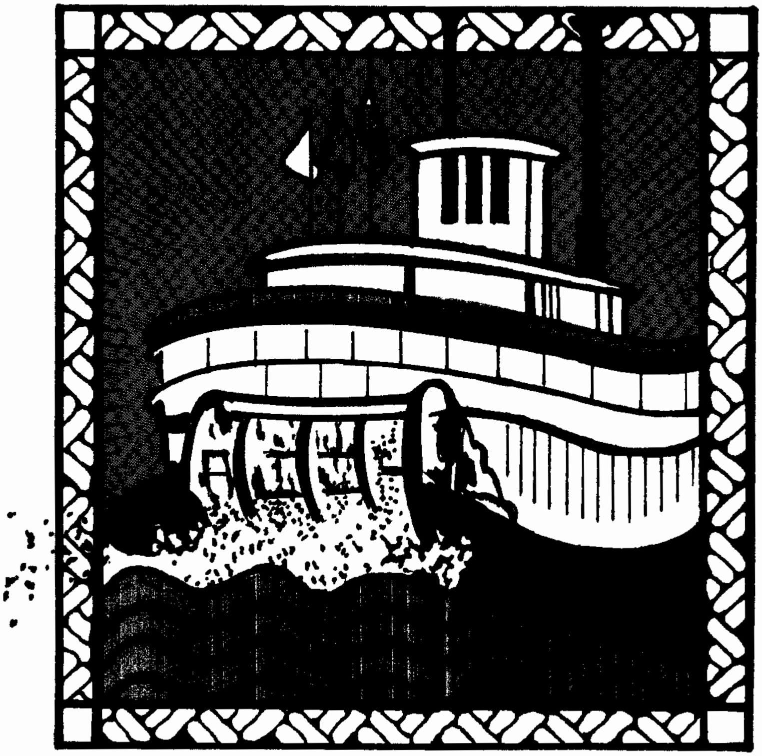
Special Libraries, Spring 1993

Special Libraries Association

special libraries

Spring 1993, Vol. 84, No. 2

SPLBAN 84 (2) 69-119 (1993)
ISSN 0038-6723



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spring 1993 vol. 84, no. 2 SPLBAN 84 (2) 69-119 ISSN 0038-6723

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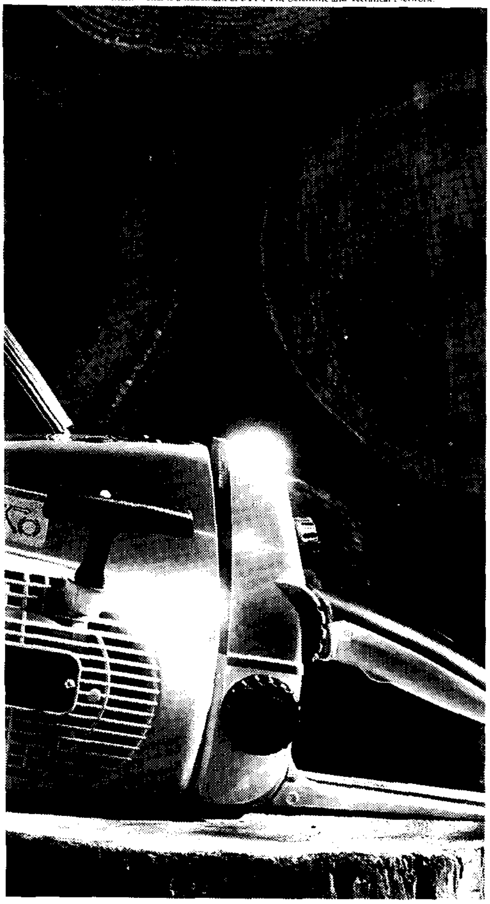

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Publisher: **David R. Bender**

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Subscriptions: **Publications Department**

special libraries (ISSN: 0038-6723) is published quarterly (Winter, Spring, Summer, Fall, Annual Index in Fall Issue) by Special Libraries Association, 1700 Eighteenth Street, NW, Washington, DC 20009-2508 Tel (202)234-4700 Fax (202)265-9317.

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Subscriptions (1993 rates): Standard Subscription (includes *Special Libraries* and *SpeciaList*, SLA's monthly newsletter) $60, U.S.; $65, all non-U.S. Single copies of *Special Libraries* (Summer 1992–) $10; single copies of *SpeciaList* (January 1992–) $3.50. SLA's annual membership directory *Who's Who in Special Libraries 1992/93* (sold separately) is $35 members; $50 nonmembers. Claims for missing issues will not be allowed if received more than six months from date of issue. No claims are allowed because of failure to notify the Membership Department or the Subscription Department (see above) of a change of address, or because copy is "missing from files."

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Back Issues & Hard Cover Reprint: Some back issues available from Kraus Reprint Corp., 16 East 46th St., New York, NY. To check availability call (800)223-8323. Hardcopy, Microfilm & Microfiche Editions (1910–): Inquire University Microfilms International, 300 North Zeeb Rd., Ann Arbor, MI 48106-1346, USA. Tel (313)761-4700 Fax (313)665-5022. Microforms of the current year are available only to current subscribers to the original.

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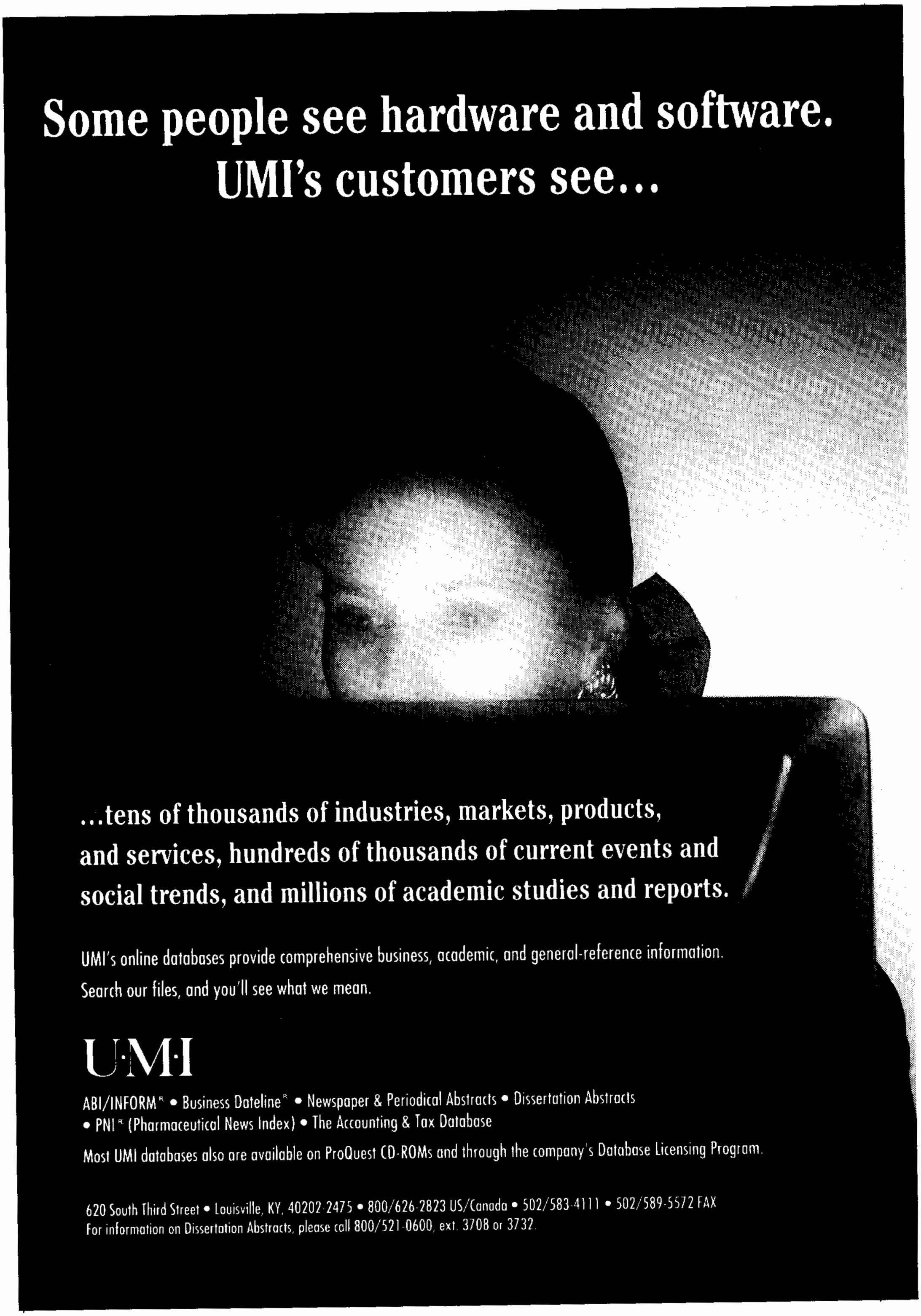
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The Creative Professional and Knowledge

by Lorri Zipperer

■ **A case study was used to define information needs of professionals in an active exhibit design firm. Structured, open-ended interviews served as the data collection instrument. Information as to how users gather and use needed information was compiled. Information was often collected through similar actions by different users. Personal experiences of colleagues served as commonly used sources. Text sources were used when available, but reliance on them was minimal. The main conclusion is that this firm would benefit from the use of centralized information sources. Although this conclusion is applicable to the exhibit design and the design field in general, the technical nature of this environment and its subject matter may not provide a suitable career alternative for the art librarian.**

Introduction

In the chapter notes for a collection of essays discussing the realm of the art librarians, Philip Pacey states that as actual and potential users of art libraries, designers have received relatively little attention. He complains that although some public libraries have attempted to address the needs of this creative population, very few design firms actually have inhouse information facilities staffed with professional librarians (Pacey 1985). To support this notion, Pacey includes a 1978 article which outlines the possibilities presented through librarian/designer collaborations. More recent support arose during a symposium held at the 1990 Art Librarians Society of North America (ARLIS/NA) conference in New York. There, participants addressed concerns that professional design had not been stressed in the past as an area of library interest. It is evident that in twelve years professional relations between librarians and designers have remained undeveloped.

Problem Statement

Interest in exploring the role of the special librarian in the design field came about through three stimuli: salary of the art librarians, the development of new areas for special libraries, and the need for special libraries in design.

The premise that the for-profit creative community can present fulfilling professional opportunities and competitive wages for the art librarian is a factor in the reasoning behind this project. The design community is generally not mentioned in the literature, presented at conferences, or suggested at library schools as an option for the art librarian who wants a wage beyond that available in academia or museums.

The second factor is more universal in scope. In its research agenda, Special Libraries Association (SLA) addressed the issue of expansion into new areas of librarianship by stating that there is a need for research defining the "information seeking and using behaviors of people in different professions or fields of work" (Drake 1989). To best define the user needs of designers, studies should be done within the unique environments of these professionals.

The third factor is a concern for the professional library market in Chicago. In the current Chicago–area yellow pages, more than 280 exhibit and display companies are listed, many of which represent design houses that create trade show exhibits. According to the Illinois chapter of the Special Libraries Association, no special libraries in design are known to exist in Chicago, despite the large number of design firms.

Purpose of Study

Due to these three factors, an exploration into the information requirements of exhibit designers seems like a progressive endeavor. The lack of centralized information within the exhibit design business and the expansion of the art librarian specialty beyond traditional areas of creative or visual information work are both ideas worthy of attention in library research.

This case study will examine how one firm generates, disseminates, and uses information by looking at how information is obtained by designers and their colleagues and by evaluating the effectiveness of their manner of gathering needed information. This will yield a statement regarding the efficacy of their information environment and their need for special library services.

Review of the Literature

Edward G. Strable, former president of SLA, defined a primary function of the Special Libraries Association as fostering the development of new avenues of specialization for the information professional (Strable 1972). The movement toward clarification of less-traditional user needs makes various markets open to study through the research of library students and library professionals.

Benedict Austen suggests the design profession would benefit from an exploration into user needs. In order to best satisfy the profession's defined needs, an information retrieval and distribution system should be tailored to the needs of the individual designers. He also suggests that a pilot activity based on one design discipline would be sensible (Austen 1978).

In 1990, ARLIS/NA supported the idea of "strengthening the role of the librarian as a member of the design team" by organizing the aforementioned symposium (Dorszynski 1990). Limited in its scope to library resources on product design, it was still progressive in that it was the first instance that a professional library association addressed the needs of the for-profit creative community. To build on this reformative action, specific exploration regarding the environments in which designers function must take place.

Overall, designers' information needs have been defined. Drawing on his experience as an industrial designer, Ben Austen (1978) states the following as the logical sequence of designers' information needs:

- technical, scientific, and statistical data to determine a factual knowledge base and design parameters
- design case studies or examples of existing products on the market
- information on samples, materials forming, and production processes
- names and addresses of appropriate manufacturers, contractors, component suppliers, technical consultants, and information on cost
- documents stating statutory and patent requirements and other standards required by law
- books, magazines, journals

In addition, Mary Rose O'Conner, a British technical librarian, surveyed the Society of Industrial Artists and Designers in 1978 to investigate where its members obtained the technical information they required. She discovered that designers generally have difficulty finding the information they need because of the lack of sufficiently relevant services. Her report suggested inquiry into the information needs of designers (*Designer* 1977). More recent discussions of designers' needs in the literature include a report of Dan Formosa's comments at the New York ARLIS/NA symposium. He notes important designers' needs as those that aid in 1) the design solution, 2) the visualization of ideas, 3) the reading of an image instead of copy, 4) the communication of meaning, and 5) the making of usable information (Dorszynski 1990). Beyond these examples, library literature has very little on designers other than their effects on library work space.

The library profession supports the study of user needs. However, the methods of determining those needs are varied. Empirical research, which entails systematic observation, description, and analysis of behavior without assigning numerical value, proves useful when applied to research involving the occupations and professions (Winter 1988). Robert C. Newhouse, in his article on participant-observation methodology, suggests that it is virtually impossible to examine one part of an organization without including the entire organization. He states that the technique of observation has been well developed and is a valid approach for structuring library research (Newhouse 1989). Michael Winter supports the idea of the study of users and patterns of information use. He parallels the institutional environment with sociological systems of people and social structure by looking at groups and their information needs within the larger context of human knowledge (Winter 1988). He therefore supports the idea of studying one office as a unit instead of applying O'Conner's survey methodology to exhibit designers rather than industrial designers.

Definitions

The following definitions stand within the context of this study.

The Chen–Hernon study (1982) on the information seeking and user needs of New England "average citizens" developed the following three definitions. They were chosen for use in this study because they incorporate creative thinking as an information catalyst.

Information: all knowledge, ideas, facts, data, and imaginative works of mind that are committed formally and/or informally in any format.

