Summer 1994

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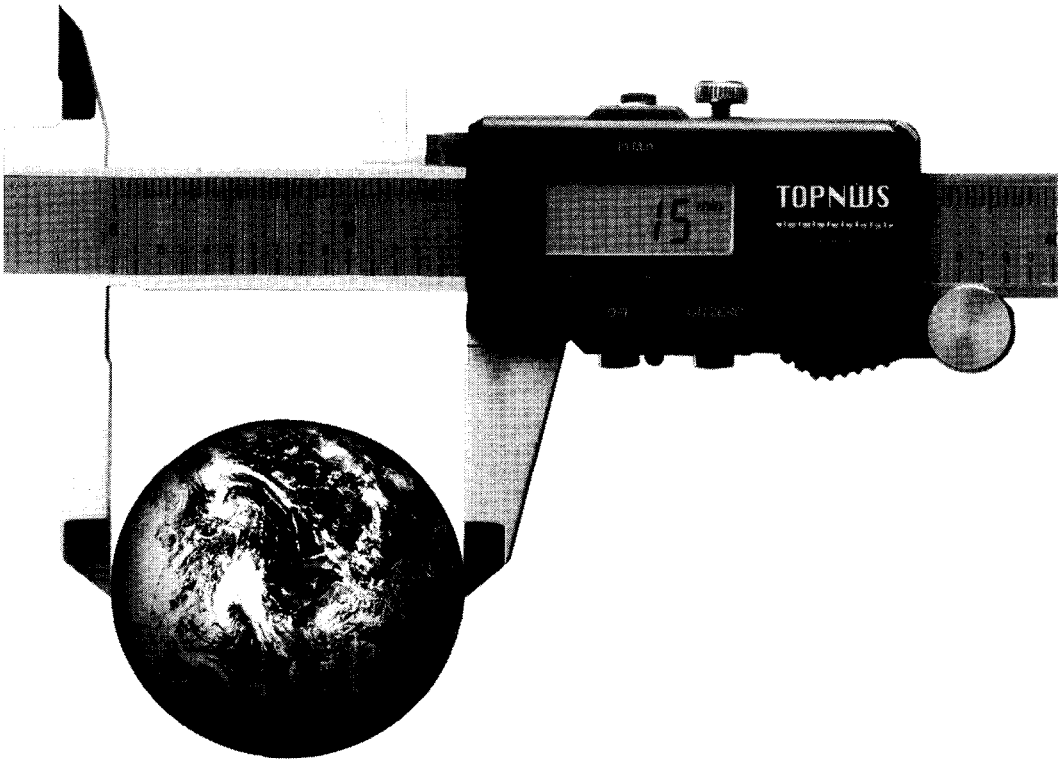

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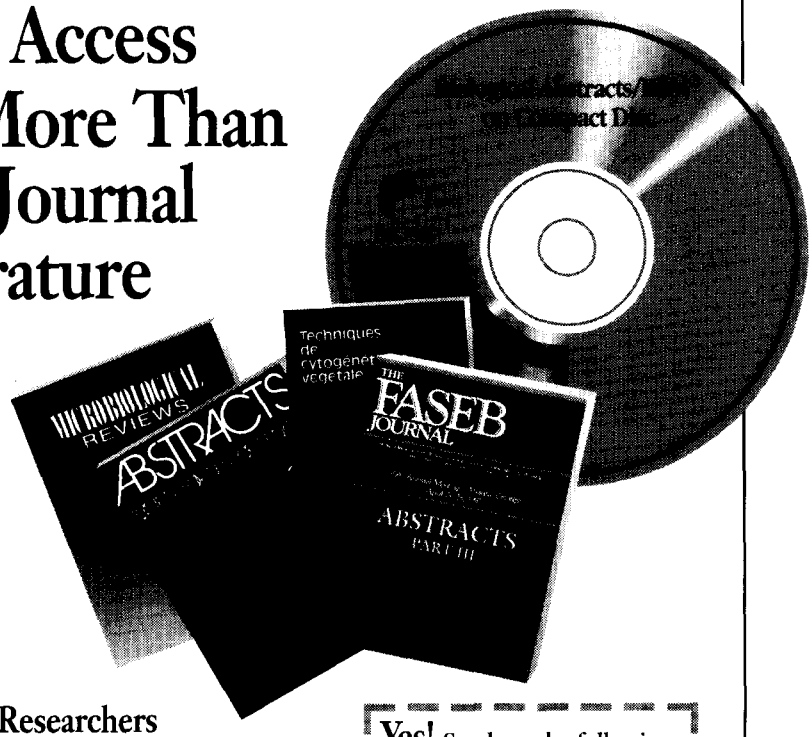

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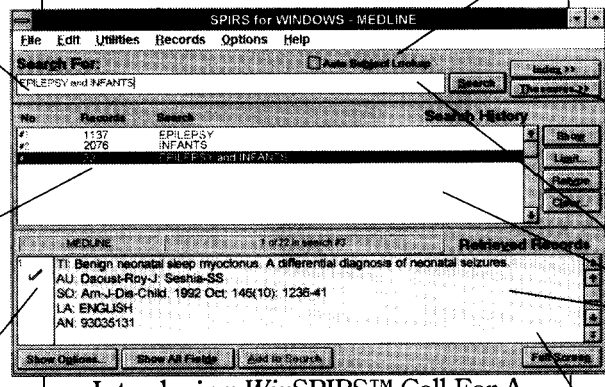

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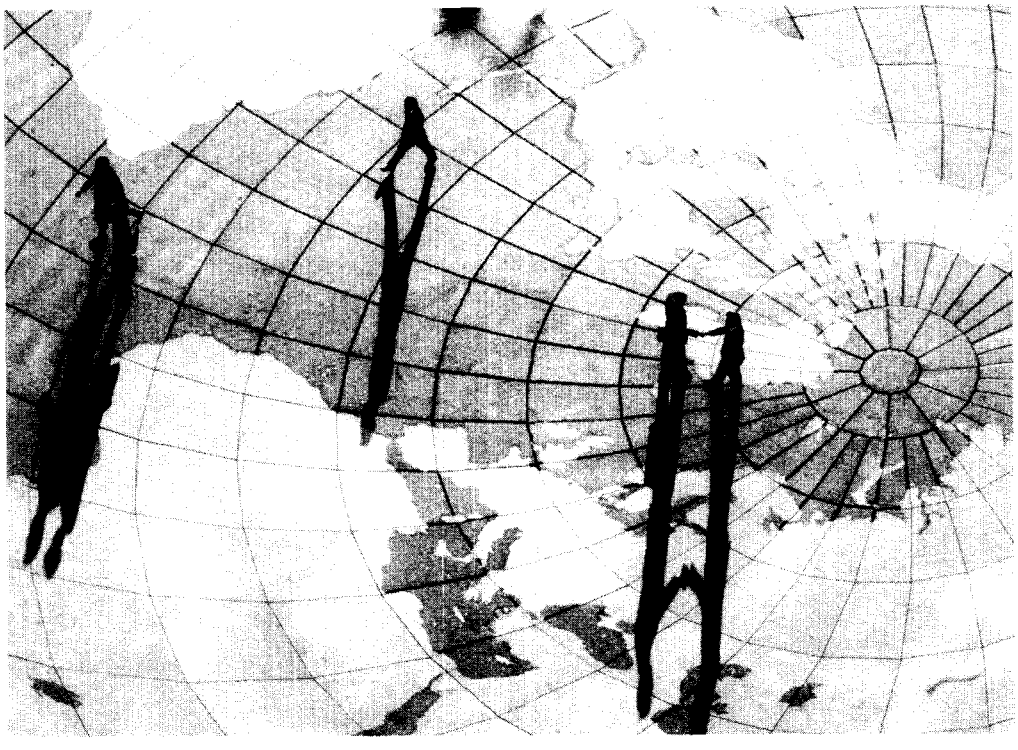

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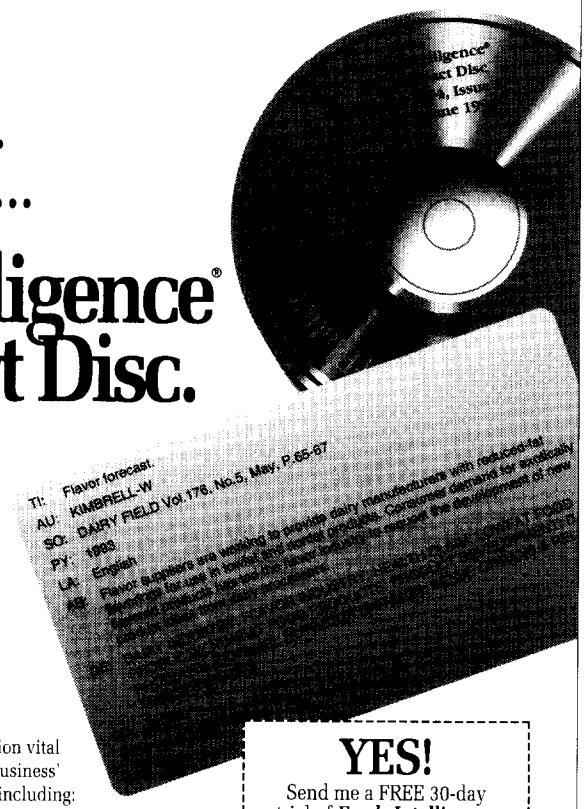

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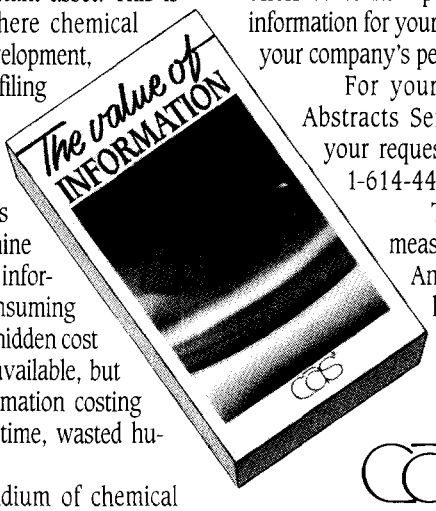

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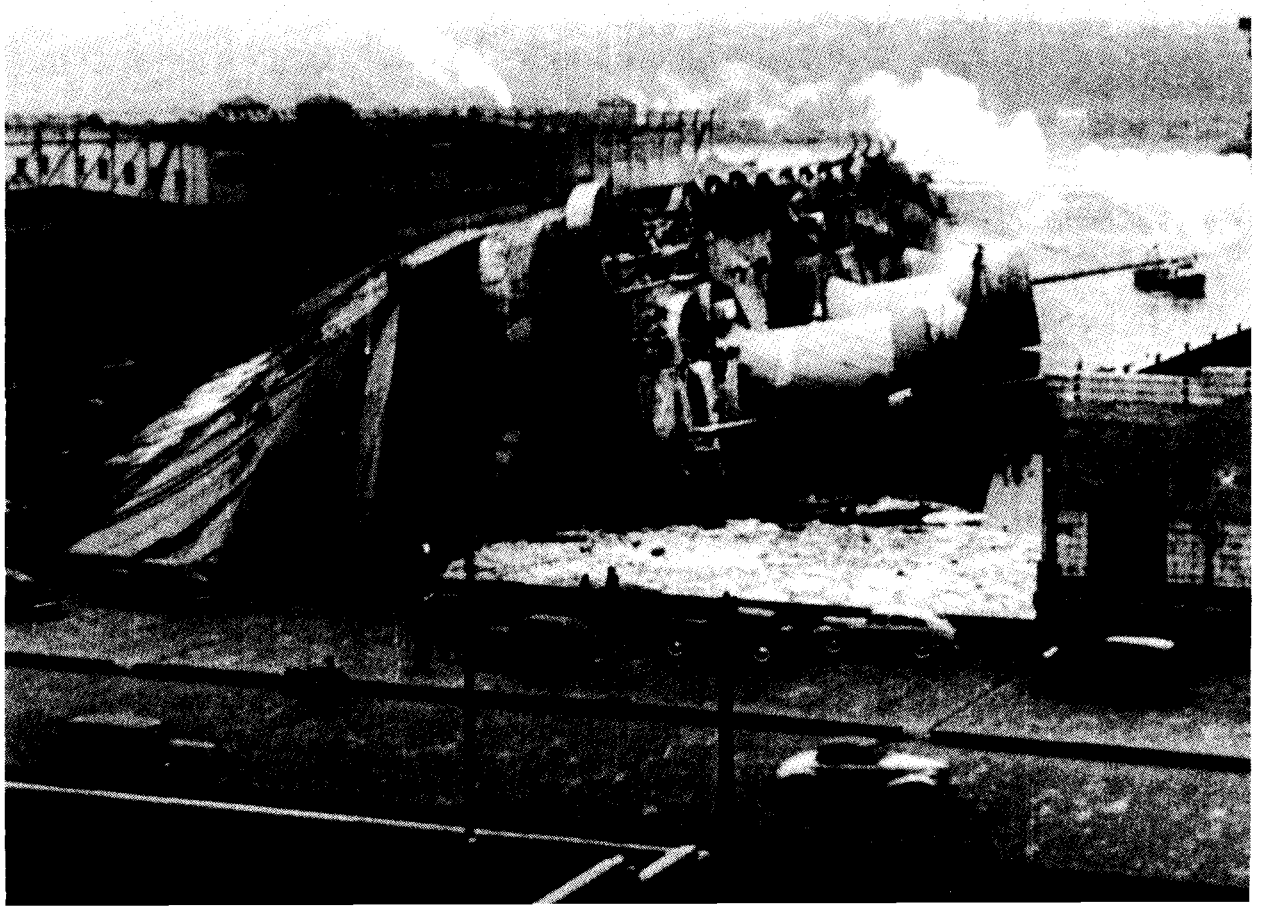

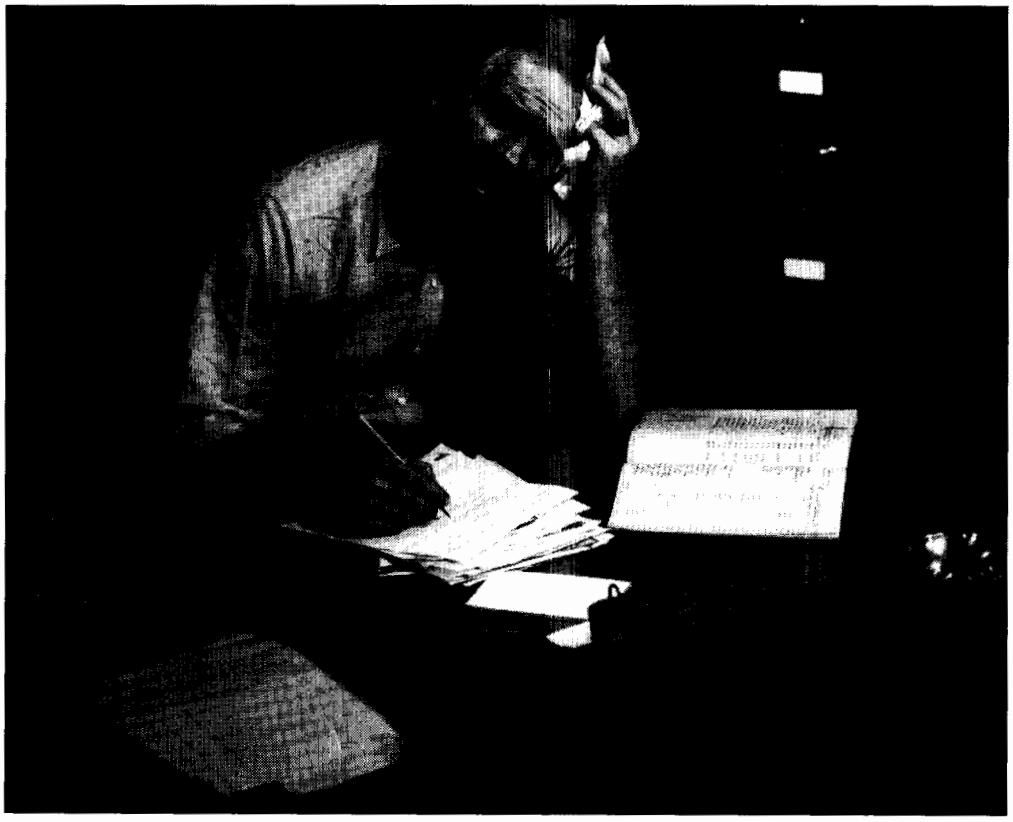

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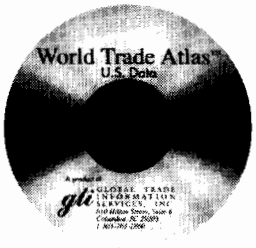

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Maximizing Use of the Journal Literature with an Integrated Software Environment

by David A. Richardson

■ **A special library is described in which computer programs work together to enable researchers to make the most of the journal literature. Using computers in their labs, offices, or homes, end users search the literature through a CD-ROM-based network. They download records and then create their own databases using bibliographic database software. A significant advance is the recent integration of this bibliographic manager into the word processing software that the researchers use. This allows them to use the database to add citations and bibliographies to their papers without ever leaving the word processing program. A discussion of lessons, problems, and possible rewards gives other librarians considering setting up a similar environment an inkling of what to expect.**

The Whitehead Institute for Biomedical Research is affiliated academically with the Massachusetts Institute of Technology (MIT), but is financially independent. Its focus is basic research in molecular biology and genetics, and it has recently become an integral part of the Human Genome Project. Eighteen principal investigators with their own labs peopled by a small army of about 135 postdoctoral and 65 MIT graduate students comprise two-thirds of its scientific staff (the balance is made up of technicians and visiting scientists). These researchers have an intense dual relationship to the relevant scientific literature, which is essentially the journal literature: they need access to it to facilitate their own work and they are expected to contribute to it to either maintain or establish their own reputations. Indeed, since its founding in 1982, the Whitehead Institute has become a leader in terms of how many times the papers of its researchers are cited.[1] Its library provides an environment that both enhances access to the literature and makes it easier for researchers to make contributions to it.

Local-Area and Wide-Area MEDLINE

The foundation of this environment is networked MEDLINE, the National Library of Medicine's database which indexes and abstracts the core 3,500 international biomedical journals. An Apple Quadra 800 in the library functions as the MEDLINE server on the Whitehead's AppleTalk network. The server is running AppleShare 3.0 to make its files available to the approximately 150 computers on the network. The server and the computers that connect to it are running EtherTalk, the Macintosh version of the Ethernet protocol. The Whitehead Library uses the only version of MEDLINE specifically designed for the Macintosh, KnowledgeFinder, a CD-ROM based system from Aries Systems. Aries divides the MEDLINE database into seven files covering the literature from 1966 to the present.

Each month an updated CD-ROM with the most current three years of the literature is received and copied to a folder on the one-gigabyte hard disk of the server. Having the current file on the hard disk rather than on CD-ROM allows faster access and supports more concurrent users. Some of the database's index files (like the MeSH thesaurus, the controlled vocabulary for the database) are also copied to the server's hard disk to speed up the search process (see Diagram 1). The back files, i.e. the older journal literature, reside on six CD-ROM players daisy-chained to the server. The data in all seven files is compressed to allow for easier storage and for faster transmission over the network. A copy of the MEDLINE search software is also kept on the server's hard disk for researchers to download to their own hard disks in their labs and offices. Running the MEDLINE search software on their own computers, patrons share the MEDLINE index files and records stored on the server with other users on the network. This is classic file sharing.

desktop and partly to the remarkably easy-to-use KnowledgeFinder search software. Unlike most versions of MEDLINE, which have a command language, employ Boolean logic, and try to get the patron to use the controlled vocabulary of the database, KnowledgeFinder lets the patron enter his/her own terms the way he/she wants. Because the terms in the database have pre-computed weights, the patron retrieves a ranked list with the records that are probably most relevant showing first. KnowledgeFinder does not restrict the user to its probabilistic approach, however. Patrons can opt for the standard kind of Boolean search using controlled vocabulary. The two approaches can also be combined. Amazingly, patrons rarely need help in searching. This contrasts sharply with my experiences over the years with end users of other versions of MEDLINE (from BRS, Dialog, SilverPlatter, etc.). The absence of patron problems with searching is not necessarily a measure of success, however, since many users are undoubtedly satisfied with incomplete results.[2] Hand-

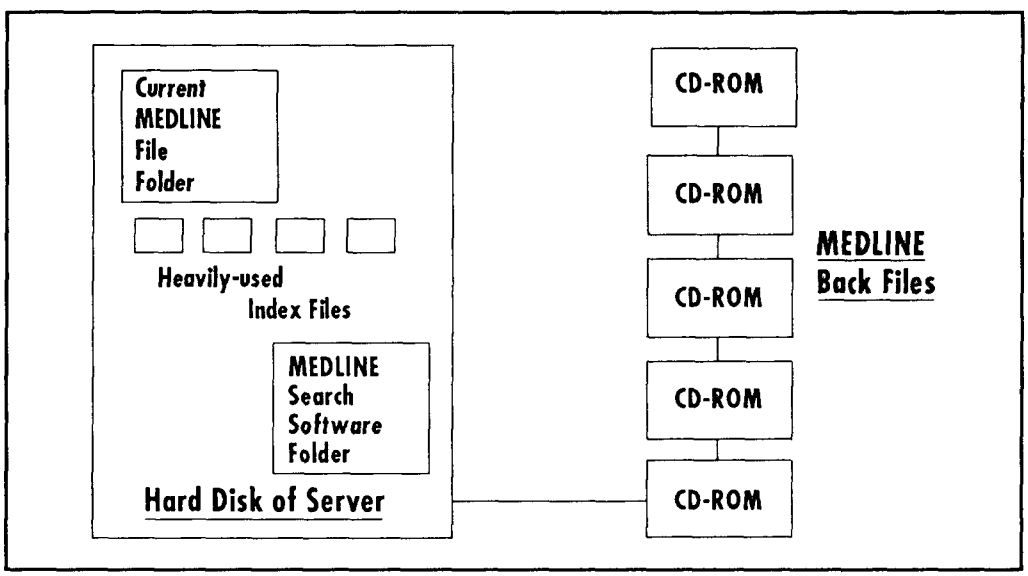

Diagram 1

This relatively inexpensive arrangement has been immensely popular with the scientists from day one. I attribute its success partly to the convenience of having a synopsis of the biomedical literature on one's

outs available in the library, hands-on sessions, and regular columns in the Whitehead Institute *Bulletin* attempt to counteract the tendency to complacently accept any results by emphasizing that comprehensive and reli-

able literature searching is no easy task.

The Whitehead Library also offers free wide-area access to MEDLINE. The Whitehead's computing department supplies a copy of AppleTalk Remote Access software to researchers who have home computers and high speed modems. This allows them to connect to the Whitehead network through Shiva Corporation's LanRover/E, a network server that connects an Ethernet network to remote Macs via telephone lines. Once connected to the Whitehead AppleTalk network, remote users can connect to the MEDLINE server in the library. The library either supplies them with a copy of the KnowledgeFinder search software to install on their home computers or encourages them to copy it off the MEDLINE server's hard disk. Once connected to the Whitehead network and the MEDLINE server from their home computers, users start the search program. KnowledgeFinder determines that a slow data path, i.e. a modem, is being used and switches over to a mode in which the search and document retrieval is processed on the server itself, rather than on the patron's own computer (an additional program from Aries is installed on the server to make this possible). The search results and the records are then sent directly to the patron's hard disk at home.

This is a true client/server model of computing. With it, researchers can do their literature searching at home without worrying about communications software or about file transfer protocols, as is usually the case.[3] This is also much easier than using remote control software, with which we had been experimenting, and which is recommended by several authors.[4,5] That approach requires users to buy and learn an additional program, the remote control software, viz. Farallon's Timbuktu, and to have unrestricted access to two computers, one at work and one at home. Once connected to the Whitehead network using AppleTalk Remote Access, researchers at home used Timbuktu to gain control of a Mac at work. This screen-sharing software allowed them to see what was on their computers at work from their monitors at home. Furthermore, they used their keyboards and mice at home to issue commands to their work computers. Consequently, they had full access to the files and programs on their computers at work while sitting at home. They commanded their work computers to do a MEDLINE search and it was processed on the network at work at full Ethernet speeds. Using Timbuktu's Exchange Files command, they then sent just the results of their searches to their hard disks at home at the much slower speeds supported by modems. This approach worked but it was much more awkward than the present system.

Current Contents-Life Sciences and UnCover

The drawback to CD-ROM-based information services is that they are generally two to three months behind what is being presently published. To keep researchers as current as possible, the library provides two additional tools: Current Contents-Life Sciences with abstracts and UnCover. Current Contents is mounted on the Whitehead AppleTalk network. It resides on the MEDLINE server, and is thus a logical complement to MEDLINE. Anyone connected to the MEDLINE server can also do a Current Contents search. Although it only gets a small fraction of the use that MEDLINE gets, Current Contents is considered much more useful by the researchers now that it contains abstracts and now that stored queries may be run against six weeks of bibliographic data at once. Since Current Contents falls two to four weeks behind what is currently published, the library also offers UnCover to close that gap. UnCover is a free table of contents service covering more than 14,000 journals. It is available on the Internet by telneting to database.carl.org. Updated daily, it provides access to a wide variety of journals not covered by either MEDLINE or Current Contents-Life Sciences. A script or "macro" has been set up on the public-use computers in the library for researchers who want to use UnCover. Once a patron sets the script in motion, it automatically answers the vari-

ous prompts that UnCover generates and gets the patron to the basic search screen in about 20 or 30 seconds. Each computer in the library is running MacTCP, telnet driver software, and PacerLink terminal emulation software to participate in such Internet-based services.

EndNote

While providing convenient access to the literature is undoubtedly important, helping one's patrons to take advantage of that access to create their own publications may be even more so. The bibliographic database manager EndNote accomplishes this task.

Downloading records with abstracts from both MEDLINE and Current Contents-Life Sciences into a format that can be imported into EndNote is simple. Researchers at the Whitehead have been doing this to create their own databases for years. A quantum leap in convenience, however, is the recent integration of EndNote into the word processing program Microsoft Word (5.0 or later) as a so-called "Plug-in Module." Since EndNote effectively becomes part of Microsoft Word, users always have access to their personal databases from within their word processing program. If, for example, a researcher is working on a paper using Microsoft Word to submit to the journal *Nature* and he needs to cite a reference, he can simply pull down the *Tools* menu, select *EndNote Plus Module*, find the reference he needs in his bibliographic database, select *Insert Citation(s)*, and he automatically returns to the text of his paper with the cite appended (see Diagram 2). Likewise, when he completes the paper, he pulls down the *Tools* menu again, selects *Format Bibliography*, and the in-text citations and bibliography that they refer to are added to his paper in the style prescribed by the journal *Nature* (if he has set that style as the default). All of this is possible without ever leaving Microsoft Word.

This is the sense in which the library provides an integrated software environment at the Whitehead Institute: by alternately using MEDLINE (KnowledgeFinder), Current Contents, EndNote, and Microsoft Word, researchers can find the information that they need and use it to produce research papers, grant proposals, and dissertations in their labs, offices, or homes, without ever going to the library.

Lessons

The problems encountered are the standard ones that librarians face when providing computerized services to their patrons. It is necessary to learn how to set up the hardware and software, to deal with the software producers when at an impasse, and to test out the programs. While the Whitehead's computing department has always been supportive, from the beginning it maintained that the librarian should be the administrator of library-based services and that he should try to do as much as possible without asking for help. Having spent my career in the IBM world, I was a Macintosh novice and felt uneasy at first. As a result of the computing department's policy, however, I developed the confidence to deal with problems as they arise and now go to the computing department for help only when completely befuddled.

Support of the library's services include handouts that explain in "cookbook style" what patrons need to know: how to use the services to do a search, how to get into MEDLINE from home, how to import records into EndNote, etc. Support also includes regular installments in the Institute *Bulletin*, which not only let patrons know what is available, but also supply concrete examples of potential applications. I make myself available to patrons for hands-on lessons in the library and I respond to "bibliographic emergencies" by going into labs or offices to show patrons what to do.

The resistance to change that is familiar to many librarians becomes an issue when software is upgraded or when the procedure

for using a program changes because the computing department reconfigures the network. To date, however, the most headaches have arisen from troubleshooting problems that patrons get themselves into using the bibliographic database manager, EndNote. This is not necessarily the fault of EndNote, which is much easier than ProCite, a similar program that was used for several years. Some patrons, for instance, do not read the handouts in the library or attempt to look at the manual and end up doing things explicitly warned against, like using different versions of the program in the same paper.

Finally, making it easier for researchers to search the literature has impacted the library's document delivery function, confirming a phenomenon noted in the library literature.[6] Requests for copies of papers have greatly increased since MEDLINE and Current Contents-Life Sciences have been networked. Even though we have access to large research collections at both MIT and Harvard University, orders for papers not locally available have more than doubled in the past two years. The line in the library budget to cover the fees of outside document delivery services has increased accordingly.

Conclusion

It is now possible to set up a local- and wide-area network in which several programs work together to enable patrons to search the literature, create their own bibliographic databases, and use the results to easily add in-text citations and bibliographies to their publications. To offer this service, the librarian should be prepared to learn the intimate details of both networking and the specific programs involved. In the Apple Macintosh world, this is a straightforward task involving no special knowledge (such as a degree in computer science). The librarian should also be prepared to spend time promoting the services with handouts, giving hands-on lessons, and troubleshooting with patrons who have difficulties. Additionally, the librarian should expect to spend more time and money tracking down references that patrons would not have known existed if the librarian hadn't introduced the computerized services in the first place. The rewards for all of this effort will be increased professional status and many thanks from researchers who realize that they can be more effective in their work because of the convenient access to the literature that they enjoy.

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Assessment of a Library Science Program Specializing in Chemical Information

by Gary Wiggins and Cynthia Monnier

■ **The demand for chemistry information specialists, particularly those with both an undergraduate (or higher) degree in chemistry and the Master in Library Science (M.L.S.) degree, is very high. The authors examine the suggestions and comments of the graduates of the Indiana University M.L.S.-Chemical Information Specialist program to gather ideas for updating this graduate program. The current program is aimed at preparing students with a minimum of a bachelor's degree in chemistry to enter the profession of chemistry librarianship. Educational background of program graduates is given, as well as the nature of first jobs and current positions held and databases most frequently used. Graduates generally favored more training in computer skills, patent searching, and management skills as enhancements to the program.**

Introduction

A recent workshop on chemical information careers confirmed that there is a great demand for chemical information specialists.[1] Indiana University's Chemical Information Specialist Program was started in 1969, and is a joint program of the School of Library and Information Science and the Department of Chemistry which results in a master's in library science (M.L.S.) degree with a specialist certificate in chemical information. The curriculum emphasizes special librarianship and information science and requires the completion of three one-hour chemical information courses among the 36 hours necessary for the M.L.S. In order to receive the certification, students must also have at least the equivalent of a bachelor's degree in chemistry. Students who complete the program have substantial experience searching chemical databases and may avail themselves of a voluntary reference internship in the Indiana University Chemistry Library. In addition, they learn to use the traditional printed reference tools in chemistry.[2,3]

In Spring 1992, Chemical Information Specialist graduates were surveyed to determine their perceptions of how well the curriculum had prepared them and what improvements or enhancements to the program they would suggest. Of 21 students who had graduated as of January 1, 1992, 19 were interviewed by telephone. The goal of the survey was to determine the relevance of the Chemical Information Specialist requirements to the needs of corporate information centers and university libraries where graduates of the program were then employed. This paper presents demographic data about the graduates and a summary of their comments which may interest library school educators, potential employers, and students who are interested in careers as science librarians. Results are summarized on educational background, employment history, on-line vendors and databases searched, and the respondents' reactions to the existing program, suggestions for course improvements, perceptions of trends in

the profession, and the hiring requirements at their places of employment.

Educational Background

Information about undergraduate degree, advanced degree(s) and the year the M.L.S. was received was sought. The analysis in Table 1 excludes the M.L.S. degree, which was held by all survey participants. About one-third of the program graduates had graduate training in chemistry beyond the B.S. or B.A. degree (See Table 1, page 136).

Employment History

First Jobs

Five graduates of the program have been working five years or less, while 14 have been working for seven years or more. First jobs held after graduation were primarily in industry (14 out of 19; 74%), and five students (26%) began their careers with a university or research center. Nearly all these jobs involved on-line searching of chemical or life sciences databases in addition to other reference duties. First employers included the National Library of Medicine, Eli Lilly, The Dow Chemical Company, Union Carbide, Massachusetts Institute of Technology, Clemson University, Bell Laboratories, Shell Oil, Memphis State University, Xerox, and Petrolite. The most frequently mentioned duties on first jobs, in addition to on-line searching, were collection development, selection of computer systems/software, cataloging, and automation of library functions. Those working in university settings were less likely to mention on-line searching as part of their duties; the corporate setting always involved considerable on-line searching, as well as related duties.

Current Jobs

Of the 19 individuals surveyed, 16 were still working in science libraries or technical information centers. Three were in related fields (specifically, as a patent attorney, structure analyst, and computer science student). Those who were still relatively new in their work were doing the most on-line searching (N=8), while those with more experience were more likely to be managers (N=4) and/or to be working with computer automation of functions, systems design, or database development (N=10).

In Table 2, all types of current responsibilities are included, so the totals add up to more than 100% (see Table 2, page 136).

Vendors and Databases Searched

Tables 3 and 4 indicate the vendors and the databases most frequently searched by the respondents. "Total score" is the sum of the numerical placements of ranking of the vendor or database, with "1" indicating vendor or database most frequently used. A low "average score" generally indicates that the service or database is most often the first choice by respondents who use the service, but no overall preference of vendors or databases can be read into comparisons of the average scores (see Tables 3 & 4, page 137).

Databases Searched

Databases mentioned once were: NEWSNET, PharmNews, Genome Data Base, and INPADOC. Other generic responses were: drug indexes, polymers, and patent databases.

Reactions to the Existing Program

Comments on the overall M.L.S. program were mostly positive with regard to the science-technology and other reference courses and the on-line searching course. All former students were positive about the preparation they received, i.e., the chemical information courses which they took at Indiana University and their general library school preparation. Comments included "good," "excellent," and "felt well prepared."

All survey participants enthusiastically supported the idea of an internship for new graduates. The Indiana University Libraries at Bloomington includes six science branch libraries, and most graduates had some chance to work either in the Chemistry Library or another library on campus (paid or unpaid), or had an internship with a major company or

institute before beginning their first jobs. Comments on this experience included, "very valuable," "invaluable," "essential," and "strongly desirable."

Suggestions for Course Improvements

Several survey participants said the cataloging and collection development aspects of the M.L.S. program needed to include more material geared to the needs of special librarians and special libraries, noting that the primary emphasis was on preparation for public and academic libraries work. Most respondents had ideas which could be used to modify the university curriculum or course work. Their comments did not call so much for specific changes in the program as it stands, but were general remarks on trends in their work and the types of things duties they are required to perform.

On-line Searching

Thirteen out of 19 survey respondents (68%) discussed on-line searching, and seven commented on on-line patent searching. The Indiana University M.L.S. program includes a course in on-line searching (DIALOG only as of early 1992). The comments generally fell into two categories: 1) more exposure to science databases is needed; and 2) more experience with vendors is needed. Those participants who were most satisfied with their database preparation were the most recent graduates. Some survey participants identified a need for more help with the evaluation of data retrieved from searches.

Several said they would have liked more experience with the science databases on DIALOG in the M.L.S. course on on-line searching and felt that the course was oriented too much towards the humanities. Regarding the courses aimed at chemistry librarianship, one graduate said more experience was needed on organic, agrochemical, biochemical, pharmacological, and organometallic chemistry topics.[4] Another expressed a need for more on-line practice and said he had not felt confident in his abilities at the end of the semester.

The respondents voiced the need for hands-on experience with as many vendors as possible. Several survey participants mentioned the need to learn other on-line systems besides DIALOG, e.g., ORBIT, STN, Questel, or to work with other databases, e.g., Derwent patent databases and MEDLINE. Several stressed the importance of chemical sub-structure searching. A more specific request was to be exposed to other databases in STN (DIPPR, for example) and to learn how to use the computer to calculate numeric values. In order to broaden the perspective of M.L.S. students, the respondents suggested bringing in doctors and scientists who would provide examples of the kinds of searches they need.

All participants who worked with on-line searching mentioned that they need to constantly update their knowledge of the software and that they frequently attend vendor workshops to learn the latest improvements and upgrades. The trend towards better, easy-to-use front-end software, such as STN Express and Grateful Med, was seen as a positive development. This software allows more end-user searching and lets end-users do the easiest searches on their own, leaving the more challenging searches for information specialists.

Computers

The second most frequently discussed topic was the need for more information on computers, mentioned by 11 graduates (58%), primarily in three areas:

1. Database management systems: A need was expressed for training on large files (100,000 records or more), relational databases (what they are and how they interact), the use of software to create internal databases, and how to work with staff computer programmers to develop databases. It was suggested that students need more exposure to computer systems work, because many special libraries perform their own database creation and indexing. In addition, the need to develop user-friendly screens for use by research scientists whereby they can request information from the library was noted by five survey participants.

2. Repackaging and analyzing data: There

is a need for exposure to software that repackages data retrieved from on-line searches or which analyzes search results. Five graduates mentioned that downloading and re-use of search results with bibliographic software such as Pro-Cite would be a useful part of an on-line search course.

3. Personal computers: More computer courses in the regular M.L.S. program were suggested. In general, respondents felt that students should take as many computer courses as possible. "We got the basics, but we could have used more," one said. Another topic suggested for possible inclusion in an M.L.S. program was electronic bulletin boards for professional use. Students should know the Internet, how to access full-text resources, how to set up a LAN, and how to install a CD-ROM system.

Patents

Eight respondents suggested more preparation on the concept of intellectual property, including patents, trademarks, and trade names, and the related topic of copyright. Several expressed the need to know about basic patent laws of the major industrialized countries, not just the United States. In addition, the importance of understanding copyright law was noted, especially with regard to database contents—copying and storing abstracts and electronic document delivery. One patent specialist noted that bench chemists/end-users should not do their own patent searching because patent searches must often be comprehensive, which requires the use of databases *and* manual searching. This is especially important for process searches; for example, finding the patents for how a compound is made. Because of the importance of performing complete searches, chemical companies may send employees to the U.S. Patent and Trademark Office to search old records and relevant databases, a skill that is more critical now than ever before, because lawsuits can result in huge monetary settlements if library research is faulty.

