to meet the realistic needs of libraries and archives.

"Fair Use" and Reproduction

As proposed in the *White Paper,* the existing defence of fair dealing will be replaced by a new system of fair use, which is defined as "a use that does not conflict with the normal exploitation of the work or subject matter and does not unreasonably prejudice the legitimate interests of the copyright owner." Fair use will apply to both published and certain unpublished works. However, the unpublished works to which fair use is applicable are not specified in the *White Paper.*

The *White Paper* has also proposed a prioritized list of factors that the courts should consider in reaching judgements, namely:

- the impact of the use on a copyright owner's economic reward,
- the type and purpose of the work, and
- the amount or extent of the taking.

It is to be noted that the amount or extent of the taking (e.g. the amount reproduced) is last on the prioritized list of factors to be considered by the court. In other words, to what extent a taking is fair is a question to be determined by the court only after considering first the impact of the use on the owner's economic reward and then the purpose for which the work was created.

The *White Paper* also explicitly proposes that the owner's right to reproduce be defined to cover a variety of media and that the words "any substantial part" in the current statute be retained in its definition. (*4*)

The implication of retaining the phrase "any substantial part" would be that any unauthorized reproduction of a substantial portion of a work or, for that matter, of a work in its entirety (e.g. a complete copy of a journal article) would likely continue to create a prima facie case of infringement under the common law jurisprudence notwithstanding the new system of fair use. Under the common law, fairness has been equated with non-substantial copying. It is conceivable that the court would continue to consider the reproduction of a work in its entirety as substantial copying and therefore as constituting a presumption of infringement. If this is contrary to the purpose of the proposed new fair use system, the legislative intent should be clearly spelled out.

The question of whether fair use continues to function as a defense against presumed infringement, however, is not discussed in the *White Paper.* Where a prima facie case of infringement is established before fair use is applied as a defence, the burden is on the user to rebut the presumption by proving that the use is fair. Under our traditional concept of justice, one is not guilty until proven guilty, therefore no infringement should be assumed until the copying is proved by the plaintiff to be unfair.

The burden of proof is important to librarians, because they may make a copy of an entire article without feeling guilty if there is no assumed infringement before fair use is applied. Conversely, if making a copy of an article in its entirety automatically constitutes a prima facie case of infringement, a librarian cannot help having doubts as to whether such a copy should be made even if the presumption can be subsequently rebutted and the copying can be proved to be fair. The shift of burden would significantly affect the day-to-day life of a librarian. The difference can be illustrated by the chart in figure 1.

The shift of the burden of proof from the defendant to the plaintiff will not only agree with our traditional concept of justice but also relieve librarians of a chronic malaise: not knowing if they are being fair or unfair in making a photocopy. This is an impediment to their services ever since the terms "fair use" or "fair dealing" was invented by law makers.

Reprography, Copyright Societies and Copyright Appeal Board

The principal mechanism proposed by the *White Paper* to solve the problem of library photocopying is based on collective agreements negotiated with copyright societies and regulated by a revised Copyright Appeal Board.

Literature on the collective exercise of copyright is voluminous, and the debate on its merits and demerits has been exhaustive. The Canadian Government has not been able to find any other more satisfactory and novel approach to resolving the problem. The library community, by and large, seems to understand and accept this imperfect method.

A problem remains with respect to nontrade publications, which constitute

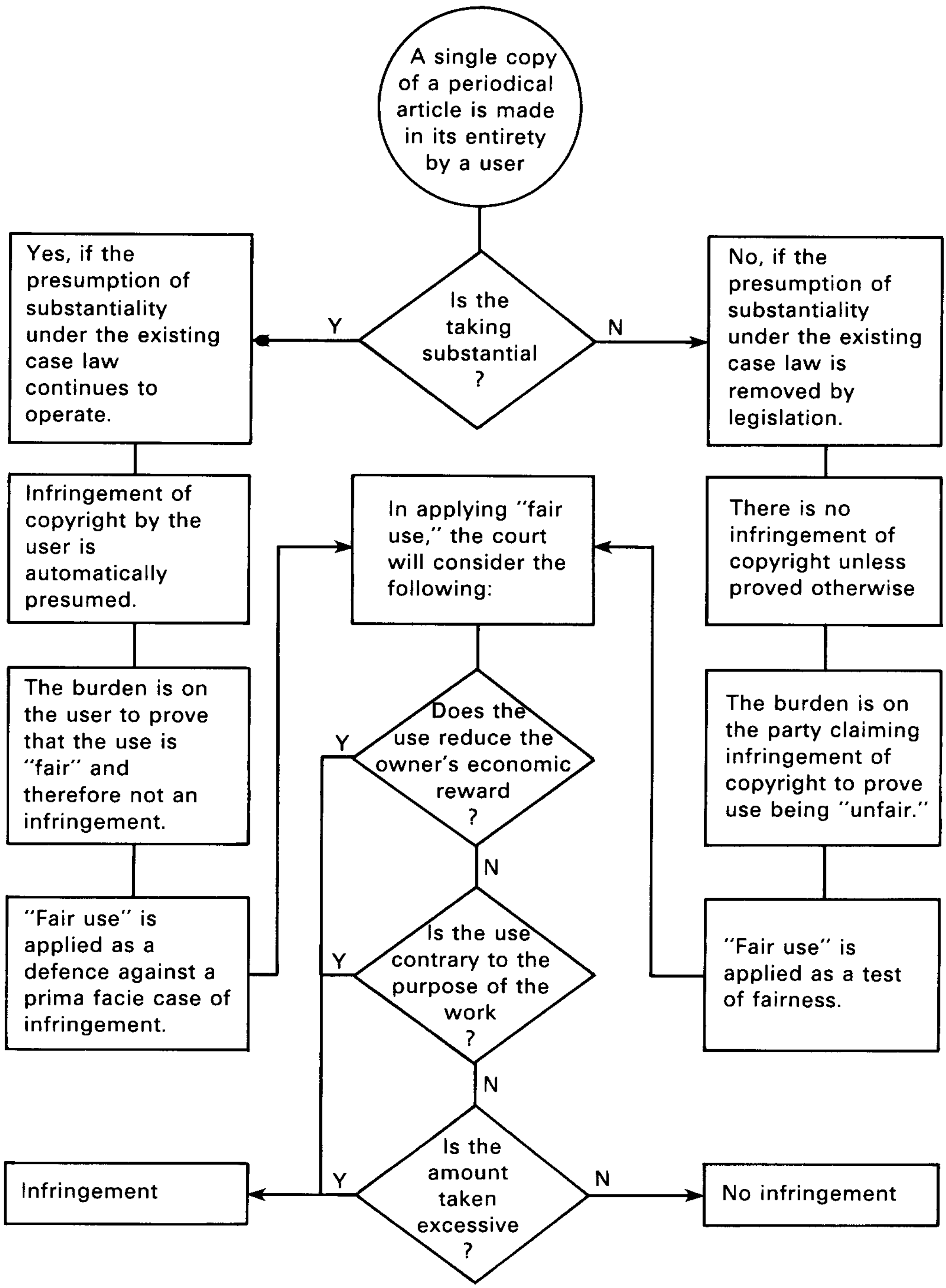

A single copy of a periodical article is made in its entirety by a user
Is the taking substantial ?
Y
N
Yes, if the presumption of substantiality under the existing case law continues to operate.
No, if the presumption of substantiality under the existing case law is removed by legislation.
Infringement of copyright by the user is automatically presumed.
In applying "fair use," the court will consider the following:
There is no infringement of copyright unless proved otherwise
The burden is on the user to prove that the use is "fair" and therefore not an infringement.
Does the use reduce the owner's economic reward ?
Y
N
The burden is on the party claiming infringement of copyright to prove use being "unfair."
"Fair use" is applied as a defence against a prima facie case of infringement.
Is the use contrary to the purpose of the work ?
Y
N
"Fair use" is applied as a test of fairness.
Infringement
Y
Is the amount taken excessive ?
N
No infringement

FIGURE 1.

a great portion of Canadian publishing. Many are reports and studies from institutions, historical records, directories and technical reports of professional societies, publications of small presses, local histories, genealogies, parish histories, etc. It is doubtful that authors or nonprofit organizations which create such works will be fully covered by the proposed collective agreements, and it would be time-consuming to verify whether or not a particular author or organization belongs to any of the copyright societies.

Librarians have expressed great concern about the cost and administrative trouble to libraries which may result from the proposed collective mechanism for reimbursing copyright owners. With or without the *White Paper's* proposal, there is nothing to stop the owners from exercising their economic rights collectively if they choose to do so. The users can only have faith in the revised Copyright Appeal Board which will be empowered to regulate the number of copyright societies and their rate structures in order to ensure equity between the societies and users. It is therefore important that the interest of libraries be adequately represented on the Board.

People have also wondered what will happen if some coyright owners refuse to join any copyright society and choose to exercise their rights individually. Owners cannot be forced into joining a copyright society, but they may find it more economical to do so than to exercise their rights as individuals. The drafters of the *White Paper* argue that it is no small improvement if the majority of owners are collectivized even though a few decide to stay out.

Educational Exemptions

Educational exemptions constitute an issue of great concern to academic and school libraries. The *White Paper* proposes limited and specific examptions as follows:

1. *Public performance for educational purposes:* The exemption applies to all types of works but is available only to the teaching activities of nonprofit educational institutions. The *White Paper* offers no explanations for the phrase "the teaching activities of nonprofit educational institutions". According to D.N. Magnusson and V. Nabhan, who made the same recommendation in a government-commissioned study on "Exemptions under the Canadian Copyright Act" (Ottawa, 1982), the exemption should apply where the activities are "primarily" teaching and are not to a significant extent for the recreational or entertainment purposes of any significant part of the audience. For nonprofit educational institutions, fees may be charged to cover expenses but not for the purpose of earning a profit for their owners or investors.

2. *Dissemination by educational broadcasters:* The production, origination and receipt of the program disseminated through broadcast are confined to the educational institution concerned. Any broadcasting received outside the walls of that educational institution will not be covered by this exemption.

3. *Reproduction for educational purposes:* The exemption is limited to reproductions used in questions and answers in university or school exams only.

Universities and schools must negotiate with copyright societies to pay royalties for broader permission to use copyright works for educational purposes. Social educational programs for the general public, however, will not be covered by these narrowly defined exemptions. (*5*)

Special Materials for the Handicapped

There will be a general exemption for the benefit of perceptually handicapped persons. That is good news, but the term "perceptually handicapped person" may exclude those with physical difficulties in holding a book or in turning a page. Their dependence on "talking books" is no less than that of those who cannot see.

Computerized Information Storage and Retrieval Systems

There are three basic issues relating to computerized information storage and retrieval systems, namely, the protection of copyright material to be input into a computer, the protection of data or databases created or compiled for the first time on a computer, and the status of reading data retrieved from a computer on a video display unit.

It is proposed by the *White Paper* that authorization to use copyright works in a computer is required at the time of input into the computer. Storage of information in a computer will be considered in "fixed" form and is, therefore, a subject for copyright protection. A fleeting image on a video display unit is not considered as a copy, and video display is not a protection right of the owner.

The *White Paper* clarifies certain ambiguities of the existing law and reaffirms the Canadian judicial decision with respect to video display. These seem to coincide with the expectations of most Canadian librarians.

Computer Program

A computer program is defined in the *White Paper* as "a set of instructions intended to operate a machine having information processing capabilities." Computer programs in human-readable form will be eligible for traditional copyright protection; that is, the life of the author plus 50 years. However, the right of the copyright owner to authorize or prohibit conversion of a human-readable program into a machine-readable program will last only five years after the program's creation.

A computer program in machine-readable form is defined as "a computer program that is not intended for human comprehension." So far as machine-readable computer programs are concerned, the *White Paper* proposed a special regime of copyright for computer programs in machine-readable form. The computer program copyright includes the rights to publish the machine-readable program, to make another identical or substantially similar machine-readable program, and to make an identical or substantially similar human-readable program based on the protected machine-readable program. (*6*) The machine-readable program is protected for five years from the date of creation if unpublished, or from the end of the year of publication. For computer programs in machine-readable form, "publication" means selling, leasing, licensing, trading, or offering to sell, lease, license, or trade a machine-readable program. The relatively short term of protection is intended to encourage general access to the program soon after its creatin or publication.

The computer program copyright does *not* include a moral right, a public performance right, a broadcast or cable transmission right, a right of market segregation, a rental right, or a right to use the program. Computer program copyright does not protect the computer program against use. However, a machine-readable computer program in one computer is protected from being copied and transferred to another computer where use of the program can be made since such transfer would amount to the making of an identical machine-readable program.

Works of Joint Authorship and Collective Works

The terms "works of joint authorship" and "collective works" will both be redefined. With respect to joint authorship, the new definition will emphasize the importance of the intentions of the parties as well as the degree of interdependence or inseparability of the parts. The concept is comparable to tenants in common in real property law, in that a joint author has the right to use the work but cannot grant a license for the exercise of any copyright in the work without the consent of the other.

