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ABSTRACT

Based on the conference theme, "Competencies for Librarians," papers presented at the 1985 meeting of the association include: (1) "Planning a Library-Based Public Access Microcomputer Facility" (Suzanne Kehm); (2) "Processing and Circulating Microcomputer Software in the Academic Library: A Sharing Session" (Jan Brumm and Carole Schmidt); (3) "Periodical Current Awareness Services for Faculty: A Comparison of In-House and Commercially-Produced Services" (Carol A. Singer); (4) "How to Sell Your Library: A Salesperson's Approach to Promoting Library Services" (Janet C. Lu); (5) "Bibliotherapy; What the Academic Librarian Might Need to Know" (Anita Norman); (6) "An Introduction to Computer Concepts: Basic Competencies for Librarians Who Use Desktop Computers" (Melvin M. Bohn); (7) "Competencies for Librarians in an Automated Environment: The Union College Experience" (Sue Job and Larry Onsager); (8) "The Reference/Interloan Center at Kearney: Making the Academic-Public-School Connection in Central Nebraska" (Valerie I. Krzywkowski); (9) "Towards a Definitive Listing of World War I Posters" (Gerald A. Rudolph); (10) "Records Management and the Relational Database" (Louis Laudermilk); (11) "Small Databases in the Library: The Programmer's Perspective versus the Librarian's Perspective" (Stanford Mark Olson); (12) "What Do They Want From Us: Changes in Job Ads in Recent Years" (Joseph A. Starratt, Robert P. Nash, and Thomas A. Tollman); and (13) "An Examination of Comparable Worth" (Carol Walton and Jill Ellis). (THC)

1985 SPRING MEETING

PROCEEDINGS

NEBRASKA LIBRARY ASSOCIATION

COLLEGE AND UNIVERSITY SECTION

METROPOLITAN TECHNICAL COMMUNITY COLLEGE
SOUTH CAMPUS

OMAHA, NE

APRIL 26, 1985

"COMPETENCIES FOR LIBRARIANS"

PROCEEDINGS

From The

1985 SPRING MEETING

Of The

NEBRASKA LIBRARY ASSOCIATION

COLLEGE AND UNIVERSITY SECTION

Held At

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SOUTH CAMPUS

OMAHA, NE

APRIL 26, 1985

Valerie I. Krzywkowski
EDITOR

INTRODUCTION

The theme of the 1985 Spring Meeting of the Nebraska Library Association's College and University Section, "Competencies for Librarians," is particularly relevant in an era when society is demanding that educators prove themselves to be competent at the task of education. What does the academic librarian need to know or do to become competent in the diverse field of academic librarianship? Nearly half of the paper presenters discussed the ability to use computers in the work environment as a necessary competency for academic librarians. These presenters covered various aspects of computers, including basic computer concepts, processing and circulating computer software, microcomputer databases, public access microcomputer facilities, and records management.

Several papers deal with other topics that academic librarians can learn about to become competent in their field, including bibliotherapy, promoting academic library services, periodical current awareness services, and World War I posters. Requirements needed to obtain a job in academic librarianship and compensation for academic librarians are discussed in papers dealing with job ad and comparable worth. Sharing the competencies of an academic librarian with public and school librarians is addressed in a paper dealing with a reference/interloan center.

The theme of this spring meeting illicited a variety of interesting and informative papers. The Executive Board of the College and University Section extends gratitude and thanks to the paper presenters and to Metropolitan Technical Community College for their contributions to a successful Spring Meeting.

Valerie I. Krzywkowski, Secretary
Nebraska Library Association
College and University Section

October, 1985

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PLANNING A LIBRARY-BASED PUBLIC ACCESS MICROCOMPUTER FACILITY

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ABSTRACT

Given the growth of the microcomputer industry and the demands of users, it is clear that many libraries will install public access microcomputers. In order to move smoothly into this relatively new program area, the librarian must adapt existing management mechanisms for the specific requirements of this new information format. At the McGoogan Library of Medicine, the technical services issues for microcomputer software have been identified, but procedures for technical services have not yet been implemented. On the public services side, however, installing a microcomputer cluster in the Library's Learning Resources Center has led us quickly from planning to implementation. This paper describes certain critical issues which should be considered as librarians develop public access microcomputer services. Its intent is to provide a planning structure which can be used in other libraries. The planning structure includes the following areas:

a) Material Management, including security, maintenance, and circulation for software and hardware
b) Support Services, including staff and user training and consultation
c) Collection Development, including identification of sources and selection criteria for programs
d) Organizational Cooperation, which refers to involving both librarian and non-librarian members of the organization in the planning process

By choosing an appropriate mix of service levels between each area, a library-based microcomputer program can be tailored to the specific needs of the library's constituency.

Public access microcomputing is becoming an important new program area for libraries. Recently, Library Journal reported on a microcomputing survey of 50

academic and 50 public libraries; public access microcomputing is available in some form in 29 of the 50 academic libraries surveyed. As librarians move into the relatively new program area, they must adapt traditional information management practices to the unique requirements of microcomputer users. In planning public services, it may be useful to develop goals and objectives in four different areas: materials management, support services, collection development, and cooperative programs. As these areas are discussed, some overlap will be apparent, nevertheless, the distinctions between the catagories will, I hope, help to clarify program efforts, priorities, and other planning concerns.

MATERIALS MANAGEMENT

Location

One of the first concerns in developing public access microcomputer services is choosing an appropriate location. According to available literature, many libraries, perhaps of necessity, simply place microcomputers wherever they will fit. The "best fit" method of facilities design is usually not best in the long run, especially for academic libraries. The following table may present some rationale for

making decisions about location:

Spaces for Micros

Open	Closed
Advantages:	
easy to spot user problems	allows privacy to learn without "backseat drivers"
easy to spot equipment abuse or malfunction	allows for enhanced concentration
allows monitor to keep track of many machines and users simultaneously	can provide better noise control
users are encouraged to help one another	sensitive data will be kept confidential

Some other tips on physical facillities:

1. Place a trash can by each work station...the "paperless society" is being midwifed by an entire forest of trees.
2. Think about location of telephone lines; you may want to teach or demonstrate on-line searching later.
3. The same window that provides the perfect distraction for long hours at the computer may put a glare on your monitor which even the most determined person may not be able to see through. The answer is not to move the computer, but to install room--

darkening window coverings.

Security

Although this library has not been able to identify a single, all-purpose software-locking program which would prevent patrons from pirating software, we do discourage copying. There are signs which explain copyright laws, and the staff is careful to discourage copying. It is also important to realize that an organization could be held responsible for copyright infringements of its individuals. Each organization should develop an official policy which describes their own adherence to copyright laws.

Some libraries have reported that software circulation security can be accomplished by asking patrons to leave a photo I.D. at the circulation desk. However, if the library has an adequate circulation policy, with appropriate controls, such a practice is probably unnecessary. It may be the result of some "mystique" about the new format, rather that a practical solution to security.

Another procedure which has been reported in the early stages of many libraries' public-access micro programs is the practice of checking each disk for damage as it is returned. Unless a specific complaint is made, it is difficult to squeeze out enoungh staff

time or enough microcomputing time to make such a practice practical.

Hardware security is more straightforward than software security. It is usually accomplished through the use of mechanical devises such as key locks (which can be installed for turning the computers on), or hard plastic casings and tie-downs which are bolted to the computer table. Simple custom-made devices are also alternatives. Most of the insides of microcomputers can be removed from the hard plastic housings, allowing placement of long screws which can be driven through the computer stand and bolted underneath. In altering the case, however, be careful not to tighten screws and bolts enough to bow the plasic; forcing the micro boards into a warped case could damage them. In addition, certain manufacturers may have restrictions on their warrentees which would make any alteration of the product grounds for withdrawing their guarantees.

Reference Services

Just as with traditional collection materials, libraries should be prepared to offer some level of reference service in support of microcomputing. An excellent basis for such a service is a librarian who keeps abreast of new developments by reading computer journals and working to develop microcomputing skills.

The library must also be prepared to develop a simple reference collection. Some possible inclusions are programming guides, software documentation, hardware documentation, samples of program uses, microcomputing journals, dictionaries, of course, and, as they become available, microcomputing indexes for hardware, software, and literature.

Other Considerations

If software is circulated outside the library, the diskettes should be placed in plastic to protect them from moisture and dust. Zip-locking bags are a simple solution.

If the volume of circulation will be extremely high, a single hard disk can be configured to feed software programs to many microcomputers. However, this routing process is, as yet, technically imperfect. In the future, however, a hard disk router may offer many advantages. Software is rather fragile, and when handled by the public, it is frequently damaged. A hard drive would eliminate in-house handling of diskettes. Since it can be "tailor-programmed," to walk the users through the sign-on and simple procedures, it may reduce the amount of support users will need to use the programs.

Since software and hardware will undoubtedly

need a great deal of maintenance during the initial stages of use, it is essential to identify a procedure for getting both repaired quickly.

Many software companies are beginning to offer special "instituitional use" copies of their software. These copies are more expensive, but are required if the programs are not intended for a single user.

Microcomputing supplies can be expensive. If you will provide a letter-quality printer, a good grade of paper should be available. Inexpensive papers are usually fine for less expensive dot-matrix printers. Most computer paper is available in small packages, so users may be required to bring their own. Ribbons are also quite expensive, and present special problems. Many letter quality printers and some dot-matrix printers can be damaged if ribbon cartridges are forced into place. Some support should be available if users are expected to provide their own ribbons.

SUPPORT SERVICES

There are many good arguments for providing microcomputing support services in academic libraries. Such services can help the library to become more involved in educational processes, and in doing so, can position for future roles as teachers of information

management systems. Microcomputers are a valuable tool for inforamtion managers. One good way to begin to take advantage of these tools is to try to provide support for users. Through dedication to user needs, skills and knowledge of the librarian will increase. Finally, the library which chooses to provide only circulation services appears to lack leadership and professionalism in this important new area. On the practical side, it must be recognized that, without adequate support, microcomputing programs themselves can be viewed negatively by frustrated users.

Staff Training

In order to help users, staff members must be adequately trained. In the relatively new areana of microcomputers, practically no individual will be conversant with most programs. This is an area where managers and staff members must learn side by side. Many excellent tutorial programs are available which can assist one in learning programs. Dispite its horrible reputation, even software documentation is becoming more organized, readable, understandable, and helpful. However, this is one task which absolutely must be learned through experience.

One of the best ways to accomplish training is to provide many opportunities for staff members to

learn. This learning should be "problem-oriented." That is, regardless of the best intentions, simply reading the program documentation and learning that, indeed, the screen does display a specific figure when button "A" is pressed does not amount to learning the software. Instead, projects which could be accomplished with microcomputers must be outlined. Problem orientation provides the motivation for digging in and truely learning what the computer can do. Some simple projects may include creating a mailing list and form letter with a word processing program, a breakdown of circulation statistics with a spreadsheet, or compiling a database of a special collection with a database management program. Of course, the best approach is to create an atmosphere where librarians are motivated and confident enough to develop their own special projects. But, whether tasks are self-developed or assigned, there is simply no substitute for having to actually use the programs and equipment.

User Training

User training can occur in either an individual or group format. Individual training can be seen as "consultation," and group training as "education."

Individual training happens at the microcomputing

site, and very often is in the form of trouble-shooting. In order to offer appropriate services, the staff should be familiar with the programs and should have acquired some measure of confidence. Generally speaking, at the point when consultants are no longer afraid to make mistakes and to admit them, they are ready to work with users. The prospect of passing oneself off as an "expert" is daunting to even the most confident...it is also not necessary. Most user problems result from being frustrated and confused with the computer. These patrons need an expert less than they need someone who is willing to demonstrate concern and help them to discover answers. Once again, it is important to provide good reference materials.

Finally, there will always be times when, dispite best efforts, the librarian will be unable to solve a computing problem. In these cases, the librarian must have a good back-up. There are many sources which can be tapped. Most academic organization include some "computer whizzes," who, for one reason or another have taken an interest in micros and know much about how they work. Computing services and computer stores may provide answers, and even the local high school could be a source of support. Forming personal contacts will help get quick resolution to problems. The point is that devoting time and attention to developing

a support system can be very worthwhile when one takes supporting users seriously.

Group Classes

Two areas of microcomputing are particularly good starting points for classes: Introduction to Microcomputing and Word Processing. These two areas can be combined in a single short workshop. Word processing will be an big hit in an academic environment. Almost everyone has a definite and immediate need for it, word processing programs are generally easy to learn and use, particularly since the idea is somewhat familiar, and they force the user to learn a little about how the computer itself works. The combination of these things builds confidence and enthusiasm among users, and builds support for the library's microcomputing program.

Perhaps the most important result of the group class is that they could set the stage for future information management classes; classes which could be critical for tomorrow's learner, and tomorrow's library.

COLLECTION DEVELOPMENT

Establishing collections of microcomputer software

can be very difficult. No comprehensive bibliographies have been published, subject access is non-existent, and no selection criteria are available to assist in the collection development process.

Two catagories of software are available for collection; content software, and applications software. Content software is dedicated to a single concept or subject. It allows the user to accomplish a single goal. Examples of content software are diskettes which offer drill and practice in medical terminology, or a means to keep track of library acquisition list, or teach CPR. These programs are roughly analagous to a slide-tape program, or a form meant for one specific task. Applications software, on the other hand, is a tool which can be applied to a variety of information management problems; managing any type of file, preparing inventories or statistics, producing mail merges, preparing budgets, etc. Applications programs are general tools, which offer a means for accomplishing a specific goal.

There are many unresolved issues regarding collections of content-oriented software in academic environments. Since no review mechanism is available, accuracy and relevance to educational objectives can be less than optimal. But most important, these programs may be of value to a very limited audience.