Information needs: gaps in understanding when people find themselves in a situation where they must make a decision, answer a question, locate a fact, solve a problem, or understand something.

Information-seeking patterns: the paths pursued by individuals in the attempt to resolve a need.

Professional design terminology, unless otherwise noted, was formulated through contact made during the data-collection phase of this project.

Rendering/Sketch: The product the designers use to communicate their initial ideas to the client. Several sketches may be done before advancing to the next production phase.

Model: A three-dimensional mock–up of a finished rendering. Used as a communication instrument among the designer, the account executive, and the client.

Booth: The final product of the exhibit firms's efforts. Used primarily at trade shows and exhibitions within the context of the professional meeting, they are standard in size. Lengths increase in increments of ten feet and heights of generally eight to twelve feet are customary.

Primary users/Provider: Positions that serve as the major contact and user of a specific type of information. A primary user is seen as the major source for a type of information.

Secondary users/Providers: Positions that receive and use information once removed. This use digests information already compiled and makes it available to others.

Focused interview: Interviews in which the respondent is interviewed for a short period of time. The inquiry follows a predetermined set of questions with allowance for opinion and the respondents' insights into the subject being explored (Yin 1982).

Methodology

Designers combine the needs of their clients with both scientific and creative information. Characteristics of structure, consideration of materials, current trends, styles, and opinions are types of information used daily as designers work (U.S. Department of Labor 1990–91).

Exhibition designers are responsible for "the advertisement in three dimensions, or a company's product or service" (Rattenbury 1971). Exhibition design itself combines general design principles with elements of architecture, interior design, marketing, engineering, public speaking, simple salesmanship, and craftsmanship.

The exhibit company studied is located in Chicago, Illinois. The breadth of its operation ranges from housing interactive educational programs to crating and shipping finished booths. The firm's wares can be seen in such diverse environments as zoos, museums, and trade shows in locations worldwide. Much of what it produces is done in-house, therefore providing a unique environment for the examination of how a variety of information needs and acquisition patterns can exist and be addressed in one place.

In the course of this case study, two visits to the firm took place. The first visit's purpose was to observe the physical qualities, titles used, subjects covered, and locations of units of the information access system already in place. The second visit took place after the interviews, to locate and look at sources identified during the data-collection phase of the research.

The Chen–Hernon study (1982) divided its data to address specific areas that pertain to, or affect, the user: 1) world in which the individual information seeker exists, 2) general makeup of information providers, 3) relationship between the needs and providers, 4) success rate resolving information needs, and 5) relationship between types of providers. Once the data were collected, these elements were used to organize the types of information used, the sources most used to obtain it, and the efficacy of that process. The process of meeting information needs must be viewed from the perspective of the individual information seeker. Designers create the product on which the firm's activity is based, therefore, generating information needs. Focused interviews, starting with the designers, were the primary method of collecting data.

Once familiarity with the firm was established, focused interviews with the designers took place and revealed which employees were responsible for developing office information-seeking patterns. Consequently, initial interviews were followed by similar interviews with the designated representatives of each of the noted information-using groups.

Five interviews took place. A sixth interviewee was unable to comply due to time constraints. All information on this position was gleaned through interviews with colleagues involved in the study.

A short follow-up questionnaire, based on Austen's list of designers' needs, was distributed to those involved to support the data gathered in the interview process.

Limitations

Employees who were found to have professional information needs were considered as users for the purpose of this study. It was recognized that the support staff and the firm itself may require general and personal information sources—for example, local phone books and daily papers. Due to specific interests and time constraints, these resource needs will not be included. This type of user need was not explored unless a professional use for this information became apparent.

The project had observational limits. Research could not take place during the work week because of a control put in place by the company. Therefore, visits took place on Saturdays, and interviews were done in the evening, on weekends, and/or by telephone.

Hypothesis

It was expected that staff members consistently refer to peers for information, and those who collect and provide needed information would do so through diverse and somewhat inefficient means. Therefore, data were expected to support a need for a central information area to benefit the firm's productivity.

Results

Initially interviewees confined their comments on information needs to materials in book form. Upon the interviewer defining "information," each respondent spoke at length about the full range of needs that present themselves during the course of their professional duties. As expected, colleagues were a strong source of information, with only the account representative not relying on assistance from others (that position is more oriented to individual rather than collaborative pursuits).

Designers require feedback from their colleagues during the design process. This information was presented either as trusted opinion or as impetus for creative discourse. Another essential need concerned the availability of materials, because such availability can both limit and direct the evolution of a design in process. The designers' methods of information gathering resulted in contacts with various personnel outside of the design department. Designated frequently were the purchasing agent (PA), project manager (PM), and estimator (EST).

World in Which Individual Information Seeker Exists:

a) Exhibit Design Industry and General Exhibits and Displays

The exhibit design business is a collection of work environments. Its marketplace is the trade show which Arnold Rattenbury (1971) defines as "the chance industry gives itself to show its wares amongst its competitors to a specialized section of the public." For the designer, the trade show serves a similar purpose as the convention does for the librarian; it brings together the best in the business to present what is new in their field. It is here that this firm's designers get much of their professional contact.

The firm has 150 employees and $15 million in annual sales, and produces exhibits, displays, showrooms, models, dioramas, cutaways, and synchro sound (Standard & Poor's 1991). The firm's comprehensive in-house package allows for control over all aspects of exhibit production. Within the confines of the firm exist a design studio, full metal and cabinetry shop, shipping and creating facilities, spray room, and storage space for unused exhibit materials. The plant encompasses approximately one city block; personnel use bicycles to get from one end to another expeditiously. Those designers who are actively involved in the firm's work on a daily basis were interviewed.

b) The Information Environment

Catalogs, files, directories, journals, and books kept at the firm were not coordinated. There are individually organized and accessible units. However, their location in various places throughout the firm made information retrieval difficult, and no one had total control of these information sources.

The design studio has its own resources, which are often used but are rarely complete. Within reach of the staff are three cabinets of sample notebooks, distribution catalogs, pads of carpeting, and binders of vinyl wall coverings, among others. Sample chains of laminent chips are hung on the doors. It is the designer's responsibility to keep these materials in order and up to date. This method of upkeep has not proven to be reliable.

A file cabinet of miscellaneous product information is also in the studio. Pamphlets on new items or brochures of interest are filed there by product type or name. Quite often the only access point to this material, other than manually looking through the files, is a colleague's memory. Journals, some books, and a set of encyclopedias are accessible in this area, again with little management applied.

The general office space contains various areas where information is housed, most notably is the purchasing agent's (PA) area. Located here is the distribution catalog collection, comprehensive in nature as to the firm's experience with various vendors. Materials are shelved according to the types of materials they cover. The shelving organization is as follows:

1. hardware
2. lighting
3. machine shop and engineers
4. general catalogs
5. flooring
6. scientific information
7. junk
8. paint
9. furniture
10. acrylics
11. metal products
12. fcbrics
13. carpet
14. computer information

There is some control over this collection. Signing out materials is suggested, although compliance is rare. However, the PA's close association with the designers and the materials needs of the firm facilitates quick retrieval of misplaced catalogs.

The firm's visual information collection consists of a set of files of color photocopies of the firm's past products. Organized by client name, this file is isolated from other information sources and updated by those who use it or the secretarial staff. Rarely is a folder left empty. The honor system works well here and when materials are missing, they are generally easy to locate.

Personal book and journal collections are found in all areas of the firm. Designers, project managers, estimators, and account representatives alike have collections of subject books, catalogs, rendering materials, professional journals, and the like, that are used personally and by their colleagues when necessary. Again, the honor system works well here and when materials are missing, they are generally easy to locate.

General Makeup of Information Providers:

a. Job Descriptions: Primary Users/Providers

Designer: (DE) Major responsibility is to combine a client's purpose, priorities, objectives, limitations, and constraints with their marketing goals and present them creatively (Klein 1986). Form, continuity, and structural realization become concrete through the designers' drawings. Sketches, both simple and fully rendered, are used to communicate the progress of proposed concepts to the client and account representative. By combining a successful design concept, the client's marketing aspects and booth expectations, a three-dimensional solution can be arrived at that will meet defined criteria.

Purchasing agent: (PA) Major responsibility is to provide up–to–date supply information for the firm, to ensure the timely arrival of ordered supplies, and to see that correct materials are received. The purchasing agent is responsible for keeping the supply catalogs, sample collections, and purchasing paperwork accessible.

Account representative: (AR) Serves as the liaison between the client and the firm. Through the AR, many of the design opportunities become known to the firm. It is also the AR's responsibility to be aware of show regulations and specifications, complete contracts for projects, and arrange for setup of the booth as it travels to various locations.

Project manager: (PM) The responsibilities here are two-fold. One is to translate the two-dimensional rendering, or the model into terms, via a blueprint, that facilitate construction. The second is to supervise the engineering, construction, and shipment of the completed booth.

b) Job Descriptions: Secondary Users/Providers

Estimator: (EST) Major role is to predict how the booth would best be constructed, the budget needs to complete the booth, and how much time the construction process will take. By looking at the allotted time involved in each phase of construction, an estimate as to how much it will cost to build the unit will result. This position should be a primary source of budgetary information. However, it is inconsistent in this instance, and therefore this position is categorized as a secondary source in this study.

Shop: Its employees have mastered several forms of craftsmanship. At the firm's, this expertise is used in various divisions: carpentry and metal shop, painting facilities, crating department, set-up area, and warehousing space.

Shipping: Customizes packing materials to insure safe delivery of the firm's product.

Comptroller: Serves budgetary and legal information needs.

Relationship Between Needs and Providers:

a) Designated Areas of Information Needs

Each area in the questionnaire was rated from one (frequent use) to nine (minimal use) in regard to need and use. The responses from this portion of the questionnaire are averaged here to arrive at an importance quotient. Most categories were noted as being used by all five interviewees, hence the designated-use fraction (n/5). These numbers illustrate the varieties of information needed in the exhibit design business. Each area of applicable information need was discussed during the applicable interviews. The resulting compilation of comments explains the importance of each type of information and demonstrates the influence each subject area has in shaping the information-seeking patterns in place.

1) Technical, Scientific, and Statistical Data (6.75 of 9; 4/5): Codes, how materials can be cut, dimensions of machine parts, and how moving parts interact were noted in this area.

2) Design Case Studies/Examples of Existing Projects (5.40 of 9; 5/5): This format is often used by the AR to present the firm's capabilities to clients. The format also serves as an information source to illustrate the consistency of the firm's design capabilities.

3) Two–Dimensional Visual Materials (pictures) (2.75 of 9; 4/5): Magazines were mentioned as the format used most often for current information.

4) Samples, Materials, and Information on Product Processes and Companies (3.60 of 9; 5/5): PA distribution catalogue collection is the source most relied on for this information. By using these resources, material fabrications, innovations in use of materials, and tactile and color combinations are discovered. Information from the client on the product being marketed is also occasionally needed.

5) Manufacturer, Contractor, and Components Supplier, Addresses and Product Cost (3.80 of 9; 5/5): Again the PA or the PA's collection yields this information. A secondary source of this information is found in the catalog resources in the design studio.

6) Books, Journals, Other Written Sources (5.50 of 9; 4/5): A variety of written resources are currently in use at the location. Designers turn to journals for "visual stimulation and to formulate ideas." Respondents cite very little need for secular journals; if the need should arise the necessary item is usually purchased. Books specifically on the field of exhibit design are considered useless by the design staff. However, speciality materials in the areas of engineering, rendering, construction, ergonomics, and other related areas prove useful. Show catalogs and business newspapers proved helpful for marketing.

7) Personal files, Current and Professional Information (2.25 of 9; 4/5): Personal files are usually considered a reliable source for materials information, unlike other sources of similar information (PA catalogs and purchase files). Books and journals are often from the personal collections of users because office methods of making these resources available are not always successful.

Designers obtain nearly all of their professional information at trade shows. Personal recollections of what staff designers see at shows is the most relied upon method of disseminating this important bank of information to colleagues. Because the professional journals are considered basically "useless" by the DE, PM, and AR, attendance at and recollection of trade shows remains the only option for accessing this information at the firm.

8) Legal (8.5 of 9; 2/5): Information on legal issues was rarely needed. However, legal questions may arise regarding contracts and their standardization, and in the event of fabrication of one of the firm's designs by a competitor.

9) Client (4.8 of 9; 4/5): Varied considerably in importance from one to nine. In addition to communicating the parameters of the design product to the designers, clients are the only source for previous booth examples (if contracted previously with another design firm) should either design continuity or a unique booth be expected.

b)Information Role–Primary Users/ Providers

Designers: Basic information role is that of providing the ideas and design solutions from which the work of the firm is generated. Designers are relied upon for color and materials information and are expected to be informed as to materials availability and cost. Several use patterns revert to the designers for color and materials information when it is otherwise unobtainable. At times, designers take part in the link between the studio and the shop by constructing a model.

Purchasing Agents: The low level of trust in the PA's collection of materials prevents its consistent use. It varied as to whether the PA collection of materials was first, second, or third choice in getting supplier/materials information. Some saw the PA as a very helpful resource; others saw the PA as too slow. In the case of pricing complicated materials processes, respondents preferred to eliminate the middle man and contact the trade representatives themselves.

Project Managers: Designers look to the PM for information on how the booth will be built. The PM serves as a second choice for the electrical and structural codes needed for each show. At times the PM will build models that provide a definite link between the design studio and the shop.

Account Representatives: Even though not designated by DE as a major element in the office's information-seeking pattern, in the link among sales, the client, and the firm, the AR alone provides giving this area a primary distinction. In all other aspects, this person remains a secondary source of information (see below).

Outside sources: Two outside sources were designated as having primary roles in the firm's information-seeking patterns. Trade shows served as the major link between designers and other exhibit professionals. Journals do not adequately provide this connection, as noted previously. Trade shows serve as a primary link in the information-gathering pattern established with outside sources. The other primary link is the trade representative (TR). Contacts for cost information were consistently made with TRs to ensure price. At times, three to four calls for price quotes were placed for one material for one booth. This is surely a sign of inefficiency, although not necessarily unique to this office, but of the structure of acquiring absolute cost and availability information within the exhibit design business.

c) Information Roles—Secondary Users/ Providers

Account Representatives: Provide information on the client's parameters for the booth by discussing the job proposal with the PM. This information covers time limits, cost and budget information, knowledge of the client, graphics ideas or requirements, and product information. The AR is considered an inefficient source for show information. This results in respondents repeating inquiries in several places for the same information. Trade show information is available to the AR and the firm in written format via show catalogs. There is a reluctance to use these resources; therefore, phone inquiries are often made to acquire show specifications.

Estimator: Analyzes the rendering and defines the time frame for building a design. Formulates a budget upon which the firm bases its actions when selling and constructing a booth. This source of information is inefficient because the estimator here is inexperienced. Information requests must be repeated again in order to obtain data otherwise received from the EST.