Management Skills Issues

Five respondents expressed the need for more help with management issues and the development of skills to make convincing presentations before higher-level managers. Suggested topics were: how to make action plans, how to show the cost and benefits of various software packages or systems, how to make a presentation with flow charts to convey important points, cost justification, and handling workplace politics. For many library school graduates, the university may be their only contact with a large organization. Therefore, respondents said a management class should stress how a large corporation is different from the university setting. Other suggestions were to include much more information about political realities such as dealing with uncooperative subordinates, superiors, and turf battles. Additional topics mentioned were how to deal with change and how to justify the library's existence, and the corporate environment and the differences in various corporate cultures.

Several respondents mentioned the need for more preparation in marketing and public relations: experience or direction on how to find out what clients want and how to promote the information center's services to them; and how to view patrons as customers or clients. Some suggested the need for a class on marketing (both self-marketing and library marketing) which would cover communications, justification of software purchases to outside groups, and interacting with many levels of management. The respondents also said student visits to special libraries are very important, as is exposure to a variety of working librarians as class speakers.

Competitive Intelligence

Only one person mentioned the need to know how to find competitive business intelligence, stating: "About 15% of my searches are on business subjects. Business reference should be required, plus possibly legal, as well as government documents, which is the only source for certain kinds of information. Legislative information is also in demand." The lack of response in this area can likely be attributed to the fact that in large companies, competitive intelligence questions

are probably not posed to the technical information center or are handled by another in-house library, possibly a separate law or business library.

Trends in the Profession

A number of comments were made about trends in the profession for special libraries and librarians, but opinion was mixed as to the primary direction of these trends. One person thought there would be fewer jobs in special libraries, and predicted that there would be an increased demand for free-lance or independent (such as university) fee-based searching, particularly for high-growth, small- and medium-size firms that cannot afford to maintain their own libraries. Furthermore, several survey participants mentioned that more end-users are bypassing the librarian and doing their own searches. DIALOG capitalized on this trend with a recent print advertising campaign directed toward business end-users. Several searchers at major firms indicated their information centers use fee-based searchers from around the country for overflow work. Another observed that the need for information is increasing, but the demand for librarians is decreasing. One chemical firm's on-line searcher said, "We need to teach a course in setting up your own business; libraries are downsizing and companies are going outside for some of this (on-line searching)."

However, another observer noted that, "Outside searchers can only do the easiest searches, and they are very expensive to use. You need highly skilled inside people to do the most difficult searches." Another alluded to security of information issues, where sensitive business information could be inadvertently given to competitors via information brokers.

Hiring Requirements

Information on the educational background required for new employees comes from the sample of 19 graduates who hold a variety of positions within libraries and information centers. Those who are in management positions are presumably in better positions to know what they and their companies look for in hiring. Although responses from non-management survey participants may be based on perceptions of managerial requirements, no attempt to stratify the data was made for the two groups. Responses were obtained from 17 graduates, and it was assumed that even non-managers had reasonable knowledge of their employers' requirements. In Table 5, Yes= required, Pfd = preferred (see Table 5, page 138).

The data show a stronger emphasis on science or technical background than on the professional library degree. Those in management positions expressed preference for people with both a chemistry degree and an M.L.S., but since so few candidates have both degrees, managers often take chemists from their laboratories and teach them how to do on-line searching. The trend is to require both degrees, with chemistry the more important degree, particularly for positions involving substantial on-line searching. Several survey participants said chemical information specialists are very hard to find, even with current cutbacks (mid-1992) in the chemical and pharmaceutical industries.[5] Several advised us of current or future openings. This demand is borne out by a recent article in *The Scientist*.[6]

Conclusion

The changing environment of both the information world and the chemical industry poses new challenges to the chemical information specialist. Success in this field requires a variety of skills, and the graduates of the program have suggested areas which should be given serious consideration in course revisions and restructuring of the program. The main suggestions were for course revisions involving the use of computers and enhancing management skills.

Library schools are apparently not filling the demand for chemical information specialists who combine training in library and information science with a degree in chemistry. Although Indiana University's unique program to train such specialists continues to provide valuable training to its students, as shown by the current survey of graduates, companies continue to fill vacancies by recruiting of bench chemists who are then trained to do on-line searching.

The authors would like to thank Professors Stephen Harter and Blaise Cronin of the Indiana University School of Library and Information Science for their comments on this paper.

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[4] DIALOG has recently introduced a low-cost chemistry classroom instruction program.

[5] At a July 9, 1993 session of the Special Libraries Association Science-Technology Division, Mengxiong Liu and Wei Wei presented results of a survey of 142 University of California and California State University science librarians. Only 41.7% of the respondents felt that a science/technology librarian should hold an academic science degree. At the same session, however, Lorraine Schulte of the Upjohn Company noted several key elements a corporate science/technology librarian needs for success. These were knowledge of the scientific discipline, knowledge of librarianship, knowledge of the organization, personal qualities (most important of which is communication skills), and productivity. See also:

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TABLE 1

Educational Background of M.L.S./Chemical Information Specialist Graduates, 1969-1992

	Number (N=19)	Percent
Undergraduate degree:		
B.A. in Chemistry	3	16%
B.S. in Chemistry	12	63
Other Science B.S.	4	21
	19	100%
Additional degrees, excluding M.L.S.:		
M.S. in Chemistry	3	16%
Ph.D. in Chemistry*	2	11
All but dissertation completed for		
Ph.D. in Chemistry	1	5
M.S. in Computer Science	1	5
No degree beyond bachelor's	12	63
	19	100%

* One person with a chemistry Ph.D. had also obtained a law degree after receiving the M.L.S.

TABLE 2

Current Responsibilities of M.L.S./Chemical Information Specialist Graduates (N=16)

	Occurrences	Percent
Computer systems	10	63%
Database design	4	
Development/programming	2	
Selecting new systems	2	
Repackaging of information	1	
Vendor liaison	1	
On-line searching	8	50
Management	4	25
Collection development	3	19
Training new users	3	19
Patent searching	2	13
Records management	1	7
Contract searches	1	7
Competitor information	1	7
Abstracting/indexing	1	7
Publications	1	7

TABLE 3

Vendors Searched*

	Total Score	Total Times Mentioned	Average Score
DIALOG	13	7	1.9
NLM	16	6	2.7
ORBIT	16	5	3.2
STN	30	13	2.3

NLM = National Library of Medicine. STN = Scientific & Technical Network.

* Other vendors mentioned once were: CIS (Chemical Information System), Lexis-Nexis, Dow-Jones, BRS, and Data-Star.

TABLE 4

Databases Searched*

	Total Score	Total Times Mentioned	Average Points
BIOSIS	8	2	4.0
Chemical Abstracts	16	7	2.3
Claims	4	2	2.0
COMPENDEX	7	2	3.5
EMBASE	7	2	3.5
RAPRA	10	2	5.0
World Patents Index	16	6	2.7

* Databases mentioned once were: Newsnet, PharmNews, Genome Data Base, and INPADOC. Other generic responses were: drug indexes, polymers, and patent databases.

TABLE 5

Desired Educational Background for Chemical Information Specialist Positions in Various Organizations

	Chemistry degree	MLS degree	Comments
1	BS	Yes	Prefer Ph.D. in Chemistry
2	Yes	Pfd	Hire without M.L.S. for on-line searching
3	Yes	Yes	Both required for newer hires
4	yes	Pfd	Looking for patent and biomedical backgrounds
5	BA	No	Hire laboratory chemists and teach to do on-line searching
6	Yes	No	
7	No	No	Prefer science background
8	Yes	No	Take lab chemists and train to do on-line searching
9	BS	Pfd	Ph.D. in chemistry preferred for patent work
10	Yes	Yes	Would consider relevant experience in lieu of M.L.S.
11	No	No	Must have science background with at least two years of college chemistry
12	Yes	Yes	Will consider experience in lieu of chemistry or M.L.S. degree
13	Technical	Yes	Experience in lieu of M.L.S., but technical degree required
14	Yes	No	Will also consider biology degree
15	Pfd	No	
16	Yes	No	Or other science degree. Hires experienced librarians only; trend to more science (master's or Ph.D.), then train for searching
17	Yes	Yes	Or biomedical degree

• Yes = required, Pfd = preferred

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The Special Libraries and Information Services in China

by Chen Rui

■ **This article describes the system and structure of Chinese special libraries and analyzes the scope and features of their information services. Ultimately, there is much in their experiences that developing countries can learn from.**

We are in the information age. The significance of the role played by information in all kinds of activities, especially socioeconomic development in changing and developing societies, is accepted as a common part of life. In developing countries, the importance of information is obvious and outstanding. The technology, equipment, quality, economy, and society of developing countries are far inferior to those of developed countries. Developing countries must refer to the successful experiences of developed countries and incorporate and use the latest achievements in science and technology. To do all these things, developing countries need information and information services.

Information services is the raison d'être of the special library, as the objective of the special library is to provide information in support of the objectives of its parent organization. It must provide information more efficiently and economically than could be obtained by alternative methods. In developing countries, the special library occupies a dominant position over other libraries, such as public and college libraries, in serving for the development of native economy and society. The service of special libraries toward this goal is largely an obligation in developing countries.

Special Libraries in China

The concept of "special libraries" in China has not been realized. Chinese scholars of library science divide libraries into seven types: academic, national, public, research, school, army, and labor union. In China, the definition and characteristics of research libraries are analogous to the special libraries defined by outside scholars. When a Chinese scholar says research libraries, he or she implies "special libraries." So in China the "Document and Information Center" or "Scientific and Technical Information Institution" library is a "special library."

The special libraries (research libraries) are an important component of the Chinese library system and, with public and academic libraries, are among the three pillars of Chinese libraries. All Chinese special libraries are maintained by government agencies and institutions and are under the jurisdiction of those agencies and institutions. There are two types of special libraries in China—libraries of the Academy of Sciences (natural sciences and social sciences), and their numerous research institutions which have their own libraries; and special libraries in the branches of various ministries or commissions, such as the ministries of geology, medicine, agriculture, and the steel industry.

The Structure and System of Special Libraries in China

Structure

The libraries of the Academy of Sciences include the Document and Information Center of the Chinese Academy of Sciences (DICCAS), and the Document and Information Center of the Chinese Academy of Social Sciences (DICCASS).

DICCAS has many branches throughout China. Its principal collections are mathematics, physics, chemistry, astronomy, geography, biology, interdisciplinary science, and high technology. DICCASS holds principal collections in the social sciences. It also has many branches throughout China.

The special libraries in China's ministries and commissions are divided into three classes: first, second, and third.

The first class (or national class) includes four special libraries: the Institute of Scientific and Technical Information of China (ISTIC), maintained by the State Science and Technology Commission (SSTC); the Information Center of Science and Technology for National Defense (ICSTND), maintained by the Commission of Science, Technology and Industry for National Defense; the Document Center of the Patent Office of China (DCPOC), maintained by the Patent Office of China; and the Standards Information Center of China (SICC), maintained by the State Bureau of Technology Supervision.

ISTIC's principal collections are engineering and technology, management science and high technology. ICSTND's primary collections are military science, military industry, and weaponry. DCPOC's principal collections address patent specification, bulletin and classification index. SICC's main collections are national standards, regional standards, international standards such as ISO and IEC, specialized standards, enterprises standards, and measurement documents. SICC is also the national center which collects international standards such as those formulated and issued by ISO and IEC and standards materials from outside China.

The second class (or ministry class) special libraries are specialized document and information centers maintained by the ministries or commissions of the Council of China. Their principal collections are materials closely related to their specialties, such as textiles, geology, medicine, etc. These special libraries also organize and coordinate the information services of their specialized fields (including acquisition, distribution, procession, transmission, and other services) and provide users within the ministry, commission, or branch with specialized information services. There are about 60 libraries of this class in China.

The third class (or local class) includes the scientific and technical information institutes of provinces, prefectures, and counties. Their principal collections are materials closely related to the local economy and society, and meet local information needs with practical technology information such as standards information and trade literature. These libraries are maintained mostly by local science and technology commissions.

System

The Chinese government established a policy of unified management and planning over the system of special libraries. SSTC manages the special libraries system on behalf of the Chinese central authorities and is in charge of the exchange of information and cooperation within the libraries, building and leading the national information network, and establishing and implementing the rules, laws, and standards concerning information services. Under the unified management, the information services network of special libraries and the national special libraries system has been formed, and plays an active role in the national information exchange and rational distribution of document resources and services. The structure and system of the special libraries in China is illustrated in Figure 1 (see Figure 1, page 144).

By the end of 1991, China had 416 special libraries with 26,781 staff and 13.21 million books, 1.10 million periodicals, 3.30 million government reports, 67.88 million patent documents, 2.0 million realias, 5.0 million trade publications, and many other collections.[1]

The Information Services Pattern of the Special Libraries in China

Information is an important resource for the development of the national economy, science, technology, and society. The Chinese government was conscious of this as early as 1956, as it established a policy that gave the building and development of special libraries considerable importance. More than 30 years later, the special libraries of China have arrived at an information service pattern (including the scope and types of information services) suited to the Chinese condition. The scope of information services of the special libraries is illustrated in Figure 2 (see Figure 2, page 144).

The types of information services are many and varied, including: information consultation, information searching, SDI, foreign materials translation, loaning and reading services, secondary processing, providing trade literature, user education, and subject information research, and "enterprise diagnosis."

During "enterprise diagnosis," information staffs go to an enterprise with technology and management experts, economists, and others, to identify the problems in management, technology, process or financial affairs, and then provide consultation services or other aid. This is an advanced information service suitable for enterprises in developing countries.

DICCAS particularly concentrates on scientific research, and DICCASS on social science research. ICSTND's primary focus is on military science and military industry, while the other "first class" special libraries pay particular attention to industry, society, and research. Now the first class special libraries are all beginning to serve for the growth of national economy. The second and third class special libraries serve mainly for the development of industry and the countryside.

The special libraries of China have developed widespread and quality information services step by step. Before the death of Mao Tse-Tung in 1976, Chinese special libraries largely followed Soviet conventions in their information services and management, serving only for scientific and technical research. After Tse-Tung's death, and especially when Den Xiaoping came to power in 1979, China began its reformation and opening to the outside world. Then China began to emphasize its economic development and improvement of the people's living standard, and the use of information as an important resource was recognized by the Chinese governors. Chinese leaders required that the special libraries aid the reformation and opening to the outside world, so they began to provide industry and enterprises with information services. After 1985, widespread reforms and opening to the outside world required that the special libraries extend their services to Chinese society as a whole. Since then, the content and types of information services the libraries provide has become gradually more varied and flexible. This has enabled the libraries to fulfill even more varied needs while also highlighting the need for information and the importance of special libraries and information professionals.

The Distinguishing Features of Chinese Special Libraries' Information Services

Audiovisual Information Services

Audiovisual information services have become an important part of the Chinese special libraries' information service system. They mix technology and art together and are vivid, lively, and easy to understand; therefore, they are suitable forms of information services for general users. The special libraries' audiovisual information service network covers nearly all of China. Chinese special libraries now have 1,600 full-time personnel for audiovisual information services, more than 300 facilities for production, translation, and broadcasting, and more than 200 locations to show audiovisual materials. In recent years, 1,870 scientific and technical films or videodisks have been produced and the special libraries have imported an additional 1,100. They have also provided broadcasting for about 5.5 million information users.[2] All of these activities have produced tangible benefits for the Chinese economy and society.

Serving the Countryside

The Chinese special libraries have also concentrated on serving rural/agricultural areas, including countryside enterprises which are mostly small industries set up by the rural governments or peasants. Their efforts have met with success among the peasants and countryside enterprises.

China is a developing country, and agriculture is the predominant factor in the national economy, as 80% of the Chinese population lives in the countryside. Therefore, development of rural industry and agriculture is one of the keys to development of the economy and eradication of rural poverty. Providing agricultural and countryside enterprises with suitable information services can not only promote the development of the rural economy but can also improve living conditions there. Chinese special libraries have provided the countryside with widespread and significant information services as they build the information network and set up information exchange centers to promote information communication and transmission of information from information agencies or cities to the countryside. They also train the information center staffs, especially those who will concentrate on serving the peasants and the countryside. These librarians recommend improved plant breeds and agricultural techniques according to the information needs and characteristics and problems of countryside enterprises—specifically, their strong demands for information and information services and lack of search capacity.

Emphasis on gaining profit

Chinese special libraries are concentrating on the creation of unique information products by making full use of their rich information resources and advanced information technology and equipment. They are now beginning to adopt the methods of management and administration of profit-targeted enterprises and to build the "information market" step by step. Today in China, information services are considered a sort of commodity which may sell in the "information market" and gain profit. But before 1985, prior to Chinese reform and opening to the outside world, this was not the case. Since then, the Chinese government has actively encouraged these types of information services and has given them a lot of preferential treatment such as a preferential tax ratio. In 1988, China's special libraries gained revenues of about 52 million RenMinBi (about ¥10 million).[3] This is a small but successful first step to realizing profit by providing the market with information services.

Conclusion

Relatively early on, the Chinese government had a clear and correct understanding of the value of information and special libraries, and in early 1986, the government began to develop the nation's special libraries and information services. Since then, it has promulgated more than 40 decrees and orders about the special libraries, defining their role, usage, obligation, and organization by law. At the same time, it has provided the special libraries with budget and staff guarantees by law. As a result, the establishment of China's special libraries and their information services is rather advanced and is successful. They have made a great contribution to the development of the national economy and society through their work. For example, in 1988, 389 information services or information research results provided or achieved by special libraries were awarded by Chinese government, 15 were awarded by central government, 123 by ministries or commissions, and 117 by provincial government.[4] In fact, the Chinese government has placed such importance on the value of information and information services provided by the special libraries to vitalize the economy and raise the living standards of people that it published the "National Development Policy of Scientific and Technical Information: Blue Paper of Science and Technology No. 6" (issued February 20, 1991). The development of the information cause, especially for the special libraries, was first placed on the plan of national development through this 1991 paper. Perhaps the publication of this paper will provide another golden opportunity for the development of the Chinese special library.

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FIGURE 1

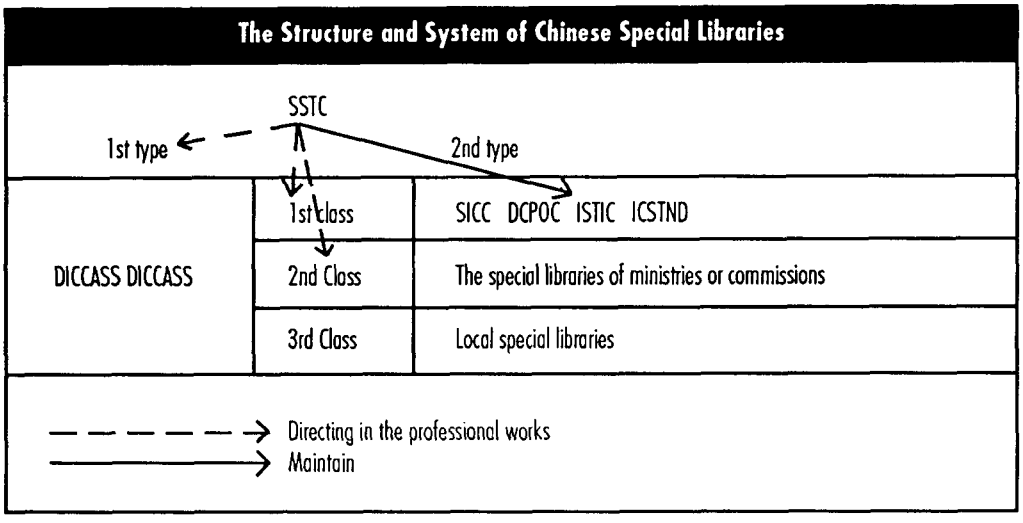
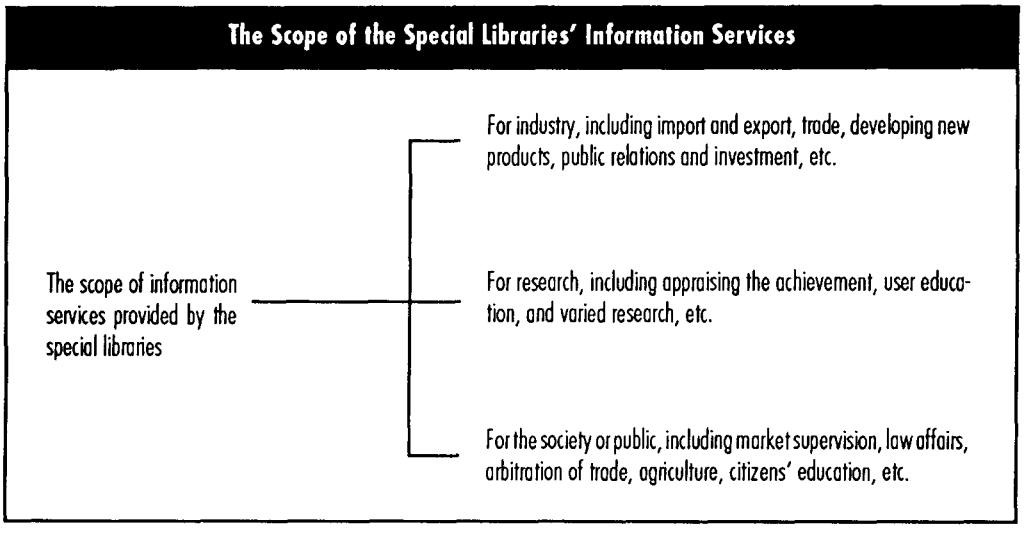


FIGURE 2



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Making Your Move and Getting it Right

by Marianna Wells and Rosemary Young

■ **This article provides an easy-to-follow blueprint of details to consider and actions to undertake when planning and moving a library. It examines space needs, spatial design elements, requirements for reader stations, collections and new technology, provides suggestions for master planning and siting, and gives tips on how to successfully move into a new facility.**

Introduction

Many librarians are anxious to learn how to plan for a new library. Every library project is a unique operation determined by its clientele, type of material, and collection size. Yet there are common denominators shared by all libraries in the planning and moving of their collections.[1] It is these basic features that will be addressed in this paper, which is divided into two parts, the planning process and preparing for the move.

I. The Planning Process

Start Early and Determine Who is in Charge

Let Billie J. Grey's advice to "plan, plan, plan" be your guiding motto.[2] Moving a library is a complicated undertaking, and "... once you have done it, you are stuck with it."[3] **So give yourself adequate lead time for contemplation and brainstorming.** The aim of brainstorming should be to end up with an "attractive facility suitable for a particular clientele to be used for a particular purpose,"[4] where library materials have been shifted with little or no miscalculations and are brought together in a move with a minimal disruption of services.

How do you arrive at this goal? **Read the pertinent library literature** with an eye to information that closely matches your circumstances. If you are an Internet user, access LIBPLN-L, the listserv for library planning, and other similar services.[5] **Seek the input of users, staff, and colleagues.** Determine what past trends to continue and what new trends to introduce. Give some thought to what it will take to make the new facility more functional and attractive. Put these thoughts and ideas down on paper with the aim of assembling them in a formal statement. A document of this type is often required by vested authorities. But even if it is not mandated, **assembling facts and figures, measurements, and other data in writing is a useful exercise to engage in,** as it forces you to organize your thoughts and evaluate your needs. Suggestions for the content of a program statement follow later in this paper.

Who's in Charge

There should be **one person with final decision-making power in all things regarding or influencing the project.** According to Tucker, "... perhaps the most far reaching task is the appointment of a move director, a person vested with ultimate authority in all things regarding the move."[6] The success of your project will hinge on this decision; therefore, it should be made carefully and wisely.[7] What qualifications should be principal planner have? The principal planner should be allowed to **tackle the project freed of other responsibilities** and demands[8] and should also be knowledgeable about the library and its clientele. Ideally, the librarian should be this person. Adequate preparation

time can be expressed in terms of months vs. years, depending on how exclusively one can focus on the project. The task is very laborious and time-consuming, yet there is no better opportunity for the librarian to enhance the respect he/she commands than by having brought a plan for a new or renovated library to a successful completion.

Learn About Design/Confront Problems

If the new facility is to be designed by an architectural firm, **questions of turf might arise.** An architect's primary aspiration tends to be an award-winning design, while the librarian's is to create a serviceable library. This does not mean you should tell the architect or engineer about his or her profession, but neither does it mean that you should defer to them when the functional integrity of the library is at stake. How will you communicate what constitutes a functional library? Via the written program statement alluded to earlier. Be prepared to hand it out at the first planning meeting. **Let a program statement lend constancy to the planning process and serve as an authority to which all persons involved in the project can refer.** Take part in every phase of the planning process, attend all planning meetings, and stay in the information loop.

Learn to **read blueprints** and review them carefully to make sure they reflect ongoing changes. Become familiar with **relevant codes and standards**, a prominent aspect of planning a new facility.

Guidelines might not be written specifically for libraries, but will have chapters on floor load capacity, heating, ventilating, air filtration, and air conditioning—all topics applicable to the project. There are publications that outline standards for special libraries, such as health science libraries,[9] or for academic libraries like those issued by the Board of Regents of the State of Ohio.[10] Lighting specifications are of particular relevance to libraries. Lighting which runs parallel to library stacks causes shadows and makes reading difficult. Also, brightness is reduced considerably once shelves have been loaded, which is particularly noticeable with compact shelving. If you have ceiling fixtures above compact shelving, it is a hard lesson to learn later on that light from ceiling fixtures does not shine directly into the aisles as they open. Newer compact systems have light fixtures attached to the moving shelves, an innovation well worth the additional cost. Individual study and work stations also require good lighting. A fine source for this information is the *IES Lighting Handbook.*[11]

Familiarize yourself with the Americans With Disabilities Act (ADA). The ADA and its guidelines are listed in the *Federal Register.* The Architectural and Transportation Compliance Board, Washington, DC, provides, upon request, copies of *Americans With Disabilities Act (ADA) Accessibility Guidelines for Building and Facilities; Final Guidelines.* Other sources are *How Libraries Must Comply with the Americans with Disabilities Act*[12] and the *Americans with Disabilities Handbook.*[13] Consult these sources regarding entrances and exits, space between stacks, computer work stations, multi-floor access, restrooms, water fountains, and more.

Once construction has commenced, make it a habit to **visit the site regularly.** Take a tape measure, note paper, and pen to **keep close track of progress and omissions** and be ready to document them for discussion at planning meetings. Don't assume problems will right themselves. They do not. You will have to make certain that they do. In addition, keep a **punch list of every outstanding item that requires completion after the move** to ensure that each one is done.

Examine Space Requirements

Let's return to the information gathering process that precedes the writing of the program statement. Make a thoughtful and thorough evaluation of overall space needs. **Plan in terms of open areas.** It is easier to adapt to changing needs when working with open spaces. Appraise the purpose of every aspect and area of the library. Assess the **functionality of spatial relationships** and judge the need for staff assistance. A successful design will take into account the logical relation between public service areas and areas staffed by library personnel. The objective is to render service while allowing for supervision and control. The aspect of interactivity of service must receive particular attention when planning public access to electronic sources. The **location of information and reference desks** and the relationship be-

tween these activities and the library resources **is a key element in space planning.**[14]

There are libraries where the office of the librarian in charge is so remote as to be inaccessible. **Do not hide the head librarian's office in the deep recesses of the library**; rather, place it close to the action. This is good public relations and also gives the head librarian the opportunity to assist staff during peak times.

Be aware that **integrated library systems** require hard wiring from computer to terminal, connectivity for on-line catalogs, multi-purpose workstations providing access to local, regional, and national library networks, national bibliographic utilities, full text databases, telefacsimile, document delivery, and more.[15] Be sure that these requirements are set forth in the program statement and are considered prior to certain work, such as the laying of the carpet.

Determine your library's needs for **bibliographic instruction now.** In these times of downsizing, many librarians are turning to formal library instruction as a means of teaching users how to access electronic resources. Set aside a room for this purpose, appropriately wired and equipped. The space might double as a meeting room.

Allot user spaces to best suit your library's clientele. A mix might be advisable: individual reader stations for quiet study and reading and large tables for joint discussions. Find out if the number of reader stations is controlled by standards. Various accreditation boards require a specific number of user seats, based on the overall primary patron population. And do not underestimate the draw of a new, more attractive facility.

Another area of the library with special design requirements is the **circulation area.** It is a place of high activity where overhead baffling is advisable to serve as a noise shield. A custom-built circulation desk is desirable but expensive. However, suppliers currently mass-produce desks in modular sections that allow for mixing and matching, an arrangement that is not only less costly but allows for greater flexibility. As the circulation desk tends to be the only consistently staffed area, you might have your main phone line enter there. Allow for future growth with additional outlets and phone jacks below the desk.

Avoid electronic interference which occurs when different kinds of electronic equipment are placed too close to each other. Allow for a distance of at least 10 feet between the check-out terminals and sensitizer/desensitizer equipment and another 10 feet between the sensitizer/desensitizer equipment and the theft detection system.

Staff areas should be designed to facilitate work flow. Woodson[16] and Ramsey[17] are helpful resources on the topic of ergonomics. Conduct a time management study of staff functions, with input from your staff, to determine what tasks are performed, how much time is spent performing these tasks, and what space and tools are necessary to carry them out.

Next to determining space needs, the display of the collection is one of the more important concerns of the planning process. There has been a move from closed to **open stacks** in recent times. "Open stacks are seen as educationally advantageous as they lead to the serendipitous use of collections."[18]

The **display of the collection** is likely to depend on the physical layout of the new facility. For example, if you are dealing with a multi-floor design, you will want to identify groupings of your collection that can readily stand on their own.

Stack requirements will depend on current collection size, estimated growth per annum, and the length of time you plan to occupy the new facility. In this case, you are the person who plans stack area requirements for the new facility. If yours is a renovation project, however, the amount of stack area will be limited/determined by the existing square footage. In the latter case, calculate the size of the current collection, deduct this figure from the total available shelf space, and divide by annual growth, which will give number of years of shelf life.

There are **other options** librarians can use **to overcome growth limits**, i.e., compact shelving, remote storage, and conversion to other formats. Also consider also how electronic access vs. ownership might provide a resolution to the problem of insufficient shelf space.

Plan on overhead **signage** to identify stack, study, and service areas. In the stacks, have smaller signage display call number sequence on range faces. At the entrance, a large schematic should show the layout of the library and direct patrons to the various areas of the library. Modulex, a subsidiary of Lego, was our preference.

Formulate a Program Statement

You are ready to write the program statement when you have arrived at a clear picture of what the new library will look like. The statement should be written in essay form except for the summaries which are columnar listings. (See page 149). **Incorporate** into the statement **what you have learned** about standards, design elements, spatial relationships, and space requirements. Let the text be brief but explicit. Number pages. Include a title page with the name of the program, the name of the person writing the statement, the names of team members, and the date of writing. A table of contents should follow the title page and refer to headings by page number.

Reference Area/Electronic Access Hub

This area should be visible from the entrance lobby so that patrons can readily see it upon entering. It should also be in sight of the circulation desk attendant and the office of the head librarian to allow library personnel to assist patrons.

Space Needs:	
1 public catalog	50 sq. ft.
10 double-faced wall shelves to accommodate 3,000 reference books	250 sq. ft.
1 public access catalog w/chair	30 sq. ft.
1 LAN (Local Area Network) station w/chair	30 sq. ft.
2 CD-ROM stations w/chair	60 sq. ft.
TOTAL	420 sq. ft.

II. Preparing for the Move

You have completed the program statement and are continuing to meet and monitor the progress of the construction. You begin to realize that sooner, rather than later, the move will be upon you. Here are tips for your preparations in advance of the move.

Collection Review

Review the collection with an eye to **activities best accomplished before moving.** This is the ideal time for correcting problems of the past. Inventory, reclassify, weed, and repair the collection before you move it. Gift books that have been sitting around for want of review and processing should be taken care of now. If you need to clean and fumigate the collection, do it before you move so that you don't carry an infestation problem with you. If there is material you could or should put into remote storage, do so prior to the move. If you are faced with specific challenges, such as a merger of units, lay the ground work ahead of time.[19] If **your library and the entire organization are moving at the same time**, make plans to encourage your primary clientele to return books to you early, set a final due date after which you will no longer accept returns, and stick to your policy.

Determine Collection Size

An exact **projection of collection size and growth** is of crucial importance to a successful outcome of the move. Excellent sources are Fraley,[20] Anderson,[21] and Davis.[22] By far the most detailed and complete source on the housing and measuring of collections is Metcalf.[23]

Keep in mind that **materials in a collection vary in average size** depending on imprint date, publishing characteristics, and type of material. Your objective is to figure out how many volumes/linear feet will fit on a three-foot shelf, the usual size for commercial shelving. Since no two libraries are alike in the type of material they collect, it is a good idea to take tape measure in hand and do average calculations of your own.

Once you have established current collection size, **project future growth.** The total stack space of your new site, in linear feet, minus linear footage required to shelve the current collection, will tell you available growth, in linear feet. How much your collection expands each year on an average can be gleaned from acquisition or cataloging statistics. Annual growth in volumes, in relation to total collection size in volumes, can now be expressed in terms of a percentage figure. Typical yearly growth is likely to be between 2% and 4%. Refer to Metcalf[24] for technicalities of measurement and growth projections, especially Appendix B: Formulas and Tables.[25]

If you had considerable nonuniformity of growth from one call number section to another, **you might want to estimate relative growth within the various call number groupings.**

Assume that the overall average annual growth is 600 books. Then 600=100%. Yet within varied call number groupings, one might grow by 120 books per year, on the average, or 20%, while another by six books per annum, or 1%, and so forth. You would be wise to take this into consideration prior to shelving the collection in the new facility so that you don't end up with shifting books within a few months or years. If you opt to assign variable growth rates to sub call number groupings, leave yourself plenty of time for computations and integration of the resulting figures into the work sheets during the siting process, which is discussed later in this paper.

Draw up a Master Plan for Moving

Preparation for moving the collection will be labor intensive. Give yourself plenty of time, anywhere from a few weeks to a few months, depending on how large the collection is and the complexity of its placement. The goal should be to put materials on shelves with little or no adjustment and to do so within the time frame of the move. You need to prepare a master plan in schematic form. Precision and attention to detail will later expedite the logistics of the move.

The master plan should consist of two parts, one providing general information, the other detailed information. The first one should give a

Program Statement

1. Introduction

- Historical outline
  - Past and current history of the library
  - its role within the organization, i.e., technical library serving an undergraduate teaching institution, or law library serving practicing attorneys
- Past trends in
  - collection growth
  - user population
  - characteristics of past use
  - Future trends in
  - materials acquisition
  - new technology
  - user population
- Goals and Objectives for New Facility
  - convenience of access
  - attractiveness
  - efficient utilization of space
  - collections (past and future)
  - modern integrated library systems
  - bibliographic instruction
- Requirements for new facility
  - location
  - floor area
  - floor load capacity
  - noise control
  - environmental prerequisites (HVAC)
  - floor load capacity
  - signage

2. Body of Statement

This section should describe in detail each area of the new library, such as:

- circulation area
- reference area/electronic access hub
- stack areas
- bibliographic instruction room
- reader stations
- staff work areas/offices
- head librarian's office

3. Summaries

- net space requirements (see Illustration 1 on page 150)
- staffing
- furniture (list new and used separately)
  - desks
  - chairs
  - filing cabinets
  - book cases
  - circulation desk module
  - index tables
  - individual and large study carrels/tables
  - chairs
- electric and electronic equipment
  - personal computers and terminals
  - security system
  - sensitizer/desensitizer
  - microform/reader printer(s)
  - copier(s)
  - clocks
  - bibliographic instruction requirements
- total stack requirements
  - book and journal stacks
  - current periodical/newspaper display shelves

summary overview of the stack organization (see Illustration 2 on page 151). It should show shelf ranges and indicate their numbering sequence. During the move you may want to refer from the detailed maps to the overview and vice versa.

The second one will be a series of **detailed schematics depicting individual range sections.** It should show the organization of books on individual shelves (see Illustration 3 on page 151). Number ranges and shelf section within ranges. Since shelves are double-faced, refer to one face of the range as 1A, and to the other one as 1B. Have work sheet(s) hand drawn and photocopied. They should show the call number sequence for each three-foot book section of every range, in a consecutive numbering scheme. For range side A as well as B, call number order will flow from left to right. For every three-foot shelf, show where each call number grouping begins and where it ends. Immediately following the end, add space to be left open for growth. Remember the earlier discussion on uniform vs. nonuniform growth. If you opted for nonuniform growth estimates, these computations will now show up in the appropriate sub call number grouping on your work sheet(s) as growth allowance.

***Illustration 1:* Summary of Net Space Requirements**

A. READER SPACES	
• Stacks	20@30 sq. ft. = 600 sq. ft.
• Reserve Reading & General Study Area	40@30 = 1,200
• Microform Area	6@48 = 288
• Current Unbound Periodicals	4@30 = 120
• Physics Faculty & Grad. Reading Room	8@30 = 240
• Caster Graduate Reading Room	8@30 = 240
• Map Area	5@30 = 150
• Reference	8@30 = 240
• Conference Room (no formula)	300
• Typing Booth	3@30 = 120
• UCC Terminals	2 @ 30 = 60
• Faculty Study (no formula)	100
Total	3,658 sq. ft.
B. STACK AREA	
• Stacks	12,200 sq. ft.
• Map Area	830
• Caster Graduate Reading Room	590
• Microform Area	350
• Reference	255
• Current Unbound Periodicals	250
• Physics Faculty & Grad. Reading Room	200
Total	14,675 sq. ft.
C. SERVICE AREA	
• Circulation & Reserve	500 sq. ft.
• Offices	500
• Workroom	500
• Reference	400
• Map Area	50
• Caster Graduate Reading Room	10
Total	1,960 sq. ft.
GRAND TOTAL, NET SPACE REQUIREMENTS	20,293 sq. ft.

When you have completed the stack arrangement on work sheets, **transfer the information to paper flags/markers** and attach them to individual shelves prior to the move. The purpose of the markers is to guide movers in the correct shelving of books without having to explain the intricacies of the Dewey, Library of Congress, or any other call number system or arrangement your library has.