The characteristics of applications software are that they can be used by a variety of users for a variety of purposes. If the library chooses a very small core collection of applications software, it can be easily mastered so that staff support for users is possible. In addition, it is likely that many people will be familiar with some of these programs, and as such, can offer some assistance in learning and teaching.

Suggestions for an academic core collection include:

1. A word processing program
2. A spread sheet
3. A graphics program (which will require either a plotter or dot matrix printer)
4. A statistics package
5. A database management program
6. A program for developing computer-assisted-instruction

Try to purchase several copies of the word processing program, since undoubtedly, it will receive a great deal of use.

COOPERATVE PROGRAMS

Cooperative programs refers to involving non-librarian members of an organization in microcomputing activities.

If a library-based microcomputing program is to be successful, it must be based on support from the organization, and particularly, people from the higher levels of the organization. A planning process that involves an entire organization results in a project in which the entire organization is invested. Cooperative microcomputing committees are helpful in accomplishing some of the special objectives which make library programs successful. For example, committees can distribute and analyze surveys, review software and set up core collections, establish software support networks, help with fund raising etc.

Some methods, offshoots, and ideas for initiating interest and working with microcomputing groups include:

1. Arrange personal visits to assess interest and concerns about microcomputing.
2. Establish users groups to share ideas, solve problems, and address issues. Users groups can serve as consultants to more formal planning committees.
3. Route pertinent information to key individuals; advertisements, articles, and new product announcements are examples. This practice keeps people focused on your objectives, and establishes the library's interest in the field.

4. Schedule information fairs, vendor or user demonstrations, etc. In addition to being lots of fun, such events can generate much enthusiam and interest in microcomputing. They also give people inside and outside the organization an excellent opportunity to "show off" some of the things they have been able to accomplish with their microcomputers.

PROCESSING AND CIRCULATING MICROCOMPUTER SOFTWARE IN THE ACADEMIC LIBRARY: A SHARING SESSION

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ABSTRACT

U. S. Conn Library at Wayne State College selects, acquires, and catalogs microcomputer software as part of its collection. Considerations in handling software are relatively new and as yet without clearcut answers. This paper discusses Conn Library procedures for processing and circulating software once it has been acquired. Issues such as packaging, labeling, backup copies, replacements, security taping, and length of circulation period are discussed.

The 1984 Bowker National Library Microcomputer Usage Study tells us that 46% of academic libraries provide public access to microcomputers and 44% of academic libraries lend software for on-site use. John Berry in a recent Library Journal editorial concludes:

> "A clear trend toward providing public access to microcomputers in libraries is emerging, and with it will come pressure for larger and more varied software collections."
>
> "Public use of microcomputers will become a 'normal' part of libary service much like the use of any tool to retrieve, manipulate, and organize needed information."[1]

1. John Berry, "Library Use of Microcomputers: Massive & Growing," pp. 48-49.

We have come to the same conclusion in Conn Library at Wayne State College. The question is no longer whether or not to provide software but how.

At Wayne State we first visited with faculty in October, 1982 about a software collection in the library. Faculty requests and interest have grown to the point, for example, where this year the Business Division opted to spend their entire library nonprint budget for software rather than the usual items such as filmstrips, audio or video cassettes, or transparencies.

In preparation for collecting microcomputer software we added a statement to our collection development policy. In it we stated our intention to collect software and included software in our definition of library materials. We standardized collecting format on Apple since at present that is the majority of microcomputer hardware on campus. We decided to collect both college-level and representative K-12 materials. The K-12 materials are collected because Wayne State has a large teacher education program, and students in this program preview and evaluate sample K-12 materials.

Our guiding philosophy in working out procedures for handling and processing was to treat software in the same manner we treated other nonprint materials such as slides, filmstrips, sound recordings, or models. Some refinement of that philosophy has been necessary. Originally we shelved software on the open shelves along with our other nonprint materials. However, after losing

several disks, we retreated and now shelve items on reserve at the Circulation Desk.

In cataloging microcomputer software we use the same procedures as other nonprint materials: 1) Nonprint call numbers begin with medium designators; 2) Nonprint must be in a container which can be placed on the shelf; 3) Physical description on catalog card specifies everything in the container; 4) Each container has a pocket which lists each item in the container. We have made some adaptations for microcomputer software which we don't use for other nonprint materials. We make an added entry for machine (Apple II) in the card catalog. The call number begins with COMPUTER DATAFILE not machine-readable data file. We try each program to be sure it works and inspect everything which accompanies the microcomputer software. Before processing, everything that is not part of the program, documentation, or used with the program (i.e. registration cards, backup copy, catalogs, etc.) are removed.

All processing for the shelf is done by a full time library assistant. This assures the consistent and careful handling needed by microcomputer software. Each title must be in a container which can stand on the shelf. We use the original container, if possible. If the original container is not sturdy enough we place the disks in a 3-ring software envelope which can be found in library supply catalogs or computer supply catalogs. We have just begun using media notebooks with a documentaiton pocket which we obtained from Inmac. Each item in the container is labeled with a call number. The disk

has the call number written on the label in black ink. Bright green labels which read "Hand item AROUND exit gate. DO NOT DESENSITIZE. Disk will erase." are placed on the outside of the container to remind circulation students not to desnsitize. The disk itself is marked "Wayne State College" with an electric stylus and white transfer paper. This must be done very carefully so as not to damage the disk but it is a precaution against someone taking the disk for their own use. A magic marker can also be used for this purpose but it doesn't show up quite as dramatically. The containers and/or manuals are security taped. When processing is completed all microcomputer software goes to Carole Schmidt, Instructional Resources Librarian in charge of the nonprint collection, to make backup copies.

Making backup copies is kept as simple as possible. Copyright law allows one archival copy, and we feel that the library should provide leadership to the rest of the community in strictly adhering to this law. A variety of situations exists for making backups: 1) Some companies include backup disks; 2) Some will send a backup for an additional fee; 3) Some will allow you to make one copy only; 4) Some will allow you to copy as much as you wish; and 5) Some will make it as difficult as possible to copy. We make use of each of the first four situations but do not go to extraordinary lengths to make an archival copy to get around the fifth situation. Consequently, there are a few programs for which we do not have backups. This is a concern because of good service, and we urge publishers to make backups easily available.

On several occasions we have had to replace disks. In terms of time and money we have found it more efficient to go directly to the publisher than through the vendor, even though we purchase most of our software through a local vendor. As some of the novelty of the library owning software wears off and users become more familiar with the format, replacement is now less than it was in the beginning of the program even though we have more items and greater use.

Microcomputer software circulates from the reserve collection. The circulation period is one (1) week with the exception of a couple of high demand titles. A list of all software is maintained and is available at the circulation desk.

As we said at the beginning, we don't have answers to all the problems in dealing with microcomputer software in an academic library. Some of the things we will have to deal with in the near future are: 1) The size of the microcomputer software collection as part of our reserve system; 2) The added entry for machine may become unwieldy in the card catalog; 3) The length of time a disk may be used in a library situation before problems develop with the program. We would like to encourage a dialogue among libraries concerning microcomputer software.

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PERIODICAL CURRENT AWARENESS SERVICES FOR FACULTY: A COMPARISON OF IN-HOUSE AND COMMERCIALLY-PRODUCED SERVICES

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ABSTRACT

A comparison of in-house and commercially-produced services was done to determine the most efficient and effective method of providing a service that would alert faculty to articles in current, library-owned periodicals that would be of interest to them. The services were evaluated in terms of cost, coverage of the library's collection, currency, and degree to which the service could be personalized.

A recurrent problem of scholars is that of remaining cognizant of the current research in the field. A great deal of that research is published in professional journals. Although university libraries attempt to subscribe to the most important journals in each of the fields which are taught at the university, this does not alleviate

the difficulty that the individual researcher encounters in the struggle to remain current.

A partial solution to this problem would be for each scholar to receive a list of the articles contained in the most important journals in his/her field at the same time that the journal is published. There are several methods for attaining this goal. Commercially-published current awareness services exist for some of the subjects that a university might teach. Another possibility would be for the university library to publish its own version of these services and send a copy to each interested faculty member. An alternative would be for the university library to photocopy the table of contents of each periodical and send it to the interested faculty members.

Before committing the necessary funds and personnel, it was necessary to determine the best method of carrying out this project. The first step was to plan each type of service and then to compare the three types to determine which was most appropriate to the particular needs of the UNO faculty.

The first type of service which was studied was an in-house system. In this type of current awareness service, each faculty member would have the opportunity to choose as many as fifteen

periodicals. As each issue of the chosen periodicals arrived, the table of contents would be photocopied and, at the end of each week, those photocopies would be sent to the participating faculty members.

Costs were determined for a nine months trial period of this service. The largest cost would be for personnel. A total of $2,692.00 was budgeted for a student, who would do the majority of the work and the supervisor, who would program the computer and get the service started. The rest of the budget was for photocopies, envelopes, mailing labels, and other supplies. The total amount necessary for the nine months was slightly more than $4,400.00.

Another type of in-house periodical current awareness service would be to produce the Library's own periodical, similar to Current Contents. It was decided that this form was more suited to a special library, such as a medical library or a law school library. With the diversity of academic subjects taught at UNO, the Library would have been forced to either produce a very thick periodical, or produce quite a few different journals, both very time-consuming. Accordingly, this format was not deemed viable.

The third type of periodical current awareness service to be considered was the use of commercially-produced current awareness services, such as Current Contents. The Library would purchase enough subscriptions so that each academic department would receive one subscription to each of the appropriate current awareness services. In order to accomodate all departments, the Library would need to purchase one subscription to Current Contents/Agriculture, Biology & Environmental Sciences, nine to Current Contents/Arts & Humanities, four to Current Contents/Engineering, Technology & Applied Sciences, two to Current Contents/Life Sciences, four to Current Contents/Physical, Chemical & Earth Sciences, nineteen to Current Contents/Social & Behavioral Sciences, six to Computer Contents, and twelve to Management Contents. We did not include, for the purposes of this study, other current awareness services, although some of them were examined to see if they should be used for this purpose.

The total cost for these subscriptions would be almost $11,400.00 for the first year. For this type of service, the costs for personnel would be minimal.

In order to determine the extent to which this service would provide coverage of the Library's periodical collection, an integrated list was produced which included all of the periodicals covered by the five current awareness services to which the library subscribes: Current Contents/Agriculture, Biology & Environmental Sciences, Current Contents/Life Sciences, Current Contents/Social & Behavioral Sciences, Computer Contents, and Management Contents. This list was then compared to the library holdings.

At this point, a second integrated list was produced which included all of the periodicals to which the library subscribed that were not contained in the first list. This list was then compared to the list of periodicals indexed by the four Current Contents publications to which the Library did not subscribe.

One of the most important considerations in choosing a service would be the extent to which that service would cover the periodical collection of the Library. It was assumed that the collection development process followed by the Library insured that the most important journals for all areas of study had been purchased, although the Library would not, of course, be able to collect comprehensively in all of these fields

of study. Therefore, although it was noted that the library subscribed to only 24% of the periodicals included in the five current awareness services to which the Library subscribes, it was considered to be far more important that if the Library subscribed to all seven of the Current Contents publications, plus Management Contents and Computer Contents only 57% of the periodicals to which the Library subscribes could be covered by this service. Unfortunately, virtually none of the education journals are included. Also excluded are many state and regional publications. Naturally, all of the periodicals to which the Library subscribes could be included in an in-house current awareness service.

The cost for either service is not inconsiderable. For the in-house service it would be necessary for the Library to acquire funding for one year of almost $6000. For the commercially- produced services, it would cost almost $11,400.

Another concern was the currency of the service. Of course, the in-house service would be extremely current. Faculty members should receive the tables of contents no later than nine days after the library received the periodical. In order to determine the currency of the current

awareness services, the most recently received issue (as of March 20, 1985) of each of the services was examined to determine the difference between the day on which the current awareness publication was received and the date on which the Library received each of the periodical issues included in that particular issue.

In the March 4, 1985 issue of Current Contents/Agriculture, Biology & Environmental Sciences, 125 periodical issues were listed. Of these the Library owned 27, or 25%. The lag time for these 27 issues varied from 5 days to 75 days. The median number of days lag time was 40 and the mean was 30.

The March 11, 1985 issue of Current Contents/Life Sciences includes 200 periodical issues. The Library owned 37, or 18%. For these 37 periodical issues, the lag time varied from -2 to 73 days (one of the periodical issues actually arrived 2 days before this issue of the index was received). The mean lag time was 34 days.

The March 22, 1985 issue of Current Contents/Social & Behavioral Sciences contained the tables of contents for 122 periodicals, of which the Library owned 60, or 49%. For these 60 pereiodical issues, the lag time varied from -2 to 285 days, with a mean of 43 days.

The March 6, 1985 issue of Computer Contents includes 63 periodical issues, of which the Library owned 16, or 21%. For these 16 issues, the lag time varied from 28 to 45 days, with a mean of 37 days.

The February 27, 1985 issue of Management Contents included 87 periodical issues, of which the Library owned 45 or 52%. For these 45 periodical issues, the lag time varied from 8 to 97 days, with a mean of 47 days.

Because the goal of this project was to support the research interests of individual faculty members, it was necessary to be able to personalize the periodical current awareness service. The in-house service would, of course, be entirely personalized as each faculty member would choose only those periodical which he/she most used. The commercially-produced services would be personalized only to the extent that the Library would send a copy of the most appropriate publication to the office of each academic department.

In summary, the in-house current awareness service would cost slightly over $5,500.00 for one year. It would be better public relations for the Library because it would be completely personalized and because it would include 100% of

the periodicals to which the Library subscribes, including regional, state and local journals. The lag time between the arrival of the periodical and the time when the faculty member actually received the photocopy of the table of contents would never exceed 10 days, under normal circumstances.