Shop: Provides information on how materials can be used, or to house actual pieces of large material that designers can use. Shop personnel are expected to notify staff when materials specific to their project arrive. However, they are not consistent in providing this information.

Success Rate in Resolving Information Needs:

a) Relations Between Needs and Users

Lack of trust in sources leads to duplication of efforts in information gathering. Inquiries are repeated unnecessarily, for instance, in regard to price, supply, trade show specifications, estimation, and shipping information. Lack of experience with definitive sources tends to steer people from one information resource or colleague to another.

b) Sources Used to Get Information

Interviewees consistently relied on personal experience as a source of information. Colleagues also are strong resources for information. Interviewees were embarrassed by their lack of use of libraries. Within the context of this study this was left unexplored. It is hypothesized here, however, that the poor image of libraries and the lack of a library on site contributed to this pattern. There is respect for written sources, evidenced by the personal book collections and journal subscriptions held by the design, project management, and account representative staff. Acceptance by the staff of catalogues and directories as reference sources was the most varied. This may be due to lack of knowledge as to how to use these sources, inability to locate needed materials, or wide disbursement of the collection.

Outside sources of materials play both primary and secondary roles and were consistently referred to for supply and price information.

Conclusion

Designers felt that they needed to acquire information throughout the process of developing their sketches, renderings, and models into the fully realized booth. Other employees saw their information needs as a part of the planning phase of a design project.

Designers work with what is available to them. If the cache of available materials is limited, a designer's creative potential is also limited. To go beyond the firm's resources is the designer's decision alone. This decision could be a costly one if the materials and information system isn't expandable through monitored and organized means. If used effectively, however, an information system would enable designers to expand their and the firm's resources by bringing new information into their professional environment and making it reliably available.

This serves as an illustration of the value of an in-house information center. By placing materials information at designers' immediate disposal, more energy can be expended creatively rather than wasted on searching for misplaced sample catalogs, locating show specifications, and phoning trade representatives to update in-house resources that duplicate other resources.

There were various types of materials needed and multiple locations for information resources in this firm. This indicates that a centralized information area may be an asset to this design environment. The PA area is the closest thing to a library component of the firm, but the perception of its unreliability is a hindrance to its use. Designers use the distribution catalog collection as a reference tool, but not consistently. It is this circumstance that would likely discourage art librarians from approaching a career in this discipline. The lack of contact with the creative aspects of the firm, and the emphasis on the need for business and materials information, may not be interesting or challenging enough to facilitate job satisfaction. It is assumed, as suggested earlier, that acceptance of the librarian as a part of the design "team," would be a more satisfactory arrangement.

Knowledge of special library service seemed lacking here. This may also be true of the entire exhibit business. This conclusion is supported by an earlier observation by British library and design educators that:

> The designer who decries library service and prefers to use his telephone and network of contacts to make instant reference to a direct source of information is often quite unaware of the potential of an orthodox information service in meeting seemingly unorthodox demands. (Bradfield, Cheetham and Wood 1980)

It is interesting that those who saw journals as an important information format, and kept a stockpile of personal sources, did not list libraries as an alternative place to locate information. The strong possibility exists that the lack of use of journals and other written formats is a result of their inaccessibility. Several mentions of the inability to use materials because they couldn't be found would lead one to believe that a controlled collection would be helpful, and would be used.

For a library to succeed in this environment, it would be necessary to develop a sense of trust between staff and information personnel. This can only be achieved through professional interaction. The majority of interviewees supported the idea of an information center and felt it would have a positive effect on the information-seeking patterns at their firm. If the situation here is illustrative of the state of information needs fulfillment in the field of design, it is time to introduce the exhibit business to the strengths and benefits of professional information service by advertising and aggressively campaigning for collaboration between the two fields. ■

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Overseas Educational Advising: An International Information Service

by Edward A. Riedinger

■ This article is adapted from a presentation by the author at the U.S. Overseas Educational Advisers (OSEAS)–Europe 1991 biennial conference, held in Montpellier, France. In it he discusses the worldwide emergence of the overseas educational advising profession, this profession's larger contemporary context, and how advising can best continue to develop.

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In the past ten years, educational advising has achieved remarkable definition and organization. The third OSEAS–Europe conference held at the end of 1991, in Montpellier, France, would have been unimaginable a decade ago. The service of informing and orienting students and scholars around the world on study or research opportunities in the United States is now a recognized service supported by U.S. government policy. Moreover, numerous other governments, particularly France, Britain, and Germany, maintain such services abroad for their own educational systems. The number of U.S. advising offices has increased in all regions of the world, the advisers in them receive more extensive and regular training, and the materials in these offices are now greater and more varied.

In the midst of this growth, it becomes crucial to understand the larger historical context in which overseas educational advising is developing. We must understand this context to perceive the profound relevance of advising and to attain the level of professional development and the resources necessary to fulfill this historical role.

Two major current developments are particularly significant in considering the historical context of advising: the phenomenon of an information society and the internationalization of the globe. Overseas advising offers a key service relevant to both these developments, providing information about study and research in other countries and information about international educational activities.

As the past decade saw the emergence and growth of overseas educational advising, the present decade must see it become an ever more reliable professional activity. It must become international educational information management, the information division or arm of international education.

Why and how will this next stage of development occur? To answer this question, we must examine the elements of advising's historical context: (1) the establishment of the information society or age; (2) the internationalization of the globe and the role education has in this process; and (3) the role overseas advising plays in relation to these developments.

Information Society

Information can be defined as data—that is, raw information—or as knowledge, meaning structured, significant information. Information, then, can be associated with both the product itself and with the means of producing it. The terms "information society" and "information age" suggest that our current age—life since the end of World War II—has come to be dominated by information.

How and where has the perception emerged that information dominates modern life to the extent that it defines an age? To answer this question we must review some elementary distinctions of economics.

One traditional way to describe an economy is by its types of production, dividing it into sectors. The "primary sector" refers to cultivating or extracting raw materials, in such activities, for example, as agriculture or mining. The "secondary sector" refers to activities whereby raw materials are processed or manufactured—farm products becoming packaged foods, iron becoming steel. The "tertiary sector" refers to services—activities such as medicine, insurance, tourism, or banking.

Economies are usually a mixture of the above sectors but are dominated by one of them. Many countries of Africa are still dominated by agriculture and, therefore, the primary sector. Many of the rapidly developing countries of East and Southeast Asia are dominated by industrialization and, thus, the secondary sector. And services, the tertiary sector, form principal elements of the U.S., European, and Japanese economies.

Not only do countries have different patterns of dominance by each sector, but the dominance of one sector over another may change over time. Until the end of the 1700s all countries were characterized by the primary sector and were principally agricultural. The 1800s saw a few countries emerge with economies characterized by industrialization—first England, then the United States and Germany. The current century has witnessed emergence of the dominance of the service sector, a characteristic of the most complex modern economies. That the service sector should dominate an economy is a phenomenon that only began to appear in the middle of this century, occurring first in the United States.

It is from this dynamic, in which certain sector activities dominate an economy and change over time, that the perception of an information society has appeared.

In 1962, the American economist, Fritz Machlup, in his book, *The Production and Distribution of Knowledge in the United States*, presented the innovative idea that the U.S. economy could no longer be analyzed solely in terms of mining and agriculture, manufacturing, or services. He concluded that nearly the largest sector, over a fourth of the gross national product, was a "knowledge industry." It consisted of goods and services produced through education, research and development; information machines and services; and communications.

In the following decade this thesis was further reinforced by another economist, Marc Porat, who proceeded, in *The Information Economy*, to measure knowledge or information as a part of U.S. national income. He concluded that the information sector, in the twentieth century, had been the most rapidly developing and was emerging as the dominant vehicle of revenue for the American economy.

The information activities of an economy have thus come to be seen as a "fourth sector." The dominance of economies by an information sector has now been observed worldwide. It has come to be viewed, indeed, as the dominant sector in any more complex or advanced economy.

The work of these two economists established the foundation for the now accepted perception of societies dominated by information. Popular perception and acceptance of this thesis occurred because the phenomenon can be easily observed in daily life. The means for producing and transmitting information—primarily through computers and telecommunications—have massively and globally increased perception of what is produced—information itself. A personal computer and a fax machine in every office and many homes have reinforced the validity of the original perception of the emerging dominance (even deluge) of information in modern life.

The importance of educational advisers to this modern socioeconomic phenomenon is fundamental. Education is at the heart of the information production process. Not only does education produce information, it reviews it by analyzing, questioning, and reexamining it.

Advisers maintain information on education: where the best place is to study or do research, how to define what is best, and how to be admitted and sustain oneself in the places considered most appropriate. Advisers, with their information about education, are essential to maintain the flow and advance of an information society.

Given that this is the role of the educational adviser in modern society, what then is the specific role of the overseas educational adviser? To answer this, let us examine the role of education in another contemporary phenomenon, the internationalization of the globe.

Education and Global Internationalization

The internationalization of the globe refers both to a process in which parts of the world become more deeply aware of and affected by their interaction with other world areas, and to a policy and practice that move towards further interaction. A host of activities and sustaining structures have comprised the momentum for this interaction, but trade and its ancillary activities of transportation and communication are primary among them.

Economic activities occurring across numerous national boundaries have maximized the quantity and variety of goods and services available around the world. In this context, when a student or scholar goes from his or her own country to another for study or research, it is generally due to the availability of a better or more appropriate service abroad.

Yet there is a very important distinction between international activity in the negotiation of goods and services and international activity for education. International educational exchange is the key resource to sustain the other activities. This point is daily observed by overseas advisers.

How do they observe this truth? Trade around the world of manufactured products, raw materials, and international services builds daily to crescendo volumes. What sustains this? Businessmen, engineers, and computer and high–tech specialists. And what are the areas most sought by foreign students and scholars wanting to study, intern, or do research in the United States? Business administration, engineering, and computer science.

International education is a singular factor in advancing and sustaining global internationalization. It is not just one service among many negotiated around the world; it is the service that allows so many other goods and services to be internationalized.

Education further comprises another key component of internationalization. Continuing the internationalization process requires creating and maintaining an international culture and attitude. Since international education is a cross–cultural experience, it contributes to developing this atmosphere.

Thus, as the resource that produces the trained personnel for continued international activity and as the experience that reinforces a transnational cultural outlook, education is fundamental to global internationalization.

What then is the role of overseas advising in this contemporary historical development? Again, the adviser has information, information on educational opportunities in other countries. The adviser controls an indispensable resource—access to information—and is, again, essential for the flow and advance of internationalization.

Overseas educational advising thereby intersects with two vital developments in modern society. Within the development of information and knowledge as dominant activities of modern society, it orients to education, the producer of information and knowledge. Within the process of global internationalization, it orients to the educational opportunities that sustain the process of internationalization and does so within a cross–cultural context that reinforces the process.

Thus, overseas educational advising as an information service for international education intimately supports two of the most fundamental phenomena of contemporary history. With so momentous a responsibility and opportunity, how has this service developed, and how should it develop?

What Has Been Done

Just over ten years ago, as I began to organize the national coordination of advising in Brazil (the first national counseling workshop was held in Rio de Janeiro in 1981), I felt that three things had to be done to standardize what was obviously a crucial information need for a dependable, professional service for the public: (1) organize and define advising; (2) provide regular basic and advanced training opportunities for advisers; and (3) supply and maintain adequate materials for advising offices.

It soon became apparent that these standards achieved through organization, training, and materials were necessary not just in Brazil but in all of South America, and, indeed, in all regions of the world. In a remarkably rapid period—the past half dozen years—these standards have appeared nearly everywhere, although somewhat unevenly. I believe the rapidity and extent with which they have been applied shows the fundamental relevance of, need for, and interest in advising.

How rapid and thorough has advising been professionally standardized? In terms of organization, the Working Group of U.S. Overseas Educational Advisers in South America, the first regional organization of overseas advisers, was established in 1984. Two years later OSEAS was established within NAFSA: Association of International Educators, organized worldwide on a regional basis.

In terms of professional definition, in 1984, the first directory of advisers for a region, South America, was published, followed by a worldwide directory with approximately 300 entries. In addition, advising newsletters circulated regionally and worldwide, and in 1987 the *Advising Quarterly* was inaugurated. Also in 1987, OSEAS produced the NAFSA publication, "The Profession of Overseas Educational Advising," with its pioneer statement on ethics and professional responsibilities in international education.

In terms of training, in 1984 the U.S. Information Agency (USIA) began to sponsor workshops in the United States for overseas advisers from each region of the world conducted at the time of the annual NAFSA conference. Moreover, with the establishment of OSEAS, its regional organizations began sponsoring workshops in their respective areas, significantly expanding the possibilities and range of training.

In terms of materials, by the mid-1980s, the Minimum Reference Bookshelf (MRB), a basic collection of advising materials, was distributed worldwide by USIA to all advising offices and regularly updated. Videotapes and publications for various aspects of orientation of U. S. study multiplied. And most exciting, in their workshops and newsletters advisers displayed or recounted details of materials they were producing, from handouts to tape recordings. (I recall that the then head of the USIA Student Support Services asked me in the early 1980s what I believed was most important to develop for advising: book collections, handouts, workshops, videotapes, newsletters. I replied that I thought the most important resource upon which to concentrate would be training because from trained personnel all other things would flow.)

Defining Overseas Advising as an Information Profession

The accumulated activities of the last decade came to identify overseas advising as an "emerging profession." And the service of overseas advising was seen to combine or to coalesce around several professions: library service, information center administration, counseling, management, and diplomacy.

Of all these, however, overseas advising most approximates the areas of library service and information management. Indeed, advising offices very much resemble a category of libraries known as special libraries (as opposed to public or university libraries). They have a collection of specialized resources for a clientele with specific information needs.

Having referred to library service and information management, one needs to distinguish among key information professions today. Librarians gather and maintain information resources on deposit for either a general community, such as in a public library, or a specific one, such as in a university, medical, or law library. Information management comprises operations within an organization or corporation whereby data and information are gathered and stored, then analyzed and distributed to the appropriate components of the organization or corporation. Computer science and telecommunications are the technological components of the information professions, particularly for development of hardware and software.

Advisers, like librarians, gather and maintain collections of materials for their clients' research. They also serve as information management professionals, analyzing their collections for users and ensuring that each receives the needed information. It is crucial that overseas advisers be able to use computer science and telecommunications in order to efficiently perform their role as conductors of educational information. What remains is for advisers to adopt the tools that they need from the established information professionals.

What Needs to Be Done

I have discussed the very powerful roles of information in modern society and of education in the internationalization of the globe, thereby demonstrating the vital role that advising has as an information service. For the information society, educational advising leads one to education, the producer of information. For the internationalizing globe, overseas advising leads one to international education, the key producer of the personnel and culture for the dynamic of internationalization.