Some **materials or equipment might require special care** in moving. Slanted shelves lend themselves well to the display of current unbound periodicals. If you anticipate the transfer of a large number of such titles, make a 5"x7" index card for each. Before the move, tape the cards to shelves in the desired order. When the time comes to move the unbound journals, load a book truck with the issues without concern for their order and reshelve them, 1-2-3, in the new facility. **Microfiche cases** can be moved with their contents undisturbed; tape cardboard over the drawers to keep them from shifting. **Measure cases of**

unorthodox size ahead of time. If you have to move a map collection, be advised that map cases do not fit through conventional doors. In such situations or others like them, the contents of individual drawers will have to be emptied into labeled boxes and reassembled in the new quarters.

Organize Moving Day

A wealth of practical hints on moving are found in Kurth[26] and Tucker.[27] One of the more important hints is to **choose a company with experience in moving libraries.** Experienced movers will be able to supply equipment such as book trucks, dollies, and ramps. In organizing the moving day, think of yourself and your staff as conductors and of the movers as the players for whom everything has been orchestrated ahead of time. **Do not expect movers to read instructions. They are paid by the piece and want to do a quick and dirty job.**

On the day of the move, **be ready with a plan of action.** Give your assistants copies of the master plan schematics and give each person a specific assignment. A good division of responsibilities is to assign aides to stationary posts and to designate staff members as roving supervisors. Post aides at crucial points, i.e., at the old library site to oversee the unshelving and loading of trucks; at the loading dock, where book trucks are wheeled into departing vehicles; at the receiving dock of the new site, to oversee the unloading; and at all critical junctures in the new library facility to direct the unloading and shelving of materials. Aides must be aware that they are to stay within their assigned areas and are not to leave their posts to wander about, even if there is a lull in the action. It is the roving supervisors'

***Illustration 2:* Summary Overview**

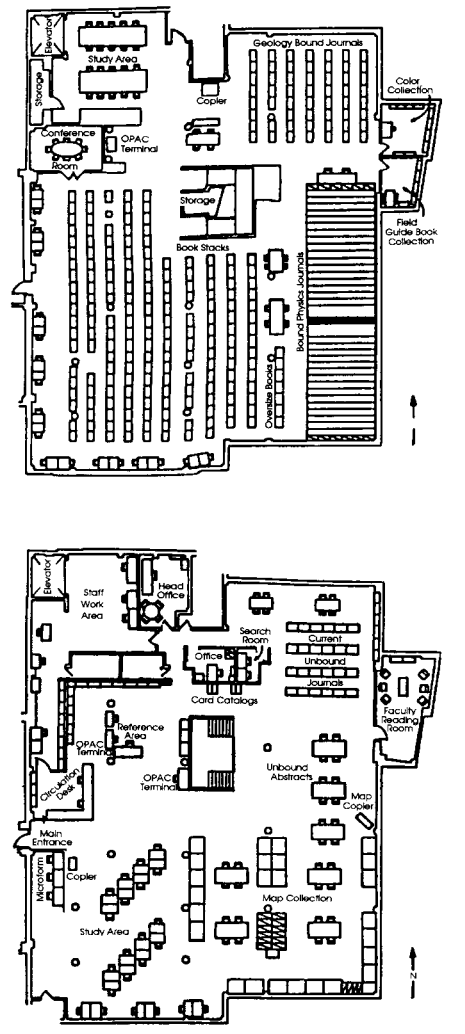

***Illustration 3:* Detailed Schematic Depicting Individual Range**

Begin A-F 1	8	*End A-F*	7	14
2	9	*Begin G* 1	8	15
3	10	2	9	16
4	11	3	10	17
5	12	4	11	*End G* / *Begin GA*
6	13	5	12	1
7	14	6	13	2
1	2	3	4	5

duty to inspect post sites, direct movers, and generally make sure that everything is proceeding according to plan. With precise planning, there should be few if any snags. The biggest reward will be that when the movers are gone, every book is in its proper place.

When to Move

The decision **when to move** may not be up to you. But if it is, chose a period of low usage. If you need to move your materials through the outside, pick a time when weather conditions would not be harmful to books. It is much easier to move when you do not have to worry about protecting the collection from snow or rain.

Another point to ponder is **whether or not to close the library to the public** during the move. This is a question that depends on the type of library, its clientele, and its setting. Closing is likely to speed up the move. But if you need to remain open, establish a **service point at the new site**, furnish it with the most needed resources and assign a staff member who is not involved with the move to service it. Another solution is to make temporary **arrangements with a nearby library so that your users will have elsewhere to go** during the move. Whatever course of action you take, be sure to notify your clientele well in advance of the arrangements and/or date of closing.

Before opening, **prepare promotional material for the new facility**. If you institute new policies, introduce them in conjunction with the opening of the new facility. Communication is one of the principles of good management and the cornerstone of good public relations.

Wrap up the Move

You have accomplished a huge task in planning and moving a library that will continue to represent the old-fashioned ideal of books and reading but will also introduce the spirit of modern electronic access in an attractive and expanded facility that will benefit the library and its clientele for many years to come. Show it off with an open house.

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Designing a Computerized Instructional Training Room for the Library

by Donna M. Ring and Patricia F. Vander Meer

■ **A computerized training room has become essential in many libraries for teaching end-users how to search on-line databases. This article addresses key issues in designing or enhancing such a facility. These issues include environmental aesthetics and a variety of practical considerations such as lighting, sound, wiring, and furniture, in addition to equipment and software selection. The article addresses how to design the room to suit multiple purposes and how to accommodate future needs in on-line training.**

The majority of information professionals have become all too familiar with the growing need for their services as trainers and consultants for end-users who are struggling to master a variety of on-line indexes in various formats. Although bibliographic instruction has historically remained an integral part of library services, providing orientation and instruction for on-line systems has become particularly challenging.

The enhancements to traditional searching that on-line methods provide, such as Boolean capabilities, limiting by language, and sorting by type of document, bring new responsibilities to the trainer and have increased the complexities of instructing users in retrieving information. In recent years, many librarians felt the need to instruct users in methods of remote access to library systems, and they covered such topics as basic communications software, modems, and even the utilization of networks (i.e. Internet) to gain access to library collections across the country and around the world. The fact that end-user searching will increase over time has led authors such as C.J. Armstrong (1991) to conclude that the instructional challenge for library professionals is only going to intensify in the near future.

Instructors often agree that the best method of teaching users how to be self-sufficient in these new skills is one which allows them to practice actual database searching. In very large groups in which on-line practice is not practical, a live demonstration via a lecture is often chosen. Whatever method is employed, however, a facility for on-line training is fast becoming essential in order to provide basic services in many libraries.

Given that the on-line teaching facility is invaluable to many instructional programs, there are a number of considerations in setting up such a facility or retrofitting an existing area in order to best meet the needs of each library.

First, as with most successful instructional endeavors, the goals of the library must be outlined and its objectives defined in relation to instruction in computerized resources. Many models exist that can help develop and clarify this process. They usually include the following components (or variations of them):

1) Outline the goals of the instructional program related to on-line resources. Example: To enable end-users to independently use the on-line catalog to locate materials in the library.

2) Define the objectives (or desired out-

comes) of the instruction in terms of behavior. Example: Trainees will be able to formulate a simple search strategy using the Boolean operator "AND."

3) Choose a method of instruction that will enable trainees to achieve an objective. Example: Step 1. Demonstrate the concept of Boolean search strategy using Venn diagrams on a whiteboard. Step 2. Using a microcomputer and overhead projection equipment, demonstrate an on-line search in ERIC utilizing Boolean operators. Step 3. Allow the trainees to formulate a simple search strategy using two concepts of their choice.

Once the goals of the instructional program are established, a number of basic elements related to good design for an instructional on-line facility must be considered.

Room Arrangement/Configuration

When group instruction through lectures and a hands-on approach are used, either in combination or separately, the room configuration must be carefully planned.

It is possible to have a room with both traditional seating and microcomputer stations. If necessary, a portable overhead projection unit can be strategically positioned or moved to different parts of the room. For increased flexibility, consider a room divider in a large space. This allows for a traditional classroom setup in one half of the room and workstations in the other half. Some libraries may find it more useful to have workstations and regular seating on both sides in order to accommodate two small classes or one large class.

Whatever the configuration, the workstations should be positioned so the instructor can view the trainees' monitors with the least amount of effort. It is time-consuming to walk up and down rows of computers that are directly facing the instructor in order to monitor the progress of the participants, and it may require additional staff to do so. Furthermore, if the instructor does not periodically check the progress of each participant, some trainees may become completely lost and may be hesitant to call attention to themselves.

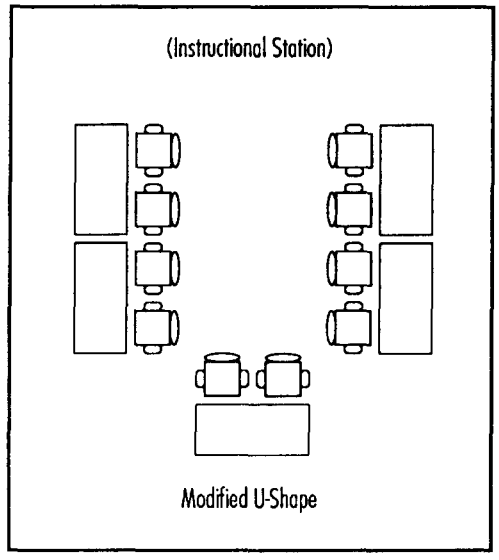

Figure 1

A modified U-shape, with the trainees facing the outside of the "U," is the optimal instructional arrangement. In this set up, trainees must pay some attention to the instructor and the instructor can view the individual computer screens (see Figure 1). This arrangement can also be repeated in several "U" configurations parallel to each other.

At the same time, the configuration of the room needs to be as flexible as possible. This requires multiple electrical outlets, jacks, and portable free-standing furniture and equipment. Even the best-laid plans may need to be revisited once the actual instructional program is implemented, however, because instructional goals change over time.

Environmental Aesthetics

The training room aesthetics include all aspects of the room. Every detail can affect learning. This includes lighting, heating, ventilation, air conditioning, acoustics, furniture, colors, wall and floor coverings, equipment, room structure, and size. Proper room design can support and increase the trainees' motivation and maximize tranquillity and concentration. When librarians are fortunate enough to be able to design a new training facility, it is

essential that they work very closely with the architect in the planning of each step.

In his book *Training Room Solutions*, Terlaga (1990) outlines the need for a training facility to provide an overall impression, with all of its elements blending together to provide a friendly, calm setting, enhance information transfer from the instructor to the class, and promote learning. It is important, however, to create some visual interest through the use of color, texture, and lighting.

Color and Lighting

Color affects the room in many ways. It can change the perception of the room's size and can influence attitudes, behaviors, and learning itself. The color of the walls, carpeting, and furniture should be cheerful, expansive, and warm. Medium to light hues that are neither too dull nor too bright are the best choice for the walls.

Lighting is either artificial or natural. There are many disadvantages to natural lighting through windows, such as temperature variations, outside noise filtering in, visual distractions, unattractive weather or scenery, unpredictable light, and screen glare. Windows also take up space that could otherwise be used for charts and training materials. Conversely, there are some advantages to having windows in the training room. Light from outside is free, for example, and can be controlled by shades, blinds, or curtains. Windows also give an open feeling to a room and the view, if pleasing, can have a positive impact on training. If windows are chosen for a new facility, they need to be located high up on the walls.

There are three types of artificial lighting: fluorescent lighting, also called ambient lighting or indirect lighting; incandescent lighting or accent lighting (for use with projection equipment); and task lighting, which is located at a workstation for an individual doing a specific task. Artificial lighting controls the amount of light in a room and allows for consistent temperature control. However, artificial light can be expensive, can cause fatigue and headaches, and can create a tedious and claustrophobic atmosphere.

Lighting in the training room must be adjustable in order to enhance the visual projection of materials, to allow trainees to read and take notes, and to enable them to work at the computers. Lighting needs to be controlled from a number of locations, including the back and the front of the room, and must be easily monitored by the instructor. Ideally, the trainer has a lighting control panel located at his/her workstation. Dimming controls are recommended for incandescent lighting. Controls for fluorescent lighting must be separate for each bank of lighting to allow for different combinations of lights.

Climate

Temperature and humidity control can make the difference between participants feeling drowsy and uncomfortable or awake and comfortable. It is best if the training room has its own climate control system, but even with the best system, the training room will never be comfortable for all participants. The best temperature, according to Terlaga (1990), is between 70 and 72 degrees Fahrenheit for people passively sitting in a room all day and 68 to 70 degrees Fahrenheit for active participants. Other factors that can affect climate control are windows and the heat given off by computer terminals.

Wiring

The importance of planning for both present and future wiring cannot be over-emphasized, because it is greatly disruptive to add the necessary components later. A generous amount of wiring must be installed to handle both the electrical equipment and data communication requirements. If a network configuration is chosen, cabling must be installed, ideally beneath the floor or in the ceiling, in accordance with local building codes. If the computers will communicate with systems outside of the facility, telephone or data lines must also be installed. Power outlets need to be installed liberally in order to maximize the room's flexibility. Power cables should run through the furniture whenever possible and be appropriately grounded. Floor outlets must be installed flush to the floor in the vicinity of the master workstation in order to avoid stringing multiple power cords over open space. A phone jack is advisable near the master worksta-

tion in case the instructor needs to call customer support while accessing the equipment simultaneously, or use a fax machine for distance learning applications. It is recommended that telephone lines used for data transmission conform to wiring standards recommended by CCITT (Consultative Committee on International Telegraphy and Telephony) in order to prevent line noise or dropped signals.

Sound/Acoustics

Noise can greatly inhibit the learning process. In fact, exposure to noise for prolonged periods may create physiological and psychological harm (Sener, 1987). Noise, especially intermittent noise, can diminish concentration, detract from performance in unfamiliar tasks, lead to high levels of frustration, and make the task more complex. At the very least, noise can be distracting and lower concentration levels.

Noisy equipment is a common source of distraction. Other sources of noise are sound from adjacent rooms and hard surface flooring in the training room. When possible, choose equipment that is the least noisy, such as thermal printers. Printers may be placed on soft pads, in acoustic hoods, or in an unoccupied adjacent room. Carpet will absorb noise generated by furniture movement or footsteps. If the noise is coming from another room, the sound should be located and minimized. If vents are transmitting noise from another room, absorbent linings placed within the ducts may help. In general, eliminating unwanted noise will go a long way to minimize distractions in the computerized classroom.

Building materials can be chosen to absorb noise and enhance the sound of the instructor and audio presentations. If you are designing the training room from the ground up, install extra insulation for increased soundproofing. Fiber wall panels and irregular or coffered ceilings will also subdue noise and add acoustical quality to a larger room. If you are redesigning existing space, avoid ballrooms or similar spaces where ceilings range from 15 to 30 feet, because ceilings this high cause acoustical problems. Another way to reduce sound is to install solid core rather than hollow core doors.

Furniture

When selecting furniture for the training room, Terlaga (1990) says performance characteristics for each element of furniture should be determined, taking into consideration safety, comfort, flexibility, function, aesthetics, durability, ease of operation, and maintenance demands. Optimal room layout and furniture requirements, in addition to storage requirements, must be considered for every activity that will occur in the training room.

Comfortable chairs upholstered in a durable fabric are of primary importance. Participants should be able to sit comfortably in chairs for at least six hours. Ergonomically designed seating allows for lumbar support and a reclining back which can adjust from 16 to 22 inches high. The recommended back height for adults is a minimum of 20 inches so that participants' feet may reach the floor. Chairs with casters or wheels allow participants to easily change positions and to swivel with their arms resting at a 90 degree angle. In addition, the arm rests need to fit under the tables. The more adjustable the chair, the longer the participant can sit without experiencing restlessness, stiffness, and fatigue.

The tables or workstations are another important element in the training room. Tables define the training room because they take up the largest amount of space in the room. Terlaga (1990) says the following criteria should be taken into consideration in the selection of training tables: shape, mobility, storage, durability, maintenance, flexibility, and wire management. The training table must be large enough to support writing and training materials as well as computer equipment. For computer training, the table needs to be at least 36 inches wide and 60 inches long. The height must take into consideration knee room height (approximately 29" from the floor), width, and depth. The position of the table legs must allow a person to straddle the leg comfortably or sit at the ends of the table.

The table top should be constructed with a non-glare finish in a medium color. Light colors such as white or beige can cause eye strain. Table edging made of hard rubber or vinyl veneer resists chipping and corners

that are rounded reduce wear and tear and personal injury. Modesty panels or front panels are suggested; these allow for wire management. Ideally, tables should have their own electrical assemblies for computer cables and electrical cords. Locking casters or adjustable gliders allow tables to move easily for different room reconfigurations. For easy storage, also choose tables with folding legs.

A separate portable master workstation with room for a computer, mouse pad, and projection equipment [such as a Liquid Crystal Projection (LCD) unit and overhead projector] is essential for the trainer. A separate cart or mobile table is recommended to hold the overhead projector if the equipment will always stay in the training facility. This gives the trainer greater mobility.

Software

It is very important to determine the objectives of the instructional facility before choosing software. Software must be selected before hardware, although hardware costs and other considerations may influence the final purchasing decision. But be sure to purchase software and hardware at the same time to avoid the incompatibility that is a consequence of upgrades in programs and advancements in computer technology. Purchase software and hardware from the same supplier whenever possible—this is especially helpful should a technical problem arise. A supplier with proven technical support (such as a toll-free 800 number) should be chosen.

Choosing user-friendly software, when possible, will cut down on the amount of instruction necessary. Software that uses a graphical user interface (GUI) and a mouse is available in the Macintosh systems or PC Windows environment. Standardization with other instructional facilities in your organization may help with trouble-shooting when necessary.

Remote access capability is needed if hands-on instruction in other on-line catalogs or information resources on the Internet is desired. For remote access, a communication package must be purchased, preferably one that allows for easy programming of automatic dial-up routines and the setting of parameters. In-house and remote site networking requirements must also be considered. If stand-alone stations are to be used rather than a LAN environment, a cost comparison for software between single copies versus a site license is advised.

Hardware

Hardware purchasing decisions must always be made after software needs have been outlined. It is unrealistic to expect hardware bought now to fit the library's needs for many years to come, but an expected life span of three to five years is a realistic guideline. Reputable brands are less risky in terms of support, so exercise caution when considering clones. Dumb terminals are not recommended because of the trend toward client/server architecture. Another common mistake is to under-purchase memory or hard drive capacity. Software, depending on its complexity, can use a vast amount of memory. Overbuying is wiser in this area. Another option is a Local Area Network (LAN) as opposed to stand-alone computers. LANs provide centralized software, communication, shared resources (such as modem pool, FAX server, or printer), and ease of menuing. However, a LAN requires a knowledgeable administrator to maintain it. In addition, if the LAN goes down, the entire system is out of operation instead of one or two workstations. If a LAN is not chosen, separate modems need to be purchased. Versatile fax modems are a good choice.

Keeping the future in mind, the following additional hardware is recommended: color monitors in order to properly display on-line databases, for better resolution in general, and to help make the instruction more interesting; one or more CD-ROM players for use with bibliographic databases, and an LCD (liquid crystal display) projector. If video instruction is used, a video cassette recorder and large monitor or video projector should be purchased. Most instructional facilities do not require a large number of printers. If students need to print, consider a single printer in a LAN environment or a printer for every other single

workstation with an A/B switch box. A good ink jet printer may provide the quality of print needed and is less noisy than the dot matrix impact variety. However, print cartridges need to be included in the budget if these printers are chosen. If a LAN is used, a single laser quality printer may be the best solution.

Barrier-Free Considerations for Students with Specialized Access Needs

The Americans with Disabilities Act (ADA) requires that libraries address the needs of their patrons with disabilities in various ways. When designing a computerized facility within a library, the criteria mandated by the ADA need to be met. The American Library Association's all-purpose manual, *The Americans with Disabilities Act: Its Impact on Libraries, the Libraries' Response in Doable Steps* (Crispen 1993), contains practical information for libraries on how to comply with the ADA requirements. Another useful publication, *Access to Information: Materials, Technologies and Services for Print-Impaired Readers* (McNulty, 1993), includes descriptions of technology that can assist people with visual impairments as well as people with learning disabilities. This book is recommended by Professor Norm Coombs, Coordinator of Project EASI (Equal Access to Software for Instruction), a part of EDUCOM's Educational Users of Information Technology Program.

Storage and Security

A storage room is recommended for chairs, tables, and equipment. Locked storage cabinets allow training materials such as software, videos, manuals, and handouts to be placed out of sight between sessions, so they will not detract from the environment or become lost or stolen. Planning for additional storage space will allow for future growth.

The primary security consideration is protection of equipment, assuming the software will be used mostly for communication purposes and that data loss will not be an issue. It is crucial that you have the ability to lock the room and limit access to it except by authorized personnel. Tag equipment with your institution's identification codes before it is used, and maintain an inventory. If the facility will be used strictly for classroom sessions, it may not be necessary to add additional security measures. If unsupervised activity of any kind is to take place in the facility, however, lock up expensive peripherals, such as a liquid crystal display projector and cabling devices, to discourage the removal of keyboards and other equipment. For independent use of the lab, employing a sign-up system requiring the deposit of a student ID is recommended.

Installing anti-virus software will prevent contamination of the hard disks or network, if one is used. If computer-assisted instruction (CAI) programs are employed to instruct users in on-line searching, it may also be necessary to make sure that the programs are locked into a view-only mode.

Summary

When designing a computerized instructional classroom, it is important to keep in mind that the training facility can maximize instructional efforts. Thoughtful and cautious planning of the facility will increase the participants' learning and satisfaction. It is essential to work closely with the architect and to remember that one training facility may not necessarily materialize as the definitive answer. It is also advantageous to tour other facilities and attend technology conferences and exhibitions. Equipment and software must be chosen to meet specific needs and should not be overly sophisticated and intimidating. It is also wise to plan for future developments, such as CD-ROM equipment, graphical user interfaces, and networking capabilities.

The advent of new technologies has changed the teaching role of librarians, and it is essential that appropriate means be developed to train end-users so they may fully use these new services. As training has become more important than ever, so has the training facility.

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Data Conversion From Faxon's SC-10 Serials Control System Into Techlib/Plus'® On-line Card Catalog

by Margaret Bell Hentz

■ Library patrons and staff at Boehringer Ingelheim Pharmaceuticals, Inc., located in Ridgefield, CT, needed up-to-date bibliographic and serials holdings information to make effective use of the library's serials collection. Serials holdings information was only available through either a holdings list printed annually by the library staff, or through an on-line, staff-operated system called the SC-10 serials control system. The cataloging records for Boehringer Ingelheim's serials from Faxon's SC-10 system were converted into cataloging and copy records in Techlib/Plus®, the on-line public access catalog. This project included the development of system criteria, identification and evaluation of candidate systems that fulfilled the criteria, planning the implementation of the conversion, and establishment of data entry standards for the cataloging and copy records in Techlib/Plus. Implementation of the data conversion project continued with the development of specifications for Techlib/Plus' MARC processing module, including detailing MARC parameters and creating MARC map records in Techlib/Plus, and test conversion of sample titles.

After a successful test conversion, all of Boehringer Ingelheim's 1,086 serials were searched in Faxon's MARC-S serials cataloging file. Cataloging for all but 138 titles was obtained, recorded on a tape, sent to Boehringer Ingelheim, and converted into Techlib/Plus. Cataloging for the missing titles was obtained from searching Catline or performing original cataloging. Techlib's thesaurus of corporate author and subject headings was updated to incorporate the new terms resulting from the conversion.

This data conversion project yielded benefits that included the ability to use Techlib/Plus to determine serials held by the libraries at Boehringer Ingelheim, produce customized subject bibliographies, and generate an up-to-date serials holdings list. In addition, this project provided a general outline for the data conversion of serials bibliographic information from any serials control system into an on-line catalog.

Background of the Study

Potter[1] noted that librarians have tried various ways to control serials processing and information management, including the integration of serials information into on-line catalogs. This is the case with serials control at Boehringer Ingelheim Pharmaceuticals, Inc. (Boehringer Ingelheim), a pharmaceutical research and development firm incorporated in Delaware. Boehringer Ingelheim's library net-

work consists of two libraries, a Research and Development (R&D) Library and a Corporate Library, both located in Ridgefield, CT.

Boehringer Ingelheim started to use an automated, stand-alone serials check-in system (Faxon's SC-10 system) in May 1985. There were two basic problems with the use of this system to manage serials. First, the system did not automatically produce a printed serials holdings list; it had to be maintained in a separate word processing package. This resulted in an out-of-date serials holdings list, possibly contributing to duplicate interlibrary loan requests. Second, the serials control system did not permit library patrons to have bibliographic access to serials and to check the status of a particular serials issue (e.g.: received, on shelf, checked out, checked in).

To overcome these two problems with serials processing at Boehringer Ingelheim, this researcher investigated the efficacy of converting cataloging and holdings information for serials from the SC-10's MARC-S cataloging file into Techlib/Plus. Techlib/Plus was considered for the serials cataloging because it was the on-line catalog used at Boehringer Ingelheim since August 1989 for book cataloging and because it allowed bibliographic access by author, title, and subject. Techlib/Plus is an integrated library automation package written and distributed by Information Dimensions, Inc. Techlib/Plus operates on Boehringer Ingelheim's Microvax computer system and is available for use by all employees throughout the company via a computerized network.

The first phase in the conversion of cataloging data from Faxon's SC-10 system into Techlib/Plus was to assess the necessity of the serials data conversion at Boehringer Ingelheim's libraries. Four methods of needs assessment were used: 1) review of the literature to determine the value of linking on-line catalogs with serials control systems, 2) determination of the technical feasibility of the data conversion, 3) determination of the willingness of the producers of Techlib/Plus and the SC-10 system to provide the raw data and support during the data conversion process, and 4) determination of additional benefits that would result from the data conversion.

An on-line search of the literature regarding linking on-line catalogs with serials control systems was conducted in three library related databases: Information Science Abstracts (ISA), Library and Information Science Abstracts (LISA), and Educational Resources Information Center (ERIC). The literature supported the idea that providing serials information in the on-line catalog was needed by patrons. For example, Potter,[1] Van Avery,[2] Cipolla,[3] Weiming,[4] and Duke[5] noted that library users and librarians need one up-to-date data source that allows access to everything about books, serials, and other materials owned by a library.

Although it was determined that the patrons desired a serials data conversion into the on-line catalog, the technical feasibility of data conversion from Faxon's SC-10 system into Techlib/Plus had to be ascertained. Conversations with representatives of Information Dimensions, Inc. and The Faxon Company verified the technical feasibility of interfacing Techlib/Plus and Faxon's SC-10 system. Both companies briefly described how the R.J. Reynolds Company converted their serials from the SC-10 system into Techlib, a precursor to the current Techlib/Plus system (Moore[6] and Santosuosso[7]).

Additional evidence in support of this data conversion project was an information sheet produced by The Faxon Company (Schwartz[8]) providing the status of interfacing Faxon with Techlib. As of 1988, Faxon's MARC-S bibliographic and holdings records for serials had been test-loaded successfully into Techlib from the SC-10 system. Techlib/Plus was developed in 1990 to take the place of Techlib. The basic database organization of Techlib/Plus is the same as Techlib, so the success of the Faxon/Techlib data conversion implied the success of data conversion between Faxon's SC-10 system and Techlib/Plus.

Converting data from the serials control system into the on-line public access catalog can yield other benefits, including computerized circulation of serials, searching for materials without having to know that they are serials, ability to access serials by various

methods (author, title, subject), 22 hour per day system availability, verification of the serials title, and improved serials collection development.

Review of the Literature

Serials automation, including the addition of serials records into an on-line catalog, was widely discussed in the literature. Relevant articles included case studies describing the use of a particular serials automation package, either on the microcomputer level or on the mainframe computer level; and the use of Faxon's SC-10 system in libraries.

Of these articles, only two that described the possible inclusion of SC-10 records in an on-line catalog (Techlib) were similar to this proposed data conversion project [by Clapper[9] and by Information Dimensions, Inc. ("EBSCO and Information Dimensions"[10])]. However, additional aspects of serials automation, especially the linking of serials titles to on-line catalogs, described in the other articles were utilized in this project.

Microcomputer-based Serials Control Systems

The literature described various serials automation software packages with a serials holdings module designed for the stand-alone personal computer environment. This included PC-File III by Cady,[11] PPS:File by Holmquist,[12] dBase II by Grass,[13] DavexPC by Stephenson,[14] and SC 350 by Riddick[15] and Swanson.[16] After analyzing the characteristics of these programs, it was decided not to use any of these microcomputer based serials control systems. The main disadvantages associated with all these systems were the programs' limitations, i.e. the amount of data that they could handle efficiently and effectively and the inability to have simultaneous usage by multiple users. These programs were geared towards handling serials collections that were smaller than the 1,000+ titles that the libraries at Boehringer Ingelheim handled. Additional disadvantages included training the Boehringer Ingelheim staff to use another software package and the cost of buying a microcomputer software package.

Mainframe-based Serials Control Systems

Articles by Van Avery,[2] Silverman,[17] Broering,[18] and Schott, Geyer, & Barr[19] covered serials control systems based on mainframe computers not available at Boehringer Ingelheim, including GEAC, Innovacq, REMO, and PDP computers. Since Boehringer Ingelheim was not going to purchase any of these computers, these systems for serials automation were not considered. However, this literature provided information about downloading and converting fields from various serials systems similar to Faxon's SC-10 system into on-line cataloging systems similar to Techlib/Plus.

Faxon's Serials Control System

Of the articles that described Faxon's SC-10 serials control system (Seidman & Duffek,[20] Ireland,[21] Schaffner,[22] and Clapper[9]), none discussed linking the system to Techlib/Plus. However, these articles discussed the possibilities of linking the SC-10 system to other on-line catalogs. Seidman & Duffek[20] reported on an in-house interactive program, Serials Title List, which allows keyword access to their serials. It was not converted into their Faxon SC-10 system because of database incompatibilities. However, they noted that these incompatibilities could be overcome so that information could be converted between the two systems.

Ireland[21] noted that SC-10 was not a user friendly system and, therefore, it was decided that opening Faxon's SC-10 system currently used at Boehringer Ingelheim to the library users, in addition to the library staff, was not a realistic option. Schaffner[22] reported on the conversion of another file of Faxon known as the Union List System into a serials holdings list by the Boston University consortium. The author described such system features as record format, data entry procedures, and editorial review options, along with considerations for training, documentation, administration, and staffing. These features were incorporated into the procedure used during the conversion of SC-10 records into Techlib/Plus.

Clapper,[9] of The Faxon Company, reviewed projects that interfaced the SC-10 data with

on-line catalogs by Brodart, GEAC, Carlyle, LS/2000, Sperry, and the VTLS system. This article demonstrated that The Faxon Company was interested in linking various on-line catalogs with its SC-10 system and has been successful, thereby providing an impetus for the linking of SC-10 with Techlib/Plus.

The technical feasibility of converting Faxon's serials data into Techlib/Plus was also evidenced in an announcement made by Information Dimensions, Inc., the producer of Techlib/Plus. This announcement ("EBSCO and Information Dimensions"[10]) described a successful test load of serials data from the EBSCO/RETRO service into the Techlib system. Although EBSCO was a different serials subscription agent than Faxon, the successful completion of this data conversion project indicated that the cataloging information in a serials control system could be converted into Techlib/Plus.

Methodology

To achieve the objective of converting cataloging records for Boehringer Ingelheim's serials from Faxon's SC-10 system into cataloging and copy records in Techlib/Plus, the project was conceived in phases and then developed. These phases were: development of system criteria, identification and evaluation of candidate systems that fulfilled the criteria, planning the implementation of the proposed system, and establishing data entry standards for the cataloging and copy records in Techlib/Plus. Implementation of the data conversion consisted of developing specifications for the MARC processing module, and included detailing MARC parameters and creating MARC map records in Techlib/Plus and test conversion of the serials records.

Development of System Criteria

As part of the implementation of the data conversion, criteria for the proposed data conversion system were developed. It was decided that the most important requirement of a system was ease of use in the operation. A user friendly system was also needed from the perspective of the MIS department, which had limited time to support a new system. After reading Rush[23] and Karasick,[24] who listed functional requirements of an automated serials control system, it was decided that the candidate system should automate various serials control functions, including serials acquisitions, financial information, check-in, missing issue identification, circulation control, and holdings list production.

The data conversion system should contain records with full bibliographic detail for every serials title. Another criterion for the proposed system was the availability of the serials information to multiple users simultaneously, either in the libraries or in off-site locations (e.g. the user's office or home). The serials system should be available seven days a week for most of each day, with minimum downtime.

In addtion, the cost of the system was a major consideration, because the less expensive the proposed system was, the more likely it would be approved. To avoid extensive review procedures by a budgetary committee and a large expenditure, it was decided that the serials automation system should operate on currently existing computers at Boehringer Ingelheim.

Identification and Evaluation of Conversion Systems

After developing criteria for the ideal data conversion system, the systems described in the literature review were evaluated. As mentioned in the Literature Review section, none of these microcomputer or mainframe based serials automation systems met all the system criteria; thus, they were not acceptable for this project. Since an appropriate system was not located, using either the SC-10 serials control system or Techlib/Plus, the on-line catalog, to catalog the serials was considered. As shown in Table 1, on pg. 166, a comparison of the systems to the criteria revealed that neither one of these two systems met all the system criteria.

As Table 1 indicates, Techlib/Plus fulfilled more of the project criteria than the SC-10 system. Consequently, Techlib/Plus was considered for handling all the serials control

Table 1

COMPARISON OF SC-10 SYSTEM AND TECHLIB/PLUS		
Criteria	**Faxon's SC-10 System**	**Techlib/Plus**
User Friendliness:		
Menu Driven with Help Screens	No	Yes
Little Hardware and Software Maintainance	Yes	Yes
Automation of Various Serials Control Functions:		
Financial Information	Yes	No
Automatic Claim Generation	Yes	No
Circulation of Serials	No	Yes
Serials Receipt Processing	Yes	No
On-line Report Generation:		
Serials Holding List	No	Yes
Bibliographic Description of Serials:		
Catalog Serials	No	Yes
Widespread System Availability:		
Unlimited # of Simultaneous Users with Minimum Downtime	No	Yes
Low Cost:		
Accessible with Current Equipment	Yes	Yes
Yes = System does meet project criteria *No = System does not meet project criteria*		

functions and discontinuing the SC-10 system. Unfortunately, Techlib/Plus did not automate various serials control functions, especially financial management and automatic claim generation, and did not provide access to other subscription related files. Since Faxon's SC-10 system provided many of the serials control functions outlined in the project criteria, the SC-10 system was considered for bibliographic control of the serials. However, this

was an unacceptable alternative because the SC-10 system is not user friendly and would not be easily understood by the researchers at Boehringer Ingelheim. In addition, configuring the SC-10 system so that multiple users can search it would be too costly and labor intensive. Thus, the SC-10 system was deemed inadequate for access by multiple users at Boehringer Ingelheim.

Since SC-10 and Techlib/Plus contained complementary features that, when combined together, met all the system criteria, it was concluded that data conversion from the SC-10 system into Techlib/Plus would create a suitable system. The SC-10 system would still be used to order, check-in, route, and claim serials issues. Techlib/Plus would be used to bibliographically describe serials and create a holdings list. A cataloging and a copy record that summarize the holdings information of each serials subscription would be created in Techlib/Plus. Whenever a serials title was added to or deleted from the SC-10 system, the appropriate changes would be made in Techlib/Plus. The important project criterion, user friendliness, would be fulfilled since Techlib/Plus is already used by library users to search for books and it is menu-driven.

In addition, this data conversion system would require little, if any, investment in time and money to buy and maintain the hardware and software since it is already operational. Thus, there would only be costs involved with loading the data initially into Techlib/Plus, and no ongoing, recurring costs.

Because the results from the investigation indicated that converting data from the SC-10 system into Techlib/Plus would fulfill all the system criteria, this solution was implemented.

Planning the Implementation

Once the system criteria had been defined and the candidate system identified, it was determined that there were 1,067 serials titles to be cataloged in Techlib/Plus. The Faxon Company searched its MARC-S serials cataloging database to obtain cataloging data for Boehringer Ingelheim's serials in machine readable form for conversion into Techlib/Plus. MARC-S contains the available cataloging data for serials titles that Boehringer Ingelheim and other Faxon customers subscribe to. The Faxon Company also extracted the check-in data for Boehringer Ingelheim's serials from the SC-10 system, copied it on a tape and sent it to Boehringer Ingelheim for loading into Techlib/Plus. It was noted that cataloging data for every one of Boehringer Ingelheim's serials might not be available in the MARC-S file because Boehringer Ingelheim has some unique serials.

Twenty-five random serials subscriptions were searched by The Faxon Company against its MARC-S file to obtain cataloging records and against Boehringer Ingelheim's MARC-S holdings records to obtain the corresponding detailed holdings records. This data was recorded on a magnetic tape and sent to IDI for sample conversion into a demonstration Techlib/Plus database. Seventy percent of the SC-10 titles (17 out of 25 records) were located in the MARC-S file. IDI performed the sample conversion and sent the resulting records to Boehringer Ingelheim for testing. The records were added to a sample Techlib/Plus database and examined for acceptability. Only a small amount of editing of the converted records would have to be done, and changes were made in the conversion program to decrease the amount of editing that would have to be performed after the conversion. Refer to the "Performing the Implementation" Section for more information about MARC processing specifications.

Unfortunately, there were two major conversion problems. First, only one copy (or circulation) record could be created for each serials title. Therefore, IDI was unable to convert all the issue-specific information contained in the MARC holdings records into Techlib/Plus. Thus, one can not determine if and when a particular issue of a serial was received by the library. A library user can only determine that the library does receive the serial for a range of years because the single copy record contains a field for summary holdings information. The decision was made to proceed and convert the cataloging

records from Faxon's MARC-S file into Techlib/Plus and automatically have one copy record created that would display the holdings information in a summarized format. (Refer to "Standards for Data Entry" for complete specifications of both the cataloging and copy records).

The second conversion problem was that cataloging for all Boehringer Ingelheim's titles could not be located in the MARC-S file. Since Catline was being used for the cataloging of new books, it was used to retrieve serials cataloging data, manually enter it into Techlib/Plus, and create copy records. If cataloging still could not be located for any Boehringer Ingelheim's serials, original cataloging was performed.