As to collective works which are generally considered compilations, the new definition will broaden its application beyond the confines of written works, set out criteria with an illustrative list of examples and clarify the relationship between the author of a collective work and the co-authors of the underlying works. The author of the collective work cannot reproduce an underlying work for any use other than as part of the collective work. In the case of a consortium of bibliographic databases, the relationship of the participating institutions will be determined by agreement (intentions) of the parties, separability of the parts contributed by the parties and the criteria set forth in the new Act.

Works Made in the Course of Employment

Under the current law, the employer is the first owner of the work created by the employee. In the case of a government library, the Crown, of course, is the employer. (*7*) An alternate approach is based on the general principle of author as first owner. In other words, the employee would be the first owner, subject to voluntary assignments or compulsory licenses of certain rights to the employer. The purpose of this approach is to ensure that the principle of author as first owner is consistently applied throughout the legislation and to preclude possible suppression of the use of the work or unfair exploitation of the employee by the employer. It is therefore conceivable that if this principle is adopted in the new Act, a standrad clause will likely be introduced in many employment contracts to assign or license copyright to the employer where copyright is relevant to the employment contract.

The employer/employee relationship is important to a library in terms of the bibliographic records created by its catalogers which may be considered as underlying works of a database and the computer programs created by the programmers for its automated systems.

Should the rights of Crown employees differ from those hired in the private sector? Should a difference be made between Crown employees in government departments and those in Crown corporations? What about the employees of government-financed research or educational programs or institutions? Further public input is being solicited on this issue by the *White Paper.* Nevertheless, decisions of a judge and works of the legislature will remain the Crown's property.

Crown Use of Private Copyright Material

There is conflicting evidence as to whether the Crown is bound by the Copyright Act. Even though the majority of the provincial Interpretation Acts in Canada adopt the same principle as the federal Interpretation Act, that the Crown is not bound unless the Act so provides, in the Province of British Columbia the Interpretation Act adopts a different approach by providing that "unless an enactment otherwise specifically provides, every Act and every enactment made thereunder is binding upon Her Majesty." Some scholars question how the status of the federal Crown can be so different from that of the Crown in right of the Province of British Columbia so far as copyright immunity is concerned. Furthermore, in common law it is a principle that by availing itself of the benefits of an Act, the Crown subjects itself to the burdens of the same legislation. To clarify the situation, the *White Paper* has proposed that both the federal and provincial Crowns be bound by the Act.

Public Renting Right

The public renting right, a new right proposed by the *White Paper,* will extend copyright control to commercial renting of video and sound recordings. Nonprofit libraries will be allowed to continue to lend video and sound recordings and make nominal charges. (*8*) With the fast growth of the video rental business, the creation of this new right is perhaps necessary, but it represents an unwelcome extension of the traditional concept of copyright. Renting has never been a protected right before. The implications of this new right are unknown. There is always the possibility that once this new concept is accepted, some interest group may want the rental right to be extended to include literary and artistic works.

Unlocatable Copyright Owners

There is a new and welcome licensing system proposed by the *White Paper* to solve a practical problem faced by libraries and users of copyright works. Where a copyright owner cannot be located to authorize the use of his or her published work, a non-exclusive license to use the work in a specific manner may be granted by the Copyright Appeal Board if the applicant has made reasonable effort but failed to locate the copyright owner, and if payment of royalties has been deposited with the Board. The licensee must be in a position to prove that the work has been published. A copyright owner who appears after a licence is issued may stop the use upon payment of compensation to the licensee.

Some librarians have questioned the value of this proposal. If information is needed in a hurry, no one expects the bureaucracy to move fast enough to satisfy an urgent need. With this proposed arrangement, however, a license can at least be obtained when one is not in a hurry.

Paternity Right

Paternity right is both a right of the author to claim authorship and to restrain others from claiming authorship of the work, and a right to use a pseudonym or remain anonymous.

The right to use a pseudonym or to remain anonymous will have an impact on the traditional cataloging practice of librarians to search and reveal the true name of the author. Fortunately, the *White Paper* also proposes that the right may be waived by the author and that the right is not perpetual but lasts for the same term as the economic rights, i.e. the life of the author plus 50 years. This makes it possible for researchers to trace the true identify of an author if the right is waived or when the term of protection expires.

Translation

A compulsory license for translation based on Article V(2) of the *Universal Copyright Convention* (U.C.C.) will be introduced in the new Act. This article allows a contracting state to restrict the right of translation by its domestic legislation. If, after seven years from the date of first publication, a translation of a work has not been published in its national language or languages, the contracting state may grant a non-exclusive license to translate and publish the work in its national language or languages.

This non-exclusive license will provide Canadians with greater access to the works of certain foreign nationals published in a language other than English or French. (*9*)

The Right to Authorize

The right to authorize the exercise of a copyright owner's exclusive rights will be retained. Because of the Moorhouse case of Australia (*10*) and its impact on the concept of "authorization," the provision of an unsupervised, coin-operated photocopier in a library may continue to be a problem. A collective agreement to cover the use of such a photocopying machine in a library may alleviate the problem, but it may not eliminate it. A universal and all-embracing collective agreement is likely unobtainable.

Pursuant to the U.S. Copyright Law, copyright office regulations require that a copyright warning notice be displayed at the place where orders for photocopies are accepted by libraries. The Interlibrary Loan Committee of the American Library Association has also suggested that a notice be displayed on unsupervised copiers located in a library. However, for one reason or another, no similar proposals have been made in the *White Paper*. Canadian librarians would have to live with the problem of self-service photocopiers in their libraries without the convenience of a copyright warning notice to help ameliorate the responsibilities arising from the concept of "authorization."

Public Lending Right, Copyright in New Editions and Exhibition Right

The *White Paper* indicates that these rights will not be in the new Act.

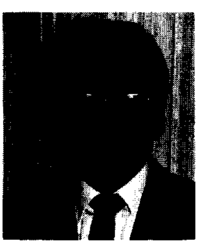
Conclusion

The revision of the Canadian Copyright Act is long overdue. The *White Paper* issued by the government is an important milestone which may lead to the beginning of a new copyright era in Canada. The policies outlined in the *White Paper* are basically sound, and its proposals seem reasonable if not totally satisfactory to librarians.

There are several areas where some modifications can be made in the interest of libraries. Broaden the scope of exemptions for archival purposes by including currently available materials and materials obtainable through interlibrary loan. Declare the legislative intent to shift the burden of proving fair use from the defendant to the plaintiff. Make educational exemptions less restrictive so as to include social educational activities. Ensure that libraries are represented on the revised Copyright Appeal Board. Allow libraries to install on their premises a coin-operated, convenience photocopier for use by clients without incurring undue liabilities on the part of libraries. Improve the definition of the handicapped without limiting it to the perceptually handicapped. If the revised legislation could include these suggested modifications, It would make the new Canadian copyright system even more effective than the one outlined in the *White Paper.* Such modifications would establish an equitable balance between public interest and the proprietors' monopoly with clear recognition of the importance and the practical needs of Canadian libraries.

Footnotes

1. Royal Commission on Patent, Copyright, Trade Marks and Industrial Design: *Report on Copyright,* Queen's Printer, Ottawa 1957
2. Economic Council of Canada: *Report on Intellectual and Industrial Property,* Information Canada, Ottawa January 1971
3. Other issues include the question of the exact scope and extent of a revised Copyright Appeal Board, the liability for cable and satellite retransmissions of broadcasts containing copyright works, the length of time for which exempted ephemeral recordings can be retained, any continuing exemption or other special treatment for jukebox performances, and the details of an exemption for certain performances in public establishments.
4. The *Act.* S.5(1) defines "copyright" as "the sole right to produce or reproduce the work or any substantial part thereof . . ."



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The views expressed are solely those of the author and are not necessarily those of the National Library of Canada or those of the Interdepartmental Committee.

5. *E.g.* Public television and radio educational programs conducted by educational institutions, private organizations or governments.
6. *WP.* p. 80. This is based on the assumption that machine-readable computer programs will not be interpreted by the court as an adaptation or translation of a human-readable computer program.
7. The term "the Crown" is more or less synonymous with the term "the Government."
8. The term "nonprofit libraries" is not defined in the *White Paper.* Apparently, it was not considered by the drafters as a debatable issue. Most libraries are by nature nonprofit, but some special libraries may belong to a parent institution which is not a nonprofit organization under the Canadian *Income Tax* Act.
9. U.C.C. Article V(2) applies to work authored by the nationals of or published in a U.C.C. country which has not also adhered to the Berne Convention, such as the United States and the Soviet Union.
10. Moorhouse and Angus and Robertson Pty, Ltd. v. University of New South Wales, 1975, R.P.C. 454.

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Newspaper Indexing: Planning and Options

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■ Several issues, are discussed which must be considered prior to attempting to index a newspaper—scope, audience, cost, definition of a bibliographic unit, vocabulary, selection of an edition, pagination, accuracy of reporting, and qualifications of the indexer.

Four indexing manuals are reviewed. The first, by Harry Friedman, was published in 1942 and is the earliest manual cited in the literature. The remaining three were published between 1975 and 1979 and reflect the renewed interest in newspaper indexing that was seen in the 1970s.

This article then gives an overview of the available automated systems used for indexing in newspaper libraries. Recently several database software packages have become available for microcomputers which are affordable for even small indexing projects. Key features of each are briefly summarized.

IN THE PAST DECADE computers have drastically altered methods of newspaper indexing. In the mid-1960s the New York Times began to plan an automated retrieval system which would link its index and morgue. The New York Times Information Bank was inaugurated in 1971 and soon was one of the largest databases in the world, with an annual input of 100,000 *Times* articles and the same number of articles selected from sixty other newspapers and magazines. Following this success, researchers began looking for ways to apply computer technology at the local or regional level.

During the 1970s attempts were made to show how a computer could simplify newspaper indexing. However, before the time of full-text databases, a computer was no replacement for the human mind in making index entry decisions.

Decisions Prior to Indexing

In preparing to make an index, several questions must be resolved before actual work can begin. One of the most important decisions involves scope. Should the index cover only local news, or should it extend its coverage to state or even national news? If it covers all three, should the criteria for inclusion of articles be the same in each case? Historical and current materials need to be dealt with in different ways. A policy should exist that states clearly when to index such borderline categories as sports, advertisements, weather, and crimes.

What is the purpose of the index? This basic question must be answered long before any indexing is started. This is the task of determining the audience for the index, so that the index can be tailored to their specific needs. Is the intent to provide a complete retrospective history of the community, or to put names and events in a historical context? Will the primary users be historians, genealogists, or both? No one should attempt to index everything. Often some of the news can be obtained from other sources, such as official birth and marriage records. To duplicate information already easily accessible has no merit. However, in questionable cases, it may be best to follow the rule, "Whenever in doubt, index it!"

Service, rather than profit, must be the motive behind most indexes. Makers of an index should realize that entries for a single year will be in the thousands, and that the result will be a very expensive venture. It should not be expected that a market for the index would in any way pay for the resulting product. According to Norman Lathrop, "Indexes, no matter how much people say they want them, do not command significant dollars from libraries. Library schools in this country teach, 'If you have the *New York Times Index,* you don't need any other newspaper index.' "

Determining the cost of indexing a newspaper means working with many variables. If only manual labor is used, there is the cost of paper, storage, and personnel for indexing, filing and writing or typing cards. Computer-assisted indexing may require the purchase or leasing of equipment, computer storage charges, communication charges, and programming fees.

Another problem which is seldom addressed when newspaper indexes are being prepared is whether the quality of reporting found in newspapers makes expensive indexes worthwhile. As early as 1936, studies were conducted to show the number of errors in certain news stories. Since then numerous researchers have confirmed that about half of all straight news stories contain some type of error. Weekly newspapers seem to have a higher accuracy rate, possibly because of fewer deadlines or less controversial copy. Often the daily reporter has too little time and too little background information to write an accurate story. When considering the implication of news accuracy on indexing, it is realistic to index the information as it appears in a newspaper, and include references to any published corrections. It is not realistic to expect indexers to do any verification of information.

Another decision to make is how to define a bibliographic unit in a newspaper. Many times the usual common denominator, the title, may not exist. Or one headline may be applied to two stories which are only minimally related. Conversely, two aspects of the same story may be located next to each other and be given two different headlines. Treating the headline as the defining bibliographic unit may therefore cause major problems. Authorized columns also further complicate the issue, since some focus on one subject while others treat many disparate subjects.

Regardless of the definition used for the bibliographic unit, the units will vary from very short to feature-length articles. In fact, an abstract could literally contain all the information presented in some articles. Therefore, the indexer may want to make some decision concerning the minimum length of articles to be included.

A unique characteristic of newspapers is their immediacy. Much is published within hours of the occurrence. Some computerized indexes are providing access within a day or two. However, much of this news is ephemeral, and while it may be of interest today, in six months or five years the "hot topic" may be dead. Such topics often present vocabulary control problems. The vocabulary used for an index must be current to satisfy present needs, yet provide for retrieval in the future. If historical indexing is also done, this further compounds the issue. The possible indexing vocabulary is enormous and can literally cover the whole universe of information. A choice must be made between precise indexing and the need for a manageable vocabulary.