Understanding this historical context, recognizing the relevance of overseas educational advising, and recalling the rapidity and extent with which advising has organized leads to the realization that advising must now advance from the stage of an emerging profession to that of a more systematized and refined one. That refinement must absorb the principles and practices of librarianship, the key information profession for maintaining specialized information. With that accomplishment, overseas advising can then serve its information management role for international education.

From librarianship, three areas must be incorporated into the principles and practice of advising: (1) collection development; (2) reference management; and (3) materials cataloging.

A knowledge of the techniques of collection development will incorporate into advising an organizational structure for acquiring and maintaining the resources for its services. What do these techniques include? Defining the collection of resources, from catalogs and guides, file materials, and alumni contacts to electronic databases and computer networks. Locating and maintaining communication with the sources of one's materials: publishers and producers, software and hardware engineers. Evaluating one's resources. Maintaining funds for acquisitions.

Reference management includes the techniques by which information from resources is conveyed. The techniques include the reference interview, by which a librarian responds to a client's need for information. There is also user education—teaching individuals how to use printed, audiovisual, and electronic resources and how to conduct their research.

Cataloging materials organizes resources by classifying them and then storing them so they can be maintained and retrieved as economically and efficiently as possible. In a national library setting, materials are no longer cataloged repeatedly by individual librarians. Once an item is cataloged, it enters a national computer database, thereby avoiding repetition of effort and accelerating access. Collection development, reference management, and cataloging treat the entire information process, from the gathering of information to its communication and then to its storage or retrieval.

Incorporating the principles and practices of these three aspects of librarianship into overseas advising, therefore, will make advising a much more secure information service operation and support the development of advising as international educational information management.

In this regard, it could be very useful if the next U.S.-based workshop for overseas advisers included instruction from library school faculty on collection development, reference management, and cataloging, and from business school faculty on information management. Moreover, it would be useful if the librarians who are advisers and the advisers who are interested in library and information service development organized themselves within the OSEAS regional and central bodies to determine how the techniques of librarianship and other information professions can be applied to advising.

If advising begins to incorporate the professional practices of library service, this development will continue to advance U.S. overseas educational advising as one of the finest global educational information services in the world. It is important to note that the Alliance Française, the British Council, and the Deutscher Akademischer Austauschdienst also maintain information services for study in their respective French, British, and German educational systems. More significant, the European Community, through the educational exchange operation of ERASMUS and its information service, Eurydice, has a uniquely consolidated, multinational educational information service.

As the United States and other countries develop their educational advising offices further as professional information and library services, merging their databases would produce an extraordinarily powerful resource. We are accustomed to overseas advising as a binational operation, orientation for a student in any one country to study in one particular other country. The European Community is beginning to show that advising can be a multinational service, orienting for study in a variety of countries, offering the greatest spectrum of educational options.

Given this multinational development in advising, establishing sound professional information practices becomes more necessary and urgent.

Conclusion

We have seen that advising has a key role in relation to the information age and internationalization of the globe. For the former it gives informational access to education, the key producer of information. For the latter it gives informational access for forming the personnel and culture of internationalization. In less than a decade, U.S. overseas advising has rapidly and globally developed its organization, training opportunities, and materials distribution. That emerging profession now needs professional refinement as an information service, adopting library service practices of collection development, reference management, and cataloging.

I have traced in this article the historical context of information in society and of global internationalization, in which advising is progressing, and suggested methods to refine that development.

These phenomena are part, also, of a much larger process, the physical, social, and intellectual evolution of humankind.

In this regard, therefore, it is most appropriate to recall the words of the visionary French theologian, Pierre Teilhard de Chardin, who saw so clearly the integration of humanity. This goal, surely, is the ultimate objective of our international work. I quote, therefore, from Teilhard's *The Phenomenon of Man:* "Man is not the center of the universe as once we thought in our simplicity, but something much more wonderful—the arrow pointing the way to the final unification of the world in terms of all life." ■

Note: The 1992–93 *Directory of Overseas Educational Advising Centers* is available from: College Board Publications; P.O. Box 886; New York, NY 10101–0886.

Additional Note: OSEAS (Overseas Educational Advisers Group) is a section within NAFSA: Association of International Educators; 1875 Connecticut Ave., NW, Suite 1000; Washington, DC 20009–5824. An e-mail network of advisers, OSEASNet, can be accessed for membership by addressing: eried+@osu.edu (Internet) or eried+@ohstmail (Bitnet).

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Similarities Between Legal and Scientific Literature

by John D. Kawula

■ The relationship between law and science is a common theme, but few authors have discussed similarities in the literature and indexing patterns of the two areas. Legal and scientific literature are both characterized by heavy emphasis on serials and well-organized, detailed indexing systems. Citation indexing originated and has had the greatest impact in the legal field. It is also significant in the scientific fields. Scientific information included in primary legal sources reveals political and social values. Patents are simultaneously legal and scientific documents and are used extensively by lawyers, scientists, and engineers. Although these similarities and connections do not imply cognitive relationships between legal and scientific activities, they do have important implications for libraries.

The relationship between law and science is discussed in a large body of literature. Much of this concerns the impact law has on science and vice versa. Another theme compares the value systems and methods of the two fields. Several authors have noted the similar yet slightly discordant values that law and science hold toward progress and advancement in a structured social order.[1,2,3] There is even a theme asserting that law and science are different manifestations of searches for regularity, order, and control.[4]

It is ironic that few authors have addressed the similarities between the literature and indexing of the two areas, and possible implications for libraries. Law is usually viewed as a social science closely allied to sociology and political science, with connections to history and philosophy. It should be expected that law would have literature patterns similar to those fields. However, for several reasons, the literature of law is conceptually and structurally different from the remainder of the social sciences and closer to that of the sciences. Legal and scientific libraries have more in common than might be expected.

Serials Literature

The most obvious area of similarity is the relative importance of serials in the two fields. Most writers agree that serial literature constitutes a much higher percentage of the total publications, use, and citation in the sciences than in either the social sciences or humanities.[5,6] Legal literature has a similar emphasis on serials.[7,8] This emphasis is even stronger in the United States than in other countries. The U.S. system of federalism has a disproportionate number of legislative, administrative, and judicial institutions issuing laws, regulations, and rulings in serial form. U.S. courts, unlike those in parliamentary democracies, often interpret legislative intent beyond that indicated in statutes.[9] Hence legislative documents, such as reports or committee hearings, are considered important legal serials. The U.S., being unusually litigious, also has a high volume of case law.

Indexing Systems

An emphasis on serial literature almost necessitates an emphasis on serials indexing. Legal and scientific indexes are numerous and tend to be highly structured and well-organized. There are conceptual similarities in the manner in which legal and scientific indexes are used. One of the guiding principles of legal research and practice is *stare decisis* (to abide by, or adhere to decided cases).[10] Precedents are sought by consulting legal sources and indexes. However, legislation and judicial interpretations are always changing. Legal research usually consists of a simultaneous search for precedent and currentness. A similar approach is used in scientific research. Certainly, this is true to a degree in any field; however, the literature is more stable in the humanities and social sciences, and currentness is usually not as important.[11] Hence, a continuous linkage between past and current literature is not sought as often in the social sciences and humanities.

The structure of legal and scientific indexes differs somewhat and tends to be more detailed and elaborate than that of the social sciences and humanities indexes. Indexing is a complex activity that brings items together in a topical or conceptual manner but also separates them so the details or unique features of the items are identifiable. Indexes in all subject areas balance the organization and extraction by concepts with the organization and extraction by details.

Indexes in the humanities often emphasize thematic or conceptual organization over detail. Sometimes it is difficult to extract desired details or clearly identify the scope and coverage of humanities indexes.[12] Social science indexes share some of these same characteristics.[13,14] It is often perceived that researchers in the social sciences and humanities do not require tightly constructed or detailed indexes, as they rely more on citations in monographic bibliographies or informal collegial information exchange. Some authors feel that ambiguous terminology in the humanities and social sciences is a further hindrance to more precise indexing.[15]

However, legal and scientific indexes are usually well-organized and concentrate on the extraction of detail, as well as concepts or broad subject categories. Scientific indexes often have a number of specialized subindexes such as the Index to Ring Systems and The Formula Index in *Chemical Abstracts*, geographic indexes, and taxonomic indexes. Legal indexes often contain specialized subindexes, such as tables of cases reported or statutes construed. It is difficult to find parallels in the humanities or social sciences to the depth of subject indexing provided by *Chemical Abstracts* or the intricacies of West's key number classification and indexing of case law.

On-line searching and CD-ROM indexes have affected all fields of study. In a sense, they may be causing something of a convergence, with fewer differences among the indexing of various fields. On-line searching, especially for currentness, probably has had more impact on law and science than on other fields.

Citation Indexes

Citation indexing, both as a concept and a practical matter, has had the greatest impact in law and perhaps the second greatest in the sciences. *Shepard's Citations*, an important legal index and the oldest major citation index, was first published in 1873. There are now numerous *Shepard's* citators covering different legal aspects and jurisdictions. The most common application of *Shepard's* indexes is to update judicial rulings and interpretations. The citation system is refined so that a notational system is used to indicate specific histories or treatment of cases. *Shepard's* can be used to determine information, such as the modification or reversal of a case on appeal, or if the legal reasoning of a particular case was criticized or followed by subsequent cases. "Shepardizing" cases is considered an essential part of legal research.[16]

There are minor citation indexes in many fields. The major interdisciplinary ones produced by the Institute for Scientific Information were inspired by *Shepard's*. *Science Citation Index* was first issued in 1963, followed by *Social Sciences Citation Index* in 1973 and the *Arts & Humanities Citation Index* in 1978.[17]

It is difficult to assess the relative importance of citation indexing in various subject fields; however, ISI places much of its efforts and marketing emphasis on *Science Citation Index*. This may imply the relative impact the indexes have had on their respective fields.

Scientific Information in Legal Sources

Scientific information can be found in primary legal sources, including statute and administrative laws, and judicial decisions. Title 16 of the *U.S. Code* defines the term "critical habitat" for threatened and endangered species. Title 21 outlines standards for food and drugs. Corresponding sections of the *Code of Federal Regulations* lists the legally protected species and acceptable additives for various food products.

Environmental impact statements prepared by federal agencies as required by the National Environmental Policy Act of 1969[18] are rich sources of scientific information. In a strict sense they may not have the force of law, but they do impose guidelines and limits on administrative action and are reviewed by the courts.[19] Therefore it is reasonble to consider them quasi-legal sources with scientific information.

In limited circumstances, administrative legal sources can be used to at least partially answer scientific reference questions. For example, information on toxic substance control and tests, and assay methods for food and drugs can be found in *CFR*. Enironmental impact statements often include information on soils, geology, vegetation, and wildlife populations of specific areas. Their detail approximates that of many academic theses, and they include some of the best descriptions of public lands.

Case law reveals the adversarial nature of legal practice. Cases involving agriculture, biotechnology, conservation, medicine, nuclear power plants, and other subjects reveal topical debate and disagreement over various matters, including the significance of scientific research. For example, cases involving resource exploration and extraction often include conflicting interpretations of the effects these activities have on land and wildlife.[20,21]

The existence of this type of information in primary legal documents represents formal political and social acceptance of science. Scientific work that is chosen and accepted by political and legal institutions makes important statements worthy of attention. It is conceivable that an examination of legal sources could be used as a methodology for studies in the sociology of science. A search on the Sociofile CD-ROM did not reveal any studies that appeared to use this method; however, there is some support in the literature for this type of approach.

In the past two or three decades, the methodologies and interpretations in both the philosophy and sociology of science have been revised and expanded. Prior to the 1960s, science was usually viewed as a culturally unique activity displaying an unusually high level of agreement and consensus. In the 1960s and 1970s, this view was modified largely due to the influence of Thomas Kuhn's famous discourse on scientific revolutions.[22] Observers then focused on the formation of scientific consensus from occasional disagreements. A more complex view is now emerging that considers co-existence of conflicting scientific views and a tenuous nature of scientific consensus as the normal situation.[23,24] Attention is now being drawn to the paradoxes of broad agreement and rapid scientific advancement emerging from turbulent but semi-stable states of divergent and partially contradictory views.

An examination of the science in law may help extract meaning from this situation. A noted social theorist has written that: "Law is particularly useful for uncovering deficiencies and problems in various forms of social organization...The law can be used to identify central elements in a social structure through the problems that are brought to the courts."[25] Court cases involving scientific topics indicate significant social problems in scientific applications. Scientific interpretations debated in the course of legislative or judicial action reveal some of the discordant tendencies of normal situations.

In *Legal Secrets: Equality and Efficiency in the Common Law,* Kim Scheppele argues that the facts selectively considered and those that are selectively ignored by the legal system reveal important social values.[26] Science and law are selective and interpretive processes. The selection and acceptance of scientific work by legal institutions from divergent and conflicting scientific views should be a topic of philosophical, political, and sociological interest.

Comparisons between scientific detail in administrative law and primary scientific literature is another possible area for analysis. For example, significant areas of ommission or unusually long time lags in the appearance of information in administrative law may imply political and social tension as well as discord in the scientific community.

Patents

The final and perhaps strongest claim for similarity between legal and scientific literature concerns patents. Patents are simultaneously primary legal and scientific documents. Patent collections are used extensively by lawyers, scientists, and engineers. Patent indexes and databases reflect concepts, terminology, and information requirements of all of these areas. It is often estimated that about 80% of the scientific information contained in patents is not duplicated in journals or similar forms of literature.[27] Patents are used frequently by researchers in chemistry and pharmacy but underused by people in most other scientific fields. One reason for this underuse appears to be the legal terminology of the patent documents which is often unfamiliar or uncomfortable to scientists and engineers.[28] In recent years, patent databases as well as the distribution and availability of patents have improved dramatically Consequently, the visibility and use of patent literature has increased.[29] The paradoxes implied in the dual nature of patents may become even more significant.

Of course, caution must be taken against carrying the analogy between law and science literature too far. Close cognitive relationships between legal and scientific activity do not exist. A search on the PsychInfo database did not reveal any studies comparing legal with scientific thinking or reasoning. Even though legal and scientific librarianship have much in common, knowledge and experience in one area does not give a person a grasp of technical subject knowledge in the other area. However, many of the conceptual and procedural details of technical and public services in law and science libraries are unusually similar. This implies that developments and trends in one area may have a high degree of relevance and application to the other. ■

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Using Q & A in a Company Library: A Case Study

by Sharon I. Meyer and Kimberly L. Last

■ **This case study describes the successful implementation of Q & A, a database management software program, in a small engineering library. It documents the evaluation process, describes several files developed with the software, and discusses the value of Q & A in this specific library.**

Background

The Safety Information Center at Triodyne, Inc., provides library services to the firm's engineers and scientists as well as fee-based research services for external clients. The library's diverse collection supports mechanical engineering, environmental engineering, human factors, vehicle operation and design, product liability, and safety engineering.