Standards for Data Entry

The next phase in the data conversion project was the development of a standardized method of entering data into Techlib/Plus's predefined serials cataloging and copying records to ensure consistency among them and, therefore, aiding in retrieval. Most of those records were created from the conversion of Faxon's MARC-S serials records. Others were created by original data entry. Any item in Techlib/Plus, a book or a serial, is described jointly by a cataloging record and a copy record. A cataloging record describes the bibliographic aspects of the item, while the copy record describes the actual status of the item (e.g.: holdings statement for serials). Techlib/Plus's cataloging screen for serials consists of three pages of data, while the copy screen for serials consists of two pages of data (Silverman-Mintz and Parr[25]). (Refer to Figures A-1 and B-1 on pages 179 and 180 for skeleton cataloging and copy records in Techlib/Plus.)

A selective MARC format was used for the converted records and a selective AACR2 format was used for the original cataloging records. These two formats were slightly customized to conform with the cataloging records already entered in Techlib/Plus. For example, AACR2 (Gorman & Winkler[26]) recommends that the size of the serial should be entered in the collation field but it was not entered in Techlib/Plus's cataloging records.

Cataloging Records

One cataloging record was established for each of Boehringer Ingelheim's serials subscriptions, even though they may have undergone title changes. The first page of the Techlib/Plus cataloging record for serials contained a basic bibliographic description of the serials title. Table 2, pg. 169, outlines the Techlib/Plus fields that were utilized and the kind of information contained in those fields. If the fields were not used, they were left blank.

The subject and the corporate author fields of the newly created Techlib/Plus serials cataloging records were checked automatically by the computer against a thesaurus for validation when they were added to the system. If the terms in the corporate author and subject heading fields in the cataloging record were not in the thesaurus, a file of these new potential thesaurus terms was created. This data entry check against the thesaurus ensured consistency in the format of those two fields. NLM and LC were chosen as standards because they are currently used by Boehringer Ingelheim as standards when new books are cataloged and entered into Techlib/Plus.

The second page of a cataloging record for serials (see Table 2) contained fields that describe the physical nature of the serial. Refer to Table 3 on page 170 for a description of the fields and the data entry standards. Similar to the first page of the cataloging record, some fields were left blank if there was not any data.

The third page of the cataloging screen for serials (see Table 3) contained fields about the frequency and chronology of the serial. Table 4, on page 171, describes the fields and the data entry standards for those fields.

Copy Records

In addition to a cataloging record, a copy record was created in Techlib/Plus for each converted serials title (See Table 4). As out-

Table 2

DATA ENTRY STANDARDS FOR PAGE 1 OF CATALOGING RECORD	
Techlib/Plus Field	**Developed Data Entry Record**
Catalog No. (Catalog Number)	System Generated
Mtype (Material Type)	5 = Serial
OCLC	Blank
Call Number	Blank or INDEX SHELVES when applicable
Author	Blank
Corporate Author	Institution sponsoring the serial. Use AACR2 for the format of the name.
Place	City and State separated by a comma. If city is in a foreign country, use City and Country.
Pub. (Publisher)	Name of publisher as appears on serial. Precede by a colon.
Subjects	Subject headings. Use NLM's or LC's subject headings. Enter in uppercase.

lined in the Techlib/Plus manual (Silverman-Mintz and Parr[25]) and shown in Figure B-1, a serials copy record consisted of two pages of data designating the physical location of the serials title. Each serials subscription has at least one copy record, and this record was linked by the catalog number to the cataloging record that bibliographically described the serial. When there were two subscriptions to the same serials title, one for each library at Boehringer Ingelheim, a separate copy record was created for each serials subscription with the location field in one copy record indicating the Corporate Library and the location field in the other copy record indicating the R&D Library. Both copy records of the same serials title were linked to the one cataloging record describing that serial via a common catalog number. See Table 5 on page 172 for a detailed description of the fields in the first page of the copy record.

The second page of a copy record for serials in Techlib/Plus contained only two fields that describe the serials holdings. (Silverman-Mintz and Parr[25]). The first field, Display Date, was left blank because the copy record represents the complete serials title and not just one issue. Therefore, there was no single date of the serial to enter. The other field, Holdings, contained a summary holdings statement for the serials title, using the UCMP standards.

These data entry standards for the cataloging and copy records applied not only to the records converted from Faxon's MARC-S records, but also to those found in Catline or those entered manually into Techlib/Plus.

Table 3

DATA ENTRY STANDARDS FOR PAGE 2 OF CATALOGING RECORD	
Techlib/Plus Field	**Developed Data Entry Record**
Edition	Blank
Collation	ill. = illustration
Series	Name of series
Alt Title (Alternate Title)	Alternate title of serial if applicable
Prev. Title (Previous Title)	Original name of serial
ISSN	ISSN number
CODEN	CODEN
Year	Blank
Doc Type (Document Type)	SERIAL
Catalog Level	F = Full cataloging

In addition, standards for obtaining the cataloging data from the serials themselves for original cataloging were established. As suggested by Smith,[27] the title page of the serial was the source of data for recording the title, corporate author, place of publication, and publisher in Techlib/Plus. If supplements to a serials title were substantial in nature and contained their own numbering system, they were cataloged as separate serials or as a series of monographs cataloged individually.

Performing the Implementation

The implementation of the conversion of the MARC-S cataloging data into Techlib/Plus began with the development of specifications for the MARC processing program. The specifications were comprised of detailing the data formatting MARC parameters and creating the MARC map records. The MARC mapping specifications identified the source fields in the MARC record and linked them to the appropriate target fields in Techlib/Plus. This was accomplished by mapping one or more tags or subfields from the MARC data to one or more fields in the cataloging or copy records.

Specifications of the MARC processing module

Detailed specifications in the MARC processing module of Techlib/Plus were developed. The purpose of the MARC module was to read the MARC-S file of cataloging records, process it according to the data formatting and field mapping specifications described in the Techlib/Plus manual (Silverman-Mintz and Parr[25]), and write it to

Table 4

DATA ENTRY STANDARDS FOR PAGE 3 OF CATALOGING RECORD	
Techlib/Plus Field	**Developed Data Entry Record**
Frequency	Publication Frequency: W = Weekly BW = Every two weeks SM = Twice a month M = Monthly BM = Every two months Q = Quarterly SA = Twice a year A = Annual VA = Variable IR = Irregular
Former Frequency	Previous publication frequency. Use same codes as frequency.
Chronology	Blank
Added Entries	Blank or other serial titles when applicable.
Preceding Entries	Previous serial title.
Succeeding Entries	Blank
Series Added Entries	Blank
Serial Type	P = Periodical N = Newspaper M= Monographic series
Medium	Blank if in paper format Microfilm Microfiche

another file in a format that can be loaded into Techlib/Plus. This MARC conversion program was controlled by several execution parameters that specify the data formatting and copy record processing. The data formatting routines included processing subject headings for correct punctuation, defining the document type, eliminating extraneous punctuation from the author and title fields, creating copy records, and setting defaults for some non-MARC fields required in Techlib/Plus.

Detailing MARC Parameters

As shown in Table 6, on page 173, the MARC processing module was customized to specify the parameters to be used in the conversion of Boehringer Ingelheim's serials. The first part of the MARC parameters screen identified general parameters for the conversion of the catalog and copy record information into Techlib/Plus. At least one

Table 5

DATA ENTRY STANDARDS FOR PAGE 1 OF COPY RECORD	
Techlib/Plus Field	**Developed Data Entry Record**
Catalog No. (Catalog Number)	System generated
Item ID	User assigned
Copy (Copy Number)	Blank
Owning Library	BIPI = Boehringer Ingelheim Pharmaceuticals, Inc.
Location	R&D = Research & Development Library (Scientific & Technical) CORP = Corporate Library (Branch)
Ref. (Reference)	N = Not in Reference
Avail. (Availability)	SHELF
Mtype (Material Type)	5 = Serial
Ctype (Collection Type)	1 = Nonreference
Temp. (Temporary)	N = Not a temporary record
Call No. (Call Number)	Blank INDEX SHELVES if in index section
Year	Blank
Vol. (Volume)	Blank
Iss. (Issue)	Blank
e3 (3rd enumeration field)	Blank
e4 (4th enumeration field)	Blank
Iss. Date (Issue Date)	Blank
Iss. Disp. Date (Issue Display Date)	Blank
Add Date (Record Add Date)	System Generated
Revision Date	System Generated
Revision UID (Revision Unique Identifying Number)	System Generated

Table 6

SPECIFICATIONS OF MARC PROCESSING SCREEN	
Techlib/Plus Field	**Customized Data Entry Record**
Record Format	LC = Library of Congress
Keep MARC Flag	Yes
Start Record	1
End Record	Blank
Start Key	10,000
Display Format Flag	Yes
Extended Character Flag	Yes
Sub. Select. (Subject Selection)	LC = Library of Congress NLM = National Library of Medicine
Call Select (Call Number Selection)	Blank
Holdings Field	Blank
Start Subfield	Blank
Dummy Copy Flag	Yes
Default LIBR (Default Library Code)	BIPI = Boehringer Ingelheim Pharmaceuticals, Inc.
Default Loc. (Default Location Code)	R&D = R&D Library CORP = Corporate Library

copy record designating the location of the serials subscription created for each serials cataloging record that was converted into Techlib/Plus was desired. This decreased the amount of data entry required after the conversion.

The other portion of the MARC parameters screen identified the files to be used and created by the MARC processing module. (Refer to Table 7 on page 174). Distinctive file names were specified to be used and created during the MARC conversion process so that the file content could be ascertained by the file name.

Detailing MARC Map Records

The second part of the MARC processing module consisted of creating MARC map records that specified the data from the MARC record that were to be mapped to the Techlib/Plus fields. The MARC format was compared to the Techlib/Plus standardized cataloging record format, and

Table 7

ADDITIONAL SPECIFICATIONS OF MARC PROCESSING SCREEN	
Techlib/Plus Field	**Customized Data Entry Standard**
MARC In	FAXON.DAT
CAT Data (Cataloging Data)	DATAFILE.DAT
MARC Data	Blank
Cancel Data	Blank
Block Size	Blank
COPY Data	COPYFORMS.DAT
Output Log	OUTPUT.LOG
Reject File	REJECT.DAT

the MARC fields that would be converted into Techlib/Plus fields were determined. (See Figure C-1 for an example of a MARC map instruction involving the title field). Each MARC tag in the MARC-S record for the individual serials titles was noted in a map instruction screen. Table 8, on pg.175, lists the various MARC tags that were extracted from the MARC-S cataloging file and converted into the appropriate Techlib/Plus field.

Series Test Data
Conversion of Serials Records

After the MARC processing parameters were specified, the actual data conversion of the MARC-S cataloging records into Techlib/Plus began. All of Boehringer Ingelheim's subscriptions in Faxon's SC-10 file, except for multiple subscriptions of the same serial, were searched by Faxon against its MARC-S cataloging file. Multiple subscriptions of a serial were skipped because Faxon extracted only the unique ISSNs from the SC-10 file (and therefore only the unique titles) to search its MARC cataloging file and ignored the duplicate ISSNs. Boehringer Ingelheim had a total of 1,086 unique serials titles, but 108 of them had invalid/missing ISSNs and 10 of them had duplicate ISSNs. The ISSN field was needed to search the MARC-S cataloging database and to convert the resulting cataloging into Techlib/Plus. As a result, only 968 titles were extracted from the SC-10 system and searched against the MARC-S file for cataloging information. Of these titles, 20 did not have cataloging information in the MARC-S file. The remaining 948 records were recorded onto tape as MARC-S serials cataloging records. This tape was sent to Boehringer Ingelheim and loaded on Boehringer Ingelheim's computer. Next, the customized MARC processing program was executed on 10 sample serials records and converted them into cataloging and copy records in Techlib/Plus.

The resulting Techlib/Plus records were retrieved one by one and scanned for any errors or omission of data. By making minor adjustments in the specifications of the MARC processing module, a few conversion errors were avoided in the conversion

Table 8

SPECIFICATIONS OF MARC MAP INSTRUCTIONS FOR CATALOGING RECORDS	
MARC Tag	**Techlib/Plus Tag (Record Type)**
949A (holdings)	ITEMID (COPY)
030	CODEN (CAT)
001	OCLC
008 (fixed fields data)	M008 (fixed fields data)
010 ((LCCN)	M010 (LCCN)
020A	ISBN
022A	ISSN
100A & 700A	Author
110A, 110B, 110N, 110D, 110C, 710A, 710B, 710N, 710D, 710C, 710T, 710P	Corporate Author
246A, 246N, 246P, 246B, 130, 240, 730, 740	Alternate Title
111A, 111Q, 111B, 111N, 111D, 111C, 111E, 711A, 711Q, 711B, 711N, 711D, 711C, 711E, 711T	Conference Name
245A, 245N, 245P, 245B	Title
250	Edition
260A, 260B, 260C	Publication Information
300	Collation
500, 501, 503, 504, 520, 590	Notes
600, 610, 611, 630, 650, 651, 690, 691, 653, 655, 692, 693, 694, 695	Subject Headings
505	Contents
400A, 400T, 400N, 400P, 400V, 410A, 410B, 410N, 410D, 410C, 410T, 410P, 410V, 411A, 411Q	Series

of the remaining 938 records.

Conversion of all MARC Cataloging Records

When the MARC program was executed a second time, all the MARC-S cataloging records for Boehringer Ingelheim's serials contained on the tape were processed and converted into cataloging records in Techlib/Plus. A copy record for each serials cataloging record was added to Techlib/Plus and linked to the appropriate cataloging record. Sixteen sets of cataloging and copy records were rejected by the MARC processing program because of the use of nonstandard MARC tags. Therefore, these records were not added to Techlib/Plus. Instead, the MARC program saved these rejected records in a file. At the completion of the conversion, this file of rejected records was printed out and the records were entered manually into Techlib/Plus according to the established data entry standards.

Editing Cataloging and Copy Records

Once the MARC cataloging for Boehringer Ingelheim's titles were converted into Techlib/Plus, all the cataloging and associated copy records were proofed and edited. Editorial changes were made to ensure consistency in record format and content. These changes conformed to the data entry standards established early in this data conversion project. This included converting the subject headings from lower case to uppercase, deleting miscellaneous punctuation (e.g. concluding periods in the title field), and changing the material type to indicate serials.

Another editing change was modification of the corporate author and the subject heading fields to make the content consistent with the corporate authors and subject headings used in other Techlib/Plus cataloging records. All the corporate author and subject headings used in Techlib/Plus are standardized terms based on the National Library of Medicine's (NLM) and Library of Congress (LC)'s controlled vocabulary and are contained in a thesauri computer file linked to Techlib/Plus. These two fields in the converted MARC records were compared to the thesaurus and appropriate changes were made to the records to keep the terminology standardized.

Data omission errors that were corrected included adding previous and alternate serials titles, publishing frequency of the serial, serials type, and missing subject headings for some of the cataloging records.

In addition to the cataloging records, the copy records in Techlib/Plus were proofed and edited. Summary holdings information had to be added to each record. A standardized holdings format was used to designate volume numbers and range of years. The library location in the copy record had to be checked for appropriateness since "R&D" was added to every copy record as the default location during the conversion. Thus, with the serials held at the Corporate Library, the location had to be changed from "R&D" to "CORP." In the cases where both the R&D Library and the Corporate Library subscribed to the same serial, a second copy record was created for that additional library.

Data Entry of Missing Serials/Deleting Duplicate Serials

Once all the cataloging and copy records resulting from the MARC conversion were edited, the comprehensiveness of the serials records in Techlib/Plus was determined. The master copy of the printed serials holdings list was compared to the converted serials records in Techlib/Plus to determine if there were any titles that were received by Boehringer Ingelheim but had not been converted from Faxon's SC-10 system into Techlib/Plus or if the records from SC-10 converted into Techlib/Plus were for items already cataloged in Techlib/Plus. This comparison showed that there were 138 serials records in Faxon's SC-10 system that were not converted and had to be entered manually into Techlib/Plus; 118 of these titles had invalid, missing, or duplicate ISSNs and, therefore, were not searched in the MARC-S file to retrieve cataloging information for conversion into Techlib/Plus. The rest of these serials had ISSNs, but when searched in

the MARC-S file, there were no available MARC cataloging records. Apparently, these 20 serials titles were not cataloged by other libraries.

Of these 138 serials, 73 titles were already cataloged in Techlib/Plus as books or were no longer being kept by the library. Thus, these titles were not entered in Techlib/Plus. The remaining 65 unconverted serials titles were searched on Catline in an attempt to obtain cataloging. Cataloging for 42 of these 65 titles was not available via Catline, so original cataloging was performed and the data entered manually into Techlib/Plus. Appropriate Techlib/Plus copy records containing holdings information were also created. For the 23 titles that were located in Catline, the cataloging record was printed and then entered manually into Techlib/Plus. The corresponding copy records containing holdings information were entered manually into Techlib/Plus.

A comparison of Boehringer Ingelheim's master serials holdings list to the serials cataloging records also showed that there were duplicate serials records in Techlib/Plus. Approximately 190 cataloging records were converted from Faxon into Techlib/Plus for titles already cataloged in Techlib/Plus as books. As a result, duplicate sets of cataloging and copy records were deleted one by one from Techlib/Plus.

Maintaining the Thesaurus

Once all the cataloging and copy records for Boehringer Ingelheim's serials were edited in Techlib/Plus, the thesaurus of a standardized list of corporate author and subject headings had to be updated to contain the new terms in the cataloged serials. During conversion, the MARC processing program added a copy of the new corporate authors and subject headings to a separate computer file. At the end of conversion, this file was compared to the existing Techlib/Plus thesaurus. New terms resulting from the conversion were manually entered to the thesaurus file if they followed the standard set by AACR2 and were established by NLM or LC.

Updating the File

Once it was determined that Techlib/Plus contained a cataloging and copy record for all the serials that Boehringer Ingelheim had in its library collection, a procedure for updating the serials records in Techlib/Plus was established. Since the serials clerk was continuing to check-in serials on the SC-10 system, any deletions or additions of serials subscriptions or changes in the holdings statements or library locations were written down. Then, on a weekly basis, these changes were made in Techlib/Plus. The updating is done on a frequent basis, weekly rather than monthly, because as noted by Arcand,[28] Cohen,[29] and Klemperer,[30] library users desire up-to-date information about serials.

Discussion

Benefits to the Library Profession

Since the SC-10 system and Techlib/Plus is installed in many libraries, especially scientific and technical libraries, this project will guide others in implementing the same data conversion. In addition, this project will guide other libraries that want to link a serials control system different from the SC-10 system with Techlib/Plus or with a different on-line catalog. The project outlines generic principles, provides a bibliography, develops system criteria, identifies a candidate system, and presents a project proposal that could be used when converting data from a similar serials control system into an on-line catalog.

In addition, this type of data conversion, whereby the appropriate parts of two different automation systems were chosen to accomplish the job and not just one all-inclusive integrated system, indicates the trend of libraries' choosing customized solutions to meet their automation needs. As noted by Delsey,[31] there is a growing sense that what is most needed is not another system to support another serials management process, but rather a mechanism (i.e. MARC conversion) to help

integrate available systems capabilities to support the overall flow of information from one process to another.

Challenges to the Library Profession

While performing this conversion project, some data standardization problems were noted within Boehringer Ingelheim's Techlib/Plus's system and between Techlib/Plus and the SC-10 system that hindered the implementation of this project. This conversion project emphasized the need for standardization of data on two levels: standardization of data within the library's automated system and between different automated systems in the library profession. The use of standards would help to lead to cost-effective means for complete automated serials control management.

Standards within the library's particular serials control system and an on-line catalog that are consistent with standards created by cataloging utilities need to be established. This is necessary for successful linking or converting data from one system into another. With Boehringer Ingelheim, certain standards had already been established in Techlib/Plus for the cataloging of books. When conversion of cataloging for serials occurred, some of these previously established Techlib/Plus standards had to be used to ensure consistency in Techlib/Plus. However, some of these data entry standards were not consistent with the standards used by the MARC-S cataloging file. As a result, when the records were converted from the MARC-S file into Techlib/Plus at Boehringer Ingelheim, all the records had to be edited to convert from the MARC-S standard to Boehringer Ingelheim's standard. One example is changing the subject headings in the converted serials records from lower case to upper case to match the other Techlib/Plus cataloging records. If the standards used by Boehringer Ingelheim had been consistent with those of MARC-S, less editing would have occurred.

Standardization would also result in a bibliographic database that would outlast the actual computer system. The computer hardware could be replaced with more technically advanced hardware or the software could be upgraded with few, if any, problems arising from the database. In addition, the standards used by a particular library for its automation systems, on-line catalog, and serials control system should be similar, if not the same, as the standards used by the other library systems. Thus, libraries could conform as closely as possible to such industry-wide standards as the MARC format and AACR2 standard. Wide deviations in formatting require much editing if and when data conversion occurs.

Not only is there a need for standardization on the individual library level, but there is also a need for additional industry-wide standardization. The MARC standard for the data formatting and the AACR2 standard for cataloging are a start, but more standardization is needed. For instance, the holdings information could not be converted from the SC-10 system into Techlib/Plus's copy records. As a result, only summary information about serials is available; detailed holdings information about serials is not available in Techlib/Plus. Users are unable to check out a particular issue on Techlib/Plus. The companies producing serials control systems and on-line catalogs need to work together to develop standards for data conversion. Changes are rapidly occurring in this area and any new developments should be evaluated with the library's needs in mind.

Appendix A

Figure A-1: SKELETON CATALOGING RECORD FOR SERIALS IN TECHLIB/PLUS

Catalog No.: _____ Mtype:_____ OCLC _____ Page 1 of 3
Call Number: _____
Title> _____
_____

Author> _____
Corp Author> _____
Place: Pub> _____
Subjects> _____
_____

Page 2 of 3

Edition> _____
Collation> _____
Series> _____
Alt Title> _____
Prev. Title> _____
ISSN: _____ CODEN> _____ Year> _____
Doc Type: _____ Catalog Level: _____
Add Date: Revision Date: Revision IUD:

Page 3 of 3

Frequency> _____ Former Frequency> _____
Chronology> _____
Added Entries> _____
Preceding Entries: _____
Succeeding Entries: _____
Series Added Entries: _____
Serial Type: _____ Medium: _____

Appendix B

Figure B-1: SKELETON COPY RECORD FOR SERIALS IN TECHLIB/PLUS

Catalog No: _____ Item ID:> _____ Page 1 of 2
Copy: _____ Owning Library: _____ Location: _____ Ref: _____
Avail: _____ Mtype: _____ Ctype: _____ Temp: _____
Call No> _____ Year: _____
Vol: _____ Iss: _____ e3: _____ e4: _____
e5: _____ Iss Date: _____ Iss Disp Date: _____
Note> _____
Add Date: Revision Date: Revision IUD:

Page 2 of 2
Display Date: _____

Holdings> _____

Appendix C

Figure C-1: EXAMPLE OF A MARC MAP INSTRUCTION

MARC TAGS>	245A	Target Record: CAT
	245N	Target Field: TI
	245P	Keep Subfields Flag: N
	245B	Notes>

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A Unique Approach to Multi-State Networking: BHSL

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■ **Development of a reciprocal multi-state shared resources network is described. The Basic Health Sciences Library Network (BHSL) is one the largest interlibrary loan networks free of direct charges to participants and any direct federal or state funding. Established in June 1986, BHSL started with 132 member libraries from three northeastern states. Current membership is 460 libraries in 10 states. Interlibrary loan activity for 1992 resulted in a collective cost savings of $592,672. This model of resource sharing can be applied to any group of libraries that access a common locator tool.**

The Basic Health Sciences Network (BHSL) is one of the nation's largest health related interlibrary loan networks, currently numbering 460 member libraries in 10 states. It operates free of any direct charges to participants and any direct federal or state funding.[1]

Background

The National Network of Libraries of Medicine (NN/LM), formerly the Regional Medical Library Network, was established in 1967 by the National Library of Medicine (NLM) to bring high quality information services to the nation's health professionals. NN/LM's goals include access and delivery of information, maintaining a network of health sciences libraries for resource sharing, and developing linkages to other information networks and organizations.[2] To ensure equal access to medical information for health care professionals, regardless of geographic location, NLM divided the country into 11 geographic regions and designated a major health sciences institution in each region as a Regional Medical Library (RML). Each Regional Medical Library, under contract with NLM, received federal funding to administer and coordinate a variety of services, including document delivery. Today, there are eight regions, each with a designated RML. Any RML may contract with other resource-rich libraries in its region to be document delivery providers. For example, Region 1, the Middle Atlantic Region, serving Delaware, New Jersey, New York, and Pennsylvania, contracts with 16 libraries designated as Area Libraries and eight libraries designated as Resource Libraries.

As federal funding diminished, cost containment measures for document delivery were instituted so that funding for other RML services would not be threatened. The RML encouraged local libraries to engage in resource sharing, yet imposed limits on the number of subsidized interlibrary loan transactions. At the start of the RML Program, there were no quotas on interlibrary loan activity, but gradually the number of subsidized loans was set at 400, and later reduced to 200. In addition, restricted journal title lists were developed.

These journal titles, thought to be commonly available, could not be borrowed through the RML Program. The first list consisted of 30 journal titles; the second list included 100 journal titles. Despite these restrictions, the number of libraries participating in the RML system increased more than 200% from 1968 to 1972.

In 1978, a fee-for-service interlibrary loan program was instituted by the RML at a cost of $5.00 per loan. Each RML implemented the charge gradually. In the northeast United States, the RML charge of $5.00 per loan was imposed in 1982.[3] Interlibrary loan arrangements by local consortia expanded as basic health sciences libraries sought to minimize the impact of RML fees on already tight budgets. In some cases, the consortia expanded into statewide networks.[4,5,6]

Evolution

BHSL evolved from the extensive networking experience of health sciences librarians in New Jersey, New York, and Pennsylvania. Charter members of the BHSL network were the Health Sciences Library Association of New Jersey (HSLANJ), the Brooklyn, Queens, and Staten Island Health Sciences Librarians (BQSI) consortium, the Medical and Scientific Libraries of Long Island (MEDLI) and the Pennsylvania-based Consortium for Health Information and Library Services (CHI). A description of developments and a brief history of each charter group is important to note.

Since 1981, the Health Sciences Library Association of New Jersey (HSLANJ) coordinated a state-wide interlibrary loan network called the New Jersey Health Sciences Network (NJHSN). It had seven consortia comprising 96 basic health science libraries, and was tremendously successful in cutting interlibrary loan costs for its members. Participating libraries were required to submit monthly statistics, choose a representative to the Networking and Interlibrary Loan Committee, agree to provide document delivery to other members at no charge and maintain current journal holdings in the Union Catalog of Medical Periodicals (UCMP), the Region 1 locator tool.

Efficient interlibrary loan service requires access to a locator tool. UCMP, available in microfiche format, was well-established and considered a standard in health sciences libraries to locate journal titles held by local consortia as well as Area and Resource Libraries offering fee-based services through the NLM's resource sharing program. It is updated quarterly and arranged by journal title with issue-specific holdings listed for individual libraries.

Reconfiguration of the NN/LM from 11 regions to seven regions occurred in 1982, placing New Jersey, New York, and Pennsylvania together for the first time in a greatly expanded Region 1. By 1983, the cost per loan obtained through the NN/LM network had risen to $6.00. Given these prevailing external factors and the successful experience gained from the New Jersey Health Sciences Network (NJHSN), the Networking and Interlibrary Loan Committee recognized the opportunity for region-wide expansion. Therefore, a document seeking other eligible consortia was distributed at state and regional meetings, and was published in the Region 1 newsletter during 1984-85.[7]

Simultaneously, in response to the rising costs of interlibrary loans, the Medical and Scientific Libraries of Long Island (MEDLI) and the Brooklyn, Queens, and Staten Island Health Sciences Librarians (BQSI) consortium agreed to a joint project which would secure expanded access to member library collections on a no-charge basis. Thirty libraries from the two networks volunteered to participate, and in early 1985 the MEDLI/BQSI network became operational with formalized guidelines, a participants' directory and a hierarchical borrowing structure with the smallest collections accessible first. Members agreed to provide free interlibrary loans, to maintain holdings in UCMP Quarterly, and to access the network through the established hierarchy. In August 1985, a letter was sent by MEDLI/BQSI to HSLANJ suggesting the possibility of interstate network cooperation.

Concurrent networking activities were occurring in southeastern Pennsylvania. The

Consortium for Health Information and Library Services (CHI) was created in 1976 with National Library of Medicine Resource Project Grant funding. CHI is a multi-type library network of hospitals, colleges, and health-related institutions. CHI's early participation in the UCMP Quarterly paved the way for many of its networking activities. A cooperative resource agreement with the Southwest New Jersey Consortium for Health Information Services (SWNJCHIS) was formalized in 1982, thus establishing interstate borrowing on a limited scale.

By 1985 the charter members had made contact with each other and an initial meeting was held. All participants agreed to accept the proposal developed by New Jersey, which included an interlibrary loan code clearly stating the responsibilities of both lending and borrowing libraries, procedures for placement of loans, and detailed operational rules. The founding BHSL members agreed on UCMP as the official locator tool for direct and easy access to the holdings of BHSL libraries.

The representatives of these charter member consortia who attended this initial meeting determined what documents were to be developed for distribution to member libraries and divided the tasks among the group. A massive effort throughout Spring 1986 resulted in the development of a detailed information packet and directory for each member. A smaller group of representatives met to compile the sections, which had been developed and duplicated in various locations, and divide the completed packets for shipping.

BHSL was established in June 1986 with 132 charter members from New Jersey, New York, and Pennsylvania within the geographic Region 1, which consisted of the eight northeastern states. Membership more than doubled during the first two years of operation and the current roster totals 460 member libraries from 10 states. In 1987, the first full year of operation, interlibrary loan activity among BHSL members totaled 118,043 loans. Of those, 81,487 were filled by the local consortia, 18,816 were filled by BHSL libraries, and 25,740 were paid loans. Loans for 1992 totaled 412,314. Of those, 270,392 were filled by the local consortia, 74,084 were filled by BHSL libraries and 67,838 were paid loans (See Figure 1 on page 192).

In 1988 BHSL had 268 members representing 21 consortia from Connecticut, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont. In April 1988 the producers of the UMCP, the Medical Library Center of New York, which is a cooperative fee-based organization providing a myriad of library services to member and non-member health sciences libraries, agreed to identify BHSL members by placing an asterisk immediately after the library's SERHOLD code on the first line of each holdings statement (See Figure 2 on page 192). SERHOLD is the NLM's database of machine-readable holdings statements for serial titles held by United States and select Canadian biomedical libraries. These holdings statements are linked to NLM's authoritative bibliographic data.[8]

UCMP was very important to BHSL for three reasons: 1) using an existing locator tool meant that one did not have to be created; 2) after BHSL library holdings were exhausted, the same tool could be used to access fee-based providers; and 3) the need for BHSL to produce a new directory of members was eliminated. At this time, BHSL membership was expanding rapidly, and updating the directory had become an enormous task. With the addition of the BHSL tag in UCMP, the BHSL directory was discontinued in 1989 for the annual print UMCP directory.

Membership applications are accepted at any time and a member library's commitment is for one year.

BHSL Network Operation

BHSL membership is currently restricted to library consortia within Region 1 and the recently created Region 8. These regions encompass the 10 northeastern states of Connecticut, Delaware, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont and all are represented by the BHSL members. Membership is open to consortia of any size and it is not required that every consortium

member join BHSL. All participating libraries must submit a memorandum of understanding indicating their acceptance of the BHSL guidelines.

Eligibility requirements are:

1) Maintain holdings in the Union Catalog of Medical Periodicals (UCMP), used as the union list/locator tool for BHSL;
2) Fill interlibrary loan requests from other participating libraries at no charge;
3) Submit statistics on a timely basis; and
4) Adhere to network rules.

BHSL Guidelines include:

1) Borrowing libraries must make an effort to locate requested materials within their local consortium before entering the Basic Health Sciences Library Network (BHSL);
2) Upon determining that requested material is not held by the local consortium, borrowing libraries will follow the hierarchy established by the BHSL;
3) If automatic referral is desired, the UCMP code of a second and third choice should be indicated on the request form. If the third choice indicated is an Area or Resource Library (AL or RL), the borrowing library will be responsible for charges incurred; and
4) Care should be taken to avoid concentrating requests on a few libraries. No more than two requests per day may be sent to any one library.

BHSL member libraries range in size from those with as few as 35 journal subscriptions to those with well over 1,000 subscriptions. Every library contributes some unique serial title(s) to the network. Membership consists of 10 college/university libraries, two pharmaceutical firm libraries, two advertising firm libraries, two medical society libraries, one academy of medicine library, one foundation library, three technical college libraries, one veterinary hospital library, one research center library, and four other specialized libraries. The remainder are hospital libraries. The hospitals vary greatly in size from those with fewer than 100 beds to those with over 500 beds. The hospitals are of many types, from general hospitals and medical centers to those specializing in a variety of disciplines. Membership includes rehabilitation institutes, children's hospitals, women's hospitals, Veterans Affairs medical centers, and psychiatric hospitals. There are also several schools of nursing. These many and varied types of members each give the network distinction.

Each consortium must appoint a network coordinator. The coordinators are members of the BHSL Board of Directors and serve as the network liaison for their individual consortium. They keep participating member libraries updated on changes in the BHSL Network and solve any local problems that arise. They also impart information on library closings, policy changes and communications received from other coordinators or from the committees, and notify other coordinators of changes within their groups.

The best monitoring mechanism for a network of this size is the collection and analysis of statistics. Therefore, statistics are submitted by all member libraries to the network coordinator on a monthly basis. Statistical data is collated and analyzed using Lotus 1-2-3. In most groups, the coordinator also compiles the statistical forms submitted and summarized by each library twice per year. Several groups have designated a second individual to assume responsibility for this statistical function.

A BHSL hierarchical borrowing structure, based on the statistics collected, was developed. It is revised annually. The original BHSL hierarchy was based strictly on the library's lend-fill ratio, which resulted in some inequity and the over-taxing of some libraries' resources. For example, a library that fills 300 loans per month and requests 310 per month was placed in the same category as a library which filled 20 loans per month but requested only 10. Both libraries were net borrowers with a value of 10. In an effort to even out the

work load, BHSL libraries have been grouped into eight categories.

Category one is reserved for those libraries who neglect to submit statistics. There are usually fewer than 10 libraries in this category. These libraries are accessed first. This measure is taken to induce BHSL libraries to comply with the policy on submission of statistics. Category two are small libraries which filled 200 or less interlibrary loans in the previous year. Category three filled 201 to 500, category four filled 501 to 1,000, and category five filled 1,001 to 2,000 interlibrary loans in the previous year. Category six libraries filled more than 2,000 requests annually. Category seven libraries filled more than 2,000 interlibrary loans annually and are also net lenders to other libraries in the BHSL Network. Finally, category eight designated libraries are used for unique holdings only. These are the largest libraries and are net lenders which request very little from the network.

DOCLINE

The advent of DOCLINE, the NLM's electronic interlibrary loan routing system, altered the health sciences interlibrary loan process. It is a nationwide interlibrary loan system used by biomedical libraries. NLM divided the country into geographic regions and libraries can borrow from institutions within their Regions. If an item is not held by a Region's Area or Resource libraries, the request is routed to NLM. This system was instituted in 1985, and by April 1991 approximately 2,100 libraries were accessing DOCLINE.

The equipment specifications are very basic, and libraries accessing NLM's MEDLARS databases have the capability to access DOCLINE, which is also available via the Internet. Libraries using DOCLINE are assigned unique identification code names, LIBIDs, and can generate and receive interlibrary loan requests. DOCLINE is easy to use, comes with a manual, and NLM provides a service desk for telephone assistance.[9,10]

Interlibrary loans can be generated by two methods, automatic and prefixed. The automatic method is time-efficient because the loan is routed through a predetermined listing of up to 180 libraries. When a library agrees to be a DOCLINE participant, an automatic routing table is completed. This is a customized hierarchical listing composed of 10 levels, called cells, to which a loan can be routed. Automatic routing identifies the smallest library collection holding the journal title. BHSL guidelines for filling out the table state that the first one or two cells contain the local library network, followed by BHSL members, in hierarchical order up to cell seven. Cells eight and nine are reserved for the larger BHSL libraries or for fee-based borrowing. Cell ten is reserved for the NLM.

The prefixed method of requesting is used when the borrowing library routes a request directly to another library reported as owning the title. DOCLINE etiquette dictates that libraries check daily for incoming requests. Access to this network is free, but both free and fee-based collections are listed. NLM and each of its designated Resource and Area Libraries currently charge $8.00 per loan. Since DOCLINE requests are generated via computer, the processing and turnaround time of ILL requests was significantly streamlined. DOCLINE had a positive impact on BHSL because member libraries could automatically route requests to a pool of free libraries in a rapid and cost-efficient manner. As BHSL interlibrary loan activity increased and DOCLINE routing tables were established, a number of concerns, inequities, and problems emerged.

Misuse of some of the unique and large collections was noted. For instance, some loans that should have been routed to very small libraries went directly to very large libraries, which placed an undue burden on the larger libraries. Therefore, instructions for customized DOCLINE routing tables were established by the BHSL board based on the eight categories of libraries. Category seven libraries must be placed on the routing table directly preceding area and resource libraries. Category eight libraries must not be placed on the routing table and must be used on a prefix only basis.

Governance

As the BHSL Network evolved, it became apparent that an official, autonomous governing body was necessary. The organization was large and growing with widespread geographic distribution and an ever-increasing interlibrary loan volume. This created enormous administrative responsibilities. Bylaws were drafted and adopted on June 14, 1988, and a Board composed of Network Coordinators was designated to assure direct lines of communication to each member library as well as to review operating goals, initiation fees, recommendations, and acceptance of new consortia, solve problems, and plan meetings. Each consortium represented appoints one Network Coordinator. There are presently 26 board members with one vote each, plus two ex-officio members from Region 1 and Region 8. The officers, including the chairperson, vice-chairperson, secretary, and treasurer are nominated by the Nominating Committee, and are elected by the board.

The Statistics Committee collates each consortium's statistics, prepares yearly statements, and annually prints and distributes the hierarchical borrowing list to all members. The Membership Committee speaks to prospective consortia, describes and answers questions pertaining to the operation of BHSL, and distributes information packets to new members. Committee participation is open to all BHSL members. Meetings are held annually and are open to all members. Additional special meetings may be called by the chairperson as needed.