The graphics in a newspaper can contain as much or more information than the words. However, if one indexes all pictures, cartoons and advertisements, the result could add considerably to the cost.

Another problem to be resolved before indexing begins is which edition of a particular paper is to be indexed. If the project involves only historical newspapers, this may not be a concern, since there may be only one edition on microfilm, and paper copy may no longer be available. However, even relatively small papers may appear in several variations. Often there will be minor changes between editions, and certain sections may go only to certain localities. Usually the edition indexed is the one which will be made available for access, normally in microform. Otherwise, if multiple editions are available, a single edition should be selected for indexing.

Identification of a newspaper's pagination has been compared in complexity to the bibliographic description of an *incunabulum.* Not only are there multiple sections, but frequently there are special supplements. One possible solution is to invent special symbols to locate these sections.

The qualifications required of an indexer are rarely discussed in the literature, and in the few instances when the topic is mentioned there is little agreement. For one indexing project concerned with newspapers dating from 1820 to the present, the directors "found it most advantageous to have highly trained assistants, including persons holding an M.A. in history, and a B.A. in library science . . . In addition to careful hiring, each assistant [should] read relevant . . . local history texts and materials on index projects before starting." Most indexers for the *Official Washington Post Index* have the library science degree, although it is not required. The *Post* found that indexers with the MLS degree typically require a shorter training period than those who lack the degree. Perhaps more important than the degree is a good memory, an attribute that contributes greatly to the consistency of usage of subject headings. Also, a thorough knowledge of the index is necessary to add needed cross references.

Newspaper Indexing Manuals

The literature makes reference to only four published indexing manuals. The earliest one, *Newspaper Indexing* (1942), by Harry Firedman, is an elaboration of a Work Projects Administration manual. The volume's intent was to correlate indexing methods which were being practiced in the U.S. at that time and to give solutions to problems which Friedman had encountered in many years as a newspaper librarian.

Friedman believed indexing is "an art, not an accident" and, even though hard and fast rules can not be laid down for indexing, there are certain conventions which should be observed for the sake of uniformity and consistency. Some fundamentals must be observed prior to organization, but these can be altered or expanded to suit the needs of the index as it progresses.

Friedman believed personal names are the backbone of a newspaper index. He wrote, "To be on the safe side, every name should be taken unless it is automatically excluded by pre-arrangement."

According to Friedman, subject indexing should also depend upon standards set up by the individual indexer to suit the needs of the index. He proposed three possible systems to govern the number of entries. First, subject headings are assigned to an article only when the proper name mentioned in the story is created, destroyed or radically altered. Second, subject headings are assigned to correspond with every name heading taken from a story. Or third, subject headings are assigned only when the story or article deals with the subject itself and not when the subject is second in importance to a proper name (such as granting a franchise to a particular company).

The Friedman manual is over forty years old, and much of what it contains is no longer applicable because of changes in technology. Several chapters, for example, discuss how to cope with the huge volume of entries on 3 × 5 catalog cards by consolidating entries onto fewer cards, and with methods of alphabetizing entries.

A second manual, *Newspaper Indexing for Historical Societies, Colleges and High Schools* by Esther Perica, has been called the "indexer's bible." It was published in 1975 and is considerably briefer than the Friedman volume. Like the previous volume, it presupposes that the index will be on 3 × 5 catalog cards and that the indexer will work from paper copy.

Perica has two chapters of rules for standard entry forms and general indexing. Much of the Perica manual is similar to Friedman's and her familiarity with the 1942 publication is obvious, since she quotes directly from it.

Guidelines for Indexing Local Newspapers by Judith Meister Einhorn (1976) resulted from a study conducted under a grant from the Rhode Island state library and was used to index the local newspapers of South County, Rhode Island.

The 40-page manual emphasizes subject access to local events. Einhorn believes the establishment of an authority file of subject headings is fundamental. Included in the guidelines is a sample list of subject headings with "see" and "see also" references. About 500 terms are given.

At times, the manual takes on the style of a cookbook and appears to make indexing both simplistic and rigid. This is reflected in such statements as, "As a rule the number of subject headings should be limited to no more than two (per article."

Napa County Local History Indexing Project Indexer's Manual by Bobbie Vierra and Maureen McCarthy (1979) is different because it is being used for an actual indexing project and includes a complete authority file. The manual is used by both volunteers and library staff and is a guide for indexing both historical and current newspapers.

The Napa County index is divided into a personal name index and a subject index. All persons mentioned in the newspapers are indexed under their last names. To minimize indexing time, a set of 31 personal name codes are used to take the place of article descriptions; e.g. M = married, CR = involved in a crime. If none of the codes describes the subject of an article, the indexer writes an appropriate substitute.

The authors feel that the process of choosing the best subject heading for an article is so important that most of the handbook deals with how to select appropriate headings. The authority file lists primary subject headings, subheadings to use with primary headings, and geographical names.

Each of these four manuals was designed to serve a different purpose. The Friedman manual was a landmark publication for newspaper indexing and still should be read by any indexer. The Perica and Einhorn manuals contribute very little new information and would be adequate for only the most modest indexing projects. The Vierra manual seems very workable. Even though it is detailed, it appears to be written in a form which would be usable both for a volunteer or a full-time professional indexer. Of course, the guidelines and the vocabulary would have to be adjusted to fit local conditions.

Automation

In the past 15 years many newspaper libraries have switched their operations from manual to computerized systems. These systems currently use either magnetic disk storage or microfilm storage to store the full text of the news stories. In *Guidelines for Newspaper Libraries* a detailed analysis is made of nine automated systems used by newspaper libraries.* Because the focus of this paper is on a manual indexing system for the *Courier* with only microfilm text available, the ANCIRS and INFO-KY systems are feasible systems for this project. The full text is stored on microfilm, with access through an online index. Newspaper clippings are filmed, processed and converted to microfiche. The fiche are loaded into an automated microfiche reader/printer which is controlled by computer keyboard.

In the INFO-KY system the index terms are entered at a VDT workstation. A controlled vocabulary or subject heading list is used. It also allows for complete entry of actual natural language elements such as headlines, dateline, or byline.

A VDT is used to retrieve information on a given subject, person, corporation or organization. A search request can use such logical operators as *and, only* or *not.*

A workstation in a microfilm system includes a terminal and a microform storage retrieval device. Only one person can use the full text file at one time; however, additional sets of microfiche could be duplicated at a small cost. Adding additional VDT/reader-printer workstations would add substantial equipment and maintenance expense.

* The nine systems are divided into categories:
Microfilm Systems: ANCIRS, INFO-KY
Electronic Systems:
Automatic indexing/Free test: BASIS, BRS/SEARCH, DOCU/MASTER, INFO-TEX/ATEX, QL
Manual indexing/Assigned: ELS, UNIDAS

Micro Software for Newspaper Indexing

Because the ANCIRS system utilizes a microcomputer, it is more affordable than other systems which use mainframe computers. In recent months there have been several database software packages available for microcomputers.

Aaron/Smith Associates, Incorporated (Suite 518, 1422 West Peachtree St., N.W., Atlanta, Georgia 30309 (404) 876-0085) compares the retrieval power of their Finder system to Lexis, BRS or Dialog. This is achieved by the use of inverted indexes. In such a system, an alphabetical index is created of all possible terms in the database. It is this index which is searched. For retrieval the system offers Boolean operators, both left-hand and right-hand truncation, and a choice of stop words. Also, no command language is needed to use Finder. Instead, the system uses prompts to guide the user along.

Finder runs on the IBM PC, PC XT, or PC AT, and compatible machines with PC-DOS operating systems. A hard disk configuration is recommended due to the size of the databases that are usually created using "Finder."

Each record in the database can have a maximum of 50 fields and each field can be up to 255 characters long. The number of records handled by the system is limited only by the amount of disk storage. The Finder software is priced at $1,495 which includes nine interrelated computer programs, a comprehensive user's guide and reference manual and two hours of consulting from Aaron/Smith Associates. A retrieval-only section is available for $295; data entry/retrieval module, which allows a database to be designed, information added and searched but does not allow for the creation of new databases, is $495.

MARCON software was developed by AIRS, Incorporated (P.O. Box 16322, Baltimore, MD 21210) to support the creation and searching of Micro Archives and Records Online. It handles both formatted and full text records. MARCON runs on the IBM PC, the AT and T PC, and compatible micros. Hard disk storage would be required with most applications. Records may contain up to 175 fields and up to 7,560 characters. Searching allows Boolean logic to be applied.

MIST +, developed by New Era Technologies, Incorporated (1252 Columbia Road, N.W., Washington, D.C. 20009, (202) 234-2117) is an integrated software product for the IBM PC and compatible personal computers. MIST + comes with three main modes: Connect (communications), Edit (text editing), and Resources (DBMS). "Resources" provides features for searching and retrieving, allowing complex searches by combinations of fields. Output may be printed or displayed in either system-specific or user-specific format in alphabetic, numeric, or date sequence.

To create a new database, you name the file and then describe the fields in each record. You must tell MIST + which parts will be indexed for rapid retrieval and whether indexing will occur automatically as the fields are added or updated or only upon request.

After the database is created, you can add up to 64,000 records. Searching the database creates a "find list" which can be sent to disk or to the printer either in a standard format or in a format you specify using a "Layout" command.

MIST + provides seven types of resource parts; alphanumeric, date, ID, keyword, number, selection, and text. All can be indexed except for the "text" parts. However, "text" parts can be searched sequentially for the appearance of a given character string. MIST + includes a 400 page reference manual.

SIRE was developed by Cucumber Information System (5611 Kraft Dr., Rockville, MD 20852 301/984-3539 and 301/881-2722) for information retrieval on the IBM PC, DEC PDP/11, and VAX and other computers utilizing the UNIX, MD-DOS, or RSX operating system. The system may be used to create documents of any length and these may be formatted into as many as 256 fields per record. All fields are variable in length. Data may be automatically indexed as it is entered.

Search options include keywork, Boolean, adjacency and truncation. Searches can be expanded by the system identifying the characteristics of relevant retrieved documents and automatically searching for other items that share these characteristics.

The MS-DOS version of SIRE, which is capable of a 64,000 document database, is priced at $600, and the "small" UNIX system version costs $2,500. For databases up to 16 million documents, the RSX version or the large system UNIX version costs $5,000.

In May 1981 the Durham Herald Co. began producing the IND-EX, a monthly name and subject index to its *Durham Morning Herald* and *The Durham Sun.* An IBM System/34 is used to produce the index, with software designed by IBM. The price of the software is $5,000 plus training. Gloria P. Colvin, associate librarian, reports that they hope to have software available soon at a lower cost for use on the IBM PC.

The IBM program currently stores approximately 35,000 subject headings and 40,000 cross-references. In addition to printing the index and subject authority file, the computer is capable of printing subject bibliographies, name bibliographies, reporter byline files, and reports listing all items of a particular type (e.g., editorials, obituaries, etc.)

Norman Lathrop Enterprises, Wooster, Ohio is also developing software for microcomputers for newspaper indexing, but does not yet have anything available.

In conclusion, it is evident that many affordable choices are currently available for newspaper indexing on microcomputers. These choices have a sophistication which was formerly only available on large, mainframe computers.

Recommendations for the Courier Newspaper

The *Champaign-Urbana Courier* dates back to 1894, when it was founded as the *Urbana Weekly Courier.* In 1897 it became a daily paper which continued under various names until publication ceased in

1979. The Urbana Free Library purchased the complete file of microfilm at the time the paper stopped publication. It also acquired the newspaper's clipping file. However, many clippings had been removed before the Library received the files. This incomplete file has clippings from as early as 1935 and as late as 1978.

It is the desire of the Champaign County Historical Archives that the *Courier* have an index, so that the Library can make better use of the newspaper. Patrons depend heavily on the Archives as a resource for both historical and geneaological research on Champaign County. Some types of historical information can be found only in a local newspaper. Unless an approximate date is known, this information is impossible to find without spending hours scanning through rolls of microfilm.

The following are some guidelines and recommendations for the Urbana *Courier* index:

No index should be started until funds are secured to insure some computer assisted filing and output.

To get some idea of total index entries (i.e. subject headings and name entries) which would be assigned to the *Courier*, various issues were indexed following the guidelines recommended in this document. Table I is an estimate of total index entries which the *Courier* would produce.

The index should be divided into subjects and personal names. Because of the thousands of names appearing in the index, it seems more usable to have them in a separate file. I suggest the use of a standard set of descriptions to follow personal names. These could be similar to the codes in the Vierra manual (11), but instead of a code the description should be written out, or, if online, coded in and spelled out by machine. Examples are:

Author
Became a citizen
Born
Business activities
Married

Each newspaper article with information about Champaign County or one of the surrounding counties should be indexed under one or more subject headings. An authority file should be established from several sources, such as the subject headings for the vertical files containing the local history collection in the Champaign County Historical Archives, sample issues of the *Courier*, the Urbana Municipal Documents Center thesaurus, and the Vierra manual. New subject headings should be added as needed.

A controlled list of subheadings should appear in the authority file to be used to further define primary subject headings. For example, GASOLINE—prices or GASOLINE—rationing.