We estimate that there are about 160,000 potential machine-readable records in our collection, of which about 3% (the book collection) is catalogued through OCLC. The remaining resources include current and retrospective government reports, standards, patents, product literature, an extensive vertical file collection, vehicle manuals, a special collection on fire, and a collection of deposition transcripts. This proportion illustrates a problem many science-based libraries have: much of the working collection is nonjournal and nonbook material. Yet this is precisely the material that benefits most from fast access through standard bibliographic practices. Of the library staff of sixteen, only four catalog and maintain the files. Therefore, any file management activities have to be simple, fast, and easy to learn and implement.

Begun in 1979, the library became automated in the early '80s with the purchase and installation of digital-based (VAX) WPS-Plus/VMS. This software became the basis for eight separate collections. WPS-Plus/VMS provided the opportunity to create bibliographic records and list process them; subject searches and quick sorts were impossible. When other departments at Triodyne bought computers, they purchased IBM PCs and Macintoshes, thus establishing an environment under which noncompatible systems existed. The lack of standardization became a drain on productivity. After an executive-level evaluation, the company decided to develop a PC local area network (LAN), retain the Macs (essential for our graphic department), and concentrate on changing the library VAX to PCs.

To prepare for the switch to PCs, the library developed a plan that included the following: a description of current applications, a list of current library software, a "wish list" of future library applications, a list of desirable features (for instance, variable length fields, Boolean search features, networkable, import/export, and so forth), and a list of the equipment that would be needed. Our future applications list was a jumble of bibliographic, invoicing, administrative, and word processing requirements. We realized we needed a general-purpose software program that could be used to develop different kinds of databases, allowed searches, was user-friendly and easy to manage. Although the switch from VAX to PC was "mandated" from the top, we were optimistic that this was an opportunity to improve our day-to-day operations and speed up our year-end reporting process.

Evaluation

The library began by evaluating PC software (hardware requirements were handled later by our technical staff). One of our most immediate needs was to track the library's acquisitions activities and we kept that foremost in mind during the evaluation process.

The library was already using PARADOX, a relational database manager, and INMAGIC, a text manager, for special one-time-only applications. Because they were already in place, we considered them first. The librarians most closely involved with both strongly believed that PARADOX was too difficult for the existing staff and INMAGIC was not multifaceted enough for our needs.

After a review of the literature, it became apparent that flat-file database software had progressed to the point where it would meet our three basic criteria, that is, enable searches, be user friendly, and be easy to manage. We identified several candidates, obtained and studied review articles, ordered demo disks, set up a test database based on the acquisition files we wanted to track, and tested each demo. The test database included as many different kinds of acquisitions records as we could think of. We reviewed past activities to identify the statistics and bibliographic information that would be useful to pull out with only a few keystrokes. Most demos offered limited testing capability (such as the capability of setting up one test file of only 25 documents), as well as limits on available functions. We did not find demo limitations to be a problem because the review articles were helpful in explaining further software features. The two leading contenders were askSam Systems' askSam and Symantec's Q&A. We selected Q&A, because of its ease of use, clear applicability to our requirements, and because we liked its "look" on the screen.

Why didn't we choose library-based software? We did not find any that offered the general flexibility and usefulness we saw in Q&A and askSam. As a library with limited funds and time available for cataloging and data entry, we sought easy-to-use software with broad application to many kinds of files. Standardization was a library issue as well as a company issue. We wanted to avoid having one software program for a few applications, and another software program for others, plus WordPerfect 5.1 (company preference) for our word processing and perhaps another for our invoicing

Q&A

Q&A 4.0 (for DOS) is database and word processing software. It is a flat-file database that permits "lookups," or links, between separate files and allows programming statements that direct the cursor, perform calculations, or insert values. File changes (updates) are quick and easy with the mass update command.

Installation was straight forward, requiring loading the software onto the hard drive and specifying the printers. The documentation was generally good, and a tutorial was included. We found the slim booklet, *Getting Started,* to be very useful for a quick-start. Overall internal training time averaged two hours per person. In addition, we subscribed to Pinnacle Publishing's newsletter, *The Quick Answer; an Independent Monthly Guide to Q&A Expertise,* and ordered a series of booklets on specific application (for instance, how to do invoicing). We found both to be very useful.

Acquisitions

We began developing a list of field names based on the earlier test. To design a new file, we followed the menu. A blank screen starts the design process. Type in field names followed by colons; dress up the form with boxes and lines, or keep it simple. Up to 10 pages of forms are allowed. Q&A permits customized help screens, a feature we used with the very first file. They serve as a reminder of earlier editing decisions and are very useful for occasional users. We also edited the design several times, a simple, follow-the-menu process that involved making changes on the screen and saving them. We could add or delete fields, change field locations on the form, designate keyword fields to enable thesaurus construction, and designate date or currency fields.

Our resulting design fits on one screen and comes with a line of function key reminders at the bottom. Data entry is fill-in-the-blank. Fields are actually variable in length (up to a maximum of 32K of data per field) because the F6 function key invokes an expansion feature. Standard searching options include Boolean operators, truncation, and search by ranges. Q&A also can display (with one keystroke) the records in table format. This is useful for editing and may be used for limited searching.

We wanted to track expenditures by department and gather year-end totals for the library's annual report. The report and math (count and total) functions in the columnar style provided all the necessary tools to accomplish this. These two fairly simple reports have saved hours of time spent manually calculating expenditures. In addition, we estimate that the capability to search immediately in Q&A's acquisition file for the status of an order rather than search through paper files saves about a half hour per day.

Circulation

The center circulates research books and staff-compiled bibliographies within and outside the organization. The manual, sign-out-with-card method was not helpful in cases where we wanted to generate a list of clients, so we considered Q&A. The result is a circulation file from which we produce totals for the annual report, produce client lists on label stock (using Q&A's label option) for mailings, and identify the books that have been checked out for the longest period of time (and perhaps pry them loose from the borrower).

Interlibrary Loan

We also use Q&A for capturing interlibrary loan statistics for the library's annual report. We designed a simple records form and used a restricted fields application for the "library type" field. The restricted values appear on the right half of the screen when a function key is struck. Scrolling through the list of values and pressing Enter adds the value to the record. This results in clean data entry and makes it easier to produce reports later.

In addition to producing annual totals, we may now analyze trends. At the end of 1991, we noticed that, for the first time, our interlibrary loans to medical and legal libraries were growing faster than loans to public and academic libraries. This trend mirrors our collection development efforts and reflects our efforts to increase our OCLC listings. Other collection analysis is also possible, limited only by the amount of detail included in the data entry and the time we have available for analysis.

Project Management

With the center's old method of tracking work-in-progress (essentially a chronological log in a three-ring binder), the long-term projects tended to get lost in the list. Q&A came through again. After data entry, the roughly 100 projects per month are sorted and printed by researcher, by engineer requesting the project, or chronologically.

The work-in-progress report includes researchers' initials, date the project came in, case name, engineer, subject, type of work done, and status of the work. Each month is closed out by the researchers themselves, who indicate which projects are finished. This simple database is useful to track all assignments and measure accomplishments. We estimate that at year-end, this file saves several weeks of manual compilation and report typing time.

File Transfer

The true excitement began, however, when we imported our first file from WPS-Plus/VMS. Fortunately, some of our VAX documents had been designed with fields. After we designed records forms and cleaned up the records in the VAX files, we did an ASCII transfer to Q&A. In short order, we transferred the video file, auto manual file, technical papers, government reports, and patents. Some of the files required additional attention, such as mass update, spell check, and duplicate removal, all easy to do with Q&A.

After we finished transferring files, we merged some of them to make searching more streamlined. Now a word search in just one file provides access to reports from several sources. Q&A offers several search options. To perform a simple search, just type in the word/value in a blank form. To truncate, add two periods at the end of the word. To find the word anywhere in the field, type two periods before and immediately following the word. Boolean searches can be done by moving through a series of screens or using the Intelligent Assistant, a search aid. In addition, we are able to provide printed custom reports to our clients (for instance, all reports on tires) for their review and selection and are phasing out the separate index card files we used previously.

When we began data entry in our newly transferred Q&A files, we duplicated the record design into a second file for data entry only. This was a menu-driven operation requiring selection of the "copy design only" option and specifying the file from which the copy should be made. There was no need to enter the form a second time; in addition, all report instructions are copied along with the design. It is then a simple process to review the data entry for errors, print reports if necessary, and merge it with the main file.

Q&A has an automatic numbering capability that works well for assigning the accession–type numbers we use in these files; it requires that the field be programmed to increment the number each time a new document is added. This prevents reusing a number and avoids the hassle of keeping track of the last number used.

Invoicing

Our latest Q&A application involves simple programming via the lookup option. The center's invoicing function had been done on a typewriter by the person who finished the project and without regard to any standard style. Using Q&A's lookup function, we set up invoicing procedures that link document files with client files into a third transaction file from which an invoice is generated. The total cost of the item, with sales tax, handling costs, and quantity, is calculated. The client's name and address is inserted on the invoice automatically.

We estimate that the Q&A invoicing procedure saves about 10 minutes on each invoice, a significant time savings for our average of 20 invoices per week. The invoice file is useful for year-end reports, and the names and addresses form a client list for marketing activities. In addition, one person handles all invoicing, and the invoices are now uniform in layout and terminology and are free of math and typing errors.

Assessment

Our original goal is soon to be met. Our VAX pull-the-plug party is scheduled for sometime in the next two weeks and our VAX files now reside in PC land on Q&A or WordPerfect. Q&A fits our original specifications very well. It is easy to use, can be used for many kinds of databases, and allows searching capability. Although not part of our original goals, we have quantified a small amount of "saved time" as a result of Q&A. Perhaps even more important are the qualitative benefits: improved quality control, faster, more professional response to inquiries, better analysis of library services, and improved staff morale due to better control over the collection.

We have not used all of Q&A's features; some do not fit our current needs (e.g.,CrossTab Reports), and some we haven't explored fully (e.g., Intelligent Assistant). We use the word processing software for invoicing but prefer WordPerfect 5.1 for most other applications.

The Future

Triodyne recently established the Novell LAN referred to earlier and the library is just beginning to function within it. To address the opportunities available through LAN access, a new company-wide LAN planning group has been set up. The library is represented in this group; we plan to place the library Q&A files on the network (using Q&A's network-specific security) for our secretaries and engineers, who have begun to use Q&A for their own specialized files. Other applications will emerge as the group progresses.

For our library at this point in its computer evolution, Q&A works. We are able to manage our specialized databases using standard bibliographic practices, and have improved our invoicing, reporting, and analytic functions. Q&A has paved the way for exciting next steps: improving library bibliographic control by building new databases and developing the LAN. ■

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State Library Survey Online Search Services

by Beverley Shirley

■ According to a survey of the reference departments of the 50 state libraries, a typical state library subscribes to several CD–ROM products. These subscriptions include DIALOG services. The typical state library performs somewhere around 50 searches each month for state government employees or for patrons who are referred through their local public libraries. The library has no charge, or a very minimal fee, for providing this service, and expects to recover less than 10% of its expenses through billing patrons. State libraries that provide services free of charge do more searching than libraries that charge back searching costs to their clients. Those that charge back can expect to recover a larger percentage of their expenses than libraries following other fee practices. However, these fee-based libraries will still recoup less than 50% of their search costs.

Introduction

The Texas State Library adopted a fee–based system for its database search service in fiscal year 1990. Prior to this time, database services were provided free of charge, up to a maximum of $20 per month, for state agencies. Only amounts over the $20 maximum were billed. Changing to a fee–based system was suggested for the following reasons:

1. The state library budget was becoming increasingly tight, and it was necessary to explore methods of providing services within this budget. An obvious alternative was to let the users of the information pay for its retrieval.
2. As the amounts charged by database suppliers and vendors increased, it became difficult to do a quality search for under $20, yet state agencies consistently instructed the state library searcher not to go over the $20 of free searching allotted to the agency each month. Thus, the database searcher was given a directive to provide a quality product with less than adequate funds with which to search.
3. If a fee–based system proved successful with state agencies, there was the possibility of expanding this service to private individuals. This action would be consistent with the practice of providing services to the general public, would improve visibility, and would increase the volume of searching done, further justifying the database subscriptions held.
4. A bill-back policy would allow the reference unit to meet the demand for online database searches within the current library budget without compromising other services. In adopting a fee base for this service, the library would join the ranks of 200–300 other libraries in the U.S. and Canada that operate with some type of fee–based service.[1]

A year after implementing the bill-back system, however, the reference unit reported a noticeable drop in the number of client searches performed. The two most likely reasons for this drop are:

1. The number of state agency libraries subscribing to online databases and doing in–house searching for agency employees had increased.

2. The sate library had implemented a fee–based system to charge agency personnel for searches.

When discussing these issues informally with librarians from other state libraries, it was discovered that considerably more database searching was going on at some state library agencies for which they searched; that additional patrons for search services were being referred to state libraries by public libraries; and that funding at these libraries seemed adequate to meet the needs of all searching done. These informal discussions prompted the reference unit to survey all state libraries in order to gather complete data on online search service policies, practices, and procedures.

Purpose

The state library survey of online searching services was designed to provide descriptive statistics on:

1. What types of database searching services are provided (Questions 1, 2, 8).
2. To whom database searching services are provided (Question 3).
3. What kind of funding and billing procedures are followed (Questions 4, 5, 7).
4. How much the search service is being used, as reflected by the number of searches performed each month (Question 6).

An additional purpose of this study was to use the survey data to determine whether there is a relationship between billing practices and number of searches performed, between billing practices and percentage of search costs recovered, and between number of CD–ROM subscriptions and number of online database searches performed.

Related Study

A similar survey was undertaken in 1984 by the Chief Officers of State Library Agencies (COSLA). The purpose of their study was "to identify issues and trends in fees for service in state and local libraries."[2] While in many ways this 1984 study is still significant and valid, this researcher felt that a new study was necessary to focus in more detail on the dynamic field of online searching services and to gather statistics on the total population of 50 state libraries. (COSLA's results were based on 42 responding libraries—an 84% return.) The current study, therefore, updates and expands the COSLA survey.

Methods

The Survey of State Library Online Searching Services was mailed to the heads of the reference departments of the 50 state libraries. The initial mailing took place on September 11, 1991, with a request that surveys be returned to the Texas State Library by October 7, 1991. On October 11, a second survey was sent to all libraries that had not responded by that date. After the second mailing, all but one library had returned completed surveys. This library was contacted by telephone, and the head reference librarian gave his responses verbally.