Financial Impact/Cost Savings

The primary objective of the BHSL network is cost savings. By providing expanded opportunities for free loans, the BHSL network enables participating libraries to reduce the number of paid transactions.

During the first full year of operation, beginning in July 1986, the BHSL Network saved $54,456. This figure represents the additional cost savings for loans not available within the local consortia, and which would have had to be purchased through the NN/LM system, at $8 per loan, had BHSL not been available. A look at the loan picture for that first year reveals that 7% of all loans were filled within BHSL at no charge. A total of 7,182 loans were filled by BHSL members at no direct charge and not by the NN/LM system, which would have cost $8 per loan.

Collective savings more than tripled by 1988, as membership and the cost of paid loans increased. Loans filled within the BHSL network at no charge rose from the 1986 figure of 7% to 12% of all loans processed. This calculates out to 27,267 loans at $8 per loan, or a network savings of $218,136.

In 1990, 17% of all loans were filled by BHSL libraries. Collective savings was $439,672 for the year, with 54,959 loans filled by network members.

When the network was formed, the charter members agreed that if an additional 2% was saved, the network would be deemed successful. In 1992, 18% of all loans were filled within BHSL. Collective savings was 74,084 loans times $8 per loan, or $592,672 for the year. This far exceeded the original goal of an additional 2% (See Figure 3 on page 193).

Lessons Learned/Future Plans

The primary long range goal of the BHSL Network is to further reduce the number of paid loans by increasing network membership throughout the 10 participating states.

Future plans must also be based on lessons learned in order for a network of any type of libraries to evolve, grow, and achieve its goals. Issues of governance, economics, and the impact of technological change must continue to be addressed as the network grows.

It was quickly learned that inequities endemic to interlibrary loan networks must be minimized if BHSL is to attract and retain libraries with larger and more specialized collections. Methods to avoid overburdening net lenders must be continually monitored and modified when necessary, and the concept of offering some kind of incentive to net lenders should be considered.

In the area of governance, representation

all participating groups is important. However, it is proving difficult to accomplish specific tasks and projects over such a broad geographic area. The wide geographic distribution makes it difficult for many board members to attend meetings, and as a result, most of the responsibilities for policy making, problem solving, and future planning fall on the board members who can attend because of their proximity to one another. Because of this, the feasibility of rotating operational responsibilities by state is being explored. A session for BHSL coordinators or their representatives, to be held at the Annual Meeting of the Medical Library Association, is also being considered. Strict adherence to the bylaws is another important objective. This became evident as some activities, which were conducted informally, such as nominations, were no longer manageable.

The commitment to continue BHSL as an interlibrary loan network free of direct charges to participants and independent of any federal or state funding is strong. The National Network of Libraries of Medicine, NN/LM, strongly supports the BHSL Network and encourages network development and cooperative, reciprocal interlibrary lending among health sciences libraries. They do not want libraries to have to pay directly for material that can be obtained through cooperative agreements.[11] Costs associated with administrative tasks such as photocopying, supplies, mailings, telephone calls, local meeting expenses, and with the flagging of BHSL libraries in UCMP are minor and are absorbed by the budgets of member libraries. The cost of staff time can only be determined on an individual basis, as this depends on the volume of transactions and level of responsibility within the network as well as the salaries and professional levels of the individuals involved. An entry fee of $25 was imposed for new members to cover basic operating expenses. To further reduce costs, in the future each coordinator will be assuming the responsibility of photocopying and mailing updated hierarchies and information packets to his or her consortium members. These and other financial issues are addressed on an ongoing basis.

Technological advancements such as DOCLINE, telefacsimile and electronic mail are changing the ways libraries locate and access information.[12,13,14] Operational policies and procedures are adjusted to respond to these changes.

BHSL is a powerful grassroots cooperative which succeeds in maximizing resources for its members with dramatic cost savings. BHSL's most distinctive characteristic is the willingness and spirit of cooperation among its members. All efforts have been voluntary from the outset, and despite its size and multistate representation, BHSL is able to address problems on a local level. The BHSL network is prepared to meet the challenges of growth and change with the spirit of cooperation and enthusiasm with which it was created.

Conclusion

The BHSL model could be adapted by other special librarians. Its advantages are clear: expanded resources and cost savings. As budgets shrink in today's economic atmosphere, librarians are facing a shift of emphasis from collection building to ready access. However, interlibrary loan and document delivery are two very labor-intensive and costly processes in all special libraries.

Justifying the formation of and participation in a BHSL-like network is realistic for groups of libraries with similar document delivery needs. Ladner's research[15] demonstrates that membership in formal resource sharing networks is important to special libraries and that the most heavily used services reported by sci-tech and business library network members relates to interlibrary loans. Using BHSL experiences and statistics, several advantages can be highlighted. Rapid access to information through networking is enhanced, not limited. The BHSL Network transmits requests and documents via electronic transfer systems which are expedient and efficient. The network provides a greatly expanded pool of journal titles available to library patrons, with little or no additional cost to an individual library. BHSL librarians no longer need to purchase documents needed for one-time, or

limited use. Cost savings can be demonstrated by the BHSL experience. Direct cost per document charges are eliminated.

The issue of proprietary or confidential materials, frequently raised as a possible deterrent to resource sharing, is not a problem for BHSL libraries and need not be a problem for special libraries using the BHSL network as a model. Libraries with materials that are restricted need not list these journals in the locator network tool.

Furthermore, the Ladner study[15] bears out the findings of Ferguson and Mobley[16] and Hill[17] that this often-cited issue of confidentiality is, when objectively studied, really a "non-issue" for most special librarians. Only six percent of sci-tech libraries and seven percent of business libraries participating in networks surveyed by Ladner mentioned confidentiality as a problem.[15]

Special librarians interested in forming an interlibrary loan network can use the BHSL experience as a developmental and operational guide. Through experience, BHSL members have found that success depends on a few key elements: a commitment to sharing by all participants, a quick electronic communications method, an actively involved board comprised of network members, and a continually updated locator tool.

Potential tools for resource location worthy of exploration for special libraries are the use of Online Computer Library Center (OCLC), UCMP, and Internet. OCLC and catalogs on the Internet are accessible via standard telecommunications methods and contain bibliographic and location information on a wide variety of materials. OCLC has its own document delivery module. Although UCMP's strength is journal titles in the health sciences, its coverage is not limited to this area. It is a useful locator tool for many types of libraries. The Internet, which enables access to the on-line catalogs of several different types of libraries, is useful for locating needed resources and could be a valuable tool in building a network.

Summary

Interlibrary loan and resource sharing is an integral part of a health sciences library's operation. Demonstrated cost savings in a time of tight fiscal control and high accountability in health care heightens the need for networking among health sciences libraries. The BHSL resource sharing model can be applied to any group of libraries that access a common locator tool. The ongoing development and expansion of the Basic Health Sciences Library network meets these challenges and assists libraries in fulfilling their mandate to provide timely information to their users.

The views expressed in this article do not necessarily reflect those of the U.S. Department of Veterans Affairs.

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Figure 1

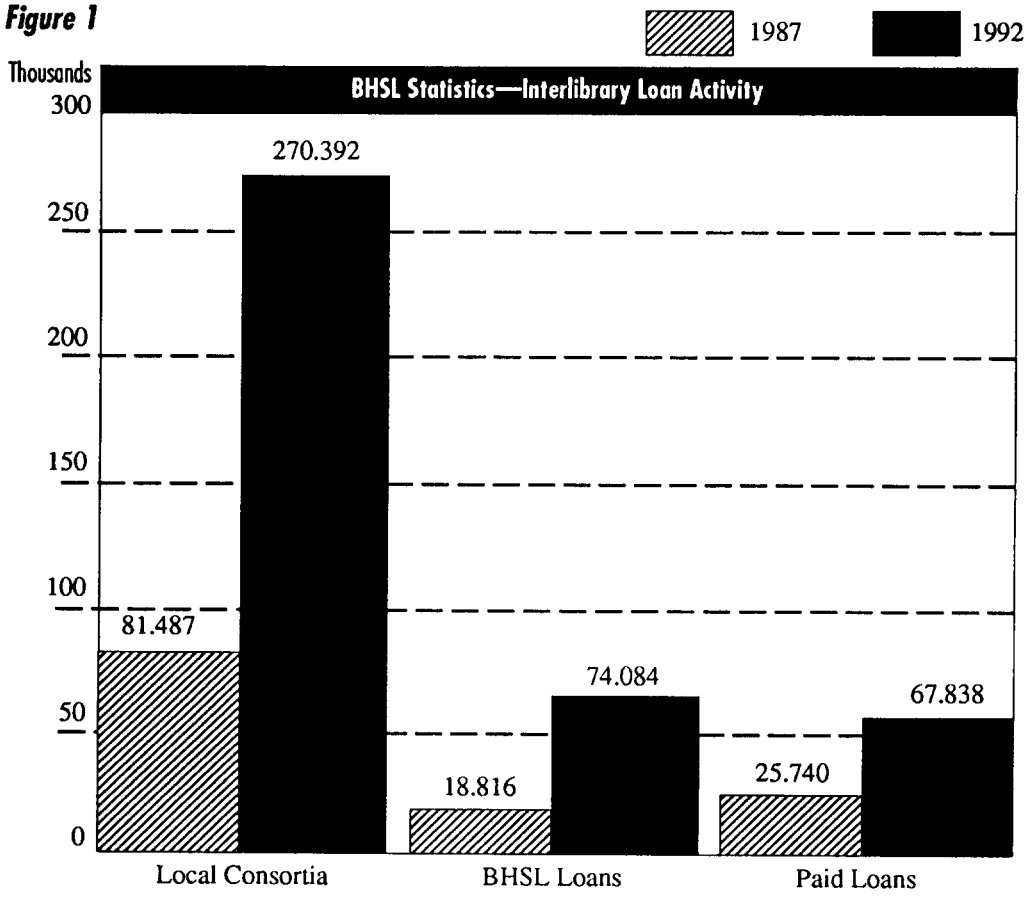


Figure 2

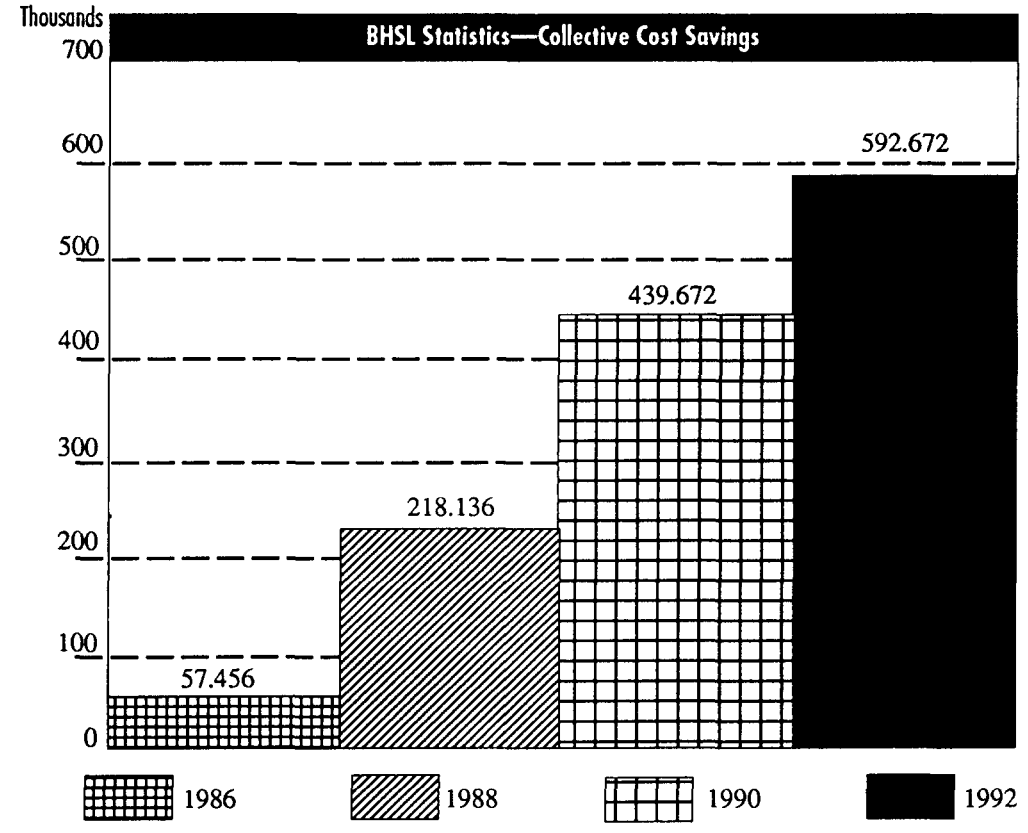
Sample UCMP Entry

UNION LIST ENTRY
BHSL MEMBERSHIP INDICATED BY AN
ASTERISK (*)

532836 0000
MEDICAL CLINICS OF NORTH AMERICA
PHILADELPHIA PA
1,1917—BM
SUPERCEDES MEDICAL CLINICS OF CHICAGO
NLM M12840000
SAUNDERS

CMS*	SW	34—	(1950—)
KMH*	PL	24N6/25—	(1941—)
MSG*	MC	29—	(1945—)

Figure 3



Appendix 1

BHSL MEMBERSHIP BY CONSORTIA
Alphabetic List
25 Participating Consortia

- Association of Rhode Island Health Sciences Libraries (RI)
- Bergen Passaic Health Sciences Library Consortium (NJ)
- Brooklyn, Queens, Staten Island Health Sciences Librarians (NY)
- Central Jersey Health Sciences Library Association (NJ)
- Central Pennsylvania (PA)
- Connecticut Association of Health Sciences Libraries (CT)
- Consortium for Health Information and Library Services (PA)
- Cooperating Hospitals of the Lehigh Valley Area (PA)
- Cosmopolitan Biomedical Library Consortium (NJ)
- Delaware Valley Information Consortium (DE)
- Health Information Library Network of Northeastern Pennsylvania (PA)
- Health Information Libraries of Westchester (NY)

- Health Sciences Libraries and Information Consortium of Maine (ME)
- Hospital Library Service Program of the Capital District Library Council (NY)
- Laurel Highlands Health Sciences Consortium (PA)
- Library Consortium of Health Institutions of Buffalo (NY)
- Manhattan-Bronx Library Consortium (NY)
- Massachusetts Basic Health Sciences Libraries (MA)
- Medical and Scientific Libraries of Long Island (NY)
- Medical Resources Consortium of Central New Jersey (NJ)
- Monmouth, Ocean Biomedical Information Consortium (NJ)
- New Hampshire-Vermont Basic Health Sciences Libraries (NH)
- Pinelands Consortium for Health Information (NJ)
- Pittsburgh Basic Health Sciences Libraries (PA)
- Southwest New Jersey Consortium for Health Information Services (NJ)

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On the Scene

The Margaret Herrick Library

by W.L. Reuter

■ The Margaret Herrick Library was founded in 1931 by the Academy of Motion Picture Arts and Sciences. Named for a former Academy Librarian and longtime Executive Director to the Academy, Margaret Herrick, it serves as a central source of information on all facets of the motion picture industry. It has a renowned non-circulating reference and research collection that is devoted to the history and development of the motion picture as an art form and as an industry, and it has one of the most extensive collections of film-related materials ever assembled. The Library's holdings include books, periodicals, pamphlets, files of clippings, still photographs, screenplays, and special archival research collections. The Library is open to the public and is heavily used by scholars, researchers, teachers, students, the press, and members of the entertainment industry.

Goals and Mission

According to Linda Harris Mehr, Library Director of the Margaret Herrick Library, the library's goal is to document all aspects of the motion picture as an art form and an industry, its historical significance, and its impact on society today.[1] The library secures, assembles, and presents information, published and unpublished, on the motion picture industry. It has the most extensive collection in the world focusing almost exclusively on the subject of motion pictures, and also contains limited reference material on related arts such as television, theater, dance, and music.

Since opening its doors in 1931, the library has prospered. It is supported by the Academy of Motion Picture Arts and Sciences, primarily from the revenues generated each year by the *Academy Award Show*. Its collections and patrons have steadily increased, particularly in recent years, and its staff has been gradually augmented accordingly.

Like other special libraries, the Margaret Herrick Library is a "particularized information service which correlates, interprets, and utilizes the material at hand for the constant need and benefit of the organization it serves."[2] "We are expected to maintain our reputation as a world renowned film research and reference library, providing accurate and comprehensive information to those wishing to study the multiple facets of motion pictures,"[3] Mehr said. The staff is constantly documenting information and re-packaging that information for their patrons' use.

History and Background

In the 1920s, the film industry was experiencing much change and upheaval. It was the fourth largest industry in the United States, but

it was under attack by many organizations. Church groups and educational organizations, such as Parent-Teacher Associations, said Hollywood and the film industry were bad influences on young people. The federal government also exercised its influence on the industry by dictating what should and should not be shown in films. In 1922, the government hired Will H. Hays to head a self-policing group, known as the Hays Office, to establish guidelines for filmmakers. There was also a new trend towards unionism, which the studio system wanted to avoid. As a result of all these events, on January 11, 1927, 36 of Hollywood's most powerful players decided to organize their own group to watch over the film industry.

The Academy of Motion Picture Arts and Sciences was officially born on May 4, 1927. Its first order of business was to settle labor disputes within the motion picture industry between the West Coast managers of the major Hollywood studios and their studio personnel, in order to reduce production costs. The Academy would later become synonymous with its yearly Academy Awards for the best achievements in motion pictures.

The other early business for the academy was to find a larger headquarters. Its office at 6912 Hollywood Boulevard was barely large enough for small committee meetings, much less for an organization with several hundred members.

In June 1930, the Academy of Motion Picture Arts and Sciences moved from its old offices at 6912 Hollywood Boulevard to much larger headquarters in a suite of floors in the Professional Building at 7046 Hollywood Boulevard in Hollywood, CA. There the academy had space for its increased staff of four executives, three assistants, and six clerks.[4]

In 1931, the Academy Library was founded and was soon "acknowledged as having one of the most complete collections of information on the motion picture industry anywhere."[5] It included nearly all of the then-current trade periodicals, as well as reference data and books on the various facets of production. Due to the attention devoted to new developments in sound, the library emphasized material on sound recording and reproduction as well as texts on related fields. Once again, the library outgrew its facilities and relocated to 1455 North Gordon Street in Hollywood, CA in 1935. It remained there for approximately 50 years.

In 1935, the Academy fell upon hard times with the first labor war between management and talent. The production companies did not want the actors, directors, and writers to organize guilds to protect their respective rights, and as a result, there were many strikes and in-house fights during this time. The Academy's membership dropped from 600 to 400 members, and its staff was laid off, except for "one loyal, underpaid executive secretary, Margaret Herrick—the Academy's alter ego."[6] Previously, Herrick had nicknamed the Academy Award "Oscar." She supposedly exclaimed on her first day at work after seeing the Academy Award statute, "It looks like Uncle Oscar."[7] The award was thereafter known as "Oscar."[8] Herrick was the academy's librarian for many years and later became executive director of the library. In 1971, when she retired, the Academy Library was officially dedicated as the Margaret Herrick Library.

In 1936 the Academy Library began using an in-house cataloging system on its collection. A listing of the books in the Academy Library was sent to 300 libraries within the United States with the request that it be checked against their books in the field of motion pictures.[9] Approximately 20 percent of the surveyed libraries responded, and their lists were compiled as a basis for expanding the library. These lists were also supplemented with all Library of Congress cards on motion pictures. The Academy found that it already held 90 percent of all books listed by other libraries, and it obtained the other 10 percent.

The library continued to expand, and by 1940 it ranked among the top of its kind in the world.[10] In 1941, the archival and reference library of the academy was recognized as one of the three most complete collections in the field of film. Rapid growth of the library and available information was indicated by the addition of 260 books during the year. In addition, some 250 motion picture scripts, 90

bound volumes of U.S. and foreign trade magazines, and several thousand photographs were added to the library.[11] It continued to grow and expand steadily throughout the years.

On September 18, 1973, groundbreaking started on a new specially-designed headquarters that would house all the Academy's facilities, including the library. The new building, located at 8949 Wilshire Boulevard in Beverly Hills, CA, opened December 5, 1975. The library was housed on the fourth and part of the fifth floors of the seven-story building. Unfortunately, with its ever-increasing expansion of materials, the library soon outgrew its space. In the 1980s, after several years of searching for appropriate additional space, the Academy successfully negotiated with the city of Beverly Hills to renovate and re-use what had been the Beverly Hills Waterworks Building. In January 1991, after a year and a half of remodeling, the building opened as the Academy's Center for Motion Picture Study, housing both the Margaret Herrick Library and the Academy Film Archive. The Academy has a 55-year lease on the building.

The Academy was able to pay for all renovations through its existing funds, and an endowment campaign was established to provide funds to ensure the ongoing operation of the Center and its programs. No endowment money was used for any renovation or remodeling work. While most contributions have gone into the general endowment fund, the Corwin Foundation, for example, provided endowment money specifically to help maintain the library's exhibition-related material, particularly periodicals.[12]

"The former Waterworks building was a very felicitous choice for housing the library and its collections," Mehr said. "Visitors find the restored Spanish Romanesque exterior and interior both handsome and functional. The clerestory windows of what had been the water filtration center now provide perfect light for the main reading room. The many windowless areas of the building have proven excellent for storage of rare, fragile, light-sensitive materials. A state-of-the-art climate control system maintains appropriate temperatures and humidity levels to accommodate different functions and types of material. What's most exciting is that we've been able to save a treasure from the past and re-use it for the future. It provides us with not only far more space, but the right kinds of space. All this translates into better service for those who use the library."[13]

Collection

The Margaret Herrick Library is world renowned for its collection, devoted to the history, sociology, science, and art of film-making. With more than 28,000 books, pamphlets, and periodicals, six million still photographs, 10,000 scripts and clipping files on over 82,000 films and 73,000 film personalities, the library has one of the most complete collections of film-related materials ever assembled.[14]

Screenplays. The library maintains an expanding collection of screenplays of silent and sound-produced films from the silent and sound areas. The vast majority are original scripts used in film production which have not been published. These scripts can be used for research but can not be reproduced. The library also has a collection of published scripts. The majority of the screenplays are kept in special collections at the library. Some studios, such as MGM and Paramount, have donated huge collections of their screenplays; these are cataloged under their studio classification. The rest of the screenplays are cataloged by title with no subject breakdown at the present time. The library also produces a union list of screenplays held by the academy and other local libraries to simplify research access throughout the city.

Production Files. The production files provide information and photographs on both American and foreign films. The majority of the files cover films produced and released, but the library also holds files on unreleased or unfinished films. Still photographs, programs, pressbooks, credit sheets, lobby cards, posters, production notes, and reviews are included in the files.

Biography Files. The biography files consist of information and photographs on more than 73,000 filmmakers, including directors, producers, writers, art directors, costume de-

signers, composers, and the special effects technicians behind the cameras, to the actors and actresses in front of the camera. The files contain feature articles, newspaper clippings, studio biographies, publicity releases, and publicity stills, among other items.

General Subject Files. These files cover approximately 4,000 subjects related to films and contain clippings, stills, and pamphlets. They are often assigned subject headings and form a complete record of an event or topic. Some topics included in the files are censorship, film genres, film studios, and professional guilds. None are accessible via on-line systems at this point in time.

Academy History. The library also collects materials related to the history of the Academy and the Academy Foundation. This includes files on the Academy Awards, the Awards presentations and other Academy and Academy Foundation sponsored events. Special reference tools, such as the *Academy Award Nominations and Winners*, *Academy Award Statistics Book*, and the *Academy Awards Presentation Book* are located on open reference shelves. Photo stills documenting each Awards presentation are available through the photographic department. A computer database of Academy Awards information is nearing completion, and printouts of portions are available.

Special Collections. The library is rich in unique materials documenting the people and organizations that have played prominent roles in the film industry. These materials are available for scholarly use by appointment only through the Special Collections Department. Among others, the library holds special collections on John Huston, Alfred Hitchcock, Fred Zinnemann, Mary Pickford, Cary Grant, and Edith Head. The materials in these collections include scripts, personal correspondence, clippings, scrapbooks, and sketches. The Paramount Pictures Corporation Collection contains scripts and stills on over 2,200 Paramount pictures from 1912 to 1965. The William N. Selig Collection provides information on one of the earliest major production companies. There are detailed inventories on all special collections, and they are available for reference use.

Photographs. The majority of the library's six million photographs are black-and-white 8" x 10" still photographs. The library also has color photographs, black-and-white and color negatives, color slides and transparencies, 35 mm film frames, glass negatives, and glass slides. The photographs include stills from films, publicity shots, premiere photos, reference stills, and film production shots.

The photographs are divided into a core collection and special collections. The core collection contains production files, biography files, and general subject files, and is readily accessible to the public without appointment. Photographs are organized by production title, personality, or are found in the general file according to subject, genre, studio, or organization. However, the majority of photographs are found in special collections and are available by appointment only. The special collections include archival holdings from MGM (1921-1972), Paramount (1914-1970) and RKO (1929-1958). Special collections on individuals include those on Cecil B. DeMille, Alfred Hitchcock, Mack Sennett, George Stevens, and William Selig.

Books. The library attempts to collect every English language book on motion pictures and as many important foreign reference books as possible. Its collection of over 28,000 volumes is shelved in The Reading Room in a modified Library of Congress classification system. The library holds many limited editions, such as *One Hundred Books on Hollywood and the Movies*. All 100 books are included in the library's collection.

Periodicals. The library's periodical holdings include over 1,000 titles on all aspects of the film industry. These are primarily U.S. publications, but some English language magazines from countries such as Great Britain and Australia are also included. The library also has a thorough collection of industry trade journals dating back to 1906.

General Information

The Margaret Herrick Library is now located at 333 South La Cienega, Beverly Hills,

CA 90211. The reference telephone number is (310)247-3020. The library is open Monday, Tuesday, Thursday and Friday from 10:00 a.m. to 6:00 p.m. Reference calls are accepted between 9:00 a.m. and 3:00 p.m. The staff includes Library Director Linda Harris Mehr, Librarians Susan Oka, Sandra Archer, and Lucia Schultz, Robert Cushman in Photograph Services, and Archivists Howard Prouty, Val Almondarez, and Sam Gill.[15]

Using the Library

Since the Margaret Herrick Library holds so many rare and fragile materials, the following rules are followed while using the collections.

Entering and Leaving the Library. Upon entering the library, a photo ID must be left with the receptionist in exchange for a in-house library card. Only materials necessary for work, such as writing materials, may be brought into the library. Personal belongings must be stored in lockers located in the main lobby.

Use of Materials. The patron is responsible for handling all library materials carefully. The arrangement and order of materials should be maintained. Gloves are provided for handling photographs. All photographs should be returned to the same envelopes in which they were found and placed face to face to prevent curling.

Copying Policies. When photocopying of materials can be done without damaging the material or violating copyright restrictions, the library staff provides the service for a limited number of copies at cost to the patron. Photocopying of special collection materials or unpublished scripts is not permitted. Photographic reproductions of stills can be ordered. Patrons may make unlimited copies from the microfilm/microfiche materials by using the library's printers.

Research Publication. If research done at the library becomes a source for publication, the library requests a copy of the publication for its holdings. If no copies are available, a bibliographic note is requested.

Today

According to Library Director Mehr, use of the facility has steadily grown since the library moved to its new location. Twenty thousand people visited the library in 1993, up from 14,000 visitors per year in the previous location. Nearly 150 telephone reference calls are received each day as well.[16] Like all libraries today, the Margaret Herrick Library has experienced some budgeting restrictions, but the Academy continues to provide strong support for the library's operation, recognizing it as a unique and unequaled resource for present and future generations.

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W.L. Reuter currently works in the Tucson Pima Library System and is attending graduate library school at the University of Arizona.

SLA in Atlanta: The Annual Conference

by Mark S. Serepca
Director, Public Relations

Heeding the call of SLA President Miriam Drake and SLA Conference Chair Judy Field, more than 5,000 information professionals flocked to Atlanta for the SLA 85th Annual Conference, June 11-16.

In keeping with the conference theme, they went to improve their "Information Vision," and they were treated to provocative general session addresses, timely division programs, exciting exhibits, and unmatched networking opportunities.

Conference-goers were welcomed to Atlanta by members of SLA's Atlanta Chapter, shown here at their booth.

Division Programs

Recognizing the intense interest in Internet, nine divisions (Aerospace, Biological Sciences, Chemistry, Education, Engineering, Food, Agriculture & Nutrition, Information Technology, Social Sciences, and Transportation) pooled their resources to present Internet Theme Day. The event featured a series of informative workshops on topics ranging from basic functions to advanced applications.

Other programs covered the broad spectrum represented by SLA's diverse membership. Topics ranged from food safety to global advertising and marketing.

The most popular field trip destination was Cable News Network headquarters; examples of the other intriguing sites that were visited were the Center for Disease Control and Prevention and the Coca-Cola Pavilion.

Professional Development

More than 1,000 information professionals took part in this year's pre- and post-conference professional development programs, which featured 30 courses on topics ranging from Total Quality Management to indexing and abstracting. The courses were geared to

Over 1,000 information professionals benefited from the professional development programs offered.

professionals at all levels—from introductory to advanced.

This year's most popular topics were Internet, CD-ROM, and career management. Sold out courses included "Introduction to Internet," "Hands on the Internet," and "Practical Indexing & Abstracting for In-house Databases." Three new courses were offered this year: "Reference Triage," "Researching Western European Company Information," and "Researching Eastern European Company Information."

For the second year, Advanced Information Management sponsored a career management workshop, "Non-Traditional Career Paths for Librarians." Both sessions were sold out. In addition, SLA offered the Employment Clearinghouse, which had a huge increase in job listings compared to the 1993 Annual Conference, and the Career Advisory Service, which was also well-received.

Keynoters

In his June 13 speech, General Session 1 speaker Dr. Richard B. Ross said that organizations, whether they be teams, departments, or entire companies, seek two "holy grails." They want to gain a competitive advantage in the marketplace and to build motivation and commitment in their workforces.

One critical step in improving performance, according to the internationally-known management consultant, is to identify deeply held beliefs that affect how the organization and environment are perceived. Individuals and organizations make decisions based on these "mental models" of the world. When these beliefs are inaccurate or out-of-date, which is frequently the case, mistakes occur.

Ross also described the impact of structure, which he called the sum total of an organization's policies, rules, reward systems, hierarchy, values, and anything else that might channel energy or influence behavior. He said that structure often is like a ball and chain that hinders achievement. Unfortunately, when there is a problem, most organizations change the individuals instead of the structure. Then, the organizations are surprised when there is little or no improvement.

Another difficulty occurs when two elements of structure conflict. For example, a department may encourage risk-taking. However, if the organization's reward system continues to put a high price on mistakes, people will not take chances.

Keynote speaker Rick Ross, with SLA President Miriam A. Drake, challenged attendees to build learning organizations.

To build commitment, Ross said, individuals must be given a role in developing the vision of what the team or organization could and should be. This requires creating a common purpose, building shared meaning, and managing uncertainty and complexity.

At the June 14 General Session, author and consultant Charles Garfield described how individuals and organizations can become peak performers. First, there must be a vision, which Garfield defined as "a desired, positive, pre-

ferred state of affairs" which is "concrete and clear" to all who are concerned with achieving it. It must be "something to sink your teeth into," he said. To be a successful motivator, this vision must be something that matters. It must involve "the desire to achieve something we care about deeply," according to Garfield.

He said that the three major concerns of most organizations today are superior service to customers—both internal and external; world class quality; and peak performance from the workforce. Any vision should contain some combination of these, he told attendees.

Individuals who want to be recognized as high achievers can focus on all three of these concerns by learning to provide excellent service in a memorable way, Garfield said. It's not enough to do good. One must also get credit for it. On the other hand, poor service is especially hazardous, because people are twice as likely to spread bad experiences as they are to share good ones, he said.

Although good service is essential, Garfield concluded, so is a positive attitude. "People don't care how much you know until they know how much you care," he said.

Librarians have a sales job, the consultant advised. They must continually demonstrate what they have to offer and explain its value.

Highlights of the Board Meetings

At the 85th Annual Conference in Atlanta, GA, the Board of Directors approved the creation of three new caucuses, revised missions and acquisitions statements for the Association's Information Resources Center, and instructed staff to investigate and compile a comparative cost analysis of holding the 2003 Annual Conference in New York, NY vs. alternate sites, study continuing education needs and education activities at conferences, and investigate the extent of Association and Association unit involvement in graduate library education.

The highlights of the 1993/94 Board meeting on June 10-11, are the following:

• The Board approved the revised mission statement and revised acquisition statement for the Association's Information Resources Center (IRC), and directed the Executive Director to instruct staff to develop a fee structure which would include such costs as packaging, staff preparation, and shipping of loaned materials to enable the interlibrary loan service to be cost recoverable. The revised mission statement is as follows: "To support the activities and purposes of the Special Libraries Association, and to act as an information center for the Association staff **and the elected leaders of SLA in the performance of their duties for the Association, for the members of the Association,** and for the general public."

The revised IRC acquisition statement is as follows: "The IRC is charged with the responsibility of serving the professional reading and reference needs of SLA staff **and the elected leadership of the Association in the performance of their duties for the Association, the membership of the Association,** and the general public. Therefore, the acquisitions policy of the IRC is to build a collection containing those materials which best serve the objectives of that clientele with emphasis on practical (rather than theoretical) and current (rather than historical) materials. With due regard to the availability of the resources of nearby libraries and information services organizations, and with an eye toward the possibilities of cooperative programs with other libraries and information services organizations in the area, it is the aim of the IRC to build, in the field of special librarianship **and information services management, a comprehensive current collection of the highest degree of excellence, both qualitative and quantitative, that its monetary resources can provide.**

• The Board directed staff to investigate and compile a comparative cost analysis of holding the 2003 Annual Conference in New York, NY vs. alternate sites and report back to the Board at its October 1994 meeting. The Board also requested that the Executive Director conduct a study of continuing education needs and education activities at conferences and report his findings at the October 1994 Board meeting.

• The Board approved a grant of $2,000 to the Physics-Astronomy-Mathematics Division to fund travel and lodging for librarians from

developing countries attending Library and Information Services in Astronomy II, an international meeting to be held in Germany in May 1995.

- A resolution Celebrating the Centennial of the International Federation for Information and Documentation (FID) and a resolution on Developing the Information Superhighway were approved. FID's 100th anniversary will be celebrated in 1995.
- The resolution on developing the information superhighway is as follows: "Whereas, the Clinton Administration has been at the forefront in shaping a broad national policy for telecommunications; and Whereas, the Administration has identified universal service, open access, competition, private investment and flexible regulation as its priorities in developing the National Information Infrastructure (NII), the "Information Superhighway;" and Whereas, these priorities should allow libraries to maximize the use of the NII and therefore prevent the evolution of our society to one of information "haves" and "have nots;" and Whereas, opportunities exist for developing a partnership between government and the private sector to build the NII; and Whereas, there is potential for profound change in business operations, library resources and educational techniques which will affect members of the Special Libraries Association; and Whereas, the Special Libraries Association has called for a comprehensive information strategy to address issues relating to the development of an information infrastructure in its position paper, *Revitalizing America: Information Strategies for the 1990s*; and Whereas, the Special Libraries Association is an international professional association of more than 14,000 special librarians and information specialists concerned with the ability to access information; therefore be it Resolved, that the Special Libraries Association goes on record in support of the Administration's efforts to heighten the public awareness of the value of the Information Superhighway, and be it Further Resolved, that the Special Libraries Association supports the leadership, direction, and progress already undertaken by the Clinton Administration in developing the NII; and be it Further Resolved, that the Board of Directors of the Special Libraries Association directs the Association staff to continue to alert members of the progress in the planning and implementation of the NII."
- In other actions, the Board approved the use of the 1994 annual interest on the Special Programs Fund for the SLA Forum on Library and Information Research, scheduled to be held in conjunction with the Great Lakes Regional Conference in Chicago, IL in March 1995; and the Computer Fund was renamed the Information Technologies Fund and will be continued. In addition, the Board rescinded its June 1993 action that the SLA Winter Meeting would be held in Washington, DC every other year beginning in 1998, and removed from consideration Memorial Day weekend as a possible conference date.
- At the June 17 meeting of the 1994/95 Board of Directors, the Board approved the creation of the Professional Librarians in Alternative Non-Traditional Careers Caucus, the Graduate Education Caucus, and the Gay and Lesbian Issues Caucus; and accepted the revised Visioning Statement which supersedes the Visioning Statement which was received by the Board on June 11.

The Visioning Statement is as follows: "Our vision is to be known as the leading organization in the information industry—a catalyst in the development of the information economy, and a strategic partner in the emerging information society. This vision statement is based on values shared by the members of the Special Libraries Association:

- Continuous learning and development;
- The leadership role of the Special Libraries Association and the Association's efforts to help us become information leaders in our organizations and in our communities;
- The role of the Association in the development of the information policies;
- Our clients and our ability to respond to their needs, adding value to information products and services;
- The use of technology to enhance our jobs, our organizations, and society;
- New paradigms of information service

and delivery and the opportunities they provide for our continued role in the information economy;
- Opportunities for networking—for us to meet, communicate and collaborate with one another.

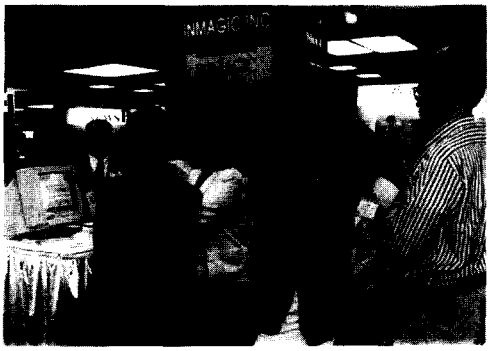
The Professional Librarians in Alternative Non-Traditional Careers Caucus will provide a forum for the concerns and issues of professional librarians whose present work role is not as a librarian/library manager. Caucus members also provide a networking resource for Association members wishing to learn more about alternative career paths. The Graduate Education Caucus is concerned with advancing the quality and opportunities for university-based education of information professionals. The caucus provides a forum for discussing common concerns, sharing ideas, developing strategies for adopting to workplace and societal changes, and communicating education issues within the Association. The Gay and Lesbian Issues Caucus will provide a forum for resource sharing and will address issues of interest to the gay and lesbian membership within SLA, as well as for all members of the Association.