Geographical names can be attached to subject headings to specify an area or can be used as a primary heading. For example, FOOD—prices—Champaign Co. or ST. JOSEPH—local history.

Table I

Years of *Courier*	Total Years	Issues per Week	# of Weeks	Entries per Issue	TOTAL ENTRIES
1894–1896	3	1	52	30	4,680
1897–1930	34	6	52	40	424,320
1931–1959	29	7*	52	50	527,800
1960–1979	20	7	52	60	436,800
					1,393,600

* This is an estimate of when the Sunday issue started.

Conclusions

Indexing 85 years of the *Courier* newspaper would require thousands of person-hours. Approximately two hours were required per issue indexed for this study. If this time was reduced to one hour per issue, it would take about 14 years for a full-time indexer to complete the project. To rely on volunteers to do the entire project is unrealistic. One of the biggest problems is the difficulty in working from microfilm. The quality of the film varies widely, and considerable eye strain results from constant use of a film reader. Furthermore, much time is consumed by the necessity of writing each index entry by hand.

Even though the life of the newspaper spans almost a century, I do not think an appropriate thesaurus would be difficult to develop. The task could be facilitated by examining random issues of the newspaper and other local sources of information, such as the vertical file headings used in the Champaign County Historical Archives or the Urbana Municipal Documents Center thesaurus. By utilizing appropriate cross references, variant forms of the same term could be brought together. It should be expected that street names may change, some businesses will merge, organizations will cease to exist and others will be formed. The vocabulary should adapt and change as the newspaper changes. The thesaurus will not be complete until the last issue is indexed.

One benefit to be gained from a ceased publication, such as the *Courier,* is that the index to be created has definable limits. If the index were computer generated, this would mean no on-going storage costs. If it were manually produced, there would be a finite number of drawers needed to file cards.

Despite the difficulties which such a project would have, it is certainly worthwhile. The *Courier* newspaper is an invaluable source of information for Champaign County. Efforts should be made to obtain funding for at least a half-time indexer, computer time and clerical assistance. After a thesaurus is developed, volunteers could be trained to help with the indexing if equipment were available. However, someone would have to supervise the addition of new subject terms and the additions to the list of new businesses and organizations. Although volunteers could be used for subject indexing they would be most useful for name indexing.

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Appendix I

Sample Indexing: The Urbana *Courier* (date-page-column)

1-12-1920

1:2	Harris, Sam—business activities
1:2	Proctor, "Auc"—crime
1:2	Strom, Rosetta—declared dependent from guardian parents
1:2	Sales, Art—arrested
1:3	ZONING—plans in Urbana
1:4	Gooden, Mrs. Rena A.—death
1:5	SMALLPOX—cases in Urbana
1:5	Porter, James—has smallpox
1:5	CONTAGIOUS DISEASES—report for Urbana
1:5	Ladies of the GAR—annual installation
1:6	CRIME—reported down
1:6	Champaign County Farm Bureau—membership drive
1:6	Snyder Shoe Store—Champaign store has smoke damage
1:6	Glasgow Trailer Shop—Champaign store has smoke damage

Jean E. Koch is Director, Urbana Municipal Documents Center, the Urbana Free Library, Urbana, Illinois.

1:7 TAXATION—increase in Urbana Township
1:7 Urbana Township—tax increase
1:7 Helmick, Ollie—death
2:2 Morton, Mrs. V. C.—death
2:3 Haltom, Florence—married
2:3 Taylor, Harold—married
2:4 Burkhart, Julia Amelia—death
2:5 Allen, Frank—death
3:4 Gifford Opera House—real estate transfer
3:4 Gifford—Assessors Second Addition—real estate transfer
3:4 Champaign—Clarks Subdivision—real estate transfer
3:4 Champaign—Wright, J. S. Subdivision—real estate transfer
3:4 Champaign—Railroad Addition—real estate transfer
3:4 Champaign—Columbia's Third Addition—real estate transfer
3:4 Urbana—Seminary Addition—real estate transfer
4:1 WORLD WAR I—editorial
4:4 Shelly, Fern—marriage
4:4 Spalding, Robert—marriage

Evaluating a Special Library Using Public Library Output Measures

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■ A method which evaluates the library services of public libraries was studied for applicability to a hospital library. The method, described in *Output Measures for Public Libraries,* provides the library professional with consistent and standardized methods of collecting output data. Output data describes what a library gives to its community. Procedures were examined for collecting and reporting results of the twelve output measures contained in the manual. Of the twelve measures, six were applicable to the hospital library used in this study, and an additional four would be useful to other special libraries.

SPECIAL LIBRARIES have routinely collected data on their services to use for planning. If data are collected using consistent techniques, the information can be used to compare one library to another—not for the kind of absolute comparison that says "good, better, best," but to enhance planning by highlighting differences. The interpretation of those differences would generate new ideas which might include justification for increased budget, novel ways of using space, and new groups of library users.

To collect data consistently, a tool which can be used by many different types of libraries to yield comparable data is needed. Since the Public Library Association Goals, Guidelines, and Standards for Public Libraries Committee has developed such a tool, titled *Output Measures for Public Libraries: A Manual of Standardized Procedures,* we decided to test its applicability to a special library setting. As a result of our study we concluded that *Output Measures for Public Libraries* can be used—and used effectively—to describe and evaluate a special library.

Background

Burnham Hospital, Champaign, Illinois, is a 198-bed acute care hospital, also approved as a Regional Trauma Center through the Illinois Trauma Network. The Burnham Hospital Library has been in existence since 1974. It currently has 455 books and 274 periodicals. Its annual materials budget for 1983–84 was $24,114; this has been cut to $23,501 for fiscal year 1984–85. Burnham Hospital Library has 271 square feet, 91 square feet of which is shelf space, and is open 9.5 hours per day excluding weekends. The library also has space in the physicians' lounge for books and journals. The library staff consists of a full-time professional librarian and a full-time library technician. The library is an affiliate member of the Lincoln Trail Libraries System (LTLS).

The Burnham Hospital Library has kept fairly extensive statistics starting with the year 1975. They include figures on circulation, reference questions, interlibrary loan, A-V equipment use, and collection size. In the past the statistics have been inserted in the annual report to reflect an ever-increasing workload, justifying costs to obtain continued financial support. They were not used as a planning or evaluative tool.

In these times, when one hears constant tales of budget cuts in hospital libraries, it is imperative to be able to represent effectively the library's worth to the organization. Planning also becomes more necessary to make the best use of resources. For both reasons the data generated by *Output Measures* are potentially useful—both for immediate use and as a base for long-range planning.

Output Measures for Public Libraries

Output Measures for Public Libraries, by Douglas Zweizig and Eleanor Jo Rodger, was published by the American Library Association in 1982. These measures were developed under the aegis of a Public Library Association committee, which designed this tool to be used by a wide variety of public libraries. That it proved to be easily adaptable to a type of library for which it was not designed is perhaps testimony to the concern of the committee that the technique yield data comparable among libraries, yet be flexible enough to be interpreted in terms of local goals and objectives.

Techniques for collecting twelve different types of data are outlined in *Output Measures.* The chapter headings describe the twelve types: circulation per capita, in-library materials use per capita, library visits per capita, program attendance per capita, reference transactions per capita, reference fill rate, title fill rate, subject and author fill rate, browsers' fill rate, registration as a percentage of population, turnover rate, and document delivery. In each chapter there is a definition of the measure, method of collection, and suggested additional measures.

Output Measures prescribes basic level measures (Level I measures), and recommends additional measures (Level II measures). In our library, the data needed for Level I measures were already being collected, as indeed they are collected by most special libraries. We decided that collecting additional data for Level II measures was not only desirable but also necessary to make the interpretation of the data meaningful. For instance, the Level I measure of circulation per capita, which measures "the number of items the library circulates in relation to the population of the community it primarily serves", is significant when seen over time or in comparison with libraries of similar size and mission. But the Level II measure of circulation per capita of a population segment (e.g., "nurses") compared to that of another population segment (e.g., "doctors") provides a level of data far more useful for planning/evaluation.

The Process

After developing a mission statement for the library and updating goals and objectives, as *Output Measures* recommends, we determined which measures would be applicable. Of the six eliminated, however, only one is definitely not useful for any special library: registration as a percentage of population. A second measure—program attendance per capita—would also seem not useful to many special libraries. Four additional measures were eliminated because the library is very small and few patrons actually visit the facility for their library needs. Therefore the following measures dealing with in-library use were either not collected or deemed not useful after we tried to collect and analyze the data: in-library materials use per capita, title fill rate, author and subject fill rate, and browsers fill rate.

Though the amount of time spent collecting data did not seem excessive or burdensome to the staff, it should be remembered that the library staff was already keeping statistics used in several of the measures and that they were already aware of the importance of keeping and analyzing statistics and committed to their use.

On the whole the process as described in *Output Measures* presented few problems in the data collection stage. It might have been facilitated by further explication of Level II suggestions. Indeed, the absence of clear guidelines for Level II measures compromises the assurance of standardization. In this case, since the Level II suggestions were intended for public libraries, they were necessarily modified to fit the circumstances in a special library, and the pattern established by Level I measures used to provide guidance for performing Level II measures.

Circulation per Capita

The data for the calculation of circulation per capita were already available, and the computation easily made. Annual circulation per capita in 1982–1983 was 5.77 (excluding circulation through interlibrary loan). This figure in isolation proved difficult to interpret, so we proceeded to Level II measures. *Output Measures* suggests that the library determine circulation to adult patrons and juvenile patrons as a possible Level II measurement. Using this suggested measure as an example, we divided Burnham's population into five groups—physicians, nurses, allied health personnel, non-patient-care personnel (which includes secretaries, food service workers, and material management staff), and administrative personnel.

The library was already keeping circulation figures by type of user. Comparing these figures to overall circulation per capita and to each other did indeed yield interesting results (see figure 1). Immediately apparent was the low circulation per capita for the physician group. This was cause for concern, especially considering the extent of the collection devoted to their materials. The concern was tempered by the knowledge that there were no circulation figures from the materials in the physicians' library. A circulation study of the materials in the physicians' library was slated for future follow-up.

The circulation of the non-patient-care staff materials, though also low, was not alarming. Materials used by this group are not considered the primary focus of the hospital library. However the turnover rate for this type of material is relatively high when compared to its percentage of the collection, seeming to indicate good use of the materials. We wondered whether interlibrary loan use would be high for this segment of the population. Such a study for segments of the population was added to the follow-up list.

The allied health and administrative populations both seemed, after analysis, to be making good use of the collection. Circulation per capita was high for both groups, and percent of circulation by type of material compared to its percentage of the collection was good. The nursing group, though showing average circulation per capita, was low in percentage of circulation compared to percentage of population and percentage of collection.

Employee Group	Number of Employees	Percentage of Employees	Amount of Circulation	Percentage of Circulation	Titles in Collection	Percentage of Collection	Circulation per Capita
Physicians	150	15%	402	7%	153	24%	2.68
Nurses	386	39%	2017	35%	237	37%	5.22
Allied Health	124	13%	1278	22%	129	20%	10.31
Non-patient-care	318	32%	1114	20%	52	8%	3.50
Administration	10	1%	885	16%	76	12%	88.50
Total	988	100%	5696	100%	647	100%	5.77

Figure I. Circulation per Capita

Of all the population groups, the nursing group seemed most likely candidates for a follow-up questionnaire to explore their use and awareness of the library.

Library Visits per Capita

The data needed to calculate library visits per capita was collected by keeping a tally of patrons for a one-month period (much longer than the period suggested in *Output Measures*). We expected low figures on this measure, given the library's cramped quarters. When we performed the final calculation our expectations had been met: .3 visits per capita per year. We discussed possible Level II measures such as analysis of visits by time of day. However, since at this point increased visits to the library are an unworkable goal, we decided that the .3 visits per capita would serve as a base figure for future analysis. Perhaps data from other libraries will put it in a more understandable context.

Use of this data will likely be postponed. It may prove helpful in preparing a justification for additional space, if data from other libraries shows some correlation between space and visits per capita. Should the library obtain more space, the measure will prove useful for assessing changes in library use.

Reference Transactions per Capita

Burnham Hospital Library considers reference its most important service. Since the library staff was already collecting statistics on the number of reference questions asked by each patron group throughout the year, calculating reference transactions per capita and by user type was a simple process. Only one group fell substantially below the overall per capita rate: the non-patient-care personnel asked only .2 questions per capita compared to the average of .62 per capita (see figure 2).

An impressionistic characterization of the reference questions asked by this group indicated that they tended to be questions related to family health problems rather than job-related questions. Do users have no job-related questions? Do they think the library cannot handle nonmedical questions beyond the basic level? Is there a category of questions they are not asking that the library could answer? Should the library revise its collection development policy to be able to handle more nonmedical questions, or would that diffuse and undermine its ability to meet its primary goal of meeting the medical information needs of the hospital staff? Should the library rely primarily on interlibrary loan to fill its nonmedical but work-realted information needs?

Some of these questions cannot be answered without a follow-up study of the information needs of the various user groups. However, the issues involved should be resolved and the resulting decisions incorporated into its long-range plan, its collection development plan, and plan of service.