The survey employed a closed questioning technique, providing multiple choice answers for the questions asked in order to make the survey easier for librarians to complete and for the researcher to tabulate. To allow for spontaneous responses, a section was provided for respondents' comments. A copy of the survey questionnaire is reproduced in figure 1.

The following assumptions were made in conducting and tabulating the survey:

1. Librarians answered survey questions in an honest manner. Because the survey population is state librarians, their policies, practices, and procedures are a matter of public record. Therefore, no librarian should have hesitated to answer the questions honestly and completely.
2. Because the statistics gathered are based on a 100% return of the total population of state libraries, statistical procedures associated with sample or partial returns are not appropriate tools. Terms such as "level of significance" or "degree of confidence" are meaningless when data reflect the total population. Thus, conclusions are reached on the

basis of raw numbers and percentages. The danger in this situation is that, with a small, 50–library population, should one or two libraries change their procedures, the entire survey results could be shifted. The researcher has kept this in mind when making recommendations based upon this data.

3. Not all libraries answered all questions. Therefore, when cross–tabulations were made, those surveys that did not respond to both of the questions involved were not included in the cross tabulation.

Results (Figure 2)

Types of database searching

This study shows that 49 of the 50 state libraries provide online searching services. Multipurpose database services account for most state library subscriptions. DIALOG, BRS, WILSONLINE, EPIC receive a total of 112 subscriptions in 48 libraries (96%). Following these are the news databases (Datatimes, VU/TEXT, LEXIS/NEXIS, NewsNet) with 50 subscriptions in 27 libraries (54%) and legal and/or government databases (Legi–Slate, Westlaw, LEXIS/NEXIS, CQ Washington Alert, ISIS, LEGISNET, STATENET, and LOGIN) with 50 subscriptions in 24 libraries (48%).

The database service to which most libraries subscribe is DIALOG, carried by 47 state libraries (94%). This is followed by BRS (54%), WILSONLINE (48%), DataTimes (34%), VU/TEXT (34%), LEXIS/NEXIS (30%), EPIC (28%), LC Direct (26%), Westlaw (18%), and Legi-Slate (16%). There are numerous other services subscribed to by 10% fewer of the state libraries.

CD-ROM subscriptions follow a similar pattern. Ninety-two percent of state libraries hold at least one CD-ROM subscription. Most libraries listed several CD-ROM products to which they subscribe, and two libraries indicated that they held too many subscriptions to list. Government and/or social science databases account for the largest number of CD subscriptions with approximately 39 product subscriptions in 21 libraries (42%). Subscriptions to the *GPO Monthly Catalog* in CD-ROM format make up the largest subset of this group, with 18 libraries subscribing to the CD-ROM *MoCat* from a variety of producers. There are approximately 28 subscriptions to general periodical CDs, 13 to *Books in Print,* 12 to CDs to which fewer than 10 state libraries subscribe. CD subscription numbers reflected in these statistics are approximations, as some libraries reported that their CD subscriptions are too numerous to list, and others indicated that they subscribe to a category of CDs (for example "Wilson CDs") rather than listing each separately. Government depository subscriptions were not included in the figures tallied in this survey.

There is no discernable relationship between number of CD-ROM subscriptions and number of online searches performed each month. Although state libraries with no CD-ROMs are doing fewer online searches (of four libraries that report no CD-ROMs, two are performing 1–10 online searches per month and none report doing more than 100 online searches per month), no other relationships are apparent. (See figure 3.)

To whom services are provided

All 49 state libraries that offer search services provide these services to state government employees. Eighteen state libraries (36%) responded that their services are available to all state residents. Twelve state libraries (24%) indicated that searches are performed for public libraries, library systems, or public library patrons when the request is funneled through the public library. Two libraries (4%) will search for anyone who pays the fee if it is required. The total number of libraries searching for public libraries and/or all state residents is 32 (64%).

Funding and billing procedures

Twenty-seven of the state libraries (54%) charge no fees for their search services (with one library specifying that out–of–state requests for LEXIS searches are billed). An additional six libraries (12%) provide their services free if the search is less than a specified amount and charge only for searches that exceed the library's limit. Six libraries (12%)

provide free searching to state government and/or public libraries while charging for others. Only nine libraries (18%) indicated that they bill patrons for the actual cost of the search or cost plus service fee. Of the two remaining libraries, one does not perform searches and the other charges a $.25 cent per page fee for printouts.

Of the 24 libraries that have some fee schedule, 14 (58%) bill patrons after the search is performed. Two libraries ask patrons to set up an account against which searching charges are assessed. One requires a deposit in advance, and five responded that they used other methods for billing their patrons.

Twenty-six state libraries (52%) indicated that none of their searching expenses is recovered through user fees. An additional 13 libraries (26%) felt that they recover 1 to 10% of their costs. Only one library responded that it was recouping 75% or more of its searching expenses through user fees. Charting the percentage of searching expenses recovered as a function of fee practice yields surprising results. Of the eight libraries that charge back the full amount of a search, only three (38%) are recovering over half of their expenses. In fact, the largest group of "actual cost" libraries—three (38%)—fell into the second-to-lowest cost recovery category. In general, libraries that charge back are still not covering their costs. (See figure 4.)

Amount of searching done

Statistics on the amount of searching done per month fall into a Gaussian distribution. The largest number of libraries, 13 (26%), reported 21 to 50 searches per month. Eleven libraries (22%) reported searching databases 51 to 100 times per month. The number of libraries searching 1 to 10 times per month is equal to the number that do more than 100 searches (9 each). Three libraries did not answer this question.

Some interesting relationships develop when comparing fee practices and number of searches performed. While, in gross numbers, those libraries with no fees are doing more searching that those that charge for their services, the libraries that search free for state government or public libraries while charging for others are searching more per library. Eighty-eight percent of those searching free for government or public libraries are doing more than 20 searches per month as compared to 74% of the libraries charging no (or minimal) fees and 38% of those that charge actual cost. Thirty-eight of the "free to government/charge to others" group are searching more than 100 times a month as compared to 19% of those charging "no fees" and none of the actual cost libraries. One explanation for these results may be a larger client base for those in the "free to government/charge to others" group.

Conclusions

A number of conclusions can be drawn from the survey results:

1. Dropping online searching fees would increase the number of online searches done at a state library. Thirty-eight percent of state libraries charging back searching costs are performing more than 50 searches each month compared to 74% of libraries that charge no or minimal fees. These figures indicate that dropping fees would increase usage of the services enormously.
2. User fees do not bring in revenue equal to the costs of providing a searching service. While state libraries following bill-back practices are recouping some of their costs, most are recovering less than half of their expenses.
3. State libraries with CD-ROM subscriptions do more online searches than state libraries without CD-ROM subscriptions. However, the number of CD-ROMs to which the library subscribes doesn't have any apparent relationship to the number of online searches done.
4. Searching free for government employees and public libraries will result in more use of services. Those libraries that search free for state government or public libraries while charging for others are searching more per library than libraries charging no (or minimal) fees or those that charge actual cost.

Recommendations

On the basis of the survey findings, state libraries wanting to expand the scope of their searching services should consider the following options:

1. To increase the usage of online search services, state libraries should drop user fees. Survey results indicate that dropping user fees would increase use of online services. Another consequence of this action, however, would be a significant increase in the amount spent on online searching. The Idaho State Library commented that "This figure [21–50 searches per month] has remained fairly constant over the three years since we abandoned charges; our bills run $700–$1,000/month for DIALOG, our major vendor." When Governors State University Library in Illinois went from a fee–based service to searching free for the university community, the demand for online searching increased fourfold and was expected to level out at two to two and a half times the number of searches performed in previous years.[3] A state library with $200 per month to spend on DIALOG searches will find free searching an unrealistic option.
2. A state library that wants to expand its online search services should consider becoming a library of last recourse for public libraries or library systems in the state. Twelve state libraries indicated that they perform in this capacity, doing searches free of charge for those libraries that do not provide the service themselves. Implementing this option would place online searching as a statewide library service, a state library activity whose budget is supplemented with federal funds. The extra expense incurred by expanding services in this direction, therefore, would be somewhat offset by the increased funding options available.
3. Become a consulting library for agency libraries, possibly to expand this service to include public libraries. As the number of state government agencies doing their own searching increases, the amount of searching done by the state library should fall off. Because the agency libraries are physically closer to their patrons and the agency librarians more familiar with their subject matter than are the state library searchers, on–site searching by agency librarians is to be encouraged. However, by farming out the searching duties among so many persons, the state loses money in training costs and in the number of inefficient searches done by less experienced searchers. This loss could be offset somewhat by having the state library take on the role of consultant and trainer to the agency librarians who are doing (or considering) online searches. This option would involve developing formal workshops, updates, and demonstrations. If the library decided to expand this service, similar sessions could be offered to public libraries throughout the state, including demonstrations to library boards. Should this expanded role be taken on, the online searching function would come partially under the jurisdiction of library services, once again increasing funding options.
4. Increase CD subscriptions. Use of CD-ROM product allows state libraries to market some bibliographic access free of charge. This marketing would improve the visibility of the library. As the expenses for CDs are established, some of the guesswork of budgeting for online costs would be eliminated as well. If a patron decides that an online search is required, it could still be offered as an option.

Summary and Implications for Future Studies

This study of state library online searching services provides a basic overview of the patrons served, databases offered, and fees charged by state libraries. A more detailed examination of these libraries' funding sources would provide valuable information. From what sources do the funds for online searches come? How many state library reference units are using federal funds and how do they justify this use? How much are the state legislatures providing? Are legislative appropriations earmarked for online searching? Who has applied for grants to expand or maintain database services? Who has gotten grants and from whom?

An examination of a state library's relationship to other state agencies is also an area in need of further clarification. How many state libraries are doing all the online searching for the governmental agencies in the state? Do any state libraries coordinate the online searching going on within the various state agencies? Do the state agency librarians practice any cooperative collection development with regards to nonprint resources such as database and CD-ROM subscriptions?

Finally, some philosophical discussion of the use of fees at the state library is needed. A short discussion of this nature appears in the paper, "The 'New' State Library: Changing Environments, Emerging Roles" by Roderick G. Swartz and Nancy L. Zussy.[4] However, a more complete examination of the unique position of the state library with regards to the fee vs. free issue is needed.

Studies of state library policies, practices, and procedures are of benefit to librarians in the state library agencies; to state government librarians and personnel; and to the public, university, and special libraries that call upon the state library for guidelines, leadership, assistance, and referrals. ■

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Figure 1

SURVEY
OF STATE LIBRARY ONLINE SEARCHING SERVICES

Library for the State of : ______________________________

Form Completed by: ______________________________

1. **Does your library provide an online search service?**
   ____ a. yes ____ b. no (Skip to question number 8)

2. **To which online database(s) do you subscribe? (Mark as many as apply)**
   ____ a. DIALOG ____ b. BRS ____ c. Wilsonline
   ____ d. DataTimes ____ e. Vu/Text ____ f. LegiSlate
   ____ g. Westlaw ____ h. Lexis/Nexis ____ i. CQ Washington Alert
   ____ j. Other, please list: ______________________________

3. **To whom do you provide online database search services? (Mark as many as apply)**
   ____ a. State government employees ____ b. Residents of the local community
   ____ c. Any state resident ____ d. Other, please specify: ______________________________

4. **How do you assess user fees for your services? (Select one)**
   ____ a. No fees are charged. (Skip to question 6.)
   ____ b. The actual cost of the search is billed to the client
   ____ c. The cost of the search plus a service fee are billed to the client.
   ____ d. The cost of the search plus librarian time are billed to the client.
   ____ e. Other, please explain: ______________________________

5. **How do you collect user fees? (Select one)**
   ____ a. Patrons establish and maintian an account against which charges are assessed.
   ____ b. A deposit is required in advance of the search.
   ____ c. Payment is required at the time of the search.
   ____ d. Patrons are billed some time after the search.
   ____ e. Other, please explain: ______________________________

6. **How many online patron searches do you perform each month (excluding OCLC's Union list and excluding searches done for ILL purposes)?**
   ____ a. 1-10 ____ b. 11-20 ____ c. 21-50
   ____ d. 51-100 ____ e. over 100

7. **What percent of search costs are recovered through user fees?**
   ____ a. None ____ b. 1-10% ____ c. 10-25%
   ____ d. 25-50% ____ e. 50-75% ____ f. 75-100%

8. **Do you subscribe to any CD-ROM database(s)?**
   ____ a. no ____ b. yes, please list: ______________________________

PLEASE RETURN SURVEY BY OCTOBER 7, 1991 TO:
Reference Unit, Texas State Library
P.O. Box Box 12927
Austin, TX 78711

Figure 2

State Library Online Searching Services Survey Results

Question 1:	**Does your library provide an online search service?**					
	yes	no	total			
	49	1	50			
	98%	2%	100%			
Question 2:	**To which online database(s) do you subscribe?**					
	DIALOG	BRS	Wilsonline	DataTimes	Vu/Text	Lexis/Nexis
	47	27	24	17	17	15
	94%	54%	48%	34%	34%	30%
	EPIC	LC Direct	Westlaw	LegisSlate	ISIS	NLM
	14	13	9	8	8	5
	28%	26%	18%	16%	16%	10%
	CQ Alert	Legisnet	State-specific	ALANet	CARL	Compuserve
	4	4	4	2	2	2
	8%	8%	8%	4%	4%	4%
	Orbit	StateNet	Intelibanc	STN	LOGIN	NewsNet
	1	1	1	1	1	1
	2%	2%	2%	2%	2%	2%
	RESORS	CASSIS	N/A			
	1	1	1			
	2%	2%	2%			
Question 3:	**To whom do you provide online database search services?**					
	State Gov't	State Res.	Lib. referrals	Anyone/special	Agency staff	Anyone paying
	49	13	12	3	2	2
	98%	26%	24%	6%	4%	4%
	School lib.	Businesses	State Med.	Fed. Gov't	N/A	
	1	1	1	1	1	
	2%	2%	2%	2%	2%	
Question 4:	**How do you assess user fees for your services?**					
	No Fees	Actual cost	Free under $x	state/public free	Other	N/A
	26	8	3	2	10	1
	52%	16%	6%	4%	20%	2%
Question 5:	**How do you collect user fees?**					
	Billed after	Account	Pymt at time	Deposit	Other	N/A
	14	2	2	1	5	26
	28%	4%	4%	2%	10%	52%
Question 6:	**How many online patron searches do you perform each month?**					
	1 to 10	11 to 20	21 to 50	51 to 100	Over 100	N/A
	9	5	13	11	9	3
	18%	10%	26%	22%	18%	6%
Question 7:	**What percent of search costs are recovered through user fees?**					
	None	1 to 10%	10 to 25%	25 to 50%	50 to 75%	75 to 100%
	26	13	2	2	3	1
	52%	26%	4%	4%	6%	2%
	N/A					
	3					
	6%					
Question 8:	**Do you subscribe to any CD-ROM databases?**					
	Yes	No				
	46	4				
	92%	8%				
CD Types						
	Gen Periodical	Gov't/ Soc.Sci	GPO	BIP	Education	Business
	28	21	18	13	12	11
	News	Phone	Union lists	Ulrichs	CASSIS	Library Lit
	6	5	5	4	3	3
	Online Catalogs	EBSCO	Computers	Encyclopedias	Catalog Utility	Other
	3	3	2	2	2	9