- The Board instructed the Executive Director, in conjunction with the Professional Development Committee, to investigate the extent of Association and Association unit involvement in graduate library education and to present a report at the January 1995 Winter Meeting. The Board also instructed the Chapter and Division Cabinet officers to appoint a representative body to prepare documentation which will facilitate the planning of regional conferences and make a final report for action by the Board of Directors at its 1996 Winter Meeting.
- In other actions, the Board authorized the Natural History Caucus to be named as a sponsor of the proposed Natural History Cataloguing Forum. The forum will provide a workshop on issues related to computerized specimen cataloging, with participation from librarians, archivists, and computer specialists. Also, the Special Committee to Investigate a Cafeteria Plan Dues Structure was extended through the Winter 1995 Board Meeting, the Special Libraries Editorial Advisory Board was extended through June 1995, and the Board approved that the NISO voting representative and liaison will be the Committee Chair of the Technical Standards Committee.

Exhibitors/Sponsors

One of the biggest time-savers of attending the Annual Conference was "shopping" at the SLA exhibit halls. At the convenience of the attendees and in less time than it would have taken in their own offices, they were able to visit dozens of booths and learn about the products and services that will make their jobs easier and enhance their performance.

This year there were two exhibit halls, located in the Atlanta Hilton and Marriott Marquis hotels. They housed more than 400 booths and table top displays hosted by over 280 companies. To make the visits even more rewarding for members, SLA gave away an attractive navy blue T-shirt to anyone who took his or her special exhibit game card to seven specified locations in the exhibit halls.



Attendees took advantage of the exhibit halls, taking in over 400 booths, hosted by more than 280 companies.

Again this year, several companies generously sponsored conference-wide events. Those sponsors, whose contributions are greatly appreciated, were:
- Chemical Abstracts Service/STN—provided handsome conference tote bags;
- Cuadra Associates—co-sponsored General Session I, with speaker Richard Ross;

- The Faxon Company—co-sponsored General Session II, with speaker Charles Garfield;
- Information Handling Services—co-sponsored General Session I, with speaker Richard Ross;
- Irwin Professional Publishing—co-sponsored General Session II, with speaker Charles Garfield;
- Mead Data Central—sponsored the Fellow's Reception for first-time attendees, a refreshment break for an education session, and the Program Planners Workshop;
- Readmore, Inc.—sponsored the Program Planning Committee's Business Office; and
- SilverPlatter Information—sponsored the President-Elect's Student Reception.

The Annual Business Meeting

President's Report—Miriam A. Drake

Serving as your president has been a privilege and an honor. I have had the great joy of meeting and talking with many of you at chapter meetings and other gatherings. I have learned from you. I have been the recipient of your warm and generous hospitality. I experienced first hand your excellence and your extraordinary dedication to the profession, to your colleagues and to SLA. I gained strength from your energy and enthusiasm.

One year ago, when I became your president, I said that I would concentrate on strategies to achieve the goals set forth in the Association's Strategic Plan. I also said that achievement of these goals would require hard work, resources, and patience. I am pleased to tell you that progress has been made in a number of areas. This progress has been achieved by you, working on plans and planning in your chapters, divisions, SLA committees and caucuses. Progress has been achieved by our staff through exploration of new programs, working with international organizations, upgrading our communications capabilities, and thinking about strategies for the future.

David Bender will be telling you about the accomplishments of the Association and staff in detail in the Association's published Annual Report. I want to give you a few highlights of the year's activities.

I was pleased to represent you last fall at a meeting of the Telecommunications and Information Policy Infrastructure Forum. Representatives from 15 national library and information associations gathered to discuss critical policy issues and principles associated with the creation and development of the National Information Infrastructure. Carol Ginsburg also represented SLA at that meeting and did a superb job of articulating international issues and the perspectives of corporate librarians. This year SLA launched a Diversity Leadership Program spearheaded by Nettie Seaberry and funded by EBSCO.

The Board of Directors re-engineered its processes to streamline our proceedings to derive the greatest benefit from the thinking, energies, and creativity of our volunteer Board of Directors. Our Board members are busy, talented, and committed people who spend hundreds of hours each year on Board activities. I want to thank them for their hard work and dedication.

One of our major accomplishments was the passage of the dues increase by a greater than two-to-one vote. Your support and vote for the increase will make a difference in the services SLA can provide. As a result of the dues increase, I expect that we will hire a research director, provide more Internet services, and provide additional funds to chapters and divisions to carry out their programs.

Discussion with members about strategic planning and dues led to the formation of a committee to investigate a cafeteria plan for dues and services. This committee is being led by Ellen Miller and will be reporting in January 1995 on different levels of services for different levels of dues.

This year may have been a first for any library association. This year the president and president-elect worked as a team. Our team activities resulted in some brainstorming by the Board on SLA's long-term future and consistency in the direction of SLA's

elected leadership. I am confident that we have two great years ahead with the leadership of Didi Pancake and Jane Dysart.

Another achievement of the year is the publication of a new book, *Information for Management: A Handbook.* I want to thank Jim Matarazzo for his boundless energy and enthusiasm and the many hours he spent on this book. I also want to thank the authors. They represent some of the best of our profession and have made significant contributions to the field.

I want to thank the SLA staff. They are talented and committed people. I am enormously proud of their accomplishments and the services they provide. I thank my good friend David Bender. David, your patience, good humor and wise counsel made this year a very happy one. I thank Judy Field and my colleagues in the Georgia Chapter for a great conference. I thank Didi Pancake and Kitty Scott for their caring and laughter. Most of all, I thank our committee chairs, division chairs, chapter officers, and all of you.

Our profession is dynamic and expanding. SLA members have great resiliency and strength. You consistently demonstrate that "putting knowledge to work" makes a difference in all our lives. Through networking, creativity, and shared values you are ensuring a glowing future for SLA and the profession.

Outgoing President Miriam Drake, left, officially turned over the presidency to Didi Pancake at the Annual Business Meeting.

Inaugural Address—Didi Pancake

I am very pleased and honored to be following a president like Mimi Drake, with whom I share so many views and opinions about the Association. I am looking forward to working with her for another year as well as to working with the other new and continuing members of the Board.

I may be assuming the position of president of SLA, but that position is only a small part of what makes this association tick, because SLA is a professional association of individual members. From publications to program planning, from networking to continuing education, the members of SLA have one of the highest levels of participation of any organization in the information profession. Although we have an excellent and dedicated staff, the overall majority of the Association's activities are accomplished by the individual members themselves serving as officers and on committees at all levels of the Association.

To continue and to increase the activities and successes of SLA requires renewed commitment from all of us, members and staff alike. We must find the time to plan, present, and attend the programs, to contribute to and produce the publications, to serve on the committees that keep track of developments across the profession, to implement the projects that will benefit all of us. Of course, finding the time is the tough part.

In the ever-evolving world of information, all of us are feeling stretched these days. When we must face a new learning curve almost every week, it's difficult to see where we can squeeze more time from our work schedules to be active in SLA. But almost everyone in our society is doing more with less these days, and if members of other professions can find time to participate in their associations, we can and must do the same.

It's a simple matter of enlightened self-interest. The programs and activities of the Association, and its Chapters, Divisions, Caucuses, and Committees add to our skills and our value both for ourselves and for our employers. Whether we're picking up tips on how to navigate the Internet to find resources for our customers or developing our own teamwork and planning skills by organizing a Chapter or Division program, SLA gives us the opportunities for not just continuing— but continuous education.

Right now it's even more important than

ever to be active and support our association. SLA has achieved a presence and a role in national and international affairs for all of us in the profession that none of us could ever attain alone. As an association, we can monitor and influence the governmental processes affecting our futures...both online and off.

Together we can organize and present the top-notch kinds of professional development programs that we must have to keep ourselves up-to-date. And perhaps most importantly, through SLA we can create and maintain all those networks of contacts so vital to our individual success as librarians and information professionals. It's interesting to note the high percentage of people in this room whose faces I recognize, even way out there in the back. You **are** the active ones and the spirit of SLA.

In addition to continuing the important work of the Association on all fronts, I have only one priority for the coming year. I want to urge every member of the Association to make the time to do just a little bit more with SLA than last year. If you attended only one meeting last year, try to make it two this year. If you served on a committee for your Chapter last year, consider chairing one this year. If you helped plan a program for your Division last year, think about running for office this year. In addition to the benefits I've already mentioned, taking a break from your daily routine to interact with your fellow professionals provides a real payback in renewed energy and refined vision.

Sharing the work and sharing the rewards...that's how SLA operates. The interesting thing is, when you're active in SLA, you get back **more** than you give. I've seen this in my own SLA activities, at every annual conference, and this past year, in other chapters' activities during my visits to them as SLA President-elect. As Mimi Drake said in her speech at this time last year, "They have shown me the three 'E's' in action—energy, enthusiasm, and excellence."

I have benefitted from SLA in this way throughout my entire professional life. The opportunity to serve as President of the Special Libraries Association is certainly the high point of my career. I thank you all for this opportunity and promise to do my very best to see that the Association has a prosperous and productive year.

1994 State-of-the-Association Address—David R. Bender, Ph.D., Executive Director

The annual State-of-the-Association address assumes some aspects of a corporate annual report. Just as a company's chief executive officer reports to both stockholders and the board of directors, who are the stockholders' elected agents, it is my duty to report to you, the association's "stockholders," on how well your corporation performed this past year.

Before continuing this corporate analogy, however, let me state some of the limits to the notion that SLA's many and varied programs can be assessed in only a bottom line, annual report context. Like the federal government, which is now busily—and one hopes productively—involved in "reinventing itself," this association cannot simply fit itself into the context of the many buzzwords associated with the process of corporate "streamlining."

As Steven Pearlstein, a *Washington Post* staff writer, pointed out in an article this past winter, "techniques intended to improve the efficiency of large organizations will not be easily transported to government (or associations), where the 'customers' are often hard to identify, competitors do not exist, and the bottom line is hard to measure." Then, quoting Philip Lader, deputy director of the Office of Management and Budget, Pearlstein observed that "nonetheless some basic principles of modern management can be implemented."

Examples of these include eliminating unnecessary procedures, giving front line employees more authority, linking pay and job security to performance, and getting constant feedback from customers. Indeed, these principles must be in place as part of our overall management strategy if providing **quality products and services** to SLA's membership is to be our preeminent goal. And it must be!

This year I was—and am—powerfully

Executive Director David R. Bender focused on the many successes of the Association in his State-of-the-Association Address.

influenced by words expressed by John F. Welch, Jr., the chairman of the General Electric Corporation in that corporation's annual report. The expectations that Chairman Welch articulates for GE are remarkably like the vision I put before you in this report, which summarizes this past year and establishes some goals for the immediate and near distant future.

Welch identifies three key maxims which shape the GE corporate culture, and which I am appropriating here for SLA: First, boundaryless behavior. Walls—divisional or organizational—"cramp people, inhibit creativity, waste time, restrict vision, smother dreams, and, above all, slow things down." My challenge to you is to help us do all we can to demolish an association built upon behavioral boundaries and create one based upon boundaryless behavior.

Let us all **share**—not only in the planning and implementation, but also in the responsibility and reward of building an association in which all of our external and internal parts—finance, public relations, publications, membership services, government relations, professional development, chapters, divisions, caucuses, committees, and the board of directors—work together with one consuming passion—to operate the best library/information profession association in the world.

A second component of Welch's quality assessment that I would place into an SLA context is speed. He states: "an organization should relish change because of the constant opportunity it offers. The faster the pace of change, the bigger the advantage."

How could this association at the very heart of the information world—a world whose very nature is shaped by rapid change—not accept this management notion? Clearly, an association which operates on the premise of boundaryless behavior will be best equipped to incorporate the elements of speed—of reacting to, and managing change—in an effective and efficient way.

Finally, and building directly on the concepts of boundaryless behavior and speed, is the ability to adopt and adapt to change. Welch states that "stretch" is the third critical component of G.E.'s strategy. "Stretch is a concept—it means using dreams to set business targets—with no real idea of how to get there." Indeed this is a scary, out-on-a-limb notion: **definitely not for the faint of heart**. But it is a notion that should be at the core of every planning and management decision made by this association's elected and staff leadership.

Stretch requires us, as individuals and association members, to "break conventional thinking and conventional performance expectations." The result of such a philosophy is a simple yet powerful beyond-measure philosophy of doing business. Yes, "We **do** have an absolutely infinite capacity to improve everything."

So be it! It is these notions that I want to put before us as I highlight several noteworthy accomplishments in this annual State-of-the-Association Address.

In the past year, two technological developments have dominated the evolution of the information profession. They are also having a profound impact upon the Special Libraries Association, by challenging our ability to react to and shape change. First is the unprecedented growth of Internet. Used mainly by a handful of defense-oriented researchers in the early

1970s, this international network of roughly 30,000 computer networks now connects well over 20 million users in more than 145 countries and is doubling in size every year.

Today, Internet has transcended information industry boundaries to become an international pop phenomena, used not only for the exchange of information but also for personal correspondence, advertising, and even dating. The use of the network has become so widespread that *USA Today* has published an article on Internet etiquette—complete with a list of "do's" and "don't's."

At any local bookstore, there are now several shelves of publications about Internet with provocative titles ranging from *The Internet Guide for Dummies* to *Zen and the Art of Internet*. It is becoming such an integral part of society that one Washington, D.C. columnist wrote that *Time* magazine should have named Internet as its "Person of the Year."

One impact that Internet has had on our association is that in response to the growing importance of Internet as a communications vehicle and to member demand, we began publishing e-mail addresses as well as telephone and fax numbers in *Who's Who in Special Libraries*. In addition, Internet is becoming a dominant focus of our professional development programming.

Last January, what was traditionally the SLA Winter Education Conference was reshaped into InfoTech '94, a program with a strong technological theme and exhibits. InfoTech was extremely well-received, and—not surprisingly—the most popular sessions focused on Internet. And because of the continuing strong interest in information technology, this will again be the theme for the 1995 Winter Education Conference, to be held in Raleigh, North Carolina in January.

At last year's Annual Conference in Cincinnati, programs on Internet were so well-attended that this year nine divisions pooled their resources to offer a series of informative workshops on topics ranging from the basic functions to advanced applications. Attendance at these sessions and at our continuing education courses on information technology was at peak capacity. Planning for next year's Annual Conference is already under way, and the SLA staff is seeking proposals for information technology-related continuing education courses at all levels.

Internet is also prominent on our list of new publications. Last summer, we published *The Internet and Special Librarians*, written by members Sharyn Ladner and Hope Tillman. It sold 1,100 copies in the first six months and continues to be our best seller. In the planning stage is another book, *Users' Guide to Internet by Subject*, which will be a "must" for navigating the Internet. Because of the high level of interest in Internet, we have even been selling books on the subject by several other publishers at the SLA booth. I urge you to stop by and have a look.

Of course, Internet also impacts SLA at the chapter and division level, where numerous units have set up their own listservs. These listservs facilitate communication not only between members but between members and non-members with similar interests.

The second technological development which is having a significant impact on our association is the development of what is popularly known as the information highway. Although essentially a North American undertaking, this process will affect our membership worldwide, because information knows no boundaries. It has become an international commodity.

In the media, the information highway is getting almost as much coverage as Internet. For now, the media's fascination is focused on the entertainment aspects of the new information infrastructure, especially interactive television.

The Special Libraries Association supports the establishment of a new national information infrastructure which can provide universal access to all segments of society. In fact, we have joined with more

than 60 very diverse public interest groups to found the Telecommunications Policy Roundtable.

In SLA's dealings with the Clinton/Gore Administration, we have made it clear that the role of the information professional is a crucial one and must not be overlooked by policy-makers. Not only will we continue to perform our traditional functions of collecting, analyzing, packaging, and disseminating information, but we will also become educators in the new networked environment. We will help end-users increase their awareness of what is available over the networks and work with them to improve their information retrieval skills. We will teach our clients how to use the highway offramps that go places other than to Hollywood or the shopping networks.

We have also reminded the Administration and Congress that attention must be given to the information that is being carried by the new networks as well as to the telecommunications systems themselves. We should not focus solely on the process and take the integrity of the information on the system for granted.

Because of the importance of the information highway, it has become the topic of numerous workshops and continuing education courses at this conference. In addition, SLA has made this the focus of our upcoming State-of-the-Art Institute, which will be held in November in Washington, D.C.

The 1994 Institute will cover a variety of critical issues, such as federal legislation, regulatory developments, business initiatives, and technological innovations. The program, which is generously sponsored by Disclosure, will bring together more than 100 senior-level information professionals, business leaders, and government officials for an informative and educational series of addresses, workshops and networking opportunities.

The facilitator of the Institute will be Dr. Toni Carbo Bearman, dean of the School of Library and Information Science at the University of Pittsburgh and a member of the National Information Infrastructure Advisory Committee. I can't think of anyone more qualified than Toni Bearman to give drivers' education lessons to information highway users.

One of our newest and most exciting publications is *Mastering Information in the New Century*. This book, written by futurists Marvin J. Cetron and Owen Davies, provides an excellent analysis of how economic, political, and societal trends, including the development of the information infrastructure, have been impacting the value of information. In addition, the book contains an extremely thought-provoking, comprehensive set of trends and predictions. As Mark Twain once said, "The art of prophecy is very difficult, especially with respect to the future." Perhaps at the SLA Annual Conference five years from now, we can have a workshop to see how accurate these authors' predictions actually were.

Although Internet and the information highway were dominant forces impacting SLA programs this past year, there certainly were many other important association activities.

Our government relations staff and Copyright Committee have been closely monitoring the progress—or lack of progress—in the *American Geophysical Union vs. Texaco* copyright case. In May of 1993, SLA, along with several other library associations, filed a friend of the court brief on behalf of Texaco, but no decision has been reached in the appeal of that case. Regardless of the outcome of the appeal, it is likely that this case will ultimately go to the Supreme Court for final disposition.

In the area of nonserial publications, we have been extremely busy, producing 16 new titles since the beginning of 1993. Because we are now doing a much better job of analyzing our potential purchasers and marketing our publications, our sales are soaring. Last year, sales exceeded our initial projection by 62 percent.

I hope that when you stop by the SLA booth to look at the Internet books that I

mentioned earlier, you also review our other new, exciting publications. In the area of professional development, we are stepping up our production of self-study programs, which provide a convenient, self-paced, cost-effective means of developing or upgrading critical skills and knowledge. "Study locally to compete globally," a slogan I saw in an ad for a university, could easily be SLA's motto as well.

Among the new self-study programs is *Communicating with Library Users,* which guides the special librarian toward a better understanding of that all-important person: the library patron. Through examples and exercises, this workbook offers techniques that librarians can adopt for effective interaction at the desk and beyond. Also forthcoming is a series of mini-workbooks called the Career Management Series, which will address a variety of topics related to job searching, resume writing, interviewing, and managing your career after you have found a job.

In another move to make professional development more accessible to you, SLA worked with six chapters this year to offer locally the same continuing education courses that were offered at this year's Annual Conference.

While SLA is localizing some of its educational offerings, our research program is going international with the development of a worldwide survey of the modern information professional. The purpose of the survey, being conducted in cooperation with the International Federation for Information and Documentation, is to provide a baseline inventory of the knowledge, competencies, and skills of modern information professionals, including an analysis of the operational contexts within which they function.

To assist in the process, a random sample of five percent of SLA members is being sent the survey form. The findings will be analyzed and the results disseminated widely. We expect that the study will validate the emergence of the modern information professional as a critically important major new occupational category whose services are absolutely essential to all levels and sectors of societies around the world.

Another upcoming international program is the Second Worldwide Conference on Special Librarianship, to be held in the year 2000. The Board approved holding this meeting because the first one, held in Honolulu several years ago, was so successful. The objective of this conference is to bring together special librarians and other information industry leaders from around the world to cooperatively seek solutions to common problems and enhance the profession on a worldwide scale. The program will feature speakers, workshops, networking sessions, and an exhibit hall.

A moment ago, I mentioned the research SLA is doing in conjunction with FID. I would be remiss if I didn't also take this opportunity to announce the winner of the 1994 Steven I. Goldspiel Memorial Research Grant. This grant is funded by a donation from Disclosure to honor the memory of its former president, Steven Goldspiel.

The SLA Research Committee selected a proposal by Raya Fidel, associate professor at the Graduate School of Library and Information Science, at the University of Washington, and Michael Crandall, external systems requirements librarian for Boeing Technical Libraries at the Boeing Corporation. The main goal of their study is to explore the methods that managers and engineers select to filter information from full-text electronic periodicals. The results will be disseminated via articles and a presentation at a future SLA annual conference.

As you have heard this morning, SLA has been striving diligently to provide you with the best and most up-to-date products, programs, and services to meet your needs. Because communications is an important part of the process, I'm pleased to announce that SLA headquarters now has a new telephone system that will make communicating with headquarters staff simpler and more efficient.

In response to another type of communications need, SLA headquarters has begun providing membership data to chapters and divisions electronically. This will enhance their record-keeping and communication with you. The chapters and divisions will also be among the beneficiaries of the dues increase which you, the members, approved this spring by a wide margin. The reason is that a portion of the dues increase will go to support additional chapter and division services.

The Board and staff are most appreciative of the confidence exhibited by you in supporting the dues increase. However, it's important to note that it is far from a cure for all of our financial concerns. This will be our first increase since 1986, and the anticipated incremental revenue from the dues hike will raise our total income by only seven percent. Also, approximately one-sixth of the increase will go to the chapters and divisions.

At the same time, SLA's costs are continuing to increase. In response, a top priority of the Board and staff will be to continue to look for new sources of income and new ways to cut costs without significantly impacting the quality of our services to you.

We are also looking for new sources of leadership. Therefore, the SLA Affirmative Action Committee has helped create a Diversity Leadership Development Program to help accelerate the advancement of diverse members of our association. In this program, the SLA Affirmative Action Committee will select members who will receive mentoring in association operations, complimentary registration to an SLA annual conference, and a cash award of $1,000 to encourage continuing education. SLA is most appreciative to EBSCO Subscription Services for sponsoring this award.

So far, I have given you **my** perspective on the state of the association. However, this year I can also give you the perspective of an objective third party—the Association Information Management Service. This independent consulting firm analyzed our operations and concluded that SLA has done a favorable job of increasing revenue and controlling both its program and personnel costs compared to associations of similar size, membership, and location.

Before I conclude, I am pleased to report that the preliminary total attendance figure for our annual conference this year is 4,711. Although this is slightly down from last year, I believe it is still a very impressive number, and I am proud to be part of a profession that is so committed to career advancement and to this association.

In addition, more than 280 companies exhibited this year, which was actually a slight increase compared to last year. I believe this reflects our suppliers' continued confidence in our profession.

At this time, I also want to thank President Drake, the Board of Directors, the officers of the committees, chapters, divisions, and caucuses, and the headquarters staff for their hard work and enthusiastic service during the past year. Managing an association requires the cooperation and support of many people, and I feel fortunate and honored to have such dedicated colleagues.

As we approach the year 2000, SLA will face many challenges—not only maintaining its financial strength, but also helping you to keep up with rapid technological change and to cope with continuing economic and political uncertainty. In coping with these challenges, I share a sentiment of former President Ronald Reagan. If we make up our minds about our goals, and if we are willing to work hard to achieve those goals, then achieve them we will.

I look forward to working with every one of you to incorporate boundaryless behavior, speed, and stretch, the three management maxims of General Electric's John Welch, into the fabric of this association and to achieve our goals together.

Awards Presentation

The Annual Business Meeting includes the recognition of numerous members of the profession for their contributions to special librarianship and the association. The first of these presentations was the election of an honorary member, Rod Everhart, President of Mead Data Central. Under his leadership, Mead Data Central has substantially increased its understanding and support of both SLA and the information management profession.

This was followed by the recognition of three 1994 SLA Fellows—Judith J. Field, Library Lecturer, Library Science Program, Wayne State University, Detroit, MI; Ellen Kuner, Manager, Information Services, Burson-Marstellar, Chicago, IL; and Dorothy McGarry, Head, Cataloging Division, Physical Sciences and Technology Libraries, University of California, Los Angeles. Fellows are called upon to advise the Association's Board of Directors and to alert the membership to issues and trends warranting action.

Field, who was this year's conference chair, has authored numerous publications and articles. She has made numerous contributions at all levels of the Association, having served two terms on the SLA Board of Directors, as president of the SLA Michigan Chapter, and as chair of both SLA's Business & Finance Division and Library Management Division. Field has served in leadership positions in several other professional organizations as well, including the American Library Association and American Society of Information Science.

Several examples of Kuner's contributions to SLA include serving on the Board of Directors and the Public Relations Committee and chairing Division Cabinet, the Advertising & Marketing Division, and the Consultation Services Committee. She is chair of the 1996 SLA Annual Conference in Boston, MA. In addition, Kuner has been elected to practically every position possible in the Illinois Chapter, including president.

McGarry is beginning her year as president of the Southern California chapter. In addition, a sampling of her service to SLA includes having been chair of both the Science-Technology and Physics-Astronomy-Mathematics Divisions, chair of the Committee on Cataloging, a member of the International Relations Committee, and an SLA representative to the International Federation of Library Associations and Institutions. In 1991, McGarry was awarded SLA's John Cotton Dana Award in recognition of her exceptional service to special librarianship.

Three awards sponsored by the SLA Public Relations Committee also were presented. The SLA Public Relations Member Achievement Award was given to the Wisconsin Chapter Public Relations Committee for its planning and production of an attractive and informative brochure promoting the profession. The SLA International Special Librarians Day/ National Library Week Award was presented to Ford Information Group, for planning and implementing a comprehensive and effective multi-day celebration of librarianship; and the SLA Media Award was given to Cara Trager, for her writing of an informative article, "Data bases put librarians on line," which appeared in *Crain's New York Business*.

Awards Banquet

At the banquet, the SLA John Cotton Dana Award, which recognizes exceptional service to special librarianship by members of the Association, was presented to Joan Gervino and Julie Peterson. Gervino has been with the American Bankers Association for 21 years and is currently the director of its Center for Banking Information. In that role, she has developed an information center that sets the highest standards for all libraries in the financial services industry and the association world. She has also led a seminar on information services management for the American Society of Association Executives.

Among the numerous SLA positions that Gervino has held are 1991 Conference Program Chair for the Library Management Division and member of the Consultation Services, Tellers, and Nominating Committees. She currently serves on the Association's Finance Committee.

Julia Peterson, as director of the Cargill Information Center, has created an outstand-

ing model of a successful corporate library. Peterson and her team have received numerous awards for their public relations efforts promoting the library, including the 1988 and 1990 American Library Association John Cotton Dana Award. In addition, the information center received the Minnesota Chapter of SLA's Quality in Action Award and the Cargill Achiever's Circle Award for technology innovation.

Peterson is active with the Cargill/ALA Partners for Literacy project and serves on its national advisory committee. In addition, she educates library professionals as a member of the Alumnae Advisory Council of the University of Missouri School of Library and Information Science.

The SLA Professional Award is given to an individual or group, who may or may not hold membership in the Association, in recognition of a specific significant contribution to the field of librarianship or information science which advances the goals and objectives of the Association. This year, Christine Wells and the Freedom Forum Foundation were chosen to receive this honor.

Under the leadership of Wells, vice president of operations at the Freedom Forum Foundation, five news and journalism libraries have been founded in Eastern Europe and other foreign countries and numerous more are in the planning stage. These libraries represent an extension of the tradition of the library to areas where this tradition had not previously existed for many years.

Two SLA members, Judith Genesen and Herbert S. White, were elected to the SLA Hall of Fame. Election is granted to members of the Association at or near the end of an active professional career who have provided sustained distinguished service to the Association.

In September 1993, Genesen retired as the executive director of the American Association of Law Libraries. She has been a strong supporter of the special libraries community and an active member of SLA for a number of years, serving as president of the SLA Illinois Chapter and chair of the SLA Transportation Division.

In appreciation of Genesen's commitment to the profession, the SLA Board of Directors passed a resolution in her honor at its June 1993 meeting during the SLA Annual Conference. The resolution stated that Genesen was "an early pioneer in the examination of library management and leadership issues" while she served as the director of information services at the Chicago Transit Authority from 1974 to 1988.

White is a distinguished professor in the School of Library and Information Science at Indiana University and dean of the school from 1980 to 1990. He has held a number of Association leadership positions, including SLA president, chair of the SLA Science-Technology and Aerospace Divisions, and president of the SLA Texas Chapter. He has been active in several other professional organizations as well, having served as president of the American Society for Information Science and as treasurer of the International Federation for Documentation from 1980 to 1986.

White has become a very familiar face at SLA Awards Banquets. He received the SLA Professional Award in 1985, the Fellow of the Special Libraries Association in 1987; and, on three separate occasions, the H.W. Wilson Company Award for writing the best article of the year in *Special Libraries*.

Sponsored by the H.W. Wilson Company, a publisher of indices and reference books since 1898, this year's H.W. Wilson Company Award was presented to Lorri Zipperer. She won the award for her article, "The Creative Professional and Knowledge," which appeared in the Spring 1993 *Special Libraries*. The article describes research conducted to define the information needs of professionals in an exhibit design firm.

Zipperer is a staff associate in the Department of Library and Information Sciences at the American Medical Association in Chicago. She also has been serving as chair of the Illinois Chapter Professional Development Committee.

Also honored at the banquet were the 1994 scholarship winners. SLA Scholarships of $6,000 were awarded to Julia Overstreet, New Orleans, LA, who attends Louisiana State University; Vinita Singh, Claremont, CA, who attends San Jose State University at California State University; and Gaylene Sloane, Akron,

OH, who attends Kent State University.

The $6,000 Affirmative Action Scholarship was presented to Alicia Randolph, Inglewood, CA, who attends San Jose State University at California State University; and the $6,000 Mary Adeline Connor Professional Development Scholarship was given to April Schwartz, Minneapolis, MN, who attends the University of Minnesota Law School.

Division and Caucus Programs

Aerospace Division

by Mala Sistla

The most memorable event of the Aerospace Division conference programming was the presentation given by Dr. Schultz, co-inventor of fiber optics and president of Heraeus Amersil, Inc. at the business meeting. Sixty people, including the members and vendors who attended the Aerospace Division luncheon, were privileged to hear him. About 100 people participated in the Information Super Highway session moderated by Margie Pearson. Frances Grant, Michael O'Neill, and Tom Mactavish explained the topic in simple terms. In addition, the Strategic Planning session moderated by Barbara Lawrence with speakers Dottie Moon, Gail Stahl, and George Roncaglia also drew a large crowd. At the meeting, Barbara Lawrence presented a draft for the Strategic Plan for the Aerospace Division. Other joint programs such as benchmarking and electronic journals were also well-attended, and for the first time, the Aerospace Division sold T-shirts with its logo. The division also cosponsored socials with the Solo Librarians and the Engineering Divisions which were a great success.

Baseball Caucus

by Brenda Ward

The caucus was convened on June 13 for the program "General Manager for a Day" and Annual Business Meeting. The program featured a mock contract negotiation session led by Dean Taylor, Assistant General Manager of the Atlanta Braves. He presented an imaginary context for a major league baseball player contract negotiation, complete with the player's history and information about other comparable players. Taylor took the role of the player's agent, while the 82 attendees divided into several small groups and assumed the roles of management for a major league baseball team.

Biological Sciences Division

by Jo Anne Boorkman

The division presented a variety of programs, which included "Meeting the Information Needs of the Animal Welfare Act," "Perspective on the Information Sources at the Centers for Disease Control and Prevention," and a contributed papers session, "Visioning Our Collections, Collection Development in Life Sciences Libraries." In addition, the Biotechnology Roundtable presented a program, "Biotechnology: Taking an Idea to Market—The Technology Transfer Process." Division members participated in the Internet Theme Day and cosponsored the day's program on electronic journal publishing.

At the division's Annual Business Meeting, Catherine Hanson-Tracy, an SLIS student at UCLA, won the division-sponsored student essay contest and was awarded the student stipend to attend the Annual Conference. Her winning essay, "The Journal Collection Challenge," will be published in the summer issue of the division newsletter, *Biofeedback.*

In keeping with tradition, a division-sponsored field trip was offered, this year to the Centers for Disease Control and Prevention and the Yerkes Regional Primate Center. Thirty registrants filled all available slots. In addition, a division-sponsored CE course, "Internet Access and Resources for Biological Sciences" was offered and taught by Joan Marcotte Gregory. It had 32 registrants. The division also cosponsored three open houses with the Chemistry and the Environment & Resource Management Divisions on the first three evenings of the conference.

Business & Finance Division

by Denise Chochrek

The three speakers from Lotus Development, McGraw-Hill, and Caterpillar at the June 13 "Corporate Virtual Library" program gave their views of the corporate virtual library. Jane Rich from Lotus gave an overview of her library and demonstrated how her company used Lotus Notes to move toward the virtual library. All of the Lotus systems are inter-connected and clients from all over the company are able to access what they need from their areas. Dana Gordon at McGraw-Hill also uses Lotus Notes and librarians from both companies spoke about training and the move away from the typical view of the library toward the library of the future, which will be more focused on providing the interface between software and user and will provide support and training in those areas. The librarian at Caterpillar, Kay Cloyes, focused on her experiences in attempting to modernize her company's library. She went from a somewhat primitive state into the virtual world by surveying her clientele, researching her options, and taking bold steps in a relatively new arena. All the views of the virtual library were interesting and left attendees with the feeling that the library as it stands now needs to be reevaluated.

At the June 14 "NAFTA: You Want Me to Find Out *What*?" program, Jesus Lau of ITESM-Campus Toluca Centro de Estudios Estrategicos, spoke on Mexican sources of business and Robert Clarke of McGill University in Montreal, PQ, Canada, spoke about Canadian sources. Both speakers gave short overviews of their respective countries and the problems inherent in getting company or government information. Lau discussed various directories, economic sources, trade publications, and Mexican databases and CD-ROMS. He also described the numerous changes going on in Mexico and gave attendees hope for more available information in the future. Clarke also described various reference sources, pointing out his personal favorites in his handout. Clarke also explained the reporting mechanism that public companies file under.

The general theme of the June 14 session on Benchmarking was partnership. All of the speakers discussed who they partnered with, how their partnerships were developed, and what resulted from their partnerships. Marilyn Baird of Detroit Edison began the process at her company with a survey of services, staffing, costs, marketing, and facility, but found that she got much more out of the partnership by looking at their "best ideas." She proceeded to give examples of those ideas. Kay Cloyes of Caterpillar focused on her survey. Her partners were not only many types of libraries but the various engineers that were part of her focus group. She felt that the internal benchmarking was as important as the outside sources. At one point, Cloyes and her focus group had a 25-page survey but had to shorten its length. She emphasized the statistical nature of the process and the importance of placing the library on the chart to see where it stands and where it should go. Patty Meindl of AECL Research in Canada partnered with five libraries. Her approach was to pay personal visits. She constructed flow charts in order to remove redundancy and make a smoother flow in the organization. With benchmarking she was able to revise her services, focus her collection, and work on centralizing her budget.

At the "Global Partnerships: International Alliances Between Corporate Libraries" program on June 15, Sharon Smith and Pamela Clark, one from the New York office and one from the London office of S.G. Warburg, Susan Phillis and Stella McGarr of the American International Group, and Carol Ginsburg of Bankers Trust, spoke about global partnering. Each began with an overview of their facility, the type of research they perform, and who their clients are. Even though all the offices communicate with each other regularly, it was interesting to note how separate each individual office is. On the whole, each office keeps its own collection, has its own business plan and its own focus. They communicated these plans to their respective offices without forcing their ideas on each other. They communicated via e-mail, faxes, phones, etc. Ginsburg spoke about librarian exchange in various offices. She said one of the reasons for the individualism is the time and culture differ-

ences. With hard-back collections, the offices shared resources. This brought up discussion of copyright issues, which did not seem to be a problem. There was some discussion on global partnerships in dealing with vendors. In some cases the libraries were able to work a deal, but noted that many vendors do not wish to work on that level. Another point that was brought up concerned the culture of cost. It was remarked that Americans want the product immediately and don't worry about the cost; whereas the British are more concerned with how much the product will cost. There were discussions on culture, language, and what type of sources the different offices used.

Chemistry Division

by Linda Shackle

The Chemistry Division participated in the Internet Theme Day, which included an introductory session describing how the Internet functions and the major research tools, six discussion groups, and a program on electronic journals.

At the Chemistry Division discussion group, participants talked about the Internet resources that are used and how training is obtained. CHMINF-L (listserv@iubvm.ucs.indiana.edu) was considered a primary source of information and moderator Gary Wiggins produced an excellent tool called "Chemistry Resources on the Internet." Several specific databases were mentioned, including EPA Substance Fact Sheets and the Chemical Safety Databases on the Stanford Catalog, but the most desired database is one containing MSDS information. Currently, Utah seems to have the best one that is available to outside users. Corporate librarians described the difficulties they have with companies' security concerns limiting Internet access, and librarians who had successfully obtained Internet access despite "fire walls" provided suggestions on how to approach management about this issue. There was much discussion on the types of software being used. Gopher is very prevalent and Mosaic is also becoming quite popular. Many librarians reported that Gopher and Mosaic clients were being set up by Internet gurus within their organizations but that librarians are being asked to help identify and organize "what's out there." A more detailed report of this discussion will be made available this summer on CHMINF-L; "Chemistry Resources on the Internet" is periodically posted on CHMINF-L.

In conjunction with the Science-Technology Division, the Academic Sci/Tech Librarians Roundtable was held June 14. This year's discussion focused primarily on three topics: the responsibility of academic librarians to introduce students to the value (i.e. costs of information), preservation of older journals, and document delivery.

Corporate librarians are concerned that graduates have not learned the value of information. Because academic libraries primarily provide electronic databases free of charge to students, many graduates arrive at a company without being able to do cost-effective searching or to define their information needs in a realistic manner. After some discussion, the general consensus was that companies must define budget constraints and train employees in what is considered cost-effective in their environments.

Some librarians expressed concern about the deterioration of older journal issues and the availability of these items in the future. There was some discussion that most document or interlibrary loan requests were for items published in the last 10 to 15 years and that there is no cost incentive for publishers or others to microfilm or electronically preserve these items.