The commercially-produced current awareness service would cost approximately $11,400.00. It might be poor public relations for the Library because some academic departments would be virtually excluded from the service. In addition, the service would include only 57% of the periodicals to which the library subscribes. The lag time between the arrival of the periodical and the day on which the commercially-produced current awareness service arrives was a median of 39 days. This does not include the delay that would be experienced when an average of 11 faculty members share the same current awareness publication. Since the Library subscribes to only 24% of the five periodical current awareness services that were intensively studied, the faculty members could conceivably either demand that the Library add on the other periodicals, or necessitate additional staff in the Interlibrary Loan Department.

It became fairly obvious that, if the Library were to provide such a service, the in-house current periodical awareness service would be chosen.

Before undertaking this study, several members of the Faculty Senate had, with the support of the Senator from the Library, passed a resolution recommending that such a service be explored. The Library decided that it was neccesary to make a more formal needs assessment. A survey was sent to each faculty member, asking if he/she would be interested in participating in the service, whether he/she would be willing to pay for such a service, and how much he/she would be willing to pay.

The Library sent approximately 770 surveys and received 195 answers. Of those who answered, 183 said that they would want to participate in the service, eleven declined and three didn't answer the question, but merely returned the questionnaire. In response to the statement, "I would be willing to pay for such a service," 96 said yes, eleven said no, six said maybe and 82 didn't indicate any answer.

Several questionnaires included comments on methods of reducing the cost of the service, or making it more efficient or effective. Of those

who approved of the service, a fairly typical comment was, "Super idea--please do it!!" However, there was a small, but vocal minority who was opposed to such a service. Their position was perhaps best stated by a faculty member who said:

> "Not only am I not interested in such a service, but feel that it would be a waste of the library's resources to provide it. It would provide no significant advantage for users and would cost time and money that could be better spent."

Although there were some dissenters, it was obvious that the majority of faculty who reponded to the questionnaire were interested in participating. In fact, far more faculty were interested than was previously assumed. If the Library decides to offer this service, it will have to revise upwards the estimates for the necessary budget.

HOW TO SELL YOUR LIBRARY: A SALESPERSON'S APPROACH TO PROMOTING LIBRARY SERVICES

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ABSTRACT

Today's competent librarians, especially those who work in the public services or reference service areas, must acquire a specialized skill, "salesmanship", in order to perform daily tasks efficiently in this highly technological era. Many of today's library services, in addition to being costly to the library, are also not completely free to users. The buying and selling of information seems to be a very common phenomenon in the public and reference service areas in many libraries. Although libraries do not exist to make a profit, a fixed operational fund should draw in as many "customers" as possible. To maximize the number of users per dollar is definitely a businesslike objective. In this respect, a salesperson's skill will be greatly beneficial in increasing the usage of many library services. Today's competent public or reference librarian should, therefore, be a "super salesperson" in this sense, with adequate training in librarianship.

Most librarians hate to think about the various services provided by libraries as commercial or business products, and don't like to relate themselves with the profit-making business world. To think of librarians as salespersons is almost the same as degenerating their high status as professionals. It is unthinkable. Library resources and library services have never been considered marketable products. Howerver, times have changed; we are living in an era in which information is not totally "free" to the users. Many library services require payment from users, for example, interlibrary loans, the computer online database search. Today's Public Services or Reference librarians often find themselves discussing costs with users before actually offering these services. With my experiences in the public services area, I often tell users who request the ILL service that there will be cost to them for the information they have requested. Without their total agreement for payment, I will not be allowed to provide that service, and that information will not be accessible to them when they need it. The same procedure is also used when I conduct an online search interview. Every step has been taken to insure that users understand that there will be cost to them; the total estimated cost appears on the CRT screen plus a 5% service charge from the library. This type of buying and selling becomes more and more a daily phenomenon of information handling in today's academic libraries. Our high technological

society has made everything commercialized and business-like, including providing information to satisfy the users' needs.

Nowadays, whenever people see a computer, most of them will relate it to dollar signs. When your library is automated you will think about how to maximize the usage of your facilities and to justify the money you've spent on automation. When you set up a coin operated copymachine you will think about how the profit will help pay for the cost of the machine. When ILL requets come to you, you will think about what the charges will be to the requester before filling out that request. When you handle an online search you will be talking absolutely in terms of buying and selling information and services.. Although libraries do not exist to make a profit, they are in need of financial support to cover some of the operational costs. Some service costs are being absorbed by the users; hopefully a fixed operational fund will draw in as many "customers" as possible.

Fortunately, most library users are willing to pay for the cost if librarians know how to "make a sale". A librarian's skill in salesmanship will play a very crucial role in determining whether or not he/she will promote some of the sophisticated library services to satisfy the user's information needs. Librarians talk a lot about public relations. Ideas and methods of promoting library services can be found in abundance in library literature. The modern concept of "marketing" services becomes an acceptable practice in many non-profit organizations. Marketing aspects and marketing techniques adopted from the business

world are applied to the library world also. According to Philip Kotler, the author of MARKETING FOR NONPROFIT ORGANIZATION, "marketing relates to promotion, advertising, personal selling, public relations, fundraising, planning and other organizational function".[1] Demands of more services, small budget, and lack of funding are some of the problems facing many organizations today. Nonprofit organizations such as libraries "have come to realize that marketing activities are relevant to the management of their operations also".[2]

Academic libraries hardly ever think of marketing their resoruces and services as necessary. We assume very positively that academic libraries are here to stay. As long as there are college students there will be academic libraries. We never have to worry about a lack of library users. But all these presumptions will change just like every social and economical changes in ths society. When college students have access to the library card catalog or information network by using computers in their dormitories, the student use of the campus information center - the library - will be decreased. Academic libraries are losing their vitality and usability. Unless we market out resources and services vigorously to attract the users (the majority of them are students), there may be no academic libraries in the future.

Higher institutions are always seeking more funds, and money for the library is always lacking. Student retention programs

become a crucial issue, especially for smaller private institutions. The image of the campus information center - the library - and the services it offers can become a very important issue in a student's decision of staying at or leaving a campus. The library and its staff must play a part "in helping convince the library patron that he or she must make the library a regular place to visit and use. Librarians must do all they can to establish a favorable image of the library by what they do, rather than by what the words issued officially from the library say they do".[3] Besides their adequate training in librarianship, today's public services or reference librarians must acquire a specialized skill, "Salesmanship", in order to perform daily tasks efficiently and competently. Good marketing planning or strategy in any business needs good salespersons to carry out; to market your library well you need librarians with the knowledge and approach of "salesmanship" to promote the services. To ask an academic librarian to acquire the skill and ability of a salesperson seems very unreasonable. However, I have observed many super salespersons at work. They have inspired me a great deal in my work as a public services librarian with their knowledge and skill in interpersonal communication and salesmanship. They are very professional indeed. No graduate library school offers a course in "salesmanship". For years librarians are stereotyped as "shy persons".[4] No library gives an interpersonal communication skills test before it hires a public services or reference librarian to see whether or not

he/she has the ability to deal with the public skillfully in verbal communication. In reality it may be very hard to give such a test.

To promote your library services you need a super salesperson-type librarian who knows the "talking technique",[5] has interpersonal communication skills which relate people and services well, is articulate in interpretation, is skillful and tactful in delivering needed information, possesses good mannerisms, and a friendly attitude, has a cheerful personality, and has effectiveness and efficiency as well as knowledge about the services he/she is offering. Academic librarians often work as campus representatives or spokespersons on occassions when visitors, parents, or friends of the library or alumni group are visiting the library. Their articulation in speech and good mannerisms will weigh a great deal on these people when campus fund raising is carried out.

The users in an academic library are usually a homogeneous group. They are mostly students, faculty and people in the community. According to Joyce A. Edinger, author of MARKETING LIBRARY SERVICES: STRATEGY FOR SURVIVAL, "there exists a very real tendency for people not to ask for assistance from someone else, even when it is readily abvious that service is available and that the person who can help is willing to help".[6] This is especially true with college freshmen. Although library instruction sessions are being given in their first semester on campus, very few of them will remember everything they have heard during those sessions. Many of them will come to the library with wondering

eyes and puzzled faces, thinking they know how to use a college library. They will either stand in front of the subject catalog with a particular title of a book assigned by the professor and wonder why they can't find it, or look in the author/title card catalog deligently and try to find books on the subject he/she has chosen for a term paper. A competent librarian with a salesperson's skill can catch the moment and make a sale to these students of the library's resources and give proper instructions of how to use them. If materials cannot be found, the librarian will recommend the ILL service or referral service to satisfy the students' information needs.

The approach here is very similiar to a salesperson's approach in a store. A super salesperson will use good manners and a friendly smile to assist a customer in finding the right merchandise or commercial product to satisfy his/her needs. If the salesperson cannot satisfy the customer with the right product, he/she will refer the customer to another store that can provide the right product, or introduce some similiar new product to make a sale. To satisfy the customer is the goal for all business organizations. A salesperson works as one of the channels in carrying out those marketing goals set by the organization. No matter how well-planned the marketing strategies are in business, they won't be successful without devoted and dedicated super salespersons who know how to approach people and convey ideas. Although "personal selling is an important

means of communication and used primarily in fundraising",[7] it can also apply to promoting library services. With personal selling techniques, the librarian is able to have personal contact with users and potential future users.

Helen Gothberg has done a study to "determine the effect of the quality of a librarian's communication on a library user's satisfaction",[8] and her study examined "the responses of users encountering a librarian who communicated a positive attitude or feelings of caring toward them, compared with a user who encountered a negative-type communication on the part of a reference librarian".[9] Her findings suggest that "a reference librarian who displays immediate verbal and nonverbal communication skills will engender in a user better feelings about himself and his experience in the library, than would have been engendered had the librarian displayed nonimmediate verbal-nonverbal communications".[10] Interpersonal communication becomes more and more important to librarians when automation and high technology invade the library at such a rapid pace. A smile or a head nod can do wonders for your users.

A friend of mine visited Japan a few years ago and told me of her experience shopping in a large Japanese department store. She was amazed to find six to eight store clerks (both male and female) standing in a line at the front doors, bowing to the customers whenever they entered or left the store. It is their way to say welcome and good-bye to the customers.

However, this kind of marketing strategy or non-verbal communication technique is a little bit too much for a westerner's eyes. But that store was fully packed with customers all the time. I am not suggesting that libraries hire people to stand at the door to greet users whenever they come or go, but a friendly greeting by the library staff at the public services area will certainly give the users a welcome and warm feeling. There are many basic techniques in promoting library services in academic libraries such as "liaison work in which a professional library staff systematically meets with teaching faculty to discuss stratagems for directly supporting their instructional needs and those of their students".[11] Academic librarians can also use all kinds of opportunities to sell the latest in library services; campus student newspapers, faculty newsbulletin, alumni newsletters, parents week announcements, special bulletin board, library book sale announcements, library fact sheets, personal contact at meeting or at lunch tables, etc. are all possible ways of selling your library services. It is true that "today's librarians must use their resources in marketing their services like many other nonprofit organizations",[12] and "librarians must consider marketing strategies appropriate to the services they offer".[13] A salesperson's approach to promoting library services is just one of the important skills involved in marketing library services.

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BIBLIOTHERAPY; WHAT THE ACADEMIC LIBRARIAN MIGHT NEED TO KNOW

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ABSTRACT

Bibliotherapy has a long history, one that practitioners regularly point out extends back to the ancient Greek inscription at the Library of Thebes "Healing Place of the Soul". Contemporary definitions, on the other hand, insist on a more formalized process of interaction with a facilitator, seeming then to exclude projects such as the one sponsored by the Center for the Book in the Library of Congress "Books Make a Difference" which wonderfully echoes that ancient Greek inscription. Because of the proliferation of literature and the level of activity in our schools and society, academic librarians might benefit from a brief overview of bibliotherapy and a look at differing points of view.

Bibliotherapy; what is it? In 1981 at the American Library Association's Convention in San Francisco, the Bibliotherapy Committee presented a program and used a handout entitled "Towards a Definition of Bibliotherapy". The committee had functioned as a Biblio-

therapy Round Table from 1974-1981 and before that had been active as a committee under the Health and Rehabilitation Library Services Division of the American Library Association. The committee, thus, had a history of many years when, in 1981, a conclusive definition for bibliotherapy was still in the making.

There were at that time, in fact, seven books listed under bibliotherapy in the Subject Guide to Books in Print. The word itself had been in use for decades. Yet even today it is rare to find anyone writing about bibliotherapy who does not seek first to define it.

Definitions

This, then is certainly a basic and long-existing problem. Bibliotherapy means different things to different people. Psychologist Sharon Henderson Sclabassi explains that bibliotherapy "is usually defined in terms of its objectives. The objectives of the technique and the values attributed to it are numerous, thus creating many definitions".[1] Some practitioners, for instance, outline a formalized technique for therapy to be used by psychologists, psychiatrists and librarians in clinics, hospitals and prisons; public librarians may organize informal book discussion groups in care homes; school teachers may use programs of reading to enhance student development or adjustment; or a reader's adviser

may simply recommend a book to a friend.

In talking with elementary education classes, I generally define bibliotherapy as "helping with books". This definition is undoubtedly influenced by my investigation into bibliotherapy literature nearly ten years ago ending with a chapter contributed to psychologist Paul Welter's book How to Help a Friend.[2] The focus of the book determined the point of view of the chapter: "How to Use Books in a Helping Way".