Figure 3

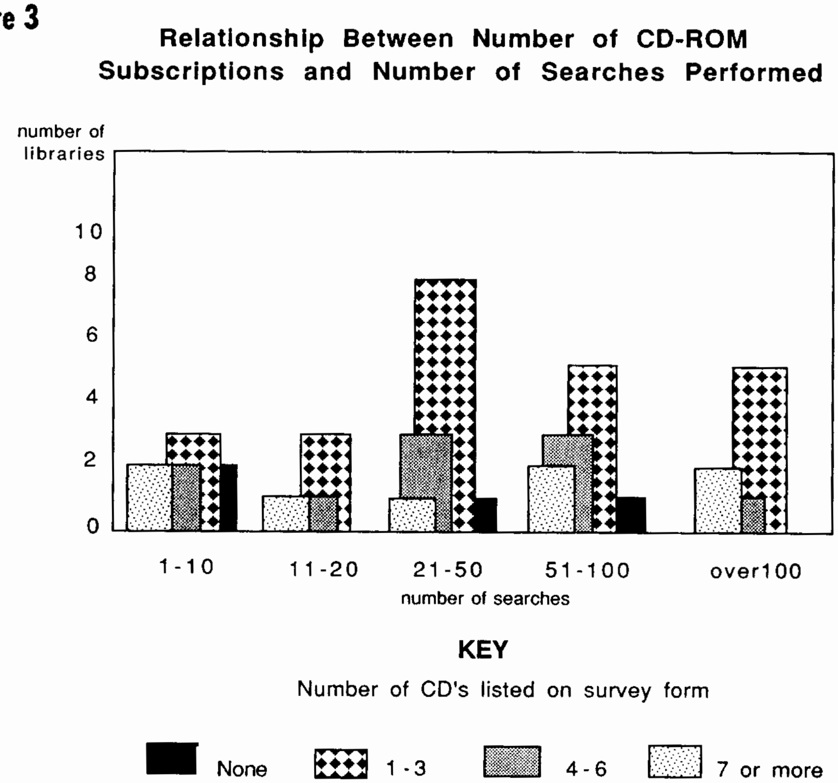
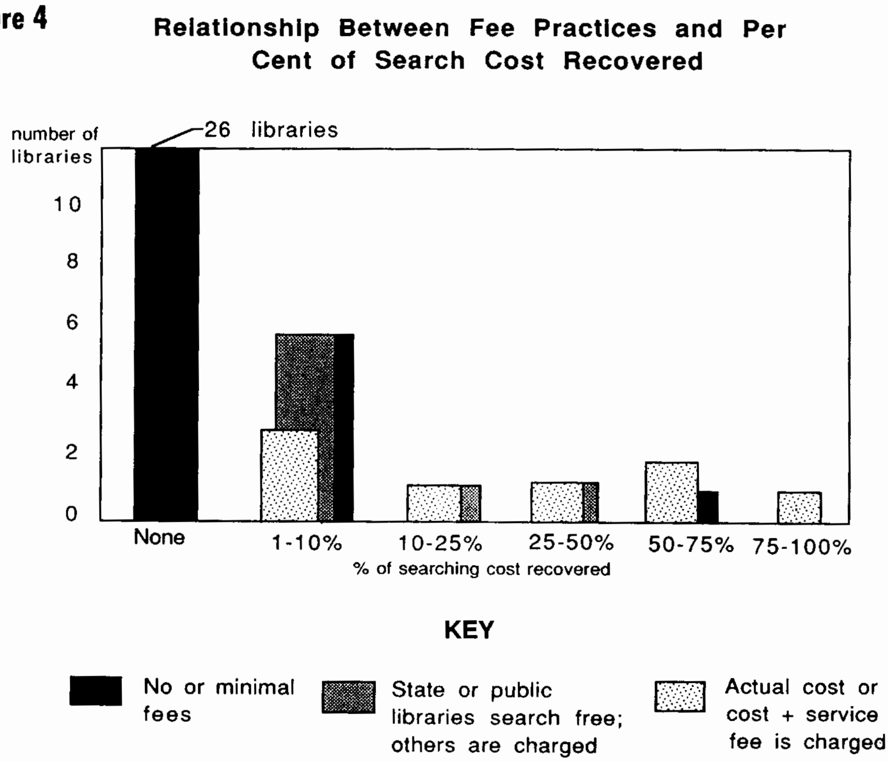


Figure 4



On the Scene

Ethnic Minorities in Librarianship: A Selected Bibliography

by Theo S. Jones-Quartey and Kit S. Byunn

■ As the United States of America becomes increasingly ethnically diverse, many libraries faced with the challenge of meeting the special needs of a multi-ethnic community, are committing to providing multicultural collections. The library community however, must not overlook the equally important need to work towards recruiting, retaining and managing a multi-ethnic professional library workforce. This paper and bibliography, focusing on the ethnic minority librarian, discuss the current state of ethnic diversity in libraries. This research brings together references to library literature pertinent to the issue of ethnic minority librarians.

A primary role of libraries is to meet the information needs of the communities which they serve. The demographics of the United States show that these communities are becoming increasingly culturally and racially diverse. It is important therefore, that libraries respond to this fact by reflecting diversity in both their collections and their professional staff. Unfortunately, ethnic minority librarians continue to be almost nonexistent. This bibliography focuses on the librarian or library service provider who is an ethnic minority. It is aimed at providing information on research and literature that is immediately relevant to ethnic minority librarians.

American demographic statistical projections clearly exhibit the increasing diversity of the population. African, Asian, Hispanic, and Native Americans now make up approximately 21% of the population of the Unites States and it has been projected that by the year 2000 these ethnic groups will make up approximately a third of the population. Sometime in the next century, this group may become a majority in the United States. Clearly, libraries must respond to this demographic reality in order to effectively serve their increasingly diverse users. Some efforts to adapt can be witnessed in the programs, collections and services of many libraries, especially those located in cities with large ethnic populations. These attempts to remove barriers to ethnic minorities and develop services sensitive to the needs of multiethnic users are recognized by most as fundamentally important and necessary responses. Yet it is vital that we do not overlook the crucial need to reflect the society's diversity by including, accepting, and retaining representatives of all the society's ethnic groups in the professional work force of our library institutions.

Diversity within a library's workforce should be viewed as a source of strength and richness. Librarians of color can bring unique insight and "perspective to the development of programs, services, and collections designed to meet the needs of varied users. Kravitz, et al, provide an excellent overview of the need to adjust library services to the "emerging majority." They point out that "a person of color walking into a library rarely sees a professional person of color and the collections often do not reflect his or her cultural and life experiences." Their paper concludes that the long term future of libraries as institutions depends in part on the "recruitment, retention, and advancement of people of color to the profession." [1]

Unfortunately, surveys conducted by the American Library Association (ALA) in 1980 and 1985 confirmed that librarians of color continue to be rare. In 1980, ethnic minorities made up only 11.8% of the professional library staff reported. [2] Even more discouraging was ALA's 1985 finding that there had been no increase in ethnic minority librarians but in fact a slight decrease to 11.5% of professional staff in libraries.[3] According to the U.S. Bureau of the Census, in 1988, Hispanics comprised a mere 2% of the library workforce and African Americans only 8%. [4] The 1990 Association of Research Libraries (ARL) survey reported that minorities had only 10% of all ARL positions.[5]

As the American population and individual communities become more multiethnic, the survival of a library will be dependent on its acceptance of ethnic minorities both as providers and users of library services.

By assembling source information research and literature focusing on the ethnic minority librarian, this bibliography should aid in the identification of the many issues involved in adapting library services to diverse populations by including more people of color in the professional library workforce.

The first section lists documents providing statistics and data of immediate relevance to ethnic minority librarians. The second section deals with the subject of library education. The relatively small number of ethnic minority graduate students in library and information science programs cannot be disputed. In 1989, minorities made up only 8% of those receiving master's degrees in library science.[6] A major first step toward increasing this percentage would therefore be to develop a larger employable pool of qualified librarians of color by encouraging the enrollment and retainment of ethnic minorities in library schools. A study of the experiences of ethnic minorities in library school, and the efforts being made by the schools to embrace cultural diversity, would provide great insight.

The third section focuses on the efforts to recruit ethnic minorities for librarianship. An important factor related to this issue is the sensitivity of the recruitment process to the need to seek qualified people of color for the library profession. The fourth section deals with some of the steps being taken to increase the awareness of multi-ethnic diversity within the library work place and to improve the management of such diversity. This is crucial to the retainment of ethnic minorities in the library profession. Information on how librarians are being prepared and trained to serve the multi-ethnic population without bias or prejudice can be found in these sources.

The final section lists sources (1975 to present) which illustrate the perceptions and opinions of librarians. African American librarians have long been a tiny percentage of the professional library workforce. Increasing numbers of Asians have come to the United States of America in pursuit of scholarship, yet Asian Americans are still significantly underrepresented in the library workforce. The 1990 census showed a fifty percent growth in the Hispanic (Chicano/Latino/Hispanic) population between 1980 and 1990, but changes in the composition of library staffs have lagged dramatically behind. Native Americans have long been virtually nonexistent on library staffs. In fact, the previously mentioned 1985 survey found the overall Native American (American Indian/Alaskan Native) population to be a mere 0.2% of the total professional staff in libraries.

It should be noted that this compilation is by no means a complete or comprehensive record of all the publications dealing with the librarian of color. Rather, it is a selection from the literature of some of the research most pertinent to this issue. ■

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Looking to the Year 2000: Information Professionals Chart the Course
The Special Libraries Association 84th Annual Conference Cincinnati, OH June 5–10, 1993

Chart your course to the SLA's 84th Annual Conference, June 5–10, 1993, in Cincinnati! If you are looking ahead to the year 2000 or to June 1993, this year's Conference will highlight the world of new and expanding technology, as well as greater cooperation between information professionals worldwide. You need to be there. As professionals, SLA members must continue their quest for quality, and this year's Conference programming will help enhance all participants' ability to effectively satisfy the needs of their clientele.

In thinking about the future, it is helpful to look at the past for a sense of history and purpose. The last time the Special Libraries Association met in Cincinnati was May 16–21, 1954, at the Netherland Plaza Hotel for the 44th Annual Conference. An archival copy of the program shows we had 15 divisions then. Now we have 27 divisions and five caucuses. In 1954, there were programs on planning libraries, handling irregular serials, preservation of materials, and subject headings in social welfare, to mention a few. There were 36 exhibitors in Cincinnati then, and for our 84th Annual Conference, we will have 300 exhibitors and 400 booths. The Association has grown and changed in many ways; however, one concern from the 1950s still rings true. Special librarianship should be tailored to serve specific and sometimes unconventional requirements of the organizations that we are serving. The format of information and the technology used for access will change dramatically as the decades go by, but the purpose remains clear. How we approach information needs in the 21st century will remain a key part of your future as a profession.

Even if you have been to Cincinnati before, make plans now for a return visit to see all the changes. If you have never been before, you are in for a treat. The city is a crossroads of Midwest commerce and culture. The Convention Center is spacious and there are 3,000 hotel rooms five blocks or less from the Center. A 16–block elevated pedestrian Skywalk system is your link to the hotels, restaurants, shops, stores, and banks. Be sure to allow some time in your schedule to sample the local cuisine, from a five–star restaurant to the five–way chili for which Cincinnati is famous.

For leisure hours, Cincinnati offers a wide variety of activities for every taste, from comedy clubs to the zoo, the opera, museums, or a Reds game. The riverboat cruises along the Ohio River are a wonderful diversion, too. Prepare now to enjoy the entertainment and culture of Cincinnati while you are in town. There are three museums within easy walking distance of downtown hotels. The Taft Museum and the Contemporary Arts Center will have exhibits ongoing during the SLA Conference. The Taft Museum also has permanent exhibits. The Contemporary Arts Center is where the controversial Robert Mapplethorpe exhibit was displayed in 1990. The third museum is the Cincinnati Fire Museum which has permanent exhibits pertaining to fire department equipment. Showboat Majestic, a riverboat converted to a small theater, will be presenting a play during the Conference week. The sawyer Point Proctor and Gamble Pavilion also has some entertainment scheduled that week. And for those looking for nightclub entertainment, there are several clubs to choose from in the downtown area, a selection of which includes: Ray Combs Cincinnati Comedy Connection, The Funny Bone Riverfront, The Blue Wisp Lounge and Jazz Club. There are also several places on Peter Rose Way and "Riverboat Row" on the Kentucky side of the river, and lounges in several hotels. For those looking for a leisurely sightseeing trip around the downtown area, there are horse drawn carriage rides available every evening starting from the Fountain Square area.

These are only a few of the many cultural and entertainment opportunities in Cincinnati that might fit into your schedule during the SLA Annual Conference. The SLA hospitality booth, staffed by the members of the Cincinnati Chapter of SLA, will provide a more complete list.

Conference Highlights

This year's Annual Conference will sparkle with brilliant opportunities for members to learn, network, and explore. After you register and pick up your Conference material at the Conference Registration site, located in the main lobby of the Convention Center, make sure you stop by the SLA Exhibit, located just off the main lobby. The exhibit will feature the latest and most up-to-date resources available on the market today.

Make sure you schedule ample time during the Conference to attend the two General Session, Monday and Tuesday of Conference week at 9:00 am each day. Monday will feature Raymond C. Kurzweil, the principal developer of the first omni-font optical character recognition technology. Tuesday will feature Barbara Mackoff, a consultant and lecturer with a unique approach to managing stress and increasing productivity.

The SLA divisions have planned a super program this year. With over 300 separate sessions dealing with SLA division business to such diverse topics as:

- Exploring the Notion of a Virtual Library
- Consumer Attitudes Toward Biotechnology
- Total Quality Management
- Time Savers for Solos...and Others
- IVHS—How Will the Smart Car Affect Your Personal Transportation
- Improving the Quality of Reference Service
- Desktop Delivery of Information in a Corporate Library
- The Ethics and Problems of Access to Information
- Internet
- Capital Tools: Maps for Business
- Organizational Positioning: Case Studies
- LANS and WANs and Real Life
- Streamlined Searching Techniques
- Planning for Automation
- Going, Going, Gone! The State of Library Security

The above is only a small fraction of those sessions planned by the 27 diverse divisions of the Association for your use and information. The Preliminary Conference Program (mailed to the full membership in March) will contain detailed information on all such planned activities.