As a Level II measure (sparked by the *Output Measures* suggestion that separate

Employee Group	Number of Reference Questions	Percentage	Transactions per Capita
Physicians	115	19%	.77
Nurses	230	37%	.60
Allied Health	136	22%	1.10
Non-Patient-Care	64	10%	.20
Administrators	46	7%	4.60
TOTAL	616	100%	.62

Figure 2. Reference Transactions per Capita

[Non-patient-care personnel] tended to ask questions related to family health problems rather than job-related questions. Do users have no job-related questions? Do they think the library cannot handle non-medical questions beyond the basic level? Is there a category of questions they are not asking that the library could answer? Should the library revise its collection development policy to be able to handle more non-medical questions, or would that diffuse and undermine its ability to meet its primary goal of meeting the medical information needs of the hospital staff?

reference counts be made for summer and for school months) we compared the hospital's patient days per month with the number of reference transactions per month. We speculated that either there would be more questions during heavy patient days, or fewer because staff were too busy to ask questions. In fact, we could find no difference.

Output Measures also suggests as a Level II measure that the number of reference transactions be related to the amount of staff time spent completing the transaction. We did not complete this measurement because of time limitations, but the data yielded from this measure would surely have important implications for planning staffing levels. In addition, presuming the budget would not permit additional staff, the data could be used in establishing priorities within the plan of service. For instance, should reference service be publicized to increase its use? At what point has the library reached a maximum level of questions, given existing staff, and how will priorities be established in order to limit demand if necessary?

Reference Fill Rate

By reviewing past reference request forms, we completed the tally sheet used in *Output Measures* for the requisite minimum number of 100 questions. We determined the reference fill rate (percent of questions filled within one day) to be 84 percent. An additional 7 percent of the questions were redirected.

These are important statistics for evaluating the library's service, since answering questions quickly is a top priority. It is, of course, difficult to judge a statistic in isolation; nonetheless we arbitrarily determined this to be an acceptable fill rate. It was tentatively deemed the standard against which to judge future performance. We purposely regard this standard as provisional. To adjust the standard upward, or even to maintain an 84 percent fill rate as a standard, might require a relatively high budget commitment for a relatively low return. This figure may be most useful to compare and correlate over time with fluctuations in the budget, particularly if one assumes that the collection is a prime factor in reference fill rate. We did not address the issue of the librarian's creativity, nor did we perform Level II measures relating to the accuracy of answers to reference questions. Though that would be an interesting study, it is in truth rather low in priority order on our follow-up list since in a one-librarian library it seems somehow artificial to do a formal study of accuracy.

Measures of Materials Availability

Data for the title fill rate, subject and author fill rate, and browsers fill rate is collected primarily through a survey of patrons coming to the library. In addition, any telephone requests for titles or authors to which a negative reply was given are counted into the tally of number of items sought. Although we did a partial survey to get a general idea of possible patterns, we did not conduct a full 100-patron survey.

At Burnham Hospital Library, as at many special libraries, the patron does not do his or her own subject searching. Rather, the request for information is given to the librarian, at which time it becomes a reference transaction and is counted in that measure. Hence, lack of materials availability is reflected in reference transactions not completed or completed through redirection, and titles not owned are reflected in interlibrary loan statistics.

The performance of the library in the area of materials availability is important to evaluate. We did not use these particular measures because they are primarily concerned with inhouse use independent of the librarian. Since other measures point up the availability of materials requested through the librarian, we decided that although this is a Level I measure in *Output Measures* in this case it is a Level II measure to be added to the follow-up list.

Turnover Rate

Turnover rate is the number of circulations per item. It is calculated by dividing annual circulation by number of items held. *Output Measures* defines holdings as number of cataloged items (not number of titles) plus number of uncataloged paperbacks. This definition obviously counts two copies of one title, but does it include each issue of a journal title? We assumed not; journal holdings equals number of journal titles held, not number of issues. On that basis, the overall turnover rate is 8.94: turnover rate for books is 1.03, turnover rate for journals is 28.7.

The turnover rate for journals must be interpreted in light of the fact that journal circulation figures include each time the journal is routed to someone on a standard routing list. However, the routing lists are updated frequently either by the library's effort or by patron request, so such circulation is presumed to be an accurate reflection of interest and use. A study relating turnover rate to date of item circulated is the next step in making this measure useful.

To analyze turnover rate by subject area we used the circulation figures by patron category (already available) rather than by type of material, so the results are somewhat suspect. If a nurse used a title in allied health, for instance, it would be counted in nursing materials rather than allied health. As with so many of the measures, the figures are not in themselves telling. Why is the turnover rate for one group so different from another? Does it reflect a deficiency in the collection? Is there any correlation between turnover rate and the amount spent on a particular area? Does turnover rate reflect different information needs or different ways of obtaining information from group to group? How does the existence of office collections for nurses, physicians, and administrative staff affect use of the library's collection? This suggests a study whose scope is beyond mere follow-up. On the other hand, comparable data from other hospital libraries might show this same pattern, giving some direction to future analytical attempts.

Document Delivery

Output Measures defines document delivery time as the number of calendar days required to obtain materials not readily available, whether they are obtained by purchase, through a reserve system, or through interlibrary loan. For Burnham Hospital Library this amounted to a study of document delivery through interlibrary loan. The results showed 41 percent filled within seven days, and 95 percent filled within 30 days. Since a substantial number (62 percent) were delivered within ten days, we also figured that statistic.

As a Level II measure, a questionnaire was sent to all those whose request arrived after ten days, asking if the patron could still use the materials. Not all the questionnaires were returned, but all those returned indicated that the patron could still use the materials.

This measure is time-consuming, but certainly important enough to justify the effort. The Level I measure provides an overview of the effective turnaround time for interlibrary loan. Before steps can be taken to improve turnaround time, more attention must be given to individual requests. Do the ones taking more than ten days fall into a pattern? How can the materials requested be included in a collection development policy?

Conclusions

The various elements of the process as indicated above can be summarized as follows. A Level I measure was calculated following the step-by-step procedures given in *Output Measures*. In some cases the resulting figure was deemed sufficient; in some cases interpretation of the figure was held in abeyance until more data (either from other libraries or through time) could be collected. For some measures Level II measures as suggested in *Output Measures* were calculated.

The statistics were then interpreted in what we hope was a rational fashion. The interpretations serve to clarify goals and objectives, build an overall picture of the functioning of the library, and point the way to further study. The data serves as fuel for the annual report, as a basis for decision-making in the present and planning for the future, and as the baseline for evaluating library performance through time.

Although it may seem that we freely modified *Output Measures*, we were able to do so because one of the strengths of this tool is that it can be tailored to the needs of the particular library. As long as the measures are performed in the standard manner prescribed, the data is comparable from one library to the next.

We have only scratched the surface in this initial test study of *Output Measures*. The process raised more questions than it seemed to answer. But, though we began by looking for answers, the questions generated through the process proved to be the more valuable product. We were able to focus our attention on evaluation in a systematic way, one that we recommend highly to other libraries. In fact, the most complete and effective use of this process will only be possible with the sharing of findings from one library to another. What patterns are found in most libraries with similar goals? What patterns must eventually be seen as idiosyncratic to one library? Using *Output Measures* brings the time when we can answer such questions that much closer.

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Resources for Women: the Catalyst Database

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CATALYST IS a not-for-profit organization founded in 1962 to address the specific concerns of working women entering the workforce either for the first time or after an extended absence. By 1975, it was clear that the organization needed an information clearinghouse of its own. With the help of a grant from the Mellon Foundation, the Catalyst Library was created.

During the early and mid Seventies, published material on working women flourished. The Catalyst Library, under the direction of Gurley Turner, grew rapidly as it acquired a special collection of materials on issues affecting working women and information about them. Users of the library included Catalyst staff, individuals researching careers, professional researchers and writers, and educators. Catalyst, during this same period, began to publish its own books, pamphlets, and research on working women, which were made available to the public.

In 1980, the focus of many of Catalyst's activities shifted to include specific issues affecting two-career families. The library collection reflected this change of focus. Information on subjects such as day care, working mothers, families, alternative work patterns, relocation, and changing sex roles were acquired. The large volume of phone and mail inquiries, especially by people outside of New York, indicated an awareness of and interest in the Catalyst Library. Having done an online search in 1980 for an extensive annotated bibliography on two-career families Director Gurley Turner began to consider the possibility of offering the Catalyst collection as an online database. Offering information online was an innovative way to eliminate the inherent geographical limitations on library use.

Database Foundations

Catalyst's investigations into the logistics of putting online a public database began with research on database vendors. Independent database construction is prohibitively expensive, requiring sophisticated hardware and technical expertise. It was necessary to find a vendor who would be willing to provide assistance and advice in developing a public database from scratch. BRS and DIALOG were the most practical choices to handle the kind of database that was envisioned.

BRS, which at the time was seeking to expand its line of social science databases, offered to help develop the Catalyst file as a private file within their Education Services Group. When the database expanded to at least 3,000 documents, they would offer it on the BRS system. DIALOG's requirements for a public database were considerably most stringent regarding size and level of development. A mutually beneficial arrangement was made; BRS would help launch this new project, and the Catalyst database would be a unique offering for BRS users.

A second Mellon Foundation grant for the library was due to expire at about the time that investigations into becoming a database producer began at Catalyst. Since we had secured an appropriate vendor and examined costs of production, we submitted a budget proposal for the project to the Mellon Foundation. They granted the request, agreeing to provide seed money to establish the Catalyst Resources for Women (CRFW) Database.

Very little preliminary research was conducted before we launched our headlong effort at database building. No market analyses and no surveys of potential users were done . . . The time seemed *right* for CRFW.

Because of time constraints and the last-minute nature of decisions surrounding the creation of the CRFW Database, very little preliminary research was conducted before we launched our headlong effort at database building. No market analyses and no surveys of potential users were done. The Director relied on knowledge gathered from discussions with colleagues, and BRS relied on knowledge of their user constituencies. Database producers were offering more specialized databases, and the time seemed right for CRFW: there existed no similar database and, therefore, no competition.

The Two-Career Family Collection

The Catalyst Library's two-career family collection had grown into a large body of material by the advent of CRFW. Previously, the library collection consisted primarily of career information, decision-making tools, resume and interview guides, and vertical files on issues relating to employed women and women in various occupations. With the growth of the two-career family collection, our constituency began to expand. Individuals researching their personal career needs were joined by researchers interested in the broader effects of the influx of women into the workforce. These new constituencies, representing corporations, educational institutions, and various other organizations, were potential database users.

Catalyst Library material, particularly the vertical files, fulfills two functions; it provides historical background information and it serves as a resource on current issues. The two-career family collection was current, relevant, and widely requested. Other parts of the collection, such as material on alternative work patterns (part-time, job sharing, flexi-time), were becoming more popular. With the new imperative of building a useful database, many of the existing vertical files came under critical scrutiny. Existing files were updated, and new files were created. Maintaining a collection aimed at database users was a new consideration.

The construction of the CRFW Database began with the two-career family collection. Perhaps the most important quality of CRFW is that our source material is drawn not only from readily available books and periodicals, but from studies, reports, government publications, thesis papers, dissertations, surveys, manuals, conference papers, bibliographies, pamphlets, newsletters, unpublished materials, and audiovisual resources. Less than 10 percent of the database is comprised of books and audiovisual resources. Anything relating to the defined subject areas can be included: research published by the Wellesley College Center for Research on Women (and other university-based research programs), surveys done by consultant firms, reports and bibliographies from such organizations as the Association of American Colleges' Project on the Status and Education of Women or the Women's College Coalition.

We began by working our way through the collection, file by file. First a file was date-sorted and any documents which were incomplete or irrelevant were weeded out. Indexers and abstracters familiar with the collection then read and reviewed each document. A data transfer form was completed with all available information. Occasionally a document did not list a source or a publisher. Documents without this information are always available from the Catalyst Library.

Decisions about whether or not to include a particular document in CRFW were based on the staff's experience with our library users. Older documents were included for historical perspective. They often lay the groundwork for more contemporary issues and concerns. A strong emphasis was placed on adding recent material to keep users abreast of current developments, especially in such popular files as corporate women, women in management, day care, benefits, working mothers, demographics, alternative work patterns, and relocation.

In developing the best structure for our records, we met with a consultant from BRS. The consultant helped us understand the logic of databases and explained advantages and disadvantages of various types of formats for database records. Together, we analyzed the collection and devised the simplest possible data transfer form. The CRFW database was to be bibliographic and would include abstracts. The consultant made suggestions regarding abstract writing and the importance of incorporating terminology used in the actual documents for the benefit of free-text searchers. We tried to envision what kind of audience CRFW might have and what they would want to know about a document. A prioritized schedule was developed for inputting the collection based on which files would be of most interest to users and which files we felt were strongest.

Vertical file documents, books and audiovisual resources make up the database. The basic record format contains the usual bibliographic information: accession number, title, author, year, descriptors, publisher, source, resource type, audiovisual resource type, and abstract. An additional paragraph, the "library number" or LN paragraph, is used to list the Library of Congress call number, in the case of a book, or the vertical file heading if the document is from a vertical file. A "VF" in front of the file heading indicates that the document is from a file in the regular collection; "VF-TC" indicates that the document is from a file in the two-career family collection. It is possible to obtain a complete listing of the contents of a vertical file using the LN paragraph feature. This feature can also act as a major descriptor field for the vertical file material. Lists of vertical file subject headings can be found in the CRFW thesaurus.