Others share this definition. An article in the March 1983 School Counselor explains "bibliotherapy is a therapy through reading".[3] The Clearinghouse on Reading and Communication Skills published a Bibliotherapy Fact Sheet in ERIC in 1982 stating "Bibliotherapy is the use of books to help people solve problems".[4] And my personal favorite book on bibliotherapy happens to be one in which the word itself is never used, Joan Fassler's Helping Children Cope.[5]

It was Caroline Shrode's doctoral dissertation in 1949 that seemed to give impetus to the more formal trend.[6] She and David Russell of the University of California, Berkeley, explained the process of bibliotherapy in an article in The School Review in 1950. "If there is a genuine therapeutic effect from reading, it may be explained theoretically in terms of identifi-

cation, catharsis, and insight... In such terms, bibliotherapy becomes a process of identifying with another character or group so that feelings are released and the individual develops a greater awareness of his own motivations and rationalizations for his behavior".[7]

Early Practices

Preceding Shrodes, concepts had been developing informally. In schools, for instance, there had been a project funded by the National Conference of Christians and Jews under the auspices of American Council on Education which resulted, in 1947, in the publication Reading Ladders for Human Development. It soon became popular and is now in its 6th edition. Presenting essays on themes such as self-concept followed by annotated lists of books meaningful in dealing with those themes, this book, like Fassler's, never uses the word bibliotherapy. "...that the reading ladders become a dynamic program for schools everywhere - one in which teachers and librarians can work cooperatively to use the experience stored in books for growth in human understanding "[8] is the expressed intention found in the preface and is an acceptable definition of bibliotherapy.

Activity in the public libraries can be discerned as early as 1939 in the work of Alice I. Bryan of

Columbia's School of Library Service. A seminal paper appeared in the Library Journal at that time in which Bryan wrote about the need for "comprehensive, specialized bibliographies of reading materials on all types of human problems which could be used by the reader's adviser as a basis for guidance".[9]

The objectives that she then outlined presented the same theory which Shrodes, ten years later, called "identification, catharsis, and insight." Bryan wrote "Show the reader that she is not the first to encounter the problem; that others have had to meet it in one form or another. Let her see that more than one solution is possible and that some choice can be made in the way it is handled..."[10]

Contemporary Writers

Contemporary definitions can be selected from the writings of Rhea Rubin, Arleen Hynes, and Clara Lack - all important leaders and active in the library segment of bibliotherapy. Their definitions, taken from that 1981 handout, reflect what they felt was a growing concensus.

Rhea Rubin is quoted from one of her several excellent books. "A program of activity based on the interactive process of media and the people who experience it. Print or non-print material, either

imaginative or informational, is experienced and discussed with the aid of a facilitator."[11]

Arleen Hynes says "The overall goal of bibliotherapy is that of using literature in its many forms as a catalyst to spark a discussion of group members' feeling responses to the literature in order to cope with life more fruitfully and to deal creatively with what cannot be changed."[12]

And from Clara Lack: "Bibliotherapy can be either a developmental or a clinical process, utilizing selected literature, creative writing and film, with discussion guided by a trained facilitator, for the purpose of integrating feelings and thought in order to promote self-affirmation, self-knowledge or rehabilitation.

"Developmental bibliotherapy is the personalization of literature for the purpose of meeting normal ongoing life tasks. Clinical bibliotherapy is a mode of intervention in aiding persons severely troubled with emotional or behavioral problems. Both forms of bibliotherapy are usually practiced in a group and always with a trained leader."[13]

As a formal technique then, discussion and the use of a facilitator are considered essential. But, not everyone is paying attention to theory and formal tech-

nique. In the tradition of "helping with books" and perhaps of the Library of Thebes with its inscription which gives such inspiration to bibliotherapists "Healing Place of the Soul"[14] there are, as already pointed out, psychologists, librarians, and educators active and writing. There is the previously mentioned Joan Fassler whose work was done at the Yale University Child Study Center and who, without referring to bibliotherapy, recommends books in the manner of Reading Ladders for Human Relations. In her book she presents thematic essays on stressful experiences faced by children followed by bibliographic essays on books that might be helpful in the same pattern not only of Reading Ladders, but of most bibliotherapy books and articles. Her aim, she writes, is "to encourage individuals concerned with healthy child development to consider books as possibly valuable communication aids."[15] Surely she is familiar with bibliotherapy, but she has chosen not to use the word.

Controversy

Fassler then asserts with more firmness that she in no way intends "to negate the joy of children's books or to detract from their importance as a literary or artistic medium."[16] In saying this, she is sensitive to yet one more difficulty in the bibliotherapy

concept: Criticism that bibliotherapy is a misuse of literature. The Horn Book in a 1975 editorial included bibliotherapists in its rebuke of those with a utilitarian approach to literature.[17] By far the most exuberant and uninhibited attack came from Lucy Warner in the School Library Journal in 1980. In what she called "The Myth of Bibliotherapy" she said:

> ...much of what passes for treatment seems to be old-fashioned moralizing in modern garb.[18]
>
> Therapy is often indistinguishable from conventional teaching and library work. One might ask, what isn't bibliotherapy?[19]
>
> ...there is little documented evidence that bibliotherapy actually works.[20]
>
> ...as the literature on the subject proliferates, simplistic treatments multiply. Many writers discuss bibliotherapy as though it were a simple process of labeling a problem and plugging in a book with an appropriate theme.[21]

She concludes:

> Occasionally teachers and librarians can be a great emotional support to the children they care about and who care about them. Such a relationship is a gift to adult and child alike. But the emotional and social development of children is far too complex to be left to books. Bibliotherapy is a fashion of dubious value. Society will be better served if it is forgotten and educators concentrated instead on good books and good teaching.[22]

She, in fact, adroitly summarizes the problems and she has serious and valid concerns. But, in the last analysis, the dilemma, the fault seems to lie more with

the word and its multiple applications, definitions, techniques and directions in development than with the concept itself.

One suggestion in dealing with the word is that bibliotherapy be separated into two parts, calling one art and the other science. To quote just one more writer, Eleanor Frances Brown writes:

> ...the prescription of reading in the treatment of actual mental or physical illness may well be regarded as the science of bibliotherapy; whereas the attempt to remedy personality defects or help an individual solve personal problems through the proper reading suggestions given by a librarian or other individual outside the medical field can be regarded as the art of bibliotherapy.23

This suggestion, made back in 1975, is another one that does not seem to have caught on. Instead, the omission of the word entirely may become the trend for those who seek to implement the "art" of bibliotherapy.

The Library of Congress with its Center for the Book project "Books Make a Difference" uniquely renewed the concept and captured that great and ancient theme for libraries. "What book made the greatest difference in your life?" and "what difference did it make?" Librarian of Congress Daniel Boorstin says that the answers show us "the wonderfully varied power of books."[24] "Books Make a Difference"; the phrase is redolent of

"Healing Places of the Soul" and reminds us as well that our work, our libraries, make a difference. With the help of libraries presenting both sides of issues, the word and its applications will eventually be resolved. And bibliotherapy, ultimately, is subsidiary to the idea which sustains it.

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AN INTRODUCTION TO COMPUTER CONCEPTS: BASIC COMPETENCIES FOR LIBRARIANS WHO USE DESKTOP COMPUTERS

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ABSTRACT

This paper introduces some basic concepts about the operating environments of desk top computers, including basic facts about microprocessors, memory devices, and operating systems. Attention is given to areas which can lead to a more efficient use of desk top computers in the library.

INTRODUCTION

This paper will discuss a few technical points about computers which may be useful to persons who use desktop computers in the library. I will consider some elements of the "structural" features of computer hardware and software, focusing on those elements which

will help in the understanding of how the computer works. My hope is that this knowledge will enable the reader to use his/her computer more effectively. The information presented may also help the reader to deal more calmly with those occasional events which appear at first to be catastrophic.

Before going any further, a definition of "desktop" is in order. Because present day microcomputers have become about as powerful as the minicomputers of 1980, the term desktop is used to describe machines which are essentially microcomputers.

An understanding of the basic concepts of computer operations will enable the reader to better appreciate the capabilities, and the limitations, of various applications programs. It might be helpful at the outset to define the term computer. It is defined by the International Federation of Information Processing and the American National Standards Institute (ANSI): "Computer -- a data processor that can perform substantial computation, including numerous arithmetic or logic operations, without intervention by a human operator during the run."

HISTORY

Aids to computation have a long and illustrious history, starting with the abacus and the slide rule, two of the more elementary mechanical computing devices. The first functional adding machine was invented in 1642 by the French philosopher Blaise Pascal. He was recently recognized for this achievement by having a programming language named after him. In 1801, a French weaver named Joseph Jacquard automated his factory by developing a punched board to guide needles into cloth in predetermined places. This principle was later applied to early computers by Dr. Herman Hollerith who developed the modern punched card for use in the 1890 census. This card was the same size as the 1890 dollar bill. In order to market his invention, Hollerith formed a company which, after a merger, became IBM.

The first electronic computer was built in 1946 and was called ENIAC for Electronic Numerical Integrator and Computer. It employed 18,000 vacuum tubes and occupied 15,000 square feet of floor space. The principle on which this machine was based still holds true today. The primary difference is in the size of the components. It was the development of

transistors in the sixties and the integrated circuit in the early seventies that now makes desktop computing possible. To make a comparison, the present day Large Scale Integrated (LSI) circuit has the computing power equivalent to 50,000 vacuum tubes or transistors.

Having reviewed this bit of history, it is time to turn to the "hard facts" -- the hardware elements.

HARDWARE ELEMENTS

Any computer must have several basic elements: a microprocessing unit (MPU), input devices (such as a keyboard, joystick, or light pen), output devices (monitors or printers), memory devices (to store information until it is needed) and an arithmetic logic unit (ALU) to perform basic computations. Programs, or software, are used to control the computer, to instruct it to do specific tasks, i.e., those everyday applications such as database management and word processing.

Having reviewed some of the basic concepts, it is appropriate to now consider some of these elements in greater detail. To begin with, one should always remember that a computer is first, last, and always an electrical device. It works on one basic principle: data elements are expressed by electrical current

either moving or not moving through any given point in the circuitry. This is commonly expressed by the binary numbers zero and one, where "one" represents the flow of current and "zero" the lack of flow. All of the capabilities of the computer rest on this single principle. The single channel which possesses this on-off status is commonly called a binary digit or bit. In a eight bit computer, eight bits make one byte, or one "word." This "word" however can express only a single letter, numeral or graphic character.

THE MICROPROCESSOR

The heart of the computer is the microprocessor, the LSI chips mentioned above. There are a relatively small number of these which are used extensively. For example, Atari, Commodore and Apple all use MOS Technologies 6502 chip. The Motorola 68000 is one example of a chip used in 16 bit computers. It is used in the Apple Macintosh, and several new models from Atari, Commodore, and Dimension. The 68000 line is a descendant of Motorola's 6800 line of eight bit microprocessors. The Intel family of chips is also widely used, among these are the Z-80 and the 8080. The 8088 is used in the original IBM PC and while it is internally a sixteen bit chip, it communicates with its

peripherals (modem, keyboard, CRT, etc) in the eight bit mode. The IBM PC AT uses a different model, the Intel 80286.

The equivalent of 50,000 transistors can be placed on the silicon chip using special etching processes. The chip is mounted in a "dual in-line package" ommonly refered to as a DIP. For example, the DIP switches on a printer can determine which of the various pins on the package are activated. A microprocessor such as those mentioned above would typically have forty or more pins.

The microprocessor communicates with the outside world by means of a data bus. To indicate where the information is to go, an address is employed. To make as many numbers as possible available in the fewest possible digits, addresses are customarily expressed in hexadecimal numbers. Hexadecimal is base 16 - counting goes like this 1,2,3,4,5,6,7,8,9,A,B,C,D,E,F,10 .... Hexadecimal for 65536 is FFFF. Since many hex numbers may be expressed without letters, the & sign is put in front of the number to indicate the base system being used.

The architecture of the eight bit 6502 chip used by the Commodore and the Apple can be used to illustrate how his works in practice. An eight bit chip can express a maximum of only 256 different

symbols. These can be letters, numbers or other characters. At least half of these are the characters of the ASCII standard character set that allows the computer to communicate with other computers over the phone lines. Were it not for this standard we would be unable to do this. ASCII, by the way, stands for American Standard Code for Information Exchange. Therefore, the upper and lower case letters and standard punctuation marks have a generally accepted designation. This designation means that a specific binary number represents each character.

For similar structural reasons, the eight bit computer can also only address 64 K of memory at any given time, although a method of bank switching can be used to address two or more banks of 64 K memory sequentially. Extended RAM cards allow Apple //e users to access up to one megabyte of MOS memory, more than is presently accessible to users of the IBM PC.

The newer sixteen/thirty-two bit computers including the IBM PC AT can express 65536 different symbols, or 256 times as many symbols as an eight bit model. This allows the creation of alternate character sets for on screen display of bold face, underlining, or a combination of the two. This alone would use about 400 characters. Foreign language and other alternate character sets can only be used in eight bit

models as an alternative. In sixteen bit models, they may be concurrently available.

More importantly, the 16 bit models can access over a million bytes of memory, and with bank switching, over three million. Presently however, MS-DOS operating system limitations restrict PC users to 640 K of memory.

Also dependent on the size of the MPU is the effective clock speed. One hertz is one electrical cycle or pulse in one second. Clock speed is measured in megahertz or in millions of cycles per second. A typical clock speed for an eight bit microcomputer is generally somewhere around one megahertz. Sixteen bit models customarily have clock speeds in the range of four to eight megahertz, and thirty-two bit models range upwards of twelve megahertz.

Another common term, used in the context of the speed of access to memory is "nanoseconds." This refers to how many billions of operations a computer can perform in one second. Since light moves one meter in 5 ns, the limits of memory access are governed in part by the distances between the components. Having the memory chips two inches from the MPU instead of four directly impacts on speed of memory access.