There was a long discussion on document delivery and some of the options libraries are using to speed delivery times. More and more libraries are subsidizing delivery costs and using commercial services and electronic means of delivery. Some institutions' faculty and students are ordering directly from suppliers.

The Chemistry Division also participated in the program "One-Stop Searching: Integrating Information Resources" and sponsored the CAS Roundtable and the DIALOG Update.

The summer issue of the division's *Bulletin* will contain more details of the programs presented in Atlanta.

Education Division

by Gladys Dratch

The Education Division offered a full five days of activities and programs that were stimulating and informative, providing many opportunities for networking, sharing experiences, and division planning. The conference began with the division board meeting on June 12, followed in the evening by the "Sweet Taste of Atlanta" at the Georgia Railroad Freight Depot, the first of the three open house events with the Advertising & Marketing, Museums, Arts & Humanities, and Social Science Divisions.

The June 13 program, "Business and Education Partnerships Programs for Schools and Workforce Competency," cosponsored with the Social Science Division and the Women's Issues Caucus, proved to be a fascinating exploration of the collaborative efforts between the corporate sector, the community, and the schools, as described by our speakers, Elizabeth Scarboro of the DeKalb County School System, who administers a large and successful partnership program in the Atlanta area; and SLA member Hope Coffman, director of the Technical Information Center at the Charles Stark Draper Laboratory in Cambridge, MA. Scarboro pointed out that partnerships with corporations help students through "enhanced educational opportunities." She described the matching process by which the partnerships between industries and schools develop and the benefits to be gained by the students, the company, and the employees who commit time to the various projects. Coffman gave a stirring presentation on her involvement in public education. She quoted Joseph O'Connor, vice president of human resources & administration, Draper Laboratory, and a founder of the Cambridge Partnership for Public Education: "Unless the educational process exposes students to an understanding of the business world and provides training, students will not function effectively and business will not have the workforce they need for the future." She focused her talk on Draper's participation in the National Science Foundation grant to Lesley College to improve science literacy and teaching in Cambridge and the Boston schools. As a result of her work in this collaboration, Coffman was invited to become a member of Cambridge school advisory council. She encouraged attendees to consider that our skills as librarians and information managers can contribute in practical ways to help inner-city school children. She concluded that partnership participation provides opportunities for growth and the "level of appreciation received exceeds the time spent in contributing to these projects."

Also on June 13, the Education and Social Science Divisions sponsored "The U.S. Department of Education: Update on Technology and Library Programs." The four speakers from the Department of Education delivered excellent, information-packed overviews of the resources, developments, and models for information access and retrieval that characterize the current scene and they also shared their outlooks on the department's future plans and initiatives. Robert Stonehill, director of ERIC, said the Department of Education will have its own ERIC site on the Internet and that ERIC will produce and sell its database on CD-ROM at a low cost to the public. Ray Fry, director of library programs at the Office of Educational Research and Improvement, announced that the provision for a National Library of Education as enacted in the "Goals 2000: Educate America Act" has resulted in a task force to carry out a national search for the director of this new library. Lynn Smarte, project director for ACCESS ERIC, spoke about "'askERIC' A New Model for Electronic Information Services for Teachers and Parents," and Jane Henson, associate director of the ERIC Clearinghouse for Social Studies/ Social Science Education at Indiana University highlighted "ERIC at Thirtysomething: Full Text Delivery, Internet Accessibility, and Other New Features." Due to the late afternoon scheduling, the audience was able to pursue additional questions well beyond the allotted time, and some of us were able to continue the dialog with our speakers in the Marriott Garden Lounge.

At the June 14 annual business meeting and breakfast, the division presented the SLA Education Division Award for Professional Excel-

lence to Charles D. Missar. Missar has been an outstanding leader and mentor for the division and served twice as division chair. Another highlight was the announcement that the SLA/Education Division discussion List - SLAEDD-L would become operational at the end of June 1994. M. Suzanne Brown, Education Division networking chair, implemented this landmark event for the division. June 14 was also Internet Theme Day. The Education and Social Science Internet User Discussion Group facilitated by Deborah Garson and Jeanne Bohlen was practically-oriented and a huge success.

Two programs related to library education provided outstanding opportunities for dialogue and reflection on the skills we need and the preparation that is required of librarians in this new information age. The first program, "Education for Small Special Libraries," cosponsored with the Solo Librarians and Library Management Divisions, offered a panel of educators—Bonnie Thorpe, Beth Paskoff, Bill Fisher, and Fred Roper—and a discussion format moderated by Judy Siess. The second program, "Core Competencies for Information Professionals in the Nineties," cosponsored with the Telecommunications, Library Management, Museums, Arts & Humanities, and News Divisions featured Danny Wallace and Stuart Sutton. Sutton, dean of the Division of Library Studies, San Jose State University, observed that we should be cautious in concentrating on the skill sets we need, that it is more important to consider the process by which skills are gained and the context within which we are operating.

At the June 15, 1994/1995 division board meeting, plans for the coming year came into focus as we looked ahead to the Montreal Annual Conference under the leadership of the new division chair, Mary Vass. With the Telecommunications Division, our final division event of the Atlanta Conference was an enjoyable field trip on June 16 to the Atlanta History Center. The new state-of-the-art Atlanta History Museum was a special treat, as was the visit to the antebellum Tullie Smith Farm and the elegant 1928 mansion, Swan House.

Environment & Resource Management Division

by Carla G. Heister

This year ERM celebrated its fifth anniversary at the Atlanta Annual Conference by sponsoring or cosponsoring seven programs, three roundtable discussions, and one field trip. BNA sponsored and coordinated a fifth anniversary open house for ERM on June 14. Roundtables included discussions of a forest products information access survey, CD-ROM and Internet resources for State Environmental Librarians, and how to implement information-sharing with libraries and information centers internationally.

Programs included environmental news reporting, discussions about the newly-formed National Biological Survey and the proposed National Institute for the Environment, solid waste disposal and public perceptions, and fundraising and grant writing for libraries. The capstone program was a two-part presentation titled "Global Change." As Michael Helfert of NASA's Johnson Space Center, stated, "Everything we humans do affects global change; the areas of study are wide ranging with only about 20 percent of them dealing with climate change." (This is the area most associated with the general term). He presented a compelling slide show stressing the spatial and temporal impacts of human activities. Huge datasets of information relevant to global change are being amassed and our profession needs to be proactive making these databases publicly accessible, he said.

Environment Abstracts was awarded the 1994 Outstanding Sponsor Award and Pat Murray won the division's Outstanding Member award. Environment Abstracts is the first abstracting and indexing venture established solely on the topic of the environment. Through the years, the various publishers such as Environmental Information Center/Intelligence, Inc., R.R. Bowker, and Congressional Information Service have provided continued service to a diverse user community and have supported the division's conference programming and newsletter. Three ERMD members have also

sat on the Editorial Advisory Board of Environment Abstracts.

Pat Murray has been the *e.r.m.d. newsletter* editor for over 10 years. As an information professional, she exhibits the highest standards of intelligence, service, and subject knowledge, and as an editor she exhibits great patience as well as the same standards of intelligence and subject knowledge. Through her work and direction, the *e.r.m.d. newsletter* has become a quality publication that all division members can take pride in.

Geography & Map Division

by Paige Andrew

The programs of the Geography & Map Division at the Atlanta Annual Conference were a solid success. The division held two Contributed Papers sessions, cosponsored two topical panel sessions involving six speakers, went on one half-day and one full-day field trip, both of which were open to all SLA members, and had an organized dinner outing to Dailey's restaurant and lunch outing to Mick's at Underground Atlanta, both for G&M members only. In addition, the division held its annual Executive Board Meeting, Open House, and Business and Reports Meeting.

Some of the highlights for the division during Conference week included eating at Dailey's on Monday night, especially the dessert bar, which lived up to its reputation as being the best in the city; Beall's 1860 Restaurant and the Hay House in Macon, GA; Sidney Lanier, also known as Mr. Marty Willett, our tour guide in Macon; stand-out presentations by Sanford H. Bederman, with his discussion of "Simple Tourist, or Distinguished Explorers? The Dilemma of Women Travelers in Victorian Times" and Michael Helfert's slide presentation on global change and NASA's efforts to document global change via photographs from the space shuttle program.

Twelve speakers shared their knowledge and expertise on a variety of topics, the hotel employees provided their hospitality, and the SLA staff kept everything moving smoothly. Moderators Vanette Schwartz, Jim Minton, Susan Peschel, and Carla Heister devoted their time and energy, and Program Planner Marie Tilson solicited excellent sponsorship for the joint GIS panel session.

Insurance & Employee Benefits Division

by Paul Caricone

On June 12, the division offered the Continuing Education course "Practical Indexing and Abstracting for In-house Databases," taught by Barbara Booth of NILS Publishing Co. Booth and NILS have been instrumental in helping the division bring its index of insurance literature, *The Insurance Periodicals Index*, to market. The course was sold out and evaluations were very positive.

On June 13, two programs were offered. The first was presented in conjunction with the Biological Sciences and Pharmaceutical Divisions, and dealt with information sources at the Centers for Disease Control in Atlanta. The second program addressed the topic of distribution, which is emerging as a key strategic area for the 1990s. Topics included direct marketing of insurance, the independent agency system, and the research done at the Life Insurance Marketing and Research Association to track trends in distribution.

The division's final program, on June 15, was offered in conjunction with the Pharmaceutical and Library Management Divisions, and addressed outsourcing in libraries. The subject of this well-attended meeting is emerging as an important issue in the era of downsizing and rightsizing.

The division offered several social events at the annual conference. The Bureau of National Affairs sponsored a dessert reception in the hospitality suite on June 12, and NILS Publishing sponsored the division's Annual Business Meeting at the Atlanta Botanical Gardens June 13. In addition, Mead Data Central sponsored a unique reception for division members at the Road to Tara Museum and two hosted breakfast receptions were held in the division suite. The break-

fasts were sponsored by A.M. Best and by the Life Office Management Association, respectively.

Labor Issues Caucus

by Carrolyn Davis

Caucuses have shown an increased growth in their breadth of subject matter, as well as in the audiences they attract. The caucus' main purpose is to provide more in-depth subject-related programming and meetings to interested SLA members. Caucuses have begun to align themselves with other caucuses and divisions for cosponsorship on alternative days or time slots in order to avail themselves to a broader audience. So far, this imaginative approach to providing quality subject-related programming seems to be working. This concept of broader choice certainly enabled the Labor Issues Caucus to provide a product for this year's interested SLA membership.

On June 13 the caucus sponsored a program titled, "You Can't Beat the Real Thing; Everything You've Always Wanted to Know About the Coca-Cola Corporation's Archives/Library and Other Corporate Atlanta Entities." The speaker was Leslie Hough, Director, Walter P. Reuther Library/Labor Archives, Wayne State University, and the moderator was Carrolyn Davis. The caucus provided refreshments of Coca-Cola products to enhance the presentation. After the session, the caucus held its business meeting, presided by caucus Co-Chair Helen Hillman. She discussed membership, the purpose and/or need for a caucus to file an annual report, and the finances of the caucus. Kevin Barry of Princeton University agreed to chair the 1996 caucus. Divakara K. Varma, of York University and the chair of the 1995 SLA/LIC, discussed his plans for the Montreal, PQ, Canada caucus, at which Bob White, former president of the Canadian Automobile Workers Unions, has been invited to speak.

On June 14 the caucus cosponsored "Negotiating the Future: A Labor Perspective on American Business" with the Social Science Division. Irving Bluestone, former vice president of the UAW-G.M. Department, spoke. Bluestone is presently university professor of labor history at Wayne State University. He is the co-author of the book *Negotiating the Future...*, along with his son, Barry Bluestone. He is an authority on the history of the American labor movement and provided keen insight into the future direction of labor management relations. The Bureau of National Affairs assisted in the sponsorship of the program with a reception that followed the program.

Legal Division

by Connie Pine

The new Legal Division presented its first Conference program, "International Business: NAFTA." The speaker was Alan Stowell of the Bureau of National Affairs. The division also cosponsored the program, "Harassed: Inappropriate Behavior in the Workplace" with the Social Sciences Division and the Women's Issues Caucus.

In addition, the division's board and business meetings were held during the conference. The division now claims over 300 members. Plans for the 1995 Montreal Annual Conference include several programs, an open house, and a field trip.

Library Management Division

by Gail Stahl

The 1994 Annual Conference maintained the LMD tradition of "too many choices, too little time" with a variety of challenging and timely programs. The division introduced several new formats in Atlanta. Judy Field guided the LMD roundtable on mentoring, Lois Weinstein and Bob MacMahon offered "Career Guidance for LMD Members," and Gloria Dinerman facilitated the Consultants Section program on "Making the Most of Networking." Jane Dysart continued the discussion of "Transformations and Revolutions" from the Fall 1993 issue of *Special Libraries*.

On June 12 in the division suite, Barbara Spiegelman hosted the "LMD Video Theater" of recent management and business video tapes. On June 14, the popular "Swap & Shop" event

was expanded to offer a separate program discussing tips on producing newsletters and brochures. This year LMD's Marketing Section chose several winners of cash awards. Colin McQuillan won in the categories of "Best of Show" and "Best Brochure from a Medium/Large Library;" the "Best Vendor Brochure" award was given to Rebecca Marthey, and the "Best Solo Librarian Newsletter" award was presented to Ann Nathews.

LMD was pleased to join with the Affirmative Action Committee, Diverse Issues Caucus, Women's Issues Caucus, and Social Sciences Division for Cleveland Clarke's discussion of "Recognizing Leadership through Diversity." Clarke, Marketing & Development Director of The American Institute for Managing Diversity, Inc., clearly described diversity issues with active audience participation. Barbara Glanz, author of *The Creative Communicator*, spoke to a standing-room-only audience about "Projecting People Passion: How to Create Loyal Customers." Glanz gave encouragement and specific tips to aid information professionals in communicating more clearly and positively to clients and users. Betty Eddison discussed "Special Librarians and the Information Industry by the Year 2000" and explored the possible partnerships and relationships between information professionals and providers in the coming years.

The division's hospitality suite on June 12,13, and 14 hosted a lively group of LMD members and friends. On June 14, the division welcomed new members and presented them with a copies of *Library Management in Review II*. Another enjoyable event was the Special Reception at the High Museum. Along with the Petroleum & Energy Resources, Public Utilities, and Transportation Divisions, LMD attendees viewed the exhibits and enjoyed chamber music, champagne, and hors d'oeuvres on June 13.

Museums, Arts, & Humanities Division

by Alice R. Cotten

MAHD activities in Atlanta included informative programs, successful fundraising, opportunities to meet students and newcomers, catching up on news with old friends, learning about new products in the exhibit halls, purchasing attractive MAHD pins and wearing them proudly, memorable meals, and planning for next year's meeting in Montreal, PQ, Canada.

Official MAHD programs began on June 12 with a CE course on caring for library and archival materials. Don Ethrington emphasized the importance of environment, the use of "reversible techniques," and the potential danger of such widespread devices as book drops and copy machines.

Two activities designed to appeal especially to students and newcomers were held again this year and were big successes. The William B. Neff Award Dinner, a fund-raiser for the division's student conference attendance award, had about two dozen attendees who had a grand time over dinner at Pittypat's Porch and raised over $800. And the "Monday MAHDness" program featuring an informal panel discussing their experiences with SLA and with MAHD played to the standing-room-only crowd and proved to be a great opportunity for new comers and old-timers to get to know each other. The student conference attendance award was won by Margo Fesperman of the University of North Carolina at Greensboro for her paper "Information Vision: The Role of the Special Librarian in a Museum, Arts & Humanities Setting."

A two-person panel moderated by copyright expert Laura Gasaway featured good discussion of a complex field—copyright protection of photographic images. Questions from the audience and comments from the speakers demonstrated that there are no definitive answers, but librarians were encouraged to stand up for user rights. As one panelist said, the purpose of copyright is to promote the process of learning, not to impede the progress.

At the well-attended book and author luncheon on Tuesday, moderator Cornelia A. Kelley and the attendees faced every program planner's nightmare—a no-show speaker—with professional poise and personal class. Kelley read a short excerpt from the featured author's work and apologized for the absence of the announced speaker, and the attendees enjoyed

their meal and conversation. The Fannie Simpson Award for distinguished service to the field of publishing was given to Annie Brewer of Whitefoord Press and the Ron Coplen Roll of Honor Award for outstanding service to the division was presented to Katherine Richards of Woodbury University.

Librarians using volunteers or interns or considering doing so had an opportunity to hear a panel of experienced supervisors talk about their experiences and offer suggestions for doing it right. Important criteria were knowing what you want, having a job description, interviewing candidates carefully, selecting the right applicants, setting up schedules and goals, training, demanding quality, evaluating, encouraging, and staying in close contact.

Programming on July 15 included a session on the essential competencies that information professionals need now and in the future and how library schools can prepare their students. A session on inventorying and providing access to museum collections played to a packed house. The attendees learned about current procedures and heard about future possibilities. Formal programming wrapped up on June 16 with a trip to the Fernbank Museum of Natural History and Science Center.

Expanded reports on the division's conference programs, as well as minutes and financial reports, will appear in the summer issue of the *MAHD Bulletin*.

Natural History Caucus

by Ann Juneau

The Natural History Caucus held four events in Atlanta—three were cosponsored events and the fourth was the caucus' annual business meeting. The first cosponsored event (with the Environment & Resource Management Division) was a presentation on the National Biological Survey and the proposed National Library for the Environment. Judy Buys of the National Biological Survey and Carol Watts of the National Oceanic and Atmospheric Administration were the copresenters. More than 90 people attended this session and showed great interest in it, as demonstrated by numerous questions asked from the audience. Secondly, the caucus cosponsored a session on "Tracking Our Nation's Treasures: Controlling and Accessing Our Museum's Collections" with the Information Technology, Museums, Arts & Humanities Divisions and the Committee on Cataloging. Moderated by Lillian Mesner of the Committee on Cataloging, the session's speaker was James Blackaby, an independent consultant to museums. This intriguing session helped show the evolution of museums in the direction of cataloging their artifactual materials as libraries catalog their book collections. A field trip to the Fernbank Natural History Museum and Science Center was cosponsored by the Museums, Arts & Humanities and the Environment & Resource Management Divisions. Approximately 20 SLA members attended.

The fourth and main event, the caucus' lengthy but productive and information-packed Business Meeting, was attended by 24 people. The group entertained a proposal for SLA to cosponsor a proposed forum on Natural History Cataloging which the ALA/ALCTS/CCS/CC:DA Natural History Task Force is planning, in an effort to get funding for natural history organizations to catalog their specimen collections using MARC format. Since funding is being sought from NSF, any sponsorship from library organizations would be minimal, in name only. The caucus agreed that SLA participation is desirable, and the recommendation was brought to the SLA Board and approved.

Another agenda involved a report on the status of a caucus membership directory. With few forms returned from the membership, it was suggested that the directory appear in electronic form, possibly mounted on a gopher. We agreed to have print copies available for those without Internet access. We, in addition, had an offer from a member to initiate and maintain a listserv reflector for the caucus at his institution and he will proceed with this endeavor. Also, the caucus showed off its new brochure. It is a work-in-progress, but will be used for publicity and for recruiting new members. We need to find creative ways to distribute it while keeping mailing costs low, due to our small budget. Plans are to initially send the

brochures to targeted divisions within SLA with adjacent interests to the caucus. This would be followed with an effort to extend our promotion beyond SLA membership to librarians in organizations with natural history-like interests. The value of personal contacts both in the United States and abroad by current caucus members was also discussed.

Group Access Capability (GAC) on OCLC was discussed at last year's meeting. Our progress in creating a GAC was reviewed, and we decided to go forward in the effort. This means that sometime in the next few months there will be a symbol on OCLC for the caucus as a subgroup and our holdings of particular titles can be seen at a glance. This should eventually be a helpful interlibrary loan and collection development tool.

Fundraising measures were discussed. Two caucus members are writing an article featuring the caucus and its members. The authors are drafting an survey form to send to members to get information about members' libraries. The 1995 Annual Conference caucus program was also discussed, especially the honorarium that a proposed speaker from the Academy of Natural Sciences in Philadelphia, PA, requires. More investigation into the primary and backup speakers is necessary.

One member suggested that the caucus put a current awareness service into effect. Several members volunteered to scan various journals on certain relevant topics (for example, biodiversity or the National Biological Survey). Citations for interesting articles could be published in *Biofeedback*, the newsletter of the Biological Sciences Division, or in the forthcoming electronic discussion list for the caucus. In addition, discussion was held regarding increased communications within the caucus and public relations external to the caucus, and it is likely that a committee will be appointed to work on this issue.

News Division

by Mona Hatfield

Past, present and future inextricably joined are the essence of the news industry and so the News Division spent a full week of tours, programs, panels, fun, and entertainment exploring all three.

The past defined our present as we recognized the special achievements of several members at our annual awards banquet. It also taught us the miracle of the present and hope for the future in a fascinating program, "Pathways to Involvement: International Special Libraries," that revealed the harsh realities of living and working in the news industry in Eastern Europe and Vietnam.

And, of course, the future is now for many news libraries. We took a look at the future in a tour of the *Atlanta Journal-Constitution's* new Access Atlanta service and in our CE course, "The Electronic Landscape." The latest technologies in digital image and text archiving were discussed and on display June 13 and 14. More than a dozen systems were available for hands-on exploration and comparison. We also took a short ride on the Internet on June 13 in our "Developing a Net for News" session.

The present encompasses much more than technology for news libraries, and that reality was well-represented in our programs "Promoting the News Library in Your Organization," "Environmental Information in the News," and "Core Competencies for Information Professionals in the Nineties." The latter two programs were cosponsored with other SLA divisions.

After a week of devouring the present and exploring the future, we concluded with a salute to the News Division's 70th anniversary with a champagne brunch at the Museum of the Jimmy Carter Presidential Library.

Past, present and future inextricably joined ... a typical week for the News Division!

Petroleum & Energy Resources Division

by Marie Tilson

"It is possible to fly without motors, but not without knowledge and skill." —Wilbur Wright.

The Petroleum & Energy Resources Division, in a quest to help division members put knowledge to work, offered a variety of programs during the annual conference.

We are a group of early risers and many of us enjoyed the three morning sessions which were accompanied by a continental breakfast provided by our generous sponsors. The June 13 session, sponsored by AE Translations, Information Handling Services, and OPRI, featured Robert Beck, economics editor of *Oil and Gas Journal*. He looked forward to 2001 and 2010 to give some idea as to where the industry will be going. Although energy and the economy have been closely linked in the past, environmental considerations must now be added to the equation. Some of the statistics he provided were fascinating. In 1973, the world oil reserve/production ratio was 33.0 years; in 1993, this figure had risen to 45.7 years. Revenues in the industry have been steadily shifting from oil to natural gas. On the down side, in the peak year of 1982, there were 708,000 people working in energy extraction industries. In 1993, this figure had fallen to 344,000 people. Beck emphasized the importance of the role that China, with its population and vast coal reserves, will play in the energy future.

Dow Jones and EBSCO sponsored the June 14 early session which featured Nancy Kavanaugh, president of the Southern Order of Storytellers, who explained how we could craft library successes into stories that could become part of the company's lore. She emphasized the importance of stories for new employees who need to know the company's "heroes and sheroes." Stories need to tell when the problem started, what caused the problem, and what the results were after the problem was solved. In the oral tradition, a story must follow a straight line; you can't turn the pages back, she said. We all carry around a bundle of stories that help guide us and we should look for the opportunities to tell them.

June 15th's session focused on Internet in petroleum libraries. Stephanie Zurinski of BP Exploration told attendees how she changed from a rickety bus on the Internet highway to a sleek sports car about to start the Indy 500. She explored the many uses of the Internet, from e-mail to on-line searching to monitoring the many listservs. One of the strongest arguments for using Internet was the reduction of costs, she said. Searching Orbit on Telnet was $3/hour vs. $12 on Tymnet. Routing tables of contents electronically vs. manually achieved a major savings in both time and dollars. Jessica Bray of Louisiana Land and Exploration demonstrated how to go on Internet and find required materials. She showed attendees COGIS, NYSER, and EDGAR and pointed out that Internet takes a "hell of a lot of time" and it is up to special librarians to help it get better. Quadra Associates and The Faxon Company sponsored the session, which played to an overflow audience.

With the Nuclear Science and Solo Divisions, the PER Division held a program on "Running a Small Technical Library." Sponsored by The Information Store, it focused on the problems encountered trying to do more with less. Judy Kraatz of Valero Energy has been with the company's Corporate Resource Center since 1986 when it had a staff of five. Now Judy is the staff, and one of her heaviest focuses is on the current awareness service. Although she services a smaller number of people than in the past, the clientele she serves are the "movers and shakers" of the company. Some of the multi-copy forms that she uses are valuable in keeping track of various statistics. Mary Jo Dorsey of the Yucca Mountain Project, which is set up to study a potential site for the nation's first high level nuclear waste repository, was the second speaker. Her library in Las Vegas, NV is open to the public and provides a number of free reference services, including access to LEXIS/NEXIS, the Office of Scientific and Technical Information (ITIS) database, services of the Copyright Clearance Center, and interlibrary loans through federal and state libraries. There is also an extension library on-site 100 miles north.

"Multi-faceted GIS: Examples of Usage in the Corporate and Academic Worlds" was presented jointly with Geography & Map and Public Utilities Divisions and was sponsored by Dun & Bradstreet and Gulf Publishing. Janice Anderson of Access Information Associates addressed the problems inherent in implementing GIS technology. These problems include huge back-files, multiple existing databases, and incomplete and inconsistent docu-

ments which exist in paper, mylar, onion skin, or carbon copies. She presented a demo of OMNISOURCE, a technical document management system which the company has used it in a plot plan of a refinery. It enables one to drill down from a U.S. map to a specific site and then down to equipment specific information and documents which have been scanned into the system. The drawings can also be revised on-line. Anderson emphasized that library personnel need to understand how to interpret users' needs and how to ask the right questions. Melissa Lamont of the University of Connecticut noted that one should look to see what is being done in your neighborhood and see if there is a way to tie in with it. For instance, some academic institutions may be able to work with public libraries for space. Creativity in getting funding is also a must. Users have found that working with GIS is fun! Roy Plott of the Georgia Resource Center is using a GIS system built on an IBM platform to promote Georgia for new manufacturing facilities, transportation planning, and locations for Olympic training sites. The Windows-based system has data on all communities over 1,000 people and features overlays of industrial parks, city limits, and transportation maps.

Eight divisions jointly presented a program on "One-stop Searching: Integrating Information Resources," which covered many information sources that can be distributed throughout an organization and are available on one's desktop computer. The first part of the program featured vendor presentations and the second part featured individuals who had worked with the systems in their libraries. AT&T's Unix-based "Slimmer" and Sandpoint's "Hoover" were especially notable. Many thanks go to the sponsors, Sandpoint, Microsoft, and Advanced Research Technologies, for underwriting such an informative afternoon.

As a social event, PER and four other divisions held a reception at the High Museum of Art. Mead Data Central and University Microfilms International provided funding for an evening complete with hors d'oeuvres, chamber music, and champagne. There was ample opportunity to network with colleagues while viewing an extensive collection of American and European paintings and decorative arts.

The annual business meeting and luncheon also provided a chance to get together with other energy librarians. This event was underwritten by Orbit-Questel. The final event of the conference was a visit to Dahlonega, GA, home of the nation's first gold rush in 1828. The group started off with a visit to the Dahlonega Gold Museum and a video presentation of "Gold Fever." The film featured people who were able to detail the busy mining days of the past and those who lived through them. By the 1840s, the easy-to-find gold was exhausted, so miners turned to vein gold and then hydraulic mining. As one old-timer said, "It tore down the mountain in no time." Tunnels were blasted out of mountains and stamp mills crushed rock to get the gold. The next stop was the Consolidated Gold Mines. Consolidated was a legend in its own time. It had 120 stamp mills, eight furnaces, and a 500-foot tunnel. At its peak, the mine employed 1,200 people. It operated around the clock from 1900 to 1906. Its gold was the purest in a natural state that is found anywhere—98.46 percent pure. Despite all good intentions, the mine went bankrupt in 1906. While part of the group tried their hand (or rather wrists) at panning for gold and precious stones, others toured the underground mine. The tour guides were miners who participated in much of the restoration of the mine.

From the mine, the group went to Smith House, a hostelry that has been feeding hungry travelers since 1922. After a meal that exemplified all the best in Southern family style eating, Alan Giles, from the Georgia Geologic Survey, told us about the geologic history of the area and answered some of the maps his division sells. With a little time left for exploring the downtown area of Dahlonega, we all returned to Atlanta more knowledgeable about the northern region of Georgia. Dialog sponsored the event and provided a geologic guide to the northeast part of the state, a photographic walking tour guide of Dahlonega, other articles and brochures, and lemonade and cookies on the ride back to Atlanta.

Physics-Astronomy-Mathematics Division

by Ellen Bouton

The PAM Division sponsored its traditional discipline-oriented roundtables in physics, astronomy, and mathematics, cosponsored a computer literature roundtable with the Science-Technology Division, and cosponsored a session on "One-Stop Searching" with seven other divisions. Other events included a vendor update session, annual business meeting, open houses on three consecutive evenings, and a very successful first-time PAM-wide roundtable.

At the Annual Business Meeting, the PAM Division Award was presented jointly to Nancy Anderson, PAM member and mathematics librarian at the University of Illinois at Urbana-Champaign, and to James Rovnyak, professor of mathematics at the University of Virginia. Anderson was honored for her work as co-chair of the American Mathematical Society's Library Committee and in recognition of her landmark bibliography of French mathematical seminars. Rovnyak was honored for his role in the initiation of the American Mathematical Society's Library Committee and his leadership of the committee as it surveyed North American mathematics libraries and addressed various issues in mathematics information.

Also at the annual business meeting, the division formally announced publication of the Union List of Astronomy Serials, 2nd edition, compiled by Judy Bausch, and including the holdings of 42 contributing libraries around the world. ULAS2 has not been published in paper, but as a copyrighted electronic file, available via anonymous ftp.

At the division's first PAM-wide roundtable on June 12, a spirited discussion was held regarding the relationship between the division's listserv and bulletin, mentoring within the division, ways to involve members who cannot attend the conference, and a variety of other topics which do not fit well on the agendas of the division's subject-area roundtables or business meeting. Response to this trial session was enthusiastic, and another session is planned for the 1995 Annual Conference.

At a very successful Vendor Update session moderated by Helen Knudsen, David Pullinger of the Instituts of Physics Publishing and Heather Dalterio of the American Astronomical Society spoke on different aspects of electronic journal publication.

The Physics Roundtable, moderated by Carol Chatfield, the Astronomy Roundtable, moderated by Jane Holmquist, and the Mathematics Roundtable, moderated by Molly White, all spent significant amounts of time discussing electronic information. Thoughts, experiences, and problems related to existing and expected electronic journals, access to free and subscription databases, use of Mosaic and the World Wide Web, and archiving of electronic journals/information were shared. For PAM conference attendees, the subject-area roundtables are always a highlight of conference programming.

Retired Members Caucus

by Robert Gibson, Jr.

A small but enthusiastic group of retirees heard an engaging presentation by Doris Kittle from the Wesley Woods Geriatric Center at Emory University. Her talk covered various aspects of "How to Stay Younger Longer," including the importance of keeping mentally active and alert and physically fit.

Attendees introduced themselves and indicated what they are doing in retirement. Librarians seem to find more than enough to lead stimulating and colorful after-work lives. Some discussion produced possible topics for next year's program at the Annual Conference in Montreal.

Social Science Division

by M. Kay Mowery

The Social Science Division kicked off its Atlanta activities with the traditional International Visitors' Reception on June 12, coordinated by the International Relations Roundtable. Countries represented by attendees included Australia, Croatia, Denmark, Indonesia, Japan, the Netherlands, Norway, Poland, Slovakia, South Korea, and the United Kingdom, in addi-

tion to the United States and Canada. Vendor support was provided by Chadwyk-Healy, Inc., Dialog Information Services, The Faxon Company, Glaxo, Inc., Information Handling Services, and University Microfilms International.

On June 13, division members met for the Annual Business Meeting and Breakfast before scattering for an ambitious schedule of programs and networking. Chair-elect Janice Bain presided. Support for the breakfast came from BNA, Inc. and Sociological Abstracts.

Seven sessions were sponsored or cosponsored by division roundtables this year, beginning with the Peace and International Conflict Management's program on "Ethnic Conflict: The Tragic Growth Industry in the 1990s," which was moderated by Jeanne Bohlen and highlighted the work of The Carter Center of Emory University. The Librarians of the Independent Sector opted for "A Day in the Life of...," featuring two of their own, Gail Powers-Schaub of the Council of Michigan Foundations and Pattie Johnson of the Foundation Center. Deborah White moderated the session, which produced a lively hour and great interaction among the attendees.

"Developing Communications with Your Colleagues Abroad: Where Do I Start?" was the theme explored by the International Relations Roundtable, moderated by Maryanne Mills. Health and Human Services hosted as session on Health Care Reform and SatelLife, an initiative to connect African medical centers to others in the United States, with Susan Voge as moderator. The featured speaker was Elizabeth Bowen, a past president of Physicians for Social Responsibility. Members of the Municipal Reference Librarians Roundtable gathered for a brown bag lunch moderated by Glenda Anderson.

Two roundtables chose to cosponsor programs with other SLA units. "Harassed: Inappropriate Behavior in the Workplace" was the timely topic of the workshop developed by the Women's Issues Caucus in cooperation with the Law & Public Policy Roundtable and the Legal Division. Urban Affairs, Architecture & Planning (UAAP) collaborated with the Business & Finance Division's Real Estate Roundtable to present a panel of speakers who discussed "Olympic Planning—A Gold Medal for Atlanta's Real Estate?" UAAP's Nancy Minter was the comoderator of this session.

Cooperation was the order of the day for all division programs this year. Janice Bain moderated the June 13 session on "Telecommuting and the Future of Work," cosponsored with the Library Management, Telecommunications, and Transportation Divisions and the Women's Issues Caucus. The Social Science Division also joined with eight divisions for the June 14 ambitious and enthusiastically received "Internet Theme Day." Two sessions were cosponsored with the Education Division: "Business and Education Partnerships—Programs for Schools and Workforce Competency" and a U.S. Department of Education update on technology and library programs.

The division also cohosted three open house evenings with the Advertising & Marketing, Education, and Museums, Arts & Humanities Divisions, including Mead Data Central's June 12 "Sweet Taste of Atlanta." The Social Science and Education Divisions shared responsibility for the June 14 event, with refreshments provided by Corporate Book Resources, Gossage Regan Associates, Haworth Press, Readmore, Inc., and University Microfilms International.

Other cooperative programs at the conference included "Negotiating the Future: A Labor Perspective on American Business" with the Labor Issues Caucus, and "Recognizing Leadership Through Diversity," cosponsored with the Diverse Issues and Women's Issues Caucuses, the Library Management Division, and the Affirmative Action Committee. The division closed out its 1994 activities with two field trips on June 16: a behind the scenes tour of Cable News Network and CNN's unique, 24-hour service library; and a trip to an Atlanta Braves/Colorado Rockies baseball game, the latter cosponsored with the Baseball Caucus.

Solo Librarians Division

by Dan Trefethen

The Solo Librarians Division celebrated its third anniversary with an Ice Cream Social. About 250 people enjoyed Gorin's Homemade

ice cream and received a variety of door prizes from vendors. The Aerospace Division also participated in the event, and on June 14, the Solos attended a standing-room-only division suite with the Science-Technology Division.

Although social networking is important to solos, the programs were just as strong in Atlanta. The perennial "Time-savers for Solos" program featured contracting out cataloging services, with speakers Elizabeth Wilson of CAPCON Library Network and Cynthia Whitacre of OCLC. Kari Anderson finished the dual-topic program with her experience on "Unmediated End-User Searching & Document Delivery."

"Education for Small Special Libraries" featured a panel of speakers, most of whom were library educators. This program combined a formal presentation delivery with a roundtable form of feedback from the audience. Speakers were library educators Fred Roper, Bill Fisher, and Beth Paskoff, as well as Bonnie Thorpe form Amoco Fabrics & Fibers, who gave the employer's point of view.

Two programs that the division cosponsored were "Roundtable on Small Technical Libraries" and "Managing Volunteers & Interns," both of which were well-attended and well-received. "Computer Applications Roundtables" featured separate sessions on different software applications. Programs that were discussed included Lotus Notes, dBase, Inmagic, and WordPerfect.

The most popular program by far, however, was Michel Bauwens' presentation of "The BPN Virtual Library," a multimedia session in which he outlined his development of a "virtual collection" at BP Nutrition in Antwerp. During his presentation, Bauwens explained his philosophy of "cybrarianship." His pioneering writings led to his receipt of the first European Special Librarian of the Year Award in 1993, given by SLA's European Chapter. Approximately 300 people attended the program, and many questions followed the presentation.

The solos finished up with Dutch treat dinner the evening of June 15, where 40-45 people divided into small groups to explore the local restaurants and continue socializing through the end of a very busy, productive conference.

Women's Issues Caucus

by Donna Sees

The Women's Issues Caucus cosponsored four sessions: "Harassed: Inappropriate Behavior in the Workplace" with the Legal and Social Science Divisions; "Business and Education Partnerships," with the Education and Social Science Divisions; "Telecommuting and the Future of Work," with the Telecommunications, Transportation, Library Management, and Social Science Divisions, and "Recognizing Leadership Through Diversity," hosted by the Affirmative Action Committee and the Diverse Issues Caucus and cosponsored with the Library Management and Social Science Divisions. Each session was well-attended and drew positive feedback from attendees.

The caucus took the lead planning role for the session, "Harassed." Nancy Dodd McCann, author of *Harassed: 100 Women Define Inappropriate Behavior in the Workplace*, was the speaker at this thought-provoking session. McCann presented real life scenarios from her book and polled the audience on their reactions to the scenarios. She challenged some of the stereotypes that most of us have about the sexes and about various professions. From the reaction of the audience, harassment is still an issue in the workplace but one that attendees are now better equipped to handle.