The Thesaurus

As with any database, the development and maintenance of a controlled vocabulary is fundamental. In the case of CRFW, a thesaurus was adapted from existing vertical file headings in the Catalyst Library and from terms developed specifically for the two-career family collection by the Director of Research for that program. Many of our descriptors refer to women in various occupations, such as WOMEN-ACCOUNTANTS or WOMEN-IN-MANAGEMENT. All descriptors are bound by hyphens. Some terms (such as WOMEN IN MANAGE-

MENT) are also vertical file headings. In this case, the term WOMEN IN MANAGEMENT would appear in the LN field preceded by VF to indicate that the document is in our vertical file by that title. The descriptor WOMEN-IN-MANAGEMENT is not listed if it is a file heading. It is thus important to check the lists of file headings in the thesaurus and search them in the LN field.

Terms range from very specific ones like WOMEN-IN-DENTISTRY or BLACK-WOMEN-ACADEMICS to more general ones like ATTITUDES. Some descriptors are more complex than others. For instance, ALTERNATIVE-WORK-PATTERNS is a descriptor. It is also a vertical file heading in the two-career family collection. There are related descriptors such as FLEXIBLE-HOURS, JOB-SHARING, PART-TIME, WORK-OPTIONS, and FLEXITIME. FLEXIBLE HOURS, JOB SHARING, and PART TIME are vertical file headings as well, searchable in the LN paragraph. To retrieve all material on job sharing, one could search JOB ADJ SHARING.LN. to get everything in the vertical file, (JOB-SHARING.DE.) AND (BOOK.RT.) to get books, and (ALTERNATIVE ADJ WORK ADJ PATTERNS.LN.) AND (JOB-SHARING.DE.) to get all two-career family file entries pertaining to job sharing.

Although a standardized list of terms is perhaps preferable to a specially created list, we felt we needed to use the terms which we had developed and had found useful in the context of our special collection. Because some of the terms are unusual, the CRFW thesaurus is a necessary tool for searching the database. The thesaurus contains more than 450 descriptors. Terms are cross-referenced and, in some cases, the user is directed to the appropriate term (e.g. RAISE *Use:* SALARY INCREASE). If the descriptor is an acronym, the meaning will be indicated with "stands for" (e.g. CEO *Stands For:* CHIEF EXECUTIVE OFFICER).

Speaking from hindsight, it is better to take the time and effort to develop a thesaurus as completely as possible before starting to build the database. During the first year of CRFW's existence, we needed to add a considerable number of terms, thus necessitating frequent thesaurus revisions. The addition of a descriptor can also mean that some documents already up on the database will not have the new descriptor listed. A special and time-consuming effort is required for such additions.

Problems and Further Development

During the history of CRFW thus far, we have encountered a few problems. Not all documents list an author and no provision had originally been make to use "Anonymous" in the author paragraph. This created a problem with the author sort. A correction was easily made once this was discovered. Another important feature we originally neglected to include regularly was a system of pagination so that users could have some idea of the size of a document. This is now included in either the source paragraph (in the case of a periodical) or at the end of the abstract. Any revision, correction, or format change will require some lag time between identification of the problem and its solution.

CRFW is updated on a quarterly basis. We receive a proofprint from BRS about two to three weeks after sending in a batch of data transfer forms. The proofprint is checked, corrections are marked, and it is returned to BRS. When 500 to 1,000 documents have accumulated, we request an update and the new documents are made publicly accessible. If an article is published right after an update has been done, there can be a lag time of up to three months. Corrections in CRFW at this point consist mostly of eliminating the occasional duplicate document.

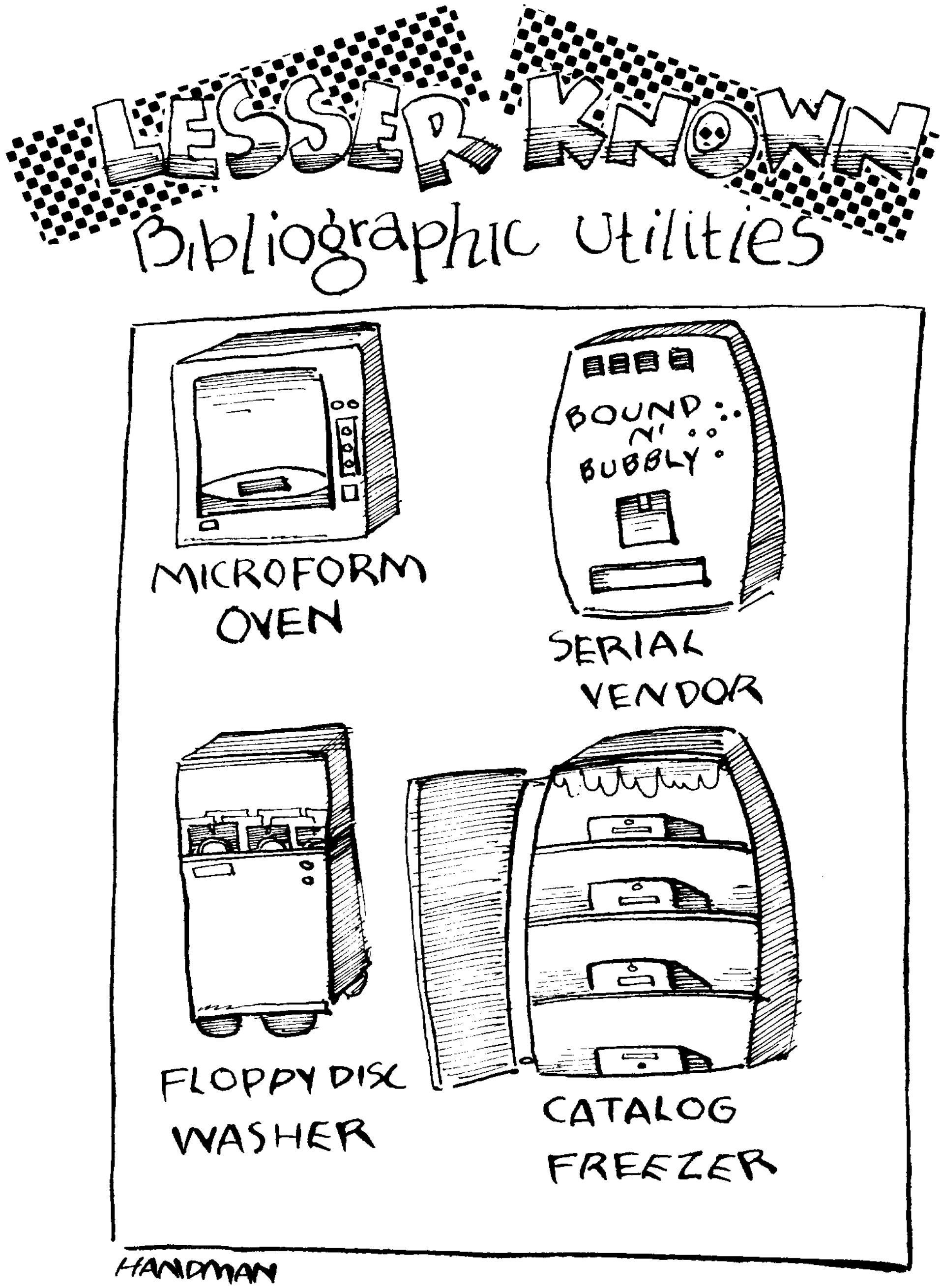
User input is the most helpful way to devise improvements in either database structure or content. Catalyst plans to survey database users in the coming year to find out how we can improve CRFW and to discover what kind of information is best for our users. We want to know what kinds of things people look for from CRFW. Do they find what they are looking for? Are there any problems with the database structure? Can people find the resources we list? Is the thesaurus useful and how can it be improved? Which are our strongest subject areas and which are our weakest? Is it helpful to include older, historical material or should we concentrate on current information only? Our library collection continues to grow and become increasingly more specialized and sophisticated; likewise our database.

Further Reading:

Dadlez, Eva. "Catalyst Resources for Women on BRS." DATABASE, December, 1983: 32–43.

Catalyst Resources for Women Thesaurus ($10.00) available from: Catalyst; 250 Park Avenue South; New York, NY 10003 (212) 777-8900

Susan Barribeau is Database Specialist, Catalyst, New York City.


LESSER KNOWN
Bibliographic Utilities
BOUND N' BUBBLY
MICROFORM OVEN
SERIAL VENDOR
FLOPPY DISC WASHER
CATALOG FREEZER
HANDMAN

Actions of the Board of Directors June 7-14, 1985

The SLA Board of Directors met at the Sheraton Winnipeg Hotel, Winnipeg, Manitoba during the Association's 1985 Conference. Actions taken and other reports of note are summarized below.

Association News—Associate Executive Director Richard E. Griffin resigned, effective July 16, 1985. Richard Battaglia was promoted to the position of Assistant Executive Director, effective June 15, 1985.

Association Awards—The Board approved a resolution to express its deep appreciation to Richard Griffin for his 13 years of loyal and competent support of and service to Special Libraries Association.

A resolution was approved in recognition of the retirement of Dr. Carol A. Nemeyer, Associate Librarian, Library of Congress.

The Board of Directors renamed the Special Citation Award the President's Award. It will be granted when a member or group of members of SLA merits an acknowledgment of outstanding service to or exceptional support of the Association.

Chapter and Division Activities—The Western Canada Provisional Chapter has been granted full chapter status.

The South Atlantic Chapter withdrew its objections to the formation of a provisional chapter in South Carolina, and the Board of Directors approved the establishment of the South Carolina Provisional Chapter.

The need for a review process for publications produced by the Association units was discussed. The Chapter and Division Cabinets will formulate guidelines for the preparation of these publications and will report back to the Board of Directors at the 1986 Winter Meeting.

Committees—The Government Relations Committee, in cooperation with the Executive Director, will present to the Board at the 1985 Fall meeting a plan for SLA's involvement in Canadian legislative efforts.

A motion was approved to authorize a Special Committee on Retired Members' Activities. Its charge is to develop methods by which retired members can be kept active in the Association, and it will report back to the Board with recommendations in June 1987.

Building Reserve Fund—The name of the Building Fund was changed to the Building Reserve Fund. With FY 1986 Budget, an annual addition of at least $10,000 will be made to the Building Reserve Fund.

Language—A motion was approved to eliminate sexist language whenever possible from all Association publications and other appropriate materials.

Dues—The dues increase was overwhelmingly approved at the Annual Business meeting.

Conference—"Excellence in the World of Information" was approved as the 1986 (Boston) Annual Conference Theme. Susan Shepherd was chosen as the 1987 (Anaheim) Conference Program Committee Chair.

Interassociation Activities—SLA will submit an application for SLA as a member society into the American Federation of Information Processing Societies, Inc.

SLA Name Change—A motion was approved that the Board of Directors authorize the appointment of a special committee to study the name of the Association, its appropriateness, the possibility of a name change, and the mechanisms for selecting candidate names. Its recommendations are due to the Board in June 1986.

Reviews

Professional Ethics and Librarians Ann Prentice and Jonathan Lindsay. Phoenix: Oryx Press, 1985. ISBN: 0-89774-133-1 130 p., $32.50.

This slim volume is essentially an annotated chronology of the efforts to date to enact and enforce a code of ethics for members of the American Library Association. The first chapter introduces the development of professional ethics in American society. The second chapter is a lengthy history, beginning in 1903, of efforts by individuals and the ALA to develop the code of ethics which were eventually passed in 1981. A brief section of comments by nine prominent ALA affiliated librarians and an equally brief section on case studies conclude the work. A bibliography and index are appended.

The introduction gives a background to the development of professional codes of ethics and concentrates on overall, cross-profession concerns. I found this section to be quite valuable, especially the considerations of enforcement of such codes. The inclusion here of the 1980 code by the American Association for the Advancement of Science is of importance as it describes the issues they anticipate, mostly concerning computer software and hardware.

The main section traces the history of the 1981 code of ethics passed by the ALA. It is well presented but constitutes fully half of the work and does not seem to be the point of a book with this title. This chapter is called "American Library Code of Ethics: A Documentary Approach" but should really state "American Library Association Code of Ethics . . ." since it pertains mostly to their members. There is some commentary on the sections of the codes examined and many relevant issues are raised, but the format precludes meaningful discussion.

The comments by nine prominent ALA members are fascinating and bring up strong issues, specifically enforcement and individual responsibility, but one wishes they had been asked to comment instead on some of the case studies rather than the 1981 code. The case studies chapter simply lists examples of problematic situations and does not delve into possible applications of the ALA code to their resolution. This is a serious shortcoming in treatment of the issue of professional ethics. Such commentaries would have enhanced this work immeasurably, since ethics in the abstract are reasonably easy to codify but relatively difficult to apply. The world as it "should" be is not usually the way the world turns out to be. Human behavior is relative and the application of standards is not well developed in the work.