STORAGE DEVICES - MEMORY CHIPS, CORE, MOS, DISKS (HARD AND FLOPPY) AND BUBBLE MEMORY

Each byte (eight bits) can store one of the assigned characters, so a 64 K byte computer can store literally 65536 possible characters, likewise a 128 K computer actually stores 131,072 characters.

Some of this memory is used up by the operating system, i.e., the set of instructions the computer and the resident program need to go about their basic business. Some programs are more elaborate than others, and use more memory. By way of illustration, Lotus requires 256 K just for its own instruction set, therefore one needs 512 K in memory to derive any value from it. Symphony requires 512 K, but needs 640 K to be used effectively.

The memory which the computer makes available in chips is called MOS memory, which stands for Metal Oxide Semiconductor. This memory is volatile and depends on an electric current for its existence. Therefore it is lost when the computer is turned off. This would work just fine if computers could be left turned on all the time and one could be guaranteed there would never ever be a power outage. But this is unrealistic, so it is necessary to rely on disks to

store programs and data from one day to the next.

Bubble memory is an option that is available on a limited scale, and offers the user the option of storing some data in a device which retains memory within the computer even when the power is turned off. Since bubble memory is relatively expensive, and access to it is slower than disk memory, it is best used for storing applications programs rather than files.

Also, one nearly always needs more memory than the computer MOS or bubble can provide for all of the different programs, so secondary memory storage devices are depended upon, usually in the form of disks, generally hard disks or minifloppies. Knowing how data is stored on disks aids in understanding why disks crash and what can be done when this happens. Disks are first and foremost very sensitive to their environment. Floppy disks are based in a mylar medium. Hard disks are metal and have many times the storage capacity of floppies, typically they are available in 5MB, 10MB and 20MB versions. The largest of these would store as much data as 100 floppies. Because of its rigid construction, the hard disk read-write head has more precise access to the disk.

Disks are a magnetic medium. The polarity of little bits of ferrous oxide metal imbedded in adhesive on the mylar base of the disk can be selectively

altered by an electromagnet known as the read-write head. A disk drive reads data by turning its electromagnet on and off several thousand times a second.

Since these particles are so minute, about a millionth of an inch long and a tenth as wide, they can also be altered by unusual physical conditions such as the pressure applied by a pen or pencil. When this happens, they may change to mean something different. Thus one may lose access to the contents of the disk. When a disk crashes, in most cases the data from the files are still there. The files are inaccesible because the disk directory is not funtioning. The directory is the electronic pointer for the disk. It points the read-write head to the place on the disk where the particular file is stored. On a crashed disk, the file access has been lost. Sometimes this is recoverable by use of a disk utility program which can analyze the disk and reconstruct the missing sectors. By the same token, deleting a file only modifies the pointer on the directory. Until that file is written over with something else, it can still be recovered by use of a utility program. This is useful to know in the case of accidental deletion of a file.

The new unused disk must be formatted or initialized for the the particular computer and/or

operating system it will be used with. The Apple operating system "initializes" disks. CP/M and MS-DOS uses "format." Both terms mean the same thing. Depending on the system used, the same disk may store anywhere from 100,000 to 1,000,000 bytes. Some computers, using double sided drives, allow concurrent access to both sides of the disk, e.g., the IBM PC family provides 327,680 characters on the two sides; other computers, such as the Apple, allow access to only one side at a time. Most diskettes are soft sectored. A soft sectored disk has an index hole which marks the beginning of the first sector. The drive then computes the location and position of each subsequent sector. Remember, disk drives usually accept only one of the many varieties of disks, e.g., soft sector or hard sector.

A standard 5 1/4 inch floppie has 40 tracks per inch, in concentric circles. Data on the disk is identified by which track it is on and the sector (like a cut from a piece of pie) within that track. The new PC AT is designed to double these up to get twice as much information on a disk. A properly formatted AT diskette can store about one million bytes. Recently a new drive for the PC XT and AT lines has been developed by Kodak which stores 196 tracks per inch. This crams 2.8 Megabytes of storage on a regular 5 inch floppy, or

7.7 times as much as the standard PC double sided disk.

If the read write head is not properly adjusted or if the head is dirty, because of the accumulation of dust particles, shiny rings can form on the disk. This is an early warning to possible data losses. Most computer problems can be traced to the careless handling of diskettes. Respect the physical integrity of the diskette and to avoid most calamities.

The standard life expectancy for a floppy is supposed to be about forty hours. This time is measured by the time the drive head is reading or writing the disk, i.e., the time the drive is whirring and the light is on.

One of the most important things to do when using microcomputers is to make two or more backup copies of everything. If something should happen to one of your disks, the backup can save you hours, or perhaps days, of work. If there is one cardinal rule to computer operation, this is it.

Looking to the future, optical laserdisks are starting to come into their own as a storage medium for desktop computers. One small disk can store more than a gigabyte (one bilion bytes) of data, so as prices come down they may replace floppies completely.

OPERATING SYSTEMS

The operating system allows control of the computer in certain ways. Operating systems come equiped with features that allow copying of disks or files, saving, loading and deleting files from disks, and running diagostics of various types. One of these is the STAT command on CP/M which shows the file size of all current files and the remaining disk space. A good operating system is relatively transparent to the user. Each system uses different expressions to mean the same thing. Comparing CP/M and Apple, here are some examples: Catalog and Directory (which can be abbreviated DIR), Delete, Kill, or Erase (ERA) to remove an unwanted file. One will soon become acquainted with the operating system used most frequently, yet still be baffled about how to perform the same operations on a different system. There are several common operating systems. Some, like CP/M and UNIX are found on several brands of computers. Others like the Apple DOS are computer specific. Given the option, one should try to go with a computer that operates on a generally accepted standard, thereby making it easier to train new staff to use the equipment.

INPUT/OUTPUT DEVICES

All of the above is useless without input and output devices. The keyboard is generally used to provide input, but there are various alternatives - joysticks, the mouse, light pens, etc. Output is generally through the video display or the printer, but may also be through the modem. One principle distinguishing feature of interfaces such as the above is that they come in two basic options - serial and parallel. Serial transmission is conducted on a single line, sending bits one after the other, thus serial. Parallel transmission is faster because it works with an eight wire bus in which eight bits are transmitted at a time. One writer characterizes this as a contrast between (a) moving buckets in a fire brigade to (b) eight racehorses coming out of the starting gate at once.

Parallel transmission is essential where speed is important. Some computers are designed so that parallel interfacing is not possible. This makes them cheaper to build of course. But if speed is critical, look for the parallel option.

The most common serial interface is the RS-232C. This is simply the designation for a particular industry standard. The modem which can be attached to

the interface is a form of modulator which converts binary data into (usually) audible frequencies for transmission over phone lines. Therefore if there is noise on the line, a common condition, then the data will be garbled.

One frequency may be used to send and another to receive. When data is simultaneously sent in both directions, it is called full duplex. Otherwise it is half duplex.

SOME COMMENTS ON APPLICATIONS SOFTWARE

There are four common applications for desktop computers in the library setting: On-line access to databases, word processing, filing using database managers such as PFS File and dBase II, and spreadsheeting. Ideas for possible applications frequently go just beyond the capabilities of the equipment at hand. At present the ideal seems to be one megabyte of MOS memory and at least ten megs in disk storage. To do that would require a "state of the art" desktop such as the IBM PC AT and one hard disk drive. Technologically available, but still slightly expensive.

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COMPETENCIES FOR LIBRARIANS IN AN AUTOMATED ENVIRONMENT: THE UNION COLLEGE EXPERIENCE

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ABSTRACT

A two-part paper exploring the changes in professional competencies and performance needed as small academic libraries automate. Specifically, the experience at the Union College library is being reported from the perspective of a technical services librarian with 26 years of library work, and the college library director with the trask of automating his library in the face of budget and staff cuts and shifting expectations. Research backs up these experiences in demonstrating (1) the effects of specialization in library work, (2) a shift in compentencies; (3) the training and education of professional librarians (and the difference).

PART I

This is a two-part paper concerning automation in an academic library and its effect on professional competencies. The first part gives the adminstrator's overview. The second part focuses on the technical services department as we have experienced the effects of automation at Union College.

Small academic libraries have some unique opportunities and some not so unique problems as they plan and implement library automation. The unified campuses of small colleges invite the opportunity to develope on-campus information networks--the electronic campus. An academic library with one hundred thousand volumes is in a much better position to convert all of its holdings into machine readable form than is a major university library. The concerns include obtaining funding, competencies of library personnel, and proper planning and management of automation.

The library must first define its mission in terms of its parent insitution. Automation is simply another means of attaining that mission. The challenge for college library administrators is the task of automating their libraries in the face of budget and staff cuts, and shifting expectations.

The heart of a college is the teaching/learning

process. The purpose of the library is to enhance that process, to make teaching and learning more effective. To accomplish that purpose in an expanding information age, library administration must take a closer look at available resources. The most important resource component in a library is the staff and the most essential characteristics of people are their competencies. This is true because library service performance is highly dependent on the competencies of professional librarians. The competencies of professional librarians are comprised of three components: knowledges, skills and attitudes. This thought is developed by King Research, Inc., and appears in more detail in The Appendix.[1] Competencies are developed through education, training, and experience. There is a vast difference between education and training. Education precedes training and can be acquired in a limited number of ways. Training occurs most frequently on the job and through seminars, workshops, specific courses, but rarely through formal degree programs. In other words, education prepares you to accept a professional job, not to perform it. The latter is the role of training.

1. Jose-Marie Griffiths and Donald W. King, "A Framework for Describing Information Professional Competencies," pp. 3-5.

The basic competencies of academic librarians need to be determined and the changes caused by automation need to be studied in relation to these competencies. A concern has been expressed in library literature that these basic skills not be determined by asking professional librarians what they do. This is because many of the things they do are clerical work. Professional librarians perform clerical tasks because in the organizational setting of today's library, clerical tasks take precedence over professional tasks. The more appropriate questions to ask are: What should you be doing? or, What needs to be done?[2]

In this paper we are looking specifically at the area of technical services in the Union College library.

The Union College library has been engaged in preparing for automation since October 1982. That month the library began a retrospective conversion project with support from the school's Title III Strengthening Grant. This grant has provided support for salaries, OCLC charges, software for an online catalog and automated circulation system, and equipment such as terminals, bar code readers, and printers.

Actions taken by Union's former president, Dean

2. Herbert S. White, "Defining Basic Competencies," p. 519.

Hubbard, have created an environment conducive to automation at Union College. As an innovative first step, in August 1983, Union became the first college in the country to place a computer terminal into every dormitory room on campus. These terminals are linked with one of two on-campus Hewlett-Packard 3000 series 68 minicomputers.

Having easy access to a computer benefits students in every discipline. They can take advantage of a broad range of offerings, including: word processing programs, computer-assisted instruction packages, accounting packages, computer languages, spreadsheets, graphics applications, and communications packages.

Having a computer terminal in every dormitory room places the library in a unique position to develop an on-campus integrated information management system. The capability for students to access the online catalog from their dorm room terminals offers the potential for radically reshaping how our patrons utilize information services.

The ultimate goal of Union College is to automate the work environment and administrative functions, provide faculty, staff, and students with the computing resources they need, teach computer competency skills to students by making the computer a standard educational tool, and facilitate linkages between computers and data bases.

The conceptual groundwork for integrated approaches to future information management has been provided by the report, "Academic Information in the Academic Health Sciences Center: Roles for the Library in Information Management" by Matheson and Cooper.[3] Although the Matheson report focuses and draws examples from the academic health sciences setting, the conceptual framework and guiding principles are valid for libraries in other settings.

The Matheson report suggests that a computer-based integrated information management system is greatly needed by academic institutions and that a sophisticated, automated library can be pivotal in strengthening the entire academic enterprise by serving as a catalyst. It recommends that the library, the central point of entry to the world knowledge base, be placed high on each institution's planning agenda.

For several reasons the integrated information management system is more ambitious than any other attempted by libraries. It requires an effective operating integrated library system and it requires the active cooperation of a broad spectrum of people within the educational and technological communities.

3. Nina W. Matheson and John A.D. Cooper, "Academic Information in the Academic Health Sciences Center; Roles for the Library in Information Management," pp. 1-93.

PART II

Several general statements concerning automation in libraries have appeared in library literature and I would like to address a few of those. One is that libraries use automation mainly for housekeeping tasks. I think at this point that this may be largely true. It is not particularly cost effective, at least in our experience. But, it does do a better job and provides a better product. This has been described as a trivial application of automation. I suggest that the administrators who pay for these services would not consider them trivial. And also, the developers of these packages do not consider them trivial. The company that we bought our automation software from has been in the business for some time developing software packages for education and for government, but since the library market is so open and offers so much potential they are phasing out most of their other programs.

Another statement that I would like to address is that many other applications of automation in libraries, particularly on-line data bases and resource sharing, will make libraries as we know them a thing of the past. What I see happening in reality is that such automation simply expands the capabilities of the library. In fact, automated interlibrary loan systems,

for example, strain and yet reaffirm the local collection. A related assertion has been made that automated searching will become so cheap and so efficient that cataloging will become unnecessary. The claim is that raw data can be fed in from the title page, the preface, perhaps the publishers blurb, and this information can be text searched,with the result that cataloging will become unnecessary. If any of you have worked with OCLC, which does not have this capability, you know that often you come up with much more material than you need even during a specific search, I think you can see that this will probably not happen. Try to imagine what kind of garbage (volume of irrelevant retrievals) you will retrieve if you try to do free text searching under those circumstances.

At the same time we read that automation has shifted the emphasis from collection to access. Probably this statement is true both at the local physical level as well as at the remote data base level. And the librarians role remains to decide what information to collect, how to organize that information, and how to make it available to or access it for those who need it.[4] Figures I-IX will show how this applies to Union College.