Plan now! Your participation at SLA's 1993 Annual Conference is beneficial to both you and your organization. In fact, an investment in SLA's Conference will come back to the employer many times over. Here's how:

- by creating a more productive and capable employee;
- by enduring an employee's professional development;
- by providing cost-effective training to keep your organization competitive;
- by giving you new ideas that you can quickly and easily apply;
- by helping you learn about and compare the latest in library supplies and services in the Exhibit Hall;
- by providing a forum for interaction and the exchange of ideas that will enable you and your library to benefit from the successes (and to avoid the mistakes) of others;

... and in many, many other ways.

Between the programs, roundtables, courses, workshops, and the exhibits, you will learn about a new tool or technique that can be implemented in your library that will more than pay for your attendance—both in time and dollars.

Be on the lookout for the Preliminary Program booklet in March. For non-members wishing to receive a copy of the program, please write to SLA, attn: Manager, Conference and Meeting, at 1700 18th Street, N.W., Washington, D.C. 20009.

The Preliminary Program will contain the official housing form that you will need to fill out and return to the address mentioned to obtain a Conference hotel. The program will also contain the registration form with all instructions. You may fax your registration form to SLA if you charge the registration fee to a major credit card.

Conference Registration fees are:

Member Advance*	$150
Member on Site	$190
Member One Day	$110
Nonmember Advance*	$245
Nonmember on Site	$290
Nonmember One Day	$140
Students, Retired and/or Accompanying Person	$85

*advance registration must be received by May 1, 1993.

See you all in Cincinnati!

Be sure to plan time in you conference schedule to visit SLA's 400-booth exhibit hall!

Call for 1994 Conference Papers

The theme of the 1994 SLA Conference will be "Information Vision." The challenges of the 21st century are beginning to crystallize, and it is now time for inforation professionals to develop and implement an information vission that will enable them to be full-fledged participants in the future. The theme with its focus on vision embodies the following key concepts:

- managing for the next century;
- visionary information technologies;
- problemsolving and teamwork approaches;
- strategic planning; and
- workforce changes.

You are invited to submit papers for the 1994 Atlanta Conference that address the theme of information vision. Multimedia presentations and poster-sessions related to the conference theme will be considered. Papers accepted will be presented at the contributed papers sessions. Very specific submissions will be referred to appropriate divisions. ■

Guidelines

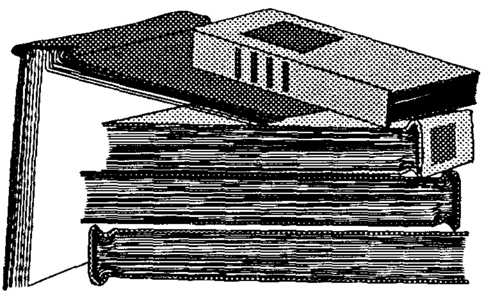
•**Abstract**— a 250–500 word abstract, acurately conveying the subject of the paper, its scope, conclusions, and relevance to the conference theme, must be submitted by September 24, 1993. Print copy should be sent to Stephanie D. Tolson, 2443 Netherton Drive, St. Louis Missouri 63135, phone (314)595-4529. An ASCII file on disc or E-Mail (**lord@U.washington.Edu**) should be sent to Charles Lord, University of Washington, Eng. Library Info Svc., FH-15, Seattle, Washington 98195, phone (206)685-8369.

•**Text**—the complete text of the papers is due at the Association office by April 2, 1994

•**Length**—paper presentation should take approximately 20 minutes.

•**Acceptance**—papers will be accepted only if the abstract has been submitted and evaluated, if the author is a member of SLA, and

Book Review



Advances in Online Public Access Catalogs. **Edited by Marsha Ra. Westport, CT: Meckler Publishing, 1992. 190p. ISBN: 0-88736-775-5.**

Advances in Online Public Access Catalogs is a new annual, edited by Marsha Ra of the City University of New York, devoted to the increasingly complex developments and incarnations of OPACs available to public service librarians and patrons. The book contains eleven articles grouped under three broad sections: user interfaces, enhancements of the traditional catalog record, and new definitions of the scope of the OPAC. The range of OPAC applications and trends examined is diverse and includes chapters on the music materials subsystem of ILLINET (Leslie Troutman), oriental language materials (R. C. Jamieson), and a model of cooperative cataloging in Yugoslavia (Primoz Juznic and Herbert Paar.) Less exotic but quite interesting is a study of OPAC use at Adelphi University (Terry Ballard and Jim Smith) and a description of the University of Illinois at Urbana–Champaign's dream techno–feast extended OPAC (William Mischo and Timothy Cole).

This last piece appears to have grown from previous work by Mischo and Cole (with David Stern), which first appeared in *Science and Technology Libraries* and *Database Searcher* in 1990. It would seem that the other chapters in this annual are appearing for the first time since none of the other titles is cited in the library literature from 1990 on—so we are getting fairly fresh material here.

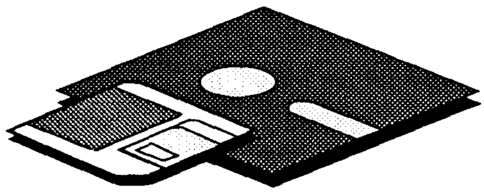
In general, the writing gets high marks for quality—there is even some lyricism: Andy Perry's chapter caps an evaluation of SUNY's integrated PAClink project with a wee sci–fi scenario for Millennium Day, 1999. Throughout, illustrative figures of display screens, diagrams, and the like are helpful and well chosen.

So much for the good news. The bad news is that I find this annual lacking in an overall editorial viewpoint and description of what it wants to be when it grows up. To be fair, yes, it is the very first issue, but Ms. Ra's pleasant and readable introduction does no more than give us a short take on OPACs (with the accurate observation that the public catalog is indeed becoming a new species, the total information system) and then tells us what we're going to read. No mention of what to expect for the future of this publication, no explanation of the criteria for inclusion of these articles, a rather perfunctory index, and—most damaging of all—no bibliography of related articles for the year. An annual collection about public service and OPACs is surely the ideal place for such a bibliography. Of course you could do it yourself, but its absence certainly diminishes the allure of this volume. As such, it may have difficulty reaching the large audience of special librarians it could otherwise attract.

I am also troubled by the fact that in nearly two hundred pages about advanced information–retrieval systems, I never once encountered the word "hypertext" or "hypercard." This may be nitpicking; there is a great deal to be said and written about OPACs and it can't all happen in one volume at one time. I just couldn't get over the feeling that a vital component of bibliographic acuity and utility that would justify this otherwise absorbing collection was missing, and at $55 a pop, I think *Advances in Online Public Access Catalogs* needs some editorial fine–tuning in order to become the publication it should want to be.

Brian Convery, Librarian, Video and Film Center, Free Library of Philadelphia

Software Review



TLC: Total Library Computerization ON POINT, INC. 2606 36th Street, N.W., Washington, D.C. 20007. 202-338-8914. Complete $2050. First module $550, each additional $500.

ON POINT has created a simple yet sophisticated product for small to medium- sized libraries called *TLC* (Total Library Computerization). This program is designed for IBM and IBM-compatible personal computers. *TLC* provides a means to automate basic library functions in six separate modules. The modules are: cataloging, borrowing, interlibrary loan, serials control, ordering, and memos.

TLC is written using askSam, a software program used in many special and school libraries. ON POINT has done the programming for you by effectively using the rich capabilities of askSam. The stand- alone modules are an attractive feature because a library can use any part of the system without being required to purchase the entire system. The down side of this is that *TLC* is not a relational database product. Although data have to be entered separately in every applicable module, *TLC* has a feature that allows the user to access all data in a single search called Global Search. This Global Search capability compensates for the lack of a relational database.

TLC is menu-driven. The user moves through a series of menus to add, update, print, and delete data and records. Menu item descriptions can be edited to reflect local procedures or terms. Menu options and progressions are self explanatory. Operators/technicians/librarians will be able to perform most transactions with little training. The on-line help is excellent as far as it goes. Some complex tasks may require additional information.

The individual templates consist of fixed-length fields. The fields were long enough for our test data, so they did not pose a problem. Some of the field names were difficult to interpret intuitively; but as with all systems, as the user becomes familiar with its idiosyncrasies, the user will adapt. Addresses may need to be modified for some publishers. Unlike some database programs, users are not required to complete all fields to add records to the database.

Acting as the core for some special libraries, the Cataloging module has individually designed templates for entry of books, serials, journal articles, chapters in books, reports, congressional documents, and added copies. At the end of the data entry, a simple control-end saves the record and a carriage return displays a blank template. ASCII records from other database sources may be imported. After this review was written, ON POINT released separate software, which will derive a *TLC* record from a MARC record.

The circulation section, called Borrow, provides easy access to items lent and items returned. The templates and field names were clear and functions easily performed. We found this module to be the best designed in *TLC*. All library staff can learn to use this quickly. As an added bonus for school libraries, you can search by grade or group to get a listing of items charged out.

Interlibrary loan is separated from the Borrow module. Some libraries may be used to having these functions combined, but this is desirable for libraries that do not monitor internal loans. These libraries may prefer that the interlibrary loan function stand alone. This module has templates for items lent to and items borrowed from other libraries. It also allows for entering information on cooperating libraries. The standardized reports were very logical and useful. Return of interlibrary loans is simple and requires only a few keystrokes. Standard interlibrary loan forms may be printed from this module.

The Serials module supports check-in, routing, claiming, binding, and fairly sophisticated fund accounting. Reports include lists of journal titles and individuals receiving them; holdings report listed alphabetically by title; current subscriptions with frequency but no holdings; and journals with expiration dates. Accounting reports include a quickly accessible total of expenditures by title and client charges.

Fund accounting is also an integral part of the Orders module. Fund accounting may be seen on the screen or printed as in all of the other reports. This module holds vendor information in a separate file. Using codes the library staff selects, the vendor information is attached to the individual order. This information is printed as an order. Templates are straightforward and reports are useful and easy to produce.

The Memos module covers the more informal "office" automation function. In cases where a library controls office memos, reports, or whatever, this module gives you the skeleton for developing an index to this paperwork. It is a searchable, brief record, which allows you to assign keywords and input a short abstract. This is an unexpected bonus of the *TLC* product.

Searching the catalog is relatively easy. The first option is through the cataloging module using the menus. You can narrow the search to either author or title by using other menu options. Also available is a Hits feature, which shows the number of matching records for each search. The second option is using the Global Search. The Global Search function is separate from the menu system. It searches all modules using Boolean logic, in addition to the segment searches, truncation, and proximity searches. Reports of search research results can be printed.

In order to evaluate the ease of use and clarity of the software, each of us first tried to manipulate the modules with no assistance from the manual or the on-line help. Much of the menu-driven system was intuitive. We found the manuals and the on-line help offered advice when needed. Librarians who are familiar with askSam will find this product useful. Those not familiar with ask Sam will need more time to explore all of *TLC*'s features.

Since this review was prepared, ON POINT'S developer has informed us of a number of enhancements to the software. We have not seen these improvements and so are unable to comment on them. Some of the changes reported follow. The MARC interface is now available. Two more modules have been developed: Locate provides branch library holdings control and Document provides full text retrieval to be used with Memo or independently. In addition to many new reports and forms, ON POINT has made the following changes: Memo has expanded to include a separate section for controlling vertical file documents; serials records archiving has been streamlined; and backup and disk storage procedures have been designed to be done in one operation.

Catherine R. Selden, Urban Institute, and Jean R. Conrad, Federal Trade Commission.

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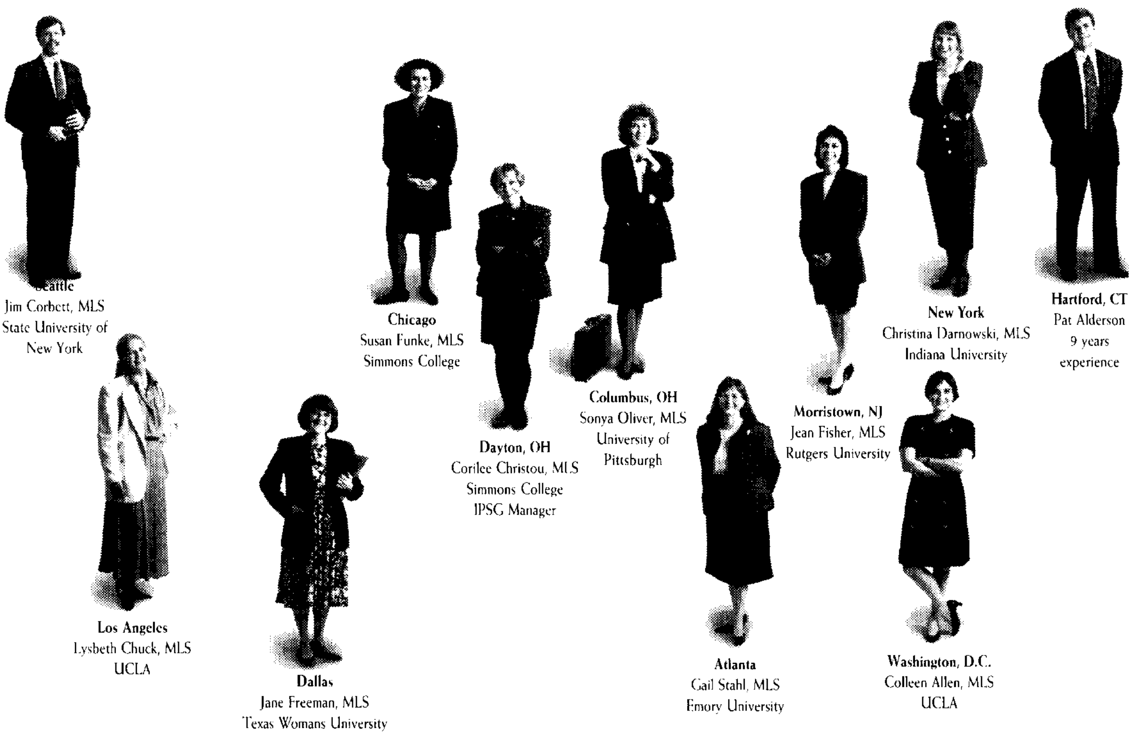

You may recognize the faces of the charter members of the NEXIS® Information Professional Support Group. But now there are seven new members: Pat Alderson in Hartford, Jim Corbett in Seattle, Colleen Allen in D.C., Gail Stahl in Atlanta, Jean Fisher in Morristown, Jane Freeman in Dallas and Sonya Oliver in Columbus. As a whole and individually, this team has one purpose -- to serve professional librarians with specialized seminars and one-to-one consultation in areas such as data base usage or marketing of your information center.

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