This 5x8 inch book is only 103 pages including the bibliography and index, yet the publisher is charging $32.50 plus tax and handling. The cost limits its appeal even more. It is not clear that libraries will be able to justify the purchase of a book with such limited appeal.

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Irvine, Betty Jo. **Sex Segregation in Librarianship: Demographic and Career Patterns of Academic Library Administrators.** Westport, Conn.: Greenwood Press, c1985. xiv, 171 p. ISBN 0-313-24260-7. $29.95. (Contributions in librarianship and information science, ISSN 0084-9243; no. 53)

It has long been understood that, while the great majority of librarians are women, the relatively few men in the profession are more likely to rise to administrative levels, and tend to do so more quickly than their female counterparts. Over the years, many studies have attempted to determine the extent of this imbalance and to analyze the reasons for it.

In this book, Betty Jo Irvine reports on a 1980 study of administrators in libraries belonging to the Association of Research Libraries. The results are both fascinating and heartening to those concerned with women's traditional exclusion from executive posts. Irvine's study is based on responses to a questionnaire which was sent to directors, associate directors, and assistant directors at ninety-nine ARL institutions. Eighty percent of those contacted—202 men and 95 women—responded. Data was gathered on demographic, institutional, and career factors, which Irvine analyzes to show how background, career history, and professional activities relate to managerial attainment.

There is both good news and bad news. While the old imbalance remains—women comprise about two-thirds of the professional population in ARL libraries, but fill only

44.5% of executive positions—there are indications that the balance is shifting. Since 1976, when ARL began collecting data on the sex of library administrators, the number of women in administrative positions has doubled. (Irvine attributes this largely to the impact of affirmative action.)

Findings in specific areas combine the expected with the surprising. Men are still more likely than women to be recruited from outside an institution, indicating a continuing need for women to prove themselves before being considered for promotion to administrative levels.

Overall, however, men and women showed equal mobility over the course of their careers, both working in an average of three library systems. This is in direct contrast to the traditional view that women are less likely to advance because they are less mobile than men and therefore interested in a narrower range of positions.

The book abounds in tables and footnotes, and includes a lengthy bibliography. For those inclined to shun statistical data and their interpretation, the introductory and concluding chapters are specially recommended. Irvine begins with an excellent review of previous studies and the historical trends they highlighted. She concludes with a concise overview of her own findings and suggests areas needing further study. She also points out factors of special significance to women with managerial aspirations, such as the continuing difficulty of combining career and family and the extreme importance of the mentor relationship.

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The Library Preservation Program: Models, Priorities, Possibilities. Edited by Jan Merrill-Oldham and Merrily Smith. Chicago, American Library Association, 1985. 121 p., 84-28270 0-8389-3315-7 $8.95 pbk.

Conference papers are an interesting publication genre. Conference attendance is a prerequisite to the complete appreciation of some papers, where the context of presentation includes visual materials and audience interaction. Other papers, though perhaps more formalized in publication than original presentation, stand well on their own. In the collection at hand, the papers are reports on existing programs, with state of the art reviews and forecasts by a wide range of people involved with and concerned about library preservation.

"Library Preservation: The Administrative Challenge" was held at the Library of Congress on April 29, 1983. Its audience included library directors, policy makers and budget authorities. Follow-up conferences were aimed at program implementation and training for hands-on repair. It was not limited to academic libraries, but activity to date has been primarily in academic research libraries and this is reflected in conference speakers. Administrative models and operating program reports are from rather large library operations where staff is (or will soon be) committed exclusively to preservation activities. Most useful here is the careful discussion of the scope of the library preservation program with a discussion of options and priorities in approaching solutions to the problem. The section on 'Fiscal Realities and Possibilities' is heavily weighted to the academic world and grant support from public and private foundations as well as federal sources. General references are made to lobbying efforts needed to make preservation a national priority as well as to redirecting successful marketing efforts by nonprofit organizations.

These papers alone probably would not convince one to commit resources to preservation, but could help clarify initial thoughts on the topic. Reports from programs include Stanford, Yale, Columbia and University of California/Berkeley; administrative models for preservation within the academic structure include Brigham Young University, Southern Illinois University, Columbia and Berkeley. A careful essay on the history of library preservation efforts lists key position papers and their influence on program development; the volume's index allows tracking certain ideas throughout the papers. These factors add to the value of the collection and expand appeal beyond academia.

It is hoped that this conference meets its goals of bringing more libraries into the preservation community and strengthening support for existing programs. These published conference papers promise to carry that mission beyond the initial conference attendees.

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Saffady, William. **Micrographics.** 2nd ed. Littleton, Colo.: Libraries Unlimited, 1985. ISBN 0872874532: $28.00 LC 84-28863.

Micrographics is the second edition of a work first published in 1978. The author is the editor of the *Micrographics Equipment Review* and the *Computer Equipment Review* and has for many years taught library school courses in micrographic and computer applications for libraries. As with the first edition, *Micrographics* is divided into nine areas of coverage: microforms and libraries, types of microforms, production of source document microforms, computer-output microform (COM), micropublishing, display and printing equipment, bibliographic control, storage and retrieval systems, and the future of microforms in libraries. There are sixty-five illustrations.

The author states his aim in the *Preface.* It is to supply a text for practicing librarians and library school students who want a systematic presentation of the basic facets of micrographics as applied to library work. Due to the many and rapid changes in micrographic and computer technology, several changes have been made from the first edition. More information appears on microfilm jackets, COM recorder technology, new reading and printing equipment and new developments in bibliographic control, such as AACR2 and ARL Microform Project. By and large this work is fairly up-to-date, a difficult accomplishment for a full-length monograph describing a state-of-the-art situation. Of course there are some changes which have not been noted. No mention is made of the fact that the Microfilming Corporation of America (MCA) has gone out of business, or that the National Reprographic Centre for Documentation (NRCD) in the U.K. has changed its name to the Centre for Information Media and Technology (CIMTECH). Mention is made of the fact that the National Micrographics Association (NMA) has changed its name to the Association for Information and Image Management (AIIM) but in the Notes citation is made to NMA's 1979 first edition of *Micrographic Film Technology* edited by Glenham C. Mezher rather than to the 2nd edition published in 1983 and edited by Renato Bartoli.

The *Notes* themselves are copious and occupy about 50 pages of the text. Citations for items published in 1980s are frequent. A problem with the *Notes* is that the *Index* does not refer to authors in the *Notes.* For example, the author himself appears in the *Index* only twice, for publications he edits which are mentioned in the body of the text (p. 161 & 162) although his articles are frequently cited in the *Notes.* Many well-known writers on micrographics who appear frequently in the *Notes* do not appear in the *Index* at all. The severity of this editorial shortcoming is compounded by the fact that, unlike the first edition, there is no separate *Bibliography* section.

Perhaps the most serious fault with *Micrographics* is the lack of a glossary. The first edition had one. Due to the rapidly changed technology with its own specialized terminology it can be difficult to use the *Index* in order to locate definitions in the body of the text.

Therefore, excellent as it is and admirably suited as a teaching text for a library school student or a library administrator with responsibility for a microforms operation, *Micrographics* cannot be easily used for ready reference. It is a work that really should be read from cover to cover. In this respect the title itself can be misleading. It might imply that *Micrographics* is a manual for photographic engineers or operational microfilm personnel, which it is not, while revealing neither its exhaustive coverage of other applications in computers and optical technology nor its treatment of micrographic and computer equipment along with cost estimates. Indeed, this last aspect is of particular value to library administrators.

For the price *Micrographics* represents excellent value and belongs in every library literature collection. Since much of the information in *Micrographics* will become dated in the near future, it is to be hoped that a third edition will be forthcoming in a few years.

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The Literature of the Life Sciences: Reading, Writing, Research by David A. Kronick. Philadelphia, ISI Press, 1985. xiv, 219 p. LC 85-4283. ISBN 0-89495-045-2. $29.95.

While the life sciences include a wide spectrum of subjects from biology to zoology, the literature of these descriptives "have many characteristics and principles in common." In this first volume of the "Library and Information Science Series," Kronick has taken a sociological approach to the life sciences literature. The purpose is to provide "a general background of observations and useful information for the practitioner, investigator, and student in the life sciences," in order to facilitate a more perceptive and efficient use of the literature. His intention was "not to provide definitive guides to the literature of chemistry, biology, and medicine," but "to deal with the basic issues concerning the information systems in each of these disciplines."

Rather than serving as the traditional guide to the literature (a selective list of such sources is provided in the Appendix), this volume traces the history of information, from production, classification and organization to transmission, indexing, and retrieval (manual and computerized) of the literature. The emphasis on the historical development of information production and retrieval lays a solid, well documented background for citation indexing, online search systems, personal information management and electronic journals.

Kronick lists seven objectives which are related to the selection and utilization of literature sources. These objectives include being able to select appropriate literature sources, being able to formulate a problem in searchable terms; being familiar with guides to the literature; understanding the structure of indexes; understanding the production, storage and utilization of the literature; being familiar with computer based systems; and gaining some historical perspective on the development and utilization of the literature. He succeeds admirably in meeting all of these objectives.

The volume proceeds logically and systematically through the various aspects of information production and retrieval in the life sciences. Each of the twelve chapters, beginning with the models and scope of the literature and ending with a discussion of the future of scientific communication, is thorough and well documented. While the focus is for the practitioner, researcher, and student in the life sciences, the volume is equally of interest to the librarian or information specialist. In addition to the two topics listed above, chapters are included on the following: the history of scientific information; varieties of primary and secondary information sources; characteristics of the literature; selection, evaluation, and access to the literature; writing and publication; methods of indexing; citation indexing and citation analysis; manual and online searching; and personal information management.

A variety of information useful to the reader, writer, and user of the life sciences literature is presented. The chapter on "Reading the Literature" gives tips on ways to select, evaluate and access the literature. Of interest is a section on "Frauds, Hoaxes, and Plagiarism," in which both unintentional and intentional errors or misrepresentations are described. In the chapter on "Writing and Publishing," Kronick discusses citation practices, or reasons why one author cites another article, including "informal etiquette and ethical understanding" regarding citation practice. Librarians will be happy to see that Kronick emphasizes the author's responsibility for correct citations, stating that incorrect citations "may raise questions about the validity of the rest of the work." Also of interest is the discussion on the review process and the concept of a refereed journal; scientists who have had papers rejected from any journal can take heart at the statistics presented here.

The chapters on information sources, indexing and literature searching are excellent introductions for the subject specialist who has little background in using the literature. The discussion about online searching is obviously aimed at the beginner, whether she searches via an intermediary of as an end user. One flaw occurs in the discussion of Boolean logic, where the infamous "dangling or" accidentally crops up.

A book published by ISI would not be complete without a chapter on "Citation Indexing and Analysis." The importance of citation analysis and co-citation indexing is succinctly presented and integrated well with the overall methods of information analysis and retrieval.

The Literature of the Life Sciences is an exceptionally well written authoritative source for tracing the history, production, organization and retrieval of information in the life sciences. The historical perspective is emphasized, but the view toward personal information management and the future of computerized information retrieval is equally well done. Although the primary intended audience is life sciences practitioners, researchers and students, the book is recommended as thoroughly enjoyable reading for librarians, information scientists, and all those interested in informatics.

M. Sandra Wood
Head, Reference
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The Pennsylvania State University
Hershey, Pennsylvania

Design Resources: A Guide to Architecture and Industrial Design Information by Lawrence Von Bamford. [Box 611] Jefferson, N.C. [28640]: McFarland & Company, Inc., 1984. 319 p. Indexed. $39.95 hardcover. LC 83-22251. ISBN 0-89950-102-8.

Lawrence Von Bamford has created an unusual, but needed, book. Though architectural bibliographies are fairly accessible, recent industrial design bibliographies as monographs are scarce.

Design Resources: A Guide to Architecture and Industrial Design Information is organized into listings for Printed Resources; Non-Print Resources; and Special Resources and Research Services. While this arrangement by format is logical for those who seek specific media, assembling complete information by subject is rather slow for other users.

Von Bamford's bibliography is followed by two indexes for subject, author/title. If subject items are printed resources, only bibliographies have an identifying symbol. Initial symbols designate whether non-print materials are films, slides, filmstrips, videotapes, audiotapes, or microfilm. More "see-also" references would be helpful in the subject index. Resources in the Author and Title Index include books that feature architecture and industrial design; museum exhibition catalogs; and general bibliographies published as books. Reference to the annotated listing under format is by serial number. Annotations are typically brief, but meaningful, in *Design Resources.*

A selector who compares the industrial design material in Von Bamford's guide with the alphabetical "Select Bibliography" that forms a small part of John Heskett's *Industrial Design* will observe that Von Bamford tends to offer slightly more comprehensive annotations than Heskett. While the bibliography in Heskett's history book contains only printed items, Von Bamford includes several media.

Consulting the subject index of *Design Resources* leads the researcher to many valuable communication materials on architecture. Von Bamford's architectural listings may be compared with the Council of Planning Librarians Exchange Bibliographies, two of which are cited here. William C. Miller's *Factors and Forces Influential to Architectural Design: A Bibliography* offers an advantage over Von Bamford's guide by including periodical articles in Volume One. Such articles are omitted in Volume Two. Of the classic books that Von Bamford also lists, the material in *Design Resources* is more useful because it is annotated.