4. Richard DeGennaro, "Shifting Gears: Information Technology and the Academic Library," p. 1204.

The first illustration [figure I] shows the Union College Computer Network. The library is on the academic system. The library software that we have is called EMILs/3000 from Electric Memory, Inc. in Monterey, California. We have purchased the software for an online catalog, a reserve room module, and integrated automated circulation system. Eventually we will add aquisitions and serials.

The next five illustrations [figures II-VI] are screens from our catalog. On figure II the boxes at the bottom indicate the available access points to search the catalog. These indexes are set up from the MARC record. Setting up the on-line catalog has required the expertise of a data processor and the librarian. Our biggest problem with these indexes and with setting up our data base has involved the call number's. The last phone call we made to work on this problem had two librarians and two data processors on the line. We haven't solved it yet.

The second screen [figure III] shows what we get when we do an author search. These illustrations have been included as an example of a better product, although it is probably not cost effective. When we do an author search on our on-line catalog, the system forgives some spelling mistakes provided you can get the first letter or so right. It provides options if the

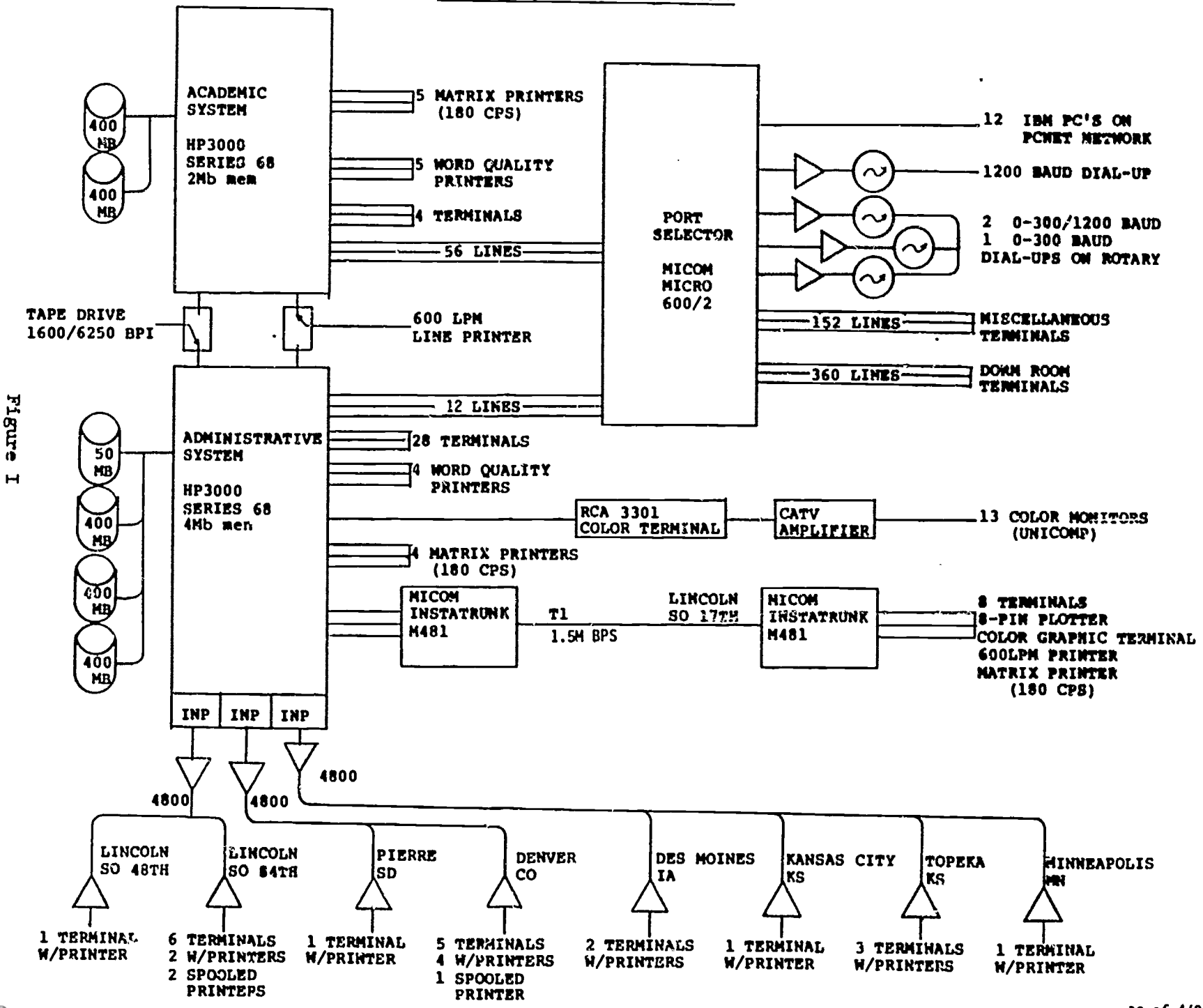

Figure 1

as of 4/22/85

EMILS/3000 ver. 11.0 UNION COLLEGE LIBRARY Tues, Apr 23, 1985

Press the function key corresponding to the search you want. For example, press f1 to search by an author's name.

AUTHOR SEARCH	TITLE SEARCH	SUBJECT SEARCH	SERIES SEARCH	LOCAL CALL #		NUMERIC SEARCHES	ITEM SEARCH

Figure 11

"o move the selection bar, press the up or down arrow keys. To see more entries, press the

PAGE or ROLL keys

AUTHOR bobbitt

Bledsoe, Albert Taylor, 1809-1877
Bliss, Sylvester, 1814-1863
Blodgett, Ralph H., 1940-
Blomstedt, Adolf
Blood, Robert O.
Blue Ridge Educational Convention, 1937
Blunt, John James, 1794-1855
Blutstein, Howard I.
Bobbitt, John Franklin, 1876
Bode, Carl, 1911-
Body, George, 1840-1911
Boehm, Linda
Boggs, Ralph Steele, 1901-
Bole, Simeon James, 1875-
Boles, Donald Edward, 1926-
Boll, Eleanor Stoker
Bonbright, James Cummings, 1891

DISPLAY TITLES | | MARC DISPLAY | | NEW ARGUMENT | LINK/ COMPARE | NEW SEARCH | STEP BACK

Figure III

To move the selection bar, press the up or down arrow keys.

To see more entries, press the PAGE or ROLL keys.

AUTHOR bobbitt

Bobbitt, John Franklin, 1876-

Bobbitt, John F	The curriculum	1918
Bobbitt, John F	The curriculum of modern education	1941
Bobbitt, John F	How to make a curriculum	1924
Bobbitt, John F	What the schools teach and might teach	1915

FULL DISPLAY | DISPLAY COPIES | MARC DISPLAY | | | LINK/ COMPARE | NEW SEARCH | STEP BACK

Figure IV

To see the complete catalog entry, press the ROLL UP or ROLL DOWN keys,

or the NEXT PAGE or PREV PAGE keys.

AUTHOR bobbitt

Bobbitt, John F The curriculum 1918

AUTHOR	Bobbitt, John Franklin, 1876-
TITLE	The curriculum, by Franklin Bobbitt . . .
PUBLICATION	Boston, New York etc. Houghton Mifflin c1918
DESCRIPTION	viii, 295 p. diagrs. 19 cm.
SUBJECT	Education--Curricula.
ISBN	0405036957

[ ] [DISPLAY COPIES] [MARC DISPLAY] [ ] [ ] [ ] [NEW SEARCH] [STEP BACK]

Figure V

To see more copies press the ROLL UP or ROLL DOWN keys or the NEXT PAGE or PREV PAGE keys.

AUTHOR bobbitt

Bobbitt, John F The curriculum 1918

Union Co	375 B63	Stacks 1	AVAILABLE	Book
Union Co	375 B63 c.2	Stacks 1	AVAILABLE	Book

FULL DISPLAY | ITEM DETAIL | MARC DISPLAY | | | LINK | NEW SEARCH | STEP BACK

Figure VI

author that you think you wanted is not there (this works even better in a subject search than in author and title) The catalog and indexes are easier to maintain than a manual or COM catalog.

Figure IV is another example of what we think is a better product: better service for our patrons. Instead of flipping through four cards there are four titles right there at one glance.

Figure V shows what you get when you ask for a full display. This is the equivalent of what you would see if you were looking at a card in the catalog, only we think it is much clearer and easier for our students to use. When you are ready, having found the title that you want, then you ask to display copies, which shows in figure VI and it will tell you the complete holdings of a title. That is, if there are volumes missing you can see that at a glance. You can see how many copies we have; you will be given the complete call number; the exact location; you can see whether the book is available (that's as opposed to being at the bindery or checked out). Also you can see what the media is because we will eventually have everything in the library in the system.

Figure VII, item maintenance, does not appear in the online catalog but is used for maintaining the catalog. This is included to demonstrate you what I am

ADD

ITEM MAINTENANCE

Wand or enter the new barcode for this item.

AUTHOR bobbitt

Bobbitt, John F The curriculum 1918

ITEM BARCODE

CALL NUMBER:

BRANCH UC

COLLECTION

MEDIA CATEGORY

ITEM STATUS OK

STATUS DATE

LIB LOCATION

PRESENT LOCATION

COST 0.00

LOAN PERIOD

LOAN UNIT

LOAN STATUS AV

LAST ACTIVITY 04/23/85

DATE ADDED 04/23/85

ADD

WRITE

NEW SEARCH

STEP BACK

Figure VII

talking about as when I discuss the changes that have occurred in our departmental work. We call these screens up in our department and the students fill in the bar codes, the call number, a code for the collection and a code for the media. The rest of the information on this record then defaults from tables in the computer that have been set up previously. Again to set this up requires some knowledge of cataloging, some knowledge of circulation and some knowledge of the computer system.

Figures VIII-X show what has happened to our work flow and the task assignments in our technical services department at Union as a result of automation. There is some projection on these sheets because we are not fully up. We are up in a limited way. Barring a major disaster this is what will be happening.

First, I have put the student tasks [figure VIII]. Union College is committed to hiring as many students as possible in as many places as possible. Therefore, much of our labor is at the student level. You will see that these tasks require very little knowledge, skill or experience. They require a great deal of explaining and supervision. This level reflects the most obsolesence as a result of automation. Rather than becoming cost-effective, I think our costs have gone up at this

Figure VIII

STUDENT TASKS

OBSOLETE	CONTINUING	NEW
	Type order cards	
Check holdings in cc		
Check order files		Check holdings on-line
	Verify information in BIP	
	Verify information on OCLC	
Type orders		
File Multiple order forms		
	Property stamp items	
	Apply seal to title page	
	Apply book plates	
Type book cards		
Type and glue in pockets		
Type, cut & iron on spine labels		Apply spine labels
	Put plastic covers on books	
	Tattle-tape books	
Alphabetize catalog cards		Create on-line item records
Interfile and file cards		
	File shelf list cards	
	Pull shelf list for retro	
	Pull main entry for retro	
	Pull books for retro	
Refile shelf list cards		
Alphabetize main entry cards		
Refile main entry cards		
	Reshelve books for retro	

Figure IX

TECHNICAL TASKS

OBSOLETE	CONTINUING	NEW
Generate orders manually	Supervise all student work	Create orders on-line
Check-in orders manually		Check-in orders on-line
Manual bookkeeping		Automated bookkeeping
Check filing in order files	Check filing in shelf list	
Check filing in card catalog		Mass cataloging
		Print labels for items

PROFESSIONAL TASKS

OBSOLETE	CONTINUING	NEW
lass cataloging	Original and problem cataloging Know: AACRII Rule interpretations Dewey or LC classification Changes to Dewey or LC LCSH & supplements Manuals for use of LCSH Cataloging Service bulletins Professional literature	Know: OCLC 8 formats technical bulletins bibliographic standards code manuals (lang & geog) systems manuals terminal manuals printer manuals Local system documentation Library system documents
Create catalog (cards) Problem-solving in card catalog		Plan & implement automation Find & correct errors on-line
	Plan & produce policy statements Plan & produce procedure manuals Plan & organize materials for work Share reference duties Share circulation supervision Share public relations, etc. Professional activities Continuing education Professional groups Papers & publications Parent institution	
		Train staff in retro Train staff in mass cataloging Train staff in on-line maintenance

level because student labor is very inexpensive; not necessarily efficient, but inexpensive. We are utilizing some printers and bar code readers instead of typists. In materials we have eliminated some things like book cards and pockets, but we have replaced them with more expensive materials such as foil backed labels and our bar codes.

Figure IX is the technical level. In your library you may call this a paraprofessional, an assistant, or whatever; in our department this is where the most volume of work occurs. The most change that is reflected here because of automation has simply been to change the framework from manual to automated. At this level a basic knowledge of the library and of the computer system is required. This person needs to have a good general education and it requires much skill and training.

At the professional level, shown in figure X, we get to the nitty gritty. There is a column there that says obsolete. Actually on this page there isn't anything that is obsolete, it's just moved. Mass cataloging has moved to a technical level and the catalog creation and problem solving has moved from a manual card system to the on-line system.

My job has become more administrative, which means that I must have an understanding of the nitty gritty as

well as other competencies. That is, if we discover that our sign labels are smearing or not staying on or being put on crooked that is my responsibility. I have to know what to do about it. It doesn't take a lot of time but that is still part of my job. Also required is the knowledge of library services and that encompasses the whole library. If I am to produce an on-line catalog I must know what we are going to do with it and how it is to be used. I must know the principles of cataloging, the details of processing materials and some data processing. The skills that are required of this professional job are skills in organization, management and communications.

I would like to use all of this to make two points. One is that you need the same competencies to catalog ten items as you do to catalog ten thousand. That is whether you are a cataloger of a specific subject area in a research library or whether you are a librarian who has just a bit of cataloging thrown into your job description, the same competencies are required.