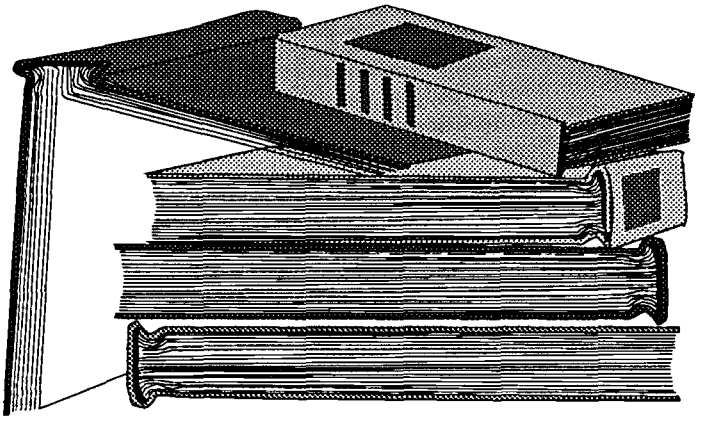
At the Annual Business Meeting, Wendy Hirschberg, director of the Information Center at Catalyst, discussed her role there and some of her projects. Catalyst is a national nonprofit research firm that works with business to effect change for women through research, advisory services, and communications. One of Hirschberg's roles was serving as chair of the Catalyst Award Evaluation Team. The Catalyst Award honors organizations with model initiatives to promote women's leadership. The evaluation process is rigorous, including a two-day visit to each of the finalist companies to learn more about what makes the initiative successful. Catalyst mainly supports member corporations; however, its reports are available to anyone and contain a wealth of information for companies that are interested in retaining and advancing female employees.

After Hirschberg's presentation, the membership was asked to express its expectations of the caucus. Many said they were members simply for networking advantages; others said they wanted help with management issues; one member said she wanted to spread the word and educate the membership about breast cancer. A great deal of information was gathered and will be discussed in the upcoming caucus newsletter, for which there is now an editor.

Looking Ahead ...

The 86th Annual Conference will be held June 10-15, 1995 in Montreal, PQ, Canada. Look for details in upcoming issues of *SpeciaList*.

Book Reviews



Tedd, Lucy A. *An Introduction to Computer-Based Library Systems, 3rd ed.* New York, NY: John Wiley & Sons. 1993. 316p. ISBN: 0-471-93788-6.

An Introduction to Computer-Based Library Systems was first published in 1977, revised in 1984, and was expanded to 297 pages, 95 figures and tables in 1993 to reflect some of the important aspects of the computer field not covered in the second edition. For example, in the second edition networks are described in the chapter on Telecommunications Aspects; in the third edition, networks have a separate chapter. CD-ROMs were also added to the updated publication.

The third edition divides the general components of library systems into 10 sections. The first five chapters give an overview of computer-based library systems. Included here are a brief history of library computer systems, discussions of potential problems with library systems, description of basic software and hardware used (e.g. using spreadsheets for serials control), storing and retrieving bibliographic information through use of fixed and variable field formats, and recall and precision ratios for measuring system performance.

The networks section contains data linking computers to form a wider network (e.g. systems of several libraries). There are descriptions of local area networks (LANs) and criteria used to select a LAN. Related technological developments, such as videotext and electronic mail and detailed descriptions of setting up computer-based library systems from the initial feasibility study to evaluating the system chosen, are presented from both staff and user viewpoints.

The last five chapters describe cataloging and acquisition systems, including basic requirements for integrating a system; objectives of a library's catalog system, description of a basic acquisition system, circulation control, and interlibrary lending and serials control, including the goals of these systems. The library systems marketplace chapter provides examples of companies and the types of library systems services they provide.

The author describes her publication as "an introductory work ... directed at the student of librarianship and information science but useful for the practitioner who wishes to be informed of a range of current developments." She achieved this goal by providing the basics of most aspects of computer-based library systems. For example, she gives

reasons to choose a particular system aspect such as a software package.

The strong points of this book include its list of figures and tables, case studies which reinforce the points made in each chapter, a glossary of common computer terms, and a list of acronyms.

However, the author assumes that the reader knows nothing about computers; hence, she describes the basic component of a microcomputer and printer. Most library and information science students as well as practitioners have previous exposure to computers.

Despite this, Tedd's monograph would be a welcome addition to any library where computer-based library systems are operating, or where the library is considering automation. It is written in a flowing style easily understood by those who find computer topics somewhat overwhelming.

Sandra Collier, Librarian Consultant, Komoka, ON, Canada.

Bessler, Joanne M. *Putting Service Into Library Staff Training.* Chicago, IL: American Library Association. 1994. 72p. ISBN 0-8389-3437-4.

The best description of Joanne Bessler's training manual is found in its subtitle: "a patron-centered guide." The suggestions given are for library managers who want a "service oriented organization." To reach this goal, they have to develop training programs that provide staff members with policies and skills that meet patron needs. The principles, examples, and case studies described can be applied to all types of libraries and management levels, and readers have to determine which can be adapted to their requirements. Bold headings group the objectives of each chapter under phrases such as "Greeting the Patron," "Protect Staff from Service Overload," and "Gathering Data." The text effectively summarizes the ideas presented in each section and gives examples of their applications. The boxed "Planning Aid" at the end of each chapter provides specific steps related to the chapter topic.

The 11 chapters follow a sequence from developing a service image (the mission statement), through recruiting, training, and selling library services, and end with evaluating library performance. The evaluation process returns to where the mission began: seeking the opinions of all of the library's customers. Each library must define its customer groups, including funders, administrators, and patrons. The values of each group should be part of the mission statement, and each group should also be surveyed when evaluation measurements are chosen.

Putting Service Into Library Staff Training is part of the Library Administration and Management Association Occasional Papers Series. As expected, the text and bibliography cite more business management than library literature on training and service topics. One unusual usage is described in the preface—to solve pronoun gender problems, managers and patrons are female and employees and trainees are male. Also, the lack of a universally acceptable term led the author to use patron, customer, library user, and client interchangeably. This did not bother me, as my library's usage is similarly indefinite. There are some minor typographical errors and at least one page error in the index, but the format and presentation are clear and easy to read.

The central chapters on selecting service commitments, defining patrons, selling services, and empowering staff are the most useful. Most managers have absorbed the ideas presented here through previous education and experience. However, this type of summation can serve as a handbook, presenting a directed picture of what has been learned about service and training and its application in libraries. There are succinct reminders of service meth-

ods that experienced managers could forget to pass on to new staff or to a staff without a service vision. Some are definite statements such as, "Don't explain why you can't do what the customer wants. Instead, describe what you can do." Other methods discuss service and customer satisfaction as much as costs, planning, or schedules; to inventory recognition given to staff accomplishments; or to be a model to staff that shows no one is above giving service.

Any busy manager should find this an effective outline with practical applications.

Melinda L. Guthrie, University Librarian and Assistant Professor, University of Central Texas, Killeen, TX.

***Impact of Technology on Resource Sharing: Experimentation and Maturity*, Thomas C. Wilson, ed. Binghamton, NY: The Haworth Press, Inc. 1992. 196p. ISBN 1-56024-391-0. Also published as *Resource Sharing and Information Networks*, Volume 8, Number 1, 1992.**

No library today, including the most abundantly endowed, can rely solely on its own resources to meet the needs of its users. The supply and demand pressures on libraries force this realization. In recent years libraries have seen their economies and purchasing power significantly diminish. Yet the base of information available to the libraries and users continues to expand and rapidly so. Intensifying this dilemma are rising user expectations for the immediate delivery of needed information to the site or even to the desktop. Consequently, libraries locked into traditional methods of delivering information to users—through site-purchases and ownership of mostly print publications—find their resources and their ability to deliver them pushed to the limits.

Historically, libraries have responded to circumstances of economic scarcity by sharing resources. Now with rapidly advancing automated systems and networking technologies, resource sharing has the potential to assume new dimensions, scale, and meaning. This edited volume takes off on this point and presents a refreshingly expansive view of library resource sharing. The object is to get beyond what editor Thomas C. Wilson calls the "unnecessary limited scope" commonly associated with resource sharing—those functions revolving around interlibrary loan. And here, technology is considered the catalyst to do so.

The diversity in this collection of papers is a motion, in itself, to redefine the scope of resource sharing for the electronic age. Nine papers are presented on topics that include the development and influence of a CD-ROM union catalog; the OCLC/AMIGOS Collection Analysis Compact Disc, a microcomputer software and database used for collection development and evaluation; a technical view of the Z39.50 information retrieval protocol and its implementation in MELVYL at the University of California; the establishment of system interconnections within the ILLINET regional resource sharing network; the use of the Internet to enhance a high school curriculum; and the inclusion of important library assets other than bibliographic material in library resource sharing practices. A selective annotated bibliography tracing the history of several aspects of networking from as far back as the 1970s to the present concludes the volume.

Three papers in this collection deserve special attention. In a strong position paper, James E. Rush concludes that libraries must radically shift their strategies towards comprehensive, technologically-based resource sharing if they are to remain viable into the future. He envisions using data communication networks to

centralize many library functions, including the circulation of bibliographic resources, cataloging, serials control, acquisitions, and many aspects of public services. Rush acknowledges that a "new publishing model" must occur, one that supports network access to machine-readable publications, before truly effective bibliographic resource sharing can be achieved. Rush also proposes an alternative economic model for compensating information producers, and an equitable method for libraries to charge users for services.

In his paper, Craig A. Summerhill provides a brief history of the Internet and examines the impact of networking on resource sharing and collection development in the academic community. Like Rush, he envisions a transformation not in the mission of libraries, but in "the manner in which the mission is met." With the emergence of full-text retrieval and wide-area information servers, he predicts that the existing model of inter-library lending will be radically altered. Summerhill also observes that the major barriers to developing networked information resources are not technological in nature. "The real barriers," he states, "are managerial or administrative in nature—the adequate training of library staff (and users), the evolution of jobs within the library, and the achievement of inter-organizational cooperation in the adoption of common data formats, technical standards, and resource sharing agreements."

Louella V. Wetherbee presents a very interesting study of 29 locally shared automated library systems and the impact their rise is having on the creation of a nationwide bibliographic database and on resource sharing. (Here, locally shared automated library systems are defined as those shared by two or more libraries within a state or interstate). Wetherbee cites an unmistakable trend towards greater decentralization of bibliographic database creation and maintenance activities. "The focus of database development and resource sharing," she concludes, "has shifted from a few very large organizations to hundreds of local systems and local library databases." While this trend affords local systems more autonomy and economic control, it no doubt also has the potential to erode the standards for cataloging quality fostered during the prominence of the large bibliographic utilities. Interestingly, Wetherbee's findings echo similar phenomena unfolding in the Internet environment—that of highly distributed computing, the decentralized sharing and exchange of data, and the new challenges for achieving quality control standards in the decentralized networked environment.

While the quality and relevance of the papers in this collection is generally high, two of the nine papers pose problems and would have benefited from greater editorial input. One reports on a study that was admittedly amiss in its methodology. The other, while otherwise a fine scholarly work on cooperative collection development, has little, if any, relevance to the impact of technology on resource sharing. Also, one monumental issue found to be lacking in-depth treatment in this collection is copyright of digital data in the networked environment and related implications for library resource sharing.

As with many of Haworth's journal issues redistributed as monographs, the question is whether the end product functions better as a book or in its original form as a thematic journal issue. Note that Haworth makes no noticeable attempt to add value to the work in its redistributed form, such as adding an index. In this case, the work stands more strongly as a collection of papers than as a monograph. Clearly, the editor's intentions are to expand the reader's view of the subject by offering a thematic collage of diverse reports and position and opinion papers. He succeeds, even though some of the work's coherence is sacrificed. But if that is not enough, just be sure to read Rush, Summerhill, and Wetherbee.

John T. Butler, Reference Librarian and Bibliographer, University of Minnesota—Twin Cities, Minneapolis, MN.

Mann, Thomas. *Library Research Models: A Guide to Classification, Cataloging and Computers.* New York, NY: Oxford University Press, 1993. 248 p. ISBN 0-19-508190-0.

This book has one unfortunate drawback, in that its subtitle does not do justice to its impressive contents. The subtitle may scare away readers who normally would not pick up a book described as a guide to cataloging and classification, but active librarians with interest in organizing and retrieving information stand to benefit from its lively discussions dedicated to understanding research processes and improving library skills.

Thomas Mann, a reference librarian at the Library of Congress, wrote this guide for professional librarians as well as serious researchers who use large research libraries with some frequency. Combining theory, vast research findings, and 15 years of practical reference experience in large libraries, Mann presents a thoroughly readable approach to various library research models both as mental concepts and as physical arrangements.

He discusses the advantages and disadvantages of the traditional library science model, type-of literature model, actual-practice model, principle of least effort and the computer model. What makes the descriptions particularly interesting is Mann's liberal use of real life experiences to illustrate how reliance on one model over another can easily lead a researcher to completely overlook the most relevant sources. Mann provides recommendations as well as analysis and encourages researchers and librarians to combine the research models he describes to achieve optimum coverage.

Librarians in large multi-disciplinary libraries have the most to gain from this book. Yet special librarians, reference librarians, library school faculty, and students in particular are wise not to overlook it. Although some readers may complain that portions are repetitive, Mann's propositions are important enough to bear repeating. Not everyone will agree with Mann's positions, but the reading is immensely practical, worthwhile, and enjoyable.

Lyn J. Warmath, Library Director at Hirschler, Fleischer, Weinberg, Cox & Allen, Attorneys at Law, Richmond, VA.

***on Internet '94.* Tony Abbott, ed. Westport, CT: Mecklermedia. 1994. 453p. ISBN 0-88736-929-4.**

This ambitious work is subtitled "An international guide to electronic journals, newsletters, texts, discussion lists, and other resources on the Internet." Its stated intent is to "help you locate and use Internet resources that are appropriate to your activities and needs," and with over 6,000 entries, this directory more than lives up to that billing.

Over half of the book is devoted to "discussion lists," either the ubiquitous listservs, or simple mailing lists that allow you to broadcast messages to registrants. The format of the entries is useful, clearly identifying how to subscribe, un-subscribe, and contribute to a list, and the differences between lists (a matter of significant confusion for newcomers to the Internet!). Each entry also includes names and phone and fax numbers of the editorial and/or technical contact persons, access/submission policies (if any), and notes whether or not the list is archived.

Other chapters of the book are devoted to Electronic Journals and Newsletters, Freenets, Campus Wide Information Systems (CWIS), and Usenet newsgroups. The entry formats for these are as useful and well thought out as the discussion list entries. Of special interest are the sections on such hard to find things as WAIS-accessible databases, electronic texts and text archives, and selected FTP sites. In addition, there are good descriptions of, and

specific instructions for getting (usually via anonymous ftp), copies of the many free Internet resource guides, such as the *Nysarnet New Users Guide, Surfing the Internet,* and the *Big Dummy's Guide to the Internet.*

One of the most interesting parts of this book is the chapter on Commercial Services on the Internet. While commercial use of the Internet has long been a discussion list flash point and the source of many "flame wars," it is here to stay, and knowing what and who is out there can be as important to our patrons and clients as the "free" stuff. The chapter includes descriptions and addresses for database vendors like BRS, DIALOG, Lexis/Nexis, and Dow Jones News Retrieval, as well as electronic shopping services, document delivery services, and an electronic book store. In many ways I find this to be the most interesting part of *on Internet '94* because it gives good, concrete examples of how businesses are making use of the Internet and indicates what type of companies are using the Internet to leverage an already successful product.

Compared to the third edition of ARL's *The Directory of Electronic Journals, Newsletters and Academic Discussion Lists*, published in April 1993, this work has more than three times the number of entries, provides more information per entry, and will be of use to newcomers as well as more experienced users. Unfortunately, the prefatory material is too brief and too uneven to be of much use to either. Despite this, *on Internet '94* is highly recommended for any library serving clientele who are exploring the Internet, for the first time or the hundredth.

Michael J. Perkins, Business Reference Librarian, San Diego State University, San Diego, CA.

Audit Report
January 1, 1993–December 31, 1993

To the Board of Directors
Special Libraries Association, Inc.
Washington, D.C.

We have audited the accompanying balance sheet of the Special Libraries Association, Inc. as of December 31, 1993, and the related statements of revenue and expense and of cash flows for the year then ended. These financial statements are the responsibility of the Association's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Special Libraries Association, Inc., at December 31, 1993, and the results of its operations and its cash flows for the year then ended in conformity with generally accepted accounting principles.

FEDDEMAN & CO., P.C.
Certified Public Accountants
March 31, 1994

Balance Sheet
SPECIAL LIBRARIES ASSOCIATION, INC.
December 31, 1993

	Total All Funds	General Fund	Total Board Designated Funds	General Reserve Fund
ASSETS				
CURRENT ASSETS				
Cash and cash equivalents - Note B	$1,611,355	$1,257,775	$ 299,024	$ 95,041
Accounts receivable	279,224	215,541	63,683	
Due (to) from other funds	-	(506,033)	609,874	46,711
Inventory	29,057		29,057	
Prepaid expense	72,123	72,123		
Total Current Assets	1,991,759	1,039,406	1,001,638	141,752
INVESTMENTS, at cost (market value of $2,633,627) - Note C	2,469,007	754,800	1,291,897	1,090,931
PROPERTY AND EQUIPMENT, at cost - Notes D and E				
Building and improvements	1,493,135	1,493,135		
Furniture and equipment	725,491	725,491		
	2,218,626	2,218,626		
Less accumulated depreciation	747,860	747,860		
	1,470,766	1,470,766		
OTHER ASSETS	5,648	5,648		
	$5,937,180	$3,270,620	$2,293,535	$1,232,683
LIABILITIES AND FUND BALANCES				
CURRENT LIABILITIES				
Accounts payable and accrued expenses - Note B	$ 284,552	$ 277,588	$ 6,964	
Deferred revenue	1,198,255	1,198,255		
Note payable, current portion - Note D	28,000	28,000		
Obligations under capital leases, current portion - Note E	17,987	17,987		
Total Current Liabilities	1,528,794	1,521,830	6,964	
NOTE PAYABLE, net of current portion - Note D	83,999	83,999		
OBLIGATIONS UNDER CAPITAL LEASES, net of current portion - Note E	15,534	15,534		
	1,628,327	1,621,363	6,964	
FUND BALANCE (DEFICIT)	4,308,853	1,649,257	2,286,571	$1,232,683
COMMITMENTS - NOTE G				
	$5,937,180	$3,270,620	$2,293,535	$1,232,683

Board Designated					Restricted		
Computer Fund	Non-Serial Publication Fund	Stephen I. Goldspiel Memorial Fund	Special Programs Fund	Building Reserve Fund	Total Restricted Funds	Coplen Fund	Scholarship Fund
$ 44,187	$ 349	$ 23,755	$ 83,609	$ 52,083	$ 54,556	$19,010	$ 35,546
	63,683						
203,222	(100,509)	143,016	(11,217)	328,651	(103,841)	1,314	(105,155)
	29,057						
247,409	(7,420)	166,771	72,392	380,734	(49,285)	20,324	(69,609)
			99,236	101,730	422,310	9,245	413,065
$247,409	$(7,420)	$166,771	$171,628	$482,464	$ 373,025	$29,569	$343,456
	$ 6,964						
	6,964						
$247,409	(14,384)	$166,771	$171,628	$482,464	$ 373,025	$29,569	$343,456
$247,409	$(7,420)	$166,771	$171,628	$482,464	$ 373,025	$29,569	$343,456

See notes to financial statements.

Statement of Revenue & Expense & Changes in Fund Balance
SPECIAL LIBRARIES ASSOCIATION, INC.
Year Ended December 31, 1993

	Total All Funds	General Fund	Total Board Designated Funds	General Reserve Fund
REVENUE				
Programs:				
Membership growth & development	$ 558,577	$ 558,577		
Serial publications	513,029	513,029		
Conference	1,417,922	1,417,922		
Professional development	320,388	320,388		
Career and employment	9,028	9,028		
Public affairs	13,693	13,693		
Marketing	191,775	191,775		
	3,024,412	3,024,412		
Interest and dividends	154,234	64,321	$ 60,545	$ 41,770
Gains on sale of investments	63,343		59,395	59,330
Non-serial publications sales and royalties	220,182		220,182	
Contributions	98,420		95,085	
Property	36,633	36,633		
Miscellaneous	65,600	12,898	52,702	
	3,662,824	3,138,264	487,909	101,100
EXPENSE				
Programs:				
Membership growth and development	257,201	257,201		
Serial publications	516,384	516,384		
Conference	545,971	545,971		
Professional development	329,476	329,476		
Career and employment services	23,197	23,197		
Public affairs	436,382	436,382		
Marketing	148,115	148,115		
Leadership services	453,945	453,945		
Research	109,454	109,454		
Information resources	116,361	116,361		
	2,936,486	2,936,486		
General operations	318,642	65,095	247,868	8,193
Cost of non-serial publications sales	10,699		10,699	
Scholarship and grants	27,000		3,000	
Leadership address	838			
	3,293,665	3,001,581	261,567	8,193
EXCESS (DEFICIENCY) OF REVENUE OVER EXPENSE	369,159	136,683	226,342	92,907
Fund balance (deficit), January 1, 1993	3,939,694	1,643,119	1,929,684	1,134,776
Fund transfers	–	(130,545)	130,545	5,000
FUND BALANCE (DEFICIT), DECEMBER 31, 1993	$4,308,853	$1,649,257	$2,286,571	$1,232,683

Board Designated					Restricted		
Computer Fund	Non-Serial Publication Fund	Stephen I. Goldspiel Memorial Fund	Special Programs Fund	Building Reserve Fund	Total Restricted Funds	Coplen Fund	Scholarship Fund
$1,347	$ 10	$ 663	$ 8,467	$ 8,288	$ 29,368		$ 29,368
				65	3,948	$ 894	3,054
	220,182						
300		94,760	25		3,335	300	3,035
24,800	27,902						
26,447	248,094	95,423	8,492	8,353	36,651	1,194	35,457
21,073	204,791	150	1,972	11,689	5,679	150	5,529
	10,699						
		3,000			24,000		24,000
					838	838	
21,073	215,490	3,150	1,972	11,689	30,517	988	29,529
5,374	32,604	92,273	6,520	(3,336)	6,134	206	5,928
211,076	(46,988)	39,912	165,108	425,800	366,891	29,363	337,528
30,959	–	34,586	–	60,000	–	–	–
$247,409	$(14,384)	$166,771	$171,628	$482,464	$373,025	$29,569	$343,456

See notes to financial statements.

Statement of Cash Flows
SPECIAL LIBRARIES ASSOCIATION, INC.
Year Ended December 31, 1993

	Total All Funds	General Fund	Total Board Designated Funds	General Reserve Fund
CASH FLOWS FROM OPERATING ACTIVITIES				
Excess (deficiency) of revenue over expense	$ 369,159	$ 136,683	$ 226,342	$ 92,907
Adjustments to reconcile excess (deficiency) of revenue over expense to net cash provided by operating activities:				
Depreciation	110,757	110,757		
Gains on sale of investments	(63,343)		(59,395)	(59,330)
Fund transfers	–	(130,545)	130,545	5,000
Changes in assets and liabilities:				
Accounts receivable	(31,559)	(13,705)	(17,854)	
Due (to) from other funds	–	242,337	(268,169)	149
Inventory	53,213		53,213	
Prepaid expense	35,427	35,427		
Other assets	1,512	1,512		
Accounts payable and accrued expenses	(45,460)	(38,088)	(7,372)	
Deferred revenue	287,330	287,330		
Total Adjustments	347,877	495,025	(169,032)	(54,181)
Net Cash Provided by Operating Activities	717,036	631,708	57,310	38,726
CASH FLOWS FROM INVESTING ACTIVITIES				
Purchases of property and equipment	(5,442)	(5,442)		
Purchases of investments, net	(245,164)	(54,520)	(140,727)	(140,249)
Net Cash Used in Investing Activities	(250,606)	(59,962)	(140,727)	(140,249)
CASH FLOWS FROM FINANCING ACTIVITIES				
Principal payments on note payable	(25,680)	(25,680)		
Principal payments on obligations under capital leases	(17,562)	(17,562)		
Net Cash Used in Financing Activities	(43,242)	(43,242)	–	–
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	423,188	528,504	(83,417)	(101,523)
Cash and cash equivalents, January 1, 1993	1,188,167	729,271	382,441	196,564
CASH AND CASH EQUIVALENTS, DECEMBER 31, 1993	$1,611,355	$1,257,775	$ 299,024	$ 95,041
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION				
Cash paid during the year for interest	$ 15,029	$ 15,029		
Cash paid during the year for income taxes	$ 10,500	$ 10,500		

Board Designated					Restricted		
Computer Fund	Non-Serial Publication Fund	Stephen I. Goldspiel Memorial Fund	Special Programs Fund	Building Reserve Fund	Total Restricted Funds	Coplen Fund	Scholarship Fund
$ 5,374	$ 32,604	$ 92,273	$ 6,520	$(3,336)	$ 6,134	$ 206	$ 5,928
				(65)	(3,948)	(894)	(3,054)
30,959		34,586		60,000			
	(17,854)						
(35,050)	(60,580)	(126,195)	1,883	(48,376)	25,832	688	25,144
	53,213						
	7,372						
(4,091)	(32,593)	(91,609)	1,883	11,559	21,884	(206)	22,090
1,283	11	664	8,403	8,223	28,018	–	28,018
			(543)	65	(49,917)	(2,752)	(47,165)
–	–	–	(543)	65	(49,917)	(2,752)	(47,165)
–	–	–	–	–	–	–	–
1,283	11	664	7,860	8,288	(21,899)	(2,752)	(19,147)
42,904	338	23,091	75,749	43,795	76,455	21,762	54,693
$ 44,187	$ 349	$ 23,755	$83,609	$ 52,083	$ 54,556	$19,010	$ 35,546

Special Libraries Association, Inc. Notes to Financial Statement December 31, 1993

1. Summary of Significant Accounting Policies

Organization

The Special Libraries Association, Inc. is a nonprofit membership organization whose purposes are to promote the association of individuals and organizations having a professional, scientific, or technical interest in library and information science; and to promote and improve the communication, dissemination, and use of such information and knowledge for the benefit of libraries or other educational organizations.

Chapters and divisions of the Association have been established based on geographical areas and areas of interest actively represented by the members, respectively. The activities of the chapters and divisions are not reflected in the financial statements of the Association.

Basis of Accounting

The Association prepares its financial statements on the accrual basis of accounting. Consequently, revenue is recognized when earned and expense when the obligation is incurred.

Cash and Cash Equivalents

For financial statement purposes, the Association considers all liquid asset and money market accounts to be cash equivalents. Mutual funds and priced investments managed by Merrill Lynch are not considered to be cash equivalents.

Inventory

Inventory consists of non-serial publications held for resale and is carried at the lower of cost (first-in, first-out method) or market. Publications which are printed by the Association for free distribution are expensed at the time of publication.

Property and Equipment

Property and equipment is depreciated using the straight line method over the following estimated useful lives of the assets:

Building and improvements	10 - 30 years
Furniture and equipment	5 - 10 years

Deferred Revenue

Deferred revenue consists primarily of the portion of dues and subscriptions revenue received for periods subsequent to year end, as well as conference and exhibit revenue received in advance of the events.

Income Taxes

The Association is exempt from income taxes on its exempt activities under Section 501(c)(3) of the Internal Revenue Code. The Association is subject to income tax on its unrelated business income.

Fund Accounting

In order to ensure the observance of limitations and restrictions placed on the use of resources available to the Association, its accounts are maintained in accordance with the principles of fund accounting. Resources for various purposes are classified for accounting and reporting purposes into funds established according to their nature and purposes.

- General funds are those funds presently available for use by the Association at its discretion.
- Board designated funds are those funds

set aside for specific purposes by the Board of Directors.
- Restricted funds are expendable only for purposes specified by the donors.

Fund transfers have been approved by the Board of Directors and reflect the desired allocation of Association resources. The transfers relate primarily to Board directed transfers between funds totalling approximately $110,000, and transfers from the general fund to the computer fund for costs associated with the loan on the computer system, totalling approximately $16,000.

Allocation of Costs

The Association allocates substantially all of the General Fund's general operations expenses to the various programs of the Organization. The allocations are based on estimates of actual resources used in operating each program.

2. Cash Received on Behalf of Others

Cash and cash equivalents of the General Fund includes amounts received on behalf of the chapters and divisions of the Association, totalling $110,913. Such amounts are to be forwarded to the chapters and divisions on a current basis and thus, are included in accounts payable and accrued expenses in the accompanying financial statements.

3. Investments

Investments consist of the following as of December 31, 1993:

	Total All Funds	
	Cost	Market
MetLife State Street Fixed Gov't Income Fund	$ 683,622	$ 702,323
Common stocks	857,475	956,755
U.S. Gov't and Gov't Agency Securities	760,639	804,948
Corporate Bonds	167,271	169,601
	$2,469,007	$2,633,627

4. Note Payable

The Association signed a promissory note in connection with the acquisition of a new computer system. The promissory note matures November 1, 1997 and calls for monthly principal payments of $2,333 plus interest. The note bears interest at the bank's prime rate plus 0.75% and is secured by the computer hardware and software.

Maturities of the note payable are as follows for the years ending December 31:

1994	$ 28,000
1995	28,000
1996	28,000
1997	27,999
	111,999

5. Obligations Under Capital Leases

The Association has entered into capital leases for the use of certain office equipment. The cost and accumulated depreciation on such equipment are as follows as of December 31, 1993:

Office equipment	$70,754
Less accumulated depreciation	24,608
	$46,146

Future minimum lease payments under these capital leases together with the present value of the net minimum lease payments as of December 31, 1993 are as follows:

Year Ending December 31	Amount
1994	$21,666
1995	9,744
1996	8,120
	$39,530

Less amount representing interest assuming an approximate implicit effective rate of 16%	(6,009)
Present value of net minimum lease payments	$33,521

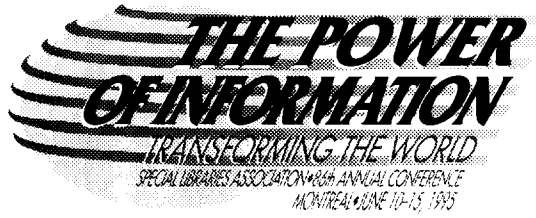
6. Retirement Plan

The Association maintains a contributory defined contribution retirement plan which is available to all employees when certain age and length of service requirements are met. Under the plan, the Association and the participants make monthly contributions based on a percentage of participants' salaries. The Association's retirement expense for the year ended December 31, 1993 totalled $51,160.

7. Hotel Commitments

The Association has entered into several agreements with hotels for room accommodations for its conferences and meetings through 1997. These agreements indicate that the Association would be liable for certain cancellation fees and liquidated damages in the event of cancellation.

Call for 1995 Conference Papers



The Power of Information: Transforming the World

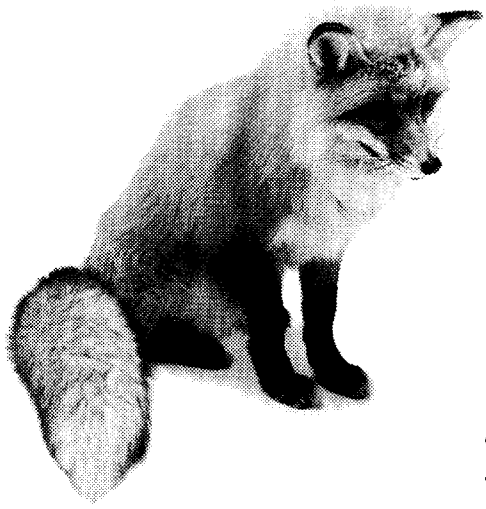
The theme for the 1995 SLA Conference challenges us to explore information's power to change us and the world we live in. Information is available to more people in more places than ever before. The speed at which information can be delivered and exchanged is unprecedented. Empowered information professionals are becoming movers and shakers in this exciting transformation. They are recognized as experts who employ advanced technology to bring information to a global constituency. The theme embodies the following key concepts:

- information management;
- information delivery and impact;
- technological advancements;
- empowerment of professionals; and
- new roles for librarians.

You are invited to submit papers addressing the theme, *The Power of Information*, for the 1995 Montreal Annual Conference. 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 presentations will be referred to the appropriate Divisions.

Guidelines

- **Abstract**—A 250-500 word summary, accurately conveying the subject of the paper, its scope, conclusions, and relevance to the conference theme, must be submitted by September 25, 1994. The text should be transmitted by e-mail to maclean@lib1.lan.mcgill.ca. If this is not possible, print copy or ASCII file on 5.25 inch disk should be sent to Eleanor MacLean, 6980 Cote St. Luc Rd. #211, Montreal, PQ, Canada H3A 1Y1.
- **Text**—The complete text of the paper is due at the Association office by April 1, 1995.
- **Length**— Paper presentation should take no longer than 20 minutes.
- **Acceptance**—Papers will be accepted only if the abstract has been submitted and evaluated, the author is a member of SLA, and the author intends to present the paper at the Annual Conference.



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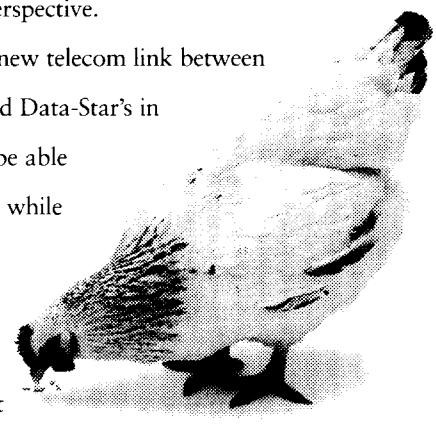

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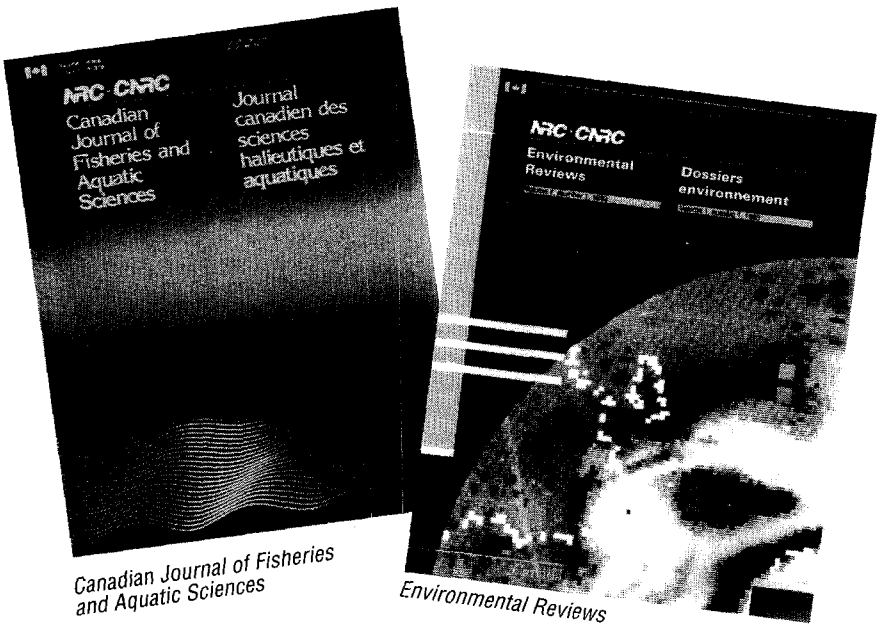

Canadian Journal of Fisheries and Aquatic Sciences

Environmental Reviews

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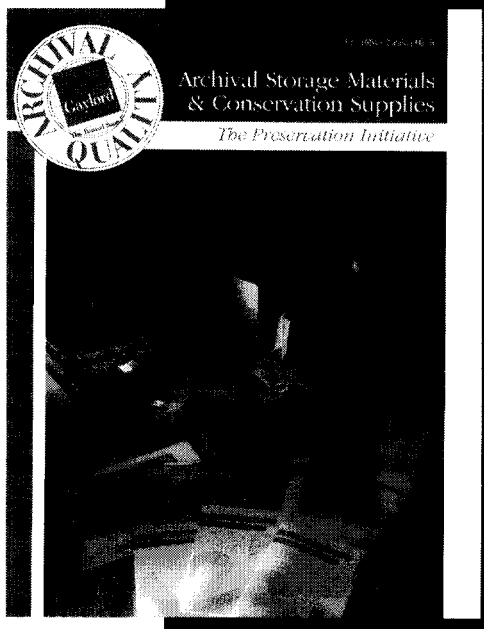

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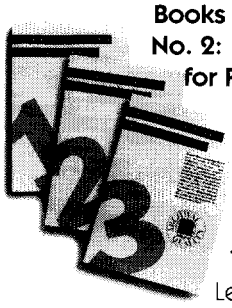

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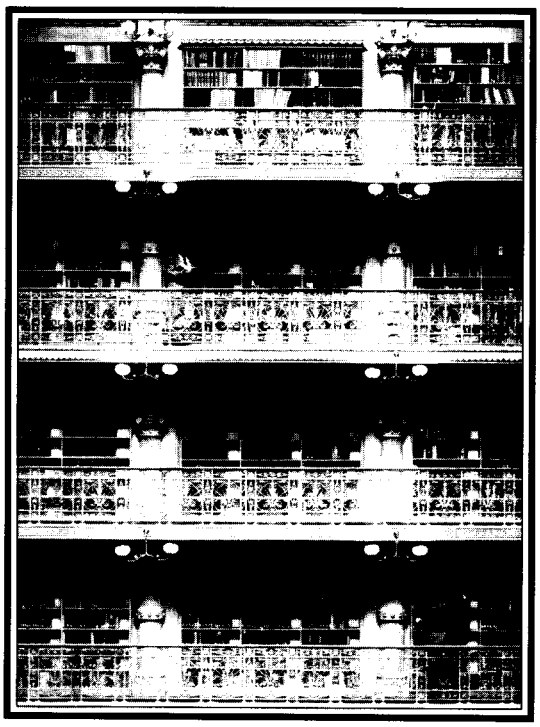

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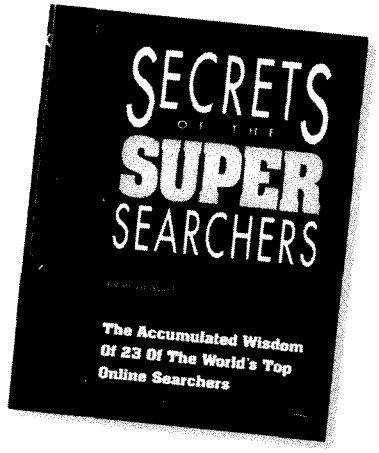

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