Another comparable title from the C P L set is David Canter's *People and Buildings—A Brief Overview of Research.* Canter's list of materials on people's psychological reactions to architecture includes periodical articles and theses. Though it covers an architectural consideration that is less emphasized by Von Bamford, Canter's bibliography lacks comments on titles. Like Volume Two of Miller's book, Canter's bibliography was published in 1972.

The Special Resources and Research Services section of Von Bamford's guide will assist a variety of persons, such as artists who want to know about design competitions and awards; information specialists who wish to consult computer data banks; art connoisseurs who desire a representative list of museums exhibiting design; and buyers who need addresses of design and architecture booksellers.

Von Bamford's bibliography is appropriate for any special library that focuses on architecture or product design; for a large public library; or for the library of a university that includes architectural and industrial design in its curriculum.

Carl H. and Arlyle Mansfield Losse
Milwaukee, Wisconsin

World Artists 1950–1980 by Claude Marks. New York: H. W. Wilson, 1984. 912 p. $70.00 hardcover in U.S. and Canada, $85.00 other countries. LC 84-13152. ISBN 0-8242-0707-6.

To assemble accurate biographical data, analyze the place of an artist within shifting trends, quote significant comments by the creative person, include critics' viewpoints, and emerge with a unified, engaging article is no easy task. Claude Marks, a guest lecturer at the Metropolitan Museum of Art, has accomplished this feat for 312 biographies in *World Artists 1950–1980.*

A concisely written preface to the dictionary gives an overview of the contemporary manneristic period and thus ties together the individual articles on internationally recognized painters, graphic artists, and sculptors. In the biographical sketches, Marks discusses characteristic style; media employed; people, training, and art movements that affected creativity; and the special contribution of each biographee.

Comparing *World Artists 1950–1980* with three other biographical dictionaries shows the usefulness of Marks' book. *Contemporary Artists* (2d ed., 1983) emphasizes reproductions of art works; whereas *World Artists* omits that feature but supplies photographs of most biographees. Lacking in *Contemporary Artists* are 72 of the names covered in *World Artists*. For brilliance of writing style, Marks' biographical dictionary excels.

Phaidon Dictionary of Twentieth-Century Art (1973) has typically short articles, whereas *World Artists* supplies 1,500 to over 6,000 words per entry. *World Artists* comments on 37 artists that *Phaidon* omits.

A Visual Dictionary of Art (1974) deals with creators of paintings and sculptures, but does not cover graphic artists. More extensively cross-referenced than Marks' book, *A Visual Dictionary* offers the advantage of many art reproductions. *World Artists* contains articles on 84 persons not found in *A Visual Dictionary*.

For swift access to names of all persons discussed in *World Artists*, users may consult the "Artists Included" list that follows the table of contents. Very helpful to beginners in the study of art history are the *World Artists* aids to pronunciation. Using the key on p. xvi, the reader may readily interpret footnotes on pages containing artists' names that are often considered hard to pronounce. Each difficult name is prefixed by an asterisk.

It would be appropriate to add *World Artists* cross references from Sonia Delaunay's and Louise Nevelson's married names to their maiden surnames; from Grace Hartigan to one or more of the artist's married surnames; and to Lee Krasner's married surname.

Following each critical/biographical article in *World Artists* is a list of exhibitions; a list of institutions (such as Tate Gallery, and the Hirshhorn Museum and Sculpture Garden) that contain important collections of the artist's work; and a bibliography of books, periodicals, and catalogs that comment on the creative person's achievements.

Occasional films about artists are mentioned in the biographical sketches. Influential artists from all over the world who worked in the period 1950–1980 are covered in Marks' dictionary even if they may have lived only a few years after 1950.

With its broad scope, authoritativeness, and readability, *World Artists 1950–1980* will prove useful as a biographical dictionary in any art reference area—in museums, art schools, universities, libraries serving private galleries, and in public libraries.

Arlyle Mansfield and Carl H. Losse
Milwaukee, Wisconsin

Online Searching: the Basics, Settings, & Management, / Joann H. Lee, editor. Littleton, Colorado: Libraries Unlimited, 1984, x, 164 p. ISBN 0-87287-380-3. $23.50.

Nothing could be more difficult than attempting to compile an informative, definitive, and timely work on a field that is growing and changing on an almost daily basis. Unfortunately, but not surprisingly, this collection of essays dealing with the management and utilization of online bibliographic searching suffers from the contradictions between the revolution in information technology and the complicated process of bringing a book from raw data into print in the 1980s. Therefore, anyone with even a basic knowledge regarding the integration of online information with other sources will not find the material herein to be particularly useful. And for those librarians who have had no exposure to online searching, while the information contained here might be "new," it is out of date in both detail and concept.

The collection is divided into two sections. The first part—that is 10 of the 15 essays—is devoted to search service management. Pieces on personnel, training, administering requests, budgeting and pricing issues are provided here. Also included in this section are essays on the search interview, search analysis, and evaluation.

The underlying assumption throughout is that online sources are so different from and so costly when compared to printed sources, that they require entirely different methods of management. This may have been true when online was new, and still pertains—to a degree—in more traditional environments where cost monitoring requirements force librarians to treat online searching as a separate type of source. Corporate librarians, on the other hand, have long since recognized (and have been able to take advantage of) that online sources—far from being simply an expense item—greatly enhance productivity. Luckily, this awareness has arrived and is beginning to change both attitudes and accounting requirements in academic and public libraries. Therefore, while the cost/pricing issues raised in the first section of the book apply somewhat more to these more traditional settings, even in these places such considerations are fading in importance.

The remaining essays in the first section focus on the search interview, analysis and evaluation. These are well done variations on the importance of good reference skills but, as in the other essays in this section, the implication is that the high cost of online affects the librarian's approach to this source. Thus, the reference interview for an online search is viewed as more important than it would be were printed sources to be used. If we accept the idea that online data is just another source of information, there shouldn't be much difference in our reference interview just because the format is electronic. The librarian must know the goals, the subject, the client and the sources in any case. A good reference librarian is a good reference librarian is a good reference librarian.

Essays in the second part describe, one by one, the various institutional settings in which online searching is used and how it is conducted in each setting. The descriptions are accurate but the purpose and audience for this section is unclear. Librarians working in a particular setting will find the piece on their own environment correct but not enlightening and the essays on other settings mildly interesting for the sake of comparison.

The book's references and bibliography contain citations primarily from the 1970s through 1982. A well constructed, online search undoubtedly would produce far better results on any of the topics presented.

The author suggests that this collection is intended to "assist administrators, managers and individual searchers who are endeavoring to initiate, expand or improve an online search program." The essays are well-written and do present a good overview of some issues relating to oneline searching. As such, this might be useful as introductory reading for library school students or for administrators who have barely considered the problems involved in incorporating online sources in their collections. Librarians with exposure to and experience in online services will find the material old-hat.

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A Modern Archives Reader: Basic Readings on Archival Theory and Practice. Maygene F. Daniels and Timothy Walch, eds. Washington, National Archives and Records Service, 1984. 357p. ISBN 0-911333-12-6, $12.00 (paperback); ISBN 0-911333-11-8, $14.00 (hardcover). LC 84-8327.

The scarcity of archival literature in book form is a phenomenon lamented by many archivists, especially those who teach archives courses. Because it brings together a number of the classic articles in the field, *A Modern Archives Reader* will be welcomed by archives students, teachers and practitioners. For the student, the volume provides an excellent introduction to some of the fundamental principles and practices of the profession. It reminds the practicing archivist that we are not functioning in an intellectual vacuum, but that the tenets which govern our actions have supportable, historical antecedents. The work also provides a forum for some of the healthiest and most productive debates among archivists, such as the controversy over what to save and when to deaccession: we are exposed here to opinion which ranges from the conservative Sir Hilary Jenkinson (the archivist "keeps all his Records in an unimpaired condition—all: not merely those which are momentarily the popular ones . . .") through the moderate T. R. Schellenberg ("An archivist should keep neither too much nor too little") to Leonard Rapport's comparatively radical essay, "No Grandfather Clause", which argues compellingly for the disposal of previously accessioned records of questionable value.

With the exception of a few sections written expressly for this volume, the *Reader* is comprised of essays compiled over the years for the Modern Archives Institute, which was founded in 1945 at American University. The Institute, now administered by the National Archives in cooperation with the Library of Congress, has trained over 1700 archivists. The twenty-eight essays are divided into sections on archival history, records management, appraisal, acquisition, arrangement, description, reference, outreach and planning. Each section begins with a brief introduction to the topic and to the articles that follow. A glossary of major terms and a basic bibliography are also included. About half of the pieces originally appeared in *The American Archivist.* The volume opens with an historical essay written in 1940 by Ernst Posner, who founded the Modern Archives Institute, and it concludes with F. Gerald Ham's thought-provoking 1975 article, "The Archival Edge", on priorities and directions for the future.

The most notable omission from this work is any coverage of preservation issues. In their Introduction, the editors say they have excluded this topic, along with automation of archives, because data and opinions on these subjects are changing rapidly. But concern with preservation is one of the elements most central to archival functions, and there are several articles, such as those by Paul Banks on environmental standards, Pamela Darling on preservation microfilming and Frazer Poole on conservation problems in archives, which would have provided excellent basic reading on this inescapable issue.

The anthology also shows the degree to which archival thinking has been dominated by government archives, and the National Archives in particular. Although most of the selections reflect the diverse settings in which archivists work, only one of the first nine articles is not written from a public records viewpoint. To the novice, this may give the beginning third of the book a potentially misleading slant.

Because of the previously noted lack of books on archival management, teachers of archives courses may long to turn to *A Modern Archives Reader* as the textbook they never had. This anthology should not be used alone as such a textbook. But it is a careful assembly of many wise and well-written articles on some aspects basic to the archival profession, and therefore it should be required reading—or re-reading—for all archivists present and to come.

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Ergonomics: The Science of Productivity and Health; Capsule Reviews of the Principal Literature in Present-Day Ergonomics and Human Factors Engineering. John L. Burch, Compiling editor. Lawrence, Kansas: The Report Store, 1984. xiii, 125p. LC 84-06049. ISBN 0-916313-01-8. $37.50, paper.

Ergonomics is defined as "the study of the relationship between human beings and technology." It is an empirical science, being concerned with "the mental, physiological, emotional, and behavioral costs of human activities." The related field of human factors engineering applies "the knowledge and methods derived from human sciences . . . to the solution of engineering and design problems." Both disciplines are highly relevant to high-tech systems and new technological developments. *Ergonomics: The Science of Productivity & Health* is a bibliography of technical reports, collections, proceedings, reference works and journal special issues that deal with the broadly defined areas of ergonomics and human factors engineering.

The book is a consensus bibliography and is part of a series published by the Report Store on specific technical literatures. The titles included in the bibliography were "selected by a process of synthesizing the collective opinion of experts." A team of literature analysts from the Report Store, utilizing citation analysis and editorial evaluations, selected the titles. Since many of the titles are difficult to acquire, the Report Store conveniently operates a document delivery service for the selected titles. The Preface states that a more comprehensive work is available from the publisher.

The volume has a Quick Reference Author/Title List, followed by the Capsule Reviews. The reviews are in alphabetic order by author, except for one multiple volumed work which is placed with the author of the first volume. Two appendices list Recommended Textbooks and a Recommended Basic Library Collection.

Each capsule review includes the following: an identification number, author(s) or editor(s), title, publisher and a year of publication, a title addendum if necessary, type of document, a headline statement that gives the document's purpose and significance, a one paragraph review, the table of contents, and descriptive data (eg., number of pages and chapters, tables, and ISBN). The reviews are primarily descriptive, with only an occasional evaluative statement. At least half of each entry is a reproduced copy of the table of contents of the title.

As with most bibliographies, and perhaps even more so because of the use of citation analysis to select the titles, this bibliography consists of works which are dated well before the September 1984 publication date. Of the 62 reviewed titles, only 1 was published in 1984; 6 in 1983; 13 in 1982; 16 in 1980–1; 15 in 1975–9; and 11 in 1974 or earlier. The selected titles cut across fields ranging from organizational behavior, human factors in the workplace, and human performance and productivity, to principles of instructional design and concepts of learning, to anthropometrics and biological rhythms.

The bibliography is intended for individuals and organizations collecting in the fields of ergonomics and human factors engineering. Subject specialists and libraries who collect in these fields, however, will already have purchased the works listed in this bibliography. For the price, $37.50, this appears to be an expensive acquisitions tool, since most, if not all, of the titles can be located bibliographically elsewhere. The volume cannot be recommended as a necessary purchase.

M. Sandra Wood, Head, Reference
The George T. Harrell Library
The Milton S. Hershey Medical Center
The Pennsylvania State University
Hershey, Pennsylvania

Information for Contributors

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References to periodicals should be in the order: authors, article title, unabbreviated journal name, volume number, issue number, inclusive pagination, and date of publication.

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