The second point I would like to make is that library schools must teach cataloging whether they like to or not. Training on the job cannot cover all of the above.

Now let's look at the future impact of automation on competency. In my case, my job has improved greatly.

Through no fault of my own, but mostly by being in the right place at the right time I have developed, by learning some library application of automation some marketable skills. My work is more challenging and interesting than it was ten years ago, and I have gained more credibility as a professional, in particular with the other faculty at our institution and with our administration.

To verify our hunches about the professional aspects of technical services and how they have been affected by automation, we decided to do a littl e survey. Results are shown in figure XI. This is a very unscientific survey. We simply went through all the copies of American Libraries for 1974 and all of the copies of American Libraries for 1984 and counted the job ads. We counted everything that said technical services or cataloging because we assumed that if you are going to be a technical services librarian you are either going to do or be responsible for some cataloging. In the total count some are repeated because some jobs were advertised more than one month; we decided not to worry about that. The results show that of the total job ads in 1984, twenty-two percent are for technical services librarians or cataloger's. This is submitted in answer to those who would tell us that catalogers and technical services librarians are going to be obsolete. Twenty-two per cent hardly constitutes obsolescence.

MONTH	1974 TOTAL ADS	1974 TECH/CAT	1984 TOTAL ADS	1984 TECH/CAT
January	32	7	99	16
February	26	7	89	23
March	25	4	98	23
April	13	2	110	17
May	16	1	98	32
June	15	6	122	30
July/August	37	8	120	19
September	47	9	114	26
October	39	7	101	24
November	33	3	114	26
December	31	4	119	29
TOTAL	314	58	1184	265
%		18%		22%

Figure XI

In the last figure, just for fun, we have included two of what we thought were typical job ads so we could look a little bit at what administrators are looking for in technical services librarians and catalogers. The first one which offers a salary of $17,500.00 requests an MLS, experience, knowledge of OCLC etc., knowledge of original cataloging, Library of Congress classification and so forth.

The second one, for a head of cataloging paying $27,000 - $36,000, wanted an MLS degree, and an additional degree, knowledge of AACR2, MARC Records, OCLC, etc. They want experience, supervisory skills, organizational leadership, communications and human relation skills, and familiarity with technical services and automation.

Robert Holly predicts that in the future there will be four groups of catalogers. There will be the Library of Congress catalogers who will do the majority of cataloging for the country. The second group will be catalogers in some of the large research libraries around the country who will mostly pick up what LC doesn't do and do about the same kind of work. This will be a smaller group. The third group, which will be by far the largest and which most of us will fall into, are managers and planners in smaller libraries. The fourth group will be those scholar librarians who do

Head, cataloging unit, San Diego State University Library. General duties: coordinates all cataloging and processing activities for a library of 900,000 vols., serving 35,000 students and faculty, with annual monographic acquisitions of approximately 36,000 items and 11,000 subscriptions, and a total library budget of $6 million. Supervises 20 FTE faculty and staff. Participates in development and implementation of online systems related to cataloging and database maintenance and enhancement. Performs some original cataloging. Supervises retrospective conversion project. Reports to assistant university librarian for access services and automation; participates in planning and development of overall policies, personnel planning, resource allocation, and long-range planning. Qualifications: MLS or equivalent from ALA-accredited school; other advanced degree desirable. Knowledge of AACR2, LCSH, MARC formats; substantial original cataloging experience in a large academic or research library; supervisory experience with an online bibliographic utility, preferably OCLC. Demonstrated organizational, leadership, communications, and human relations skills. Familiarity with national trends in technical services and automation issues. Full-time, tenure-track faculty position; rank and salary commensurate with qualifications and experience. Starting salary range: $27,000–$36,000 (1983/84 salary schedule). Reappointment, tenure, and promotion require evidence of continuing professional development. Appointment is subject to budget constraints. Available: Nov. 1, although later appointment is possible. To ensure consideration, applications should be received by Oct. 8. Please submit resume, letter of application, and names of at least 3 references to: Marti Gray, Ref. CA, San Diego State University

Technical services librarian. Reports to assistant director and is responsible for planning and directing the work of the acquisitions and cataloging staff of the library. Must be familiar with OCLC and experienced in original cataloging using LC. Will be involved in implementing automated systems in ordering and serials and in long-range planning for online catalog. Additional duties: part-time reference, some nights and weekends, collection development in specified subject areas. ALA-MLS and experience essential. Salary range $17,500–$19,000. Apply by Dec. 15 to: Director, D'Amour Library, Western New England College, 1215 Wilbraham Rd., Springfield, MA 01119. An EOE.

Figure XII

selection, ordering, cataloging and reference in a subject area.[5]

I would like to quote to you from Regina Matthews who speaks from her experience as head of cataloging at New Orleans Public Library. "This then is a challenge to the profession and to each institution. We must develop professional catalogers who know both the art and the science of cataloging, who can manage the business of total support of a bibliographic system, who can train and supervise the staff of what will probably be the libraries largest position, who can be part of the libraries overall management team, who can utilize national standards and network services and not be bound by or in awe of them."[6]

So, it seems that the technical services librarian is alive and well, living in an automated library--not only alive and well, but where the action is and where competent librarians are needed more than ever.

5. Robert P. Holley, "The Future of Catalogers and Cataloging," p. 93.

6. Regina Mathews and Bruce Trible, "Reflections on the Future of Catalogers and Cataloging," p. 87.

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Knowledge - the fact or condition of knowing something with familiarity gained through experience or association

- acquaintance with or understanding of a science, art, or technique
- the fact or condition of being aware of something
- the range of one's information or understanding
- the fact or condition of having information or being learned.

several types of knowledges

- o Basic knowledge in such areas as language, communication, arithmetic operations, etc.
- o Subject knowledge of primary subject fields of users served such as medicine, chemistry, law, etc.
- o Library and information science knowledges such as the definition, structure and formats of information, etc.
- o Knowledge about information work environments such as the information community, its participants and their social, economic and technical interrelationships, etc.
- o Knowledge of what work is done such as the activities required to provide services and produce products, etc.
- o Knowledge of how to do work such as how to perform various activities, apply techniques, use materials and technology, etc.
- o Knowledge of the organization or user community served such as the mission, goals and objectives of the user or the organization, user's information needs and requirements, etc.

These knowledges are largely acquired by information professionals through formal education and experience, although some knowledges such as specific "how to" knowledges come mostly from training. Some of the knowledges, such as knowledges of the organization or user community served, are work-related and can be acquired through on-the-job training or experience. However, the fact that these work-related knowledges are found to be very important to successful work performance should be taught as a part of formal education.

Skill
- the ability to use one's knowledge effectively and readily in execution or performance of work
- dexterity or coordination especially in the execution of learned physical tasks
- a developed aptitude or ability.

three kinds of skills

- o Basic skills such as cognitive, communication, analytical, etc.
- o Skills related to each specific activity being performed such as negotiation of reference questions, evaluation of research outputs, etc.
- o Other skills such as managing time effectively, budgeting and making projections, etc.

Skills are achieved largely through training and experience, although knowledges gained during formal education are accompanied with training.

Attitudes of information professionals are found to be extremely important to work performance. The dictionary definition of attitude is:

- a mental position with regard to a fact or state
- a feeling or emotion toward a fact or state.

We have found it useful to subdivide attitudes into:

- o Dispositional attitudes toward one's profession, the organization served, one's work organization, and other people such as users and co-workers.
- o Personality traits/qualities such as confidence, inquisitiveness, sense of ethics, tenacity, etc.
- o Attitudes related to job/work/organization such as willingness to accept responsibly, willingness to learn, desire to grow, etc.

Attitudes are largely acquired through experience, but can be altered through proper education and training. Any formal education should place a premium on conveying a sense of professionalism and the importance of attitudes in achieving satisfactory job performance.

THE REFERENCE/INTERLOAN CENTER AT KEARNEY: MAKING THE ACADEMIC-PUBLIC-SCHOOL CONNECTION IN CENTRAL NEBRASKA

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ABSTRACT

The Reference/Interloan Center at Kearney (RICK) began operation on July 1, 1984. RICK provides reference and interlibrary loan service to all libraries in the Meridian and Republican Valley Library Systems through an office located at the Calvin T. Ryan Library, Kearney State College. The service area covers 35,000 square miles of central Nebraska and includes 83 public libraries, 210 school libraries/media centers, five college libraries, and four institutional libraries. This paper will explore the development of the RICK concept, implementation of the concept at Kearney State College, and evaluation of the first nine months of operation. Focus will be placed on administration of a multitype cooperative through a college library.

When six Library Systems were established in Nebraska in 1982, the leaders of those systems envisioned a variety of services that could be offered to member libraries. Continuing education, consulting, Books-by-Mail, public awareness, library employee exchanges, centralized purchasing and processing, large print book deposits, resource sharing, centralized reference, among others, are services

that can be coordinated by a library system. In the Meridian and Republican Valley Library Systems in Central Nebraska (Appendix A), it was decided by the System Boards that one important service to be funded by the two Systems should be a centralized reference and interlibrary loan service. In order to provide this service to all libraries in the two systems, the Reference/Interloan Center at Kearney (RICK) was established in 1984. RICK is located at the Calvin T. Ryan Library at Kearney State College. Since RICK is located in an academic library, it has provided the unique opportunity for an academic library to offer reference and interlibrary loan to public, school, institutional, and other college libraries in the service area. Before this concept of sharing the resources and competencies of an academic library and librarian with other types of libraries is explored, I will first outline the events leading up to the establishment of the Reference/Interloan Center at Kearney.

Shortly after the Nebraska Library Systems were established, the Nebraska Library Commission charged the System Planning Boards to "make recommendations regarding the manner in which reference and interloan service shall be provided beginning January 1, 1983." Both the Meridian and Republican Valley Library System Boards held lengthy discussions concerning this charge, exploring options for the continuation of reference and interloan service in their areas. Various options were proposed, but the number one priority ruling these discussions was that a "toll-free telephone service for reference, interlibrary loan, and consultation" be maintained,

since this was the top priority cited by respondents to a needs assessment survey distributed to each library in 1982. Board members realized that since the cost of providing interloan and reference is increasing while appropriations remain the same, it would be too costly to maintain a toll-free telephone service in each of the seven public Resource Libraries currently providing reference and interloan. (These Resource Libraries are the public libraries in Grand Island, Hastings, Holdrege, Kearney, McCook, North Platte, and Valentine). Therefore, discussions focused on the possibility of establishing one or two centers with toll-free access in each System. Then, in early 1983, the Meridian Library System Board proposed to the Republican Valley Library System Board that both Boards enter into negotiations with Kearney State College to provide an information/interloan service to the two Systems through an office located in the college library. Both Boards approved the proposal by mid-1983.

Why did the System Boards decide to house a center providing service primarily to public and school libraries in an academic library? I can cite several reasons.

1. The Kearney State College Library has the largest collection in the two systems, including 134,875 volumes in the Library of Congress Collection, 13,023 volumes in the Reference Collection, 1,602 periodical subscriptions, 43 newspaper subscriptions, 33,335 bound periodicals, 137,725 federal documents, and 5,268 Nebraska documents as of March 1985. Kearney State College can therefore greatly enhance the resources currently available to

citizens through their local libraries and Resource Libraries. The large collections, particularly the Reference Collection, will also be valuable in answering reference questions that can not be answered using the limited resources of the local library.

2. Kearney State College has access to OCLC, therefore providing direct access to nationwide resources for all libraries in the Systems.
3. Kearney State College has access to DIALOG, and can provide literature searches on request or as part of the daily reference routine.
4. Instead of distributing the responsibility for reference and interloan to over 20 individuals in seven libraries, a centralized office at Kearney State College can hire and train individuals whose sole responsibility is the provision of reference and interloan. When problems arise concerning service, they can be handled by one person in charge of the operation and monitored by the two System Boards.
5. By offering direct service to school libraries/media centers, RICK provides schools the same access to a reference/interloan service that is provided to other libraries in the Systems. In the past, some schools in small communities had to schedule their interloan requests according to the hours of the local public library, many of which are only open a few hours on a few days a week. All libraries and media centers have equivalent and toll-free access to RICK, Monday through Friday from 8 a.m. to 5 p.m.

6. Since Kearney State College subscribes to all of the major verification tools (NEUCAT/NEULIST, OCLC, DIALOG, the National Union Catalog, Union List of Serials, the Kansas Catalog), a center located there can eliminate some of the steps previously required to verify an item. The previous hierarchy for verification, Schools ➧ Local Public Library ➧ Resource Library ➧ Nebraska Library Commission, is now as simple as School Library ➧ RICK.

7. Since Kearney State College has all of the required verification tools, the Reference/Interloan Center located there can relieve the workload created at the Nebraska Library Commission to provide this service to the libraries in the two Systems. Apart from requesting locations from the Nebraska Union Catalog located at the Commission and asking for suggestions on difficult reference questions, RICK can verify all verifiable requests using Kearney State College resources.

8. Kearney State College conducts many off-campus classes in cities such as McCook, North Platte, Broken Bow, and Grand Island. Off-campus students can enter their local public library and have access, through RICK, to the same resources available to on-campus students. This can eliminate the need to make repeated trips to Kearney or other cities with large libraries to complete research assignments.

9. Kearney State College has 13 professional librarians on its staff who can be consulted by the RICK staff to help answer difficult or very specific questions posed by area librarians.

After considering the above factors, contractual arrangements were made between Kearney State College and the Nebraska Library Commission to begin operation of RICK on July 2, 1984. According to the contract, RICK is funded by the Nebraska Library Commission through the Meridian and Republican Valley Library Systems. The Director of RICK is responsible to the Director of the Kearney State College Library, who in turn reports to the two System Boards. The Nebraska Library Commission primarily plays a monetary role in its relationship to RICK, while the two System Boards function in an oversight capacity. RICK staff are Kearney State College employees, and are entitled to all benefits offered by the College.

Original funding for RICK consisted of $63,811, which is roughly equivalent to the funds allocated by the Nebraska Library Commission to the seven public Resource Libraries to provide interloan and reference from July 1982 to June 1983. Since the funds for RICK did come in part from these funds previously allocated to the Resource Libraries, there was concern on the part of these libraries as to the role they would play in the provision of reference and interloan after the establishment of RICK. The Resource Libraries continue to provide interloan and reference to their local patrons and to patrons of their bookmobiles (if they have one). They also continue to receive requests for their materials from Nebraska and Kansas Libraries, since they contribute their holdings to NEUCAT/NEULIST. The Resource Libraries also continue to play a vital role in linking library users with needed materials throughout central Nebraska, as illustrated by the following procedures

that are employed by RICK staff to process reference and interloan requests.

RICK serves as an interloan switching center for 83 public libraries, 210 school libraries/media centers, five college libraries, and four institutional libraries in the service area. Forty of these libraries own NEUCAT/NEULIST and nine participate in CMS, the state's computerized system for routing interlibrary loan requests. When a request is received from these libraries by CMS, phone, or mail, RICK first verifies the existence and location of the requested item and then switches the request to the library owning the material. Depending upon the type of library originating the request, the item will be verified first in NEUCAT/NEULIST or OCLC and then in the Nebraska Union Catalog or the Kansas Catalog. After verification, a request is routed via CMS, OCLC, or the mail to libraries in the following order:

1. to the Resource Library nearest the borrowing library
2. to other Meridian/Republican Valley Library System libraries
3. to the Kearney State College Library
4. to other Nebraska libraries
5. to Kansas libraries
6. to libraries nationwide

Note that in this scheme, specific titles are requested from any other resource library in the two systems before they are requested from Kearney State College. This step in RICK's procedures is followed rigorously, so that the public Resource Libraries can continue to be the primary providers of library materials to

libraries in their area. With the introduction of net lender reimbursement by the Nebraska Library Commission as a means to compensate the Resource Libraries for the use of their collections, it is especially important that RICK always request items from within the two Systems before going outside of them. During January through March 1985, RICK received 3606 requests for specific titles. Two thousand fifteen, or 55.8%, of these requests were filled within the Meridian and Republican Valley Library Systems.

RICK considers an interloan transaction complete after the lending library notifies the RICK staff that the requested item is being sent to the requesting library. When an item can not be filled after the first request, RICK continues to forward the request to other possible lenders until the request is filled. If RICK exhausts all possible in-state locations for an item, the request is forwarded to OCLC for further processing. RICK only stops working on a request or will not pursue out-of-state locations when instructed by the requestor. When receipt of a requested item is delayed because it can not be filled readily by in-state locations or is forwarded to out-of-state locations, RICK will generally notify the requesting library of this delay.

All requests that are not for a specific title are considered reference requests. The resources of the Kearney State College library are utilized first to answer all reference questions. When appropriate books or government documents are identifed in the KSC collection, they are mailed from the Kearney State College Interlibrary Loan Office. When appropriate materials can not be found

in the Kearney State Collection, the Resource Library nearest the requesting library will be asked to send appropriate items that RICK staff verified in NEUCAT or to substitute materials from their collections that are not on NEUCAT. When items such as records, tapes, children's books, or films are needed that KSC can not supply and that, as a whole, are not listed on NEUCAT, the Resource Libraries in the two Systems are polled in an effort to locate the material. When RICK identifies magazine articles as the most appropriate material to answer a subject request, copies of the articles are requested from the Resource Library owning the journal before they are sent from Kearney State College. Articles are sent from Kearney State College when the journal is unique to KSC. Copies of ready reference materials are mailed directly from the RICK office when they are the most appropriate answer for a subject request.

How have the Meridian and Republican Valley libraries benefitted from the Reference/Interloan Center since July of 1984?

1. RICK has provided a complete interloan and reference service for all non-NEUCAT libraries. There are 262 libraries in the two Systems that do not own NEUCAT/NEULIST or other basic verification tools. With the ease of a phone call, these libraries now have access to both up-to-date verification tools and sophisticated computerized systems for the transmission of their requests.
2. RICK will process, via CMS, requests for items with more than one location that non-CMS NEUCAT libraries have verified on NEUCAT. Since CMS is faster than the mail, this can shorten

the turnaround time required to complete a transaction, especially when the item has to be requested from more than one location before it is filled. This saves the requesting library postage and the staff time previously required to process these requests through the mail.

3. Besides processing items through OCLC and the Kansas Union Catalog for the public Resource Libraries, RICK will also process their requests when we identify additional Nebraska locations (from OCLC and the Nebraska Union Catalog). Instead of advising them of additional Nebraska locations, we will actually request the item for them if they want us to. This eliminates one step in the interloan process and also keeps them from having to send repeated CMS messages for the same item.
4. RICK works to improve the net lender status of area Resource Libraries since a) RICK always requests from within our two systems first and b) RICK has provided easier access for some schools to the interloan system, thereby increasing their ability to use area resources. After three quarters of being provided with net lender reimbursements from the Nebraska Library Commission, four of our seven public Resource Libraries have increased their net loans from the first quarter to the third quarter.
5. RICK has made available the entire holdings of the Kearney State College Library to the citizens of central Nebraska. A large portion of KSC's collection is not on NEUCAT (including 98% of the Government Documents Collection) and was therefore

not readily available. The Kearney State Library collection has provided an ideal complement to local collections for two reasons. First, all librarians and media specialists are expected to exhaust their local resources before contacting RICK, thereby requesting more specialized items that KSC can supply. Second, the public Resource Libraries do supply materials that can not be supplied from the Kearney State College to answer subject requests. Kearney State has supplied 623 titles and countless pieces of ready reference information from January through March 1985, the majority of which were identified by RICK staff in response to reference requests.

How has RICK performed statistically since July of 1984? Table I provides basic reference and interloan statistics, and indicates 41.1% more use of RICK during second semester prime use months (January, February, March) compared to first semester prime use months (September, October, November). As libaraians, media specialists, and teachers become more familiar with the types of services they can receive from RICK, we can only conjecture that this pattern of increasing use will continue.

Table II illustrates the number of requests received by type of library. While use of RICK by public libraries remains relatively steady, note the increase in use by school libraries for January, February, and March of 1985.

What types of materials are requested most often by public and school libraries? Table III indicates the percentage of requests for fiction, nonfiction, journal articles, and government documents

TABLE I.

Interloan and Reference Requests for all Libraries
July 1984 - March 1985

	Interloan	Reference
July	495	71
August	483	106
September	766	110
October	1026	149
November	763	127
December	672	118
January	1220	163
February	1319	191
March	1067	170
TOTAL	7811	1205

TABLE II.

Interloan and Reference Requests by Type of Library
July 1984 - March 1985

	School		Public[1]	
	Interloan	Reference	Interloan	Reference
July	---	---	495	71
August	13	2	470	104
September	225	34	541	76
October	333	57	693	92
November	303	54	460	73
December	309	58	363	60
January	559	88	661	75
February	676	102	643	89
March	435	73	632	97
TOTAL	2853	468	4958	737

[1] Includes requests received from four academic libraries and one institutional library

TABLE III.

Types of Material Requested Based on Total Interloan Reqeusts for All Libraries, January 1985 - March 1985

	Requests	% of Total
Fiction	757	21 %
Nonfiction	1407	39
Journal Articles	1298	36
Government Documents	108	3
Other[1]	36	1
TOTAL	3606	100 %

[1] Includes films, tapes, records, cassettes, kits, etc.

TABLE IV.

Types of Material Requested Based on Total Interloan Requests for School and Public Libraries, January 1985 - March 1985

	School		Public[1]	
	Requests	% of Total	Requests	% of Total
Fiction	134	8 %	620	32 %
Nonfiction	450	27	968	50
Journal Articles	1002	60	290	15
Government Documents	67	4	39	2
Other[2]	17	1	19	1
TOTAL	1670	100 %	1936	100 %

[1] Includes requests received from four academic libraries and one institutional library

[2] Includes films, tapes, records, cassettes, kits, etc.

based on total requests for January through March 1985. Table IV illustrates the types of materials requested by school compared to public libraries for this same time period. Contrary to popular belief, the majority of requests received are not for fiction titles, but rather for nonfiction titles and journal articles.

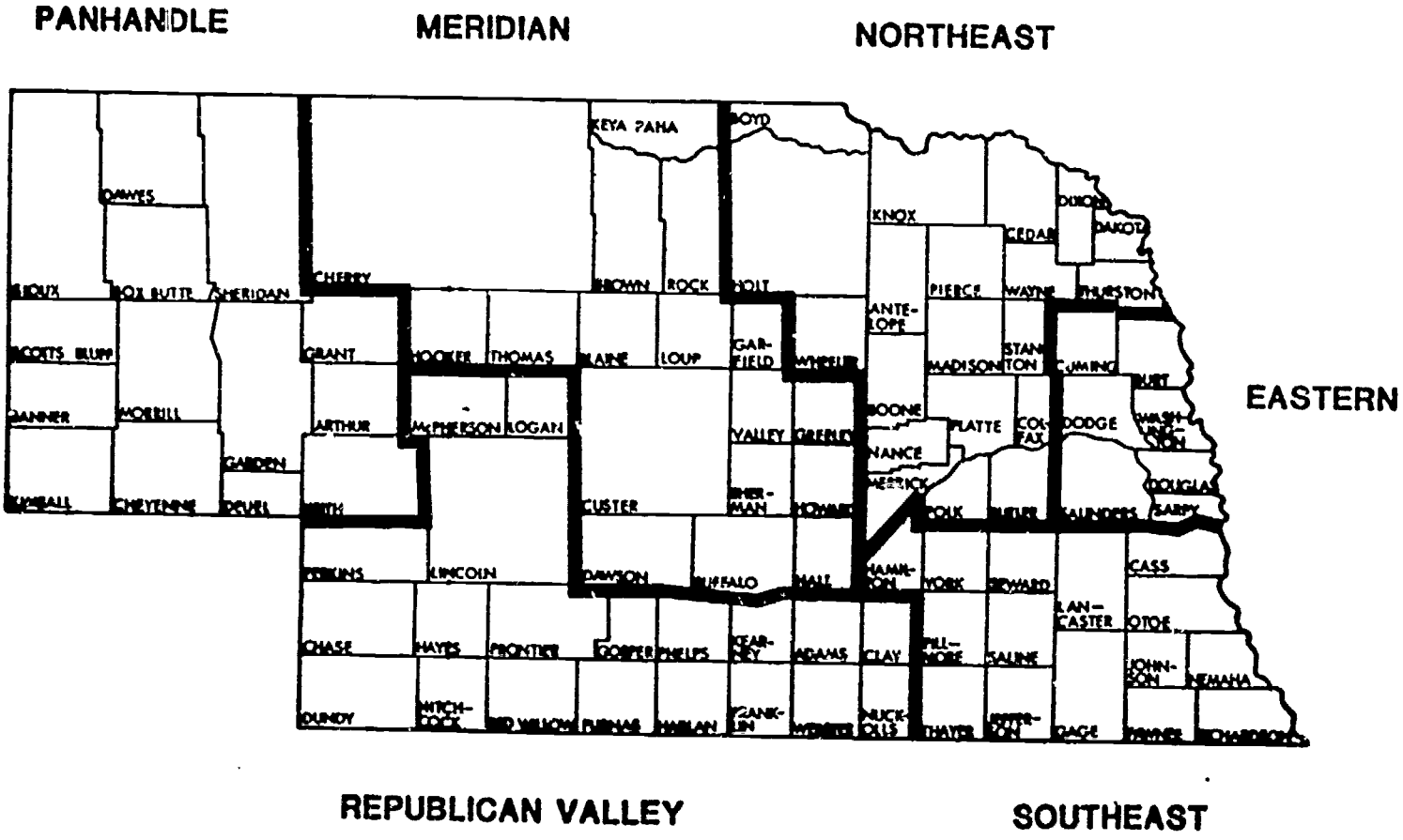
How has RICK performed in the eyes of its users since July 1984? A survey was mailed to all 302 libraries/media centers in January 1985. Ninety-six surveys were returned from 43 public libraries, 48 school libraries, 4 college libraries and one institutional library. In response to the question "Are you generally satisifed with the quality of service provided by RICK?", 89 answered yes and four answered no. In response to the question "How beneficial are RICK's services to your library and its patrons?", 67 responded very beneficial, 20 responded beneficial, and six responded slightly beneficial. Another question, "Would you like to see RICK continued?" elicited 89 affirmative responses and one negative response.

Verbal comments supplied by the survey respondents indicate enthusiasm and satisfaction with RICK. Comments such as "I think that RICK has improved our library service to the public 100%," "We think you are doing a very good job and a great service to all libraries," "Our patrons are happy with RICK. We are saving a lot of money," and "RICK personnel are polite! Great job! Caring! Wonderful service!" have positively reinforced the RICK staff to continue to provide the best service that they can. However, six libraries did express concerns about the amount of time it takes to receive materials and information requested through RICK. How has RICK

responded to these concerns. Most importantly, RICK has increased its staff since July to better cope with the heavy workload of the labor intensive interloan operation. When RICK opened in July, the office was staffed by one professional librarian to direct the Center and to answer reference questions, and by one Library Assistant to handle the interloan operation. After the first two months, it was was obvious that the Center could not operate efficiently with only two staff members to take all calls, process all interloans, maintain files, answer reference questions, make follow-up calls, provide training, do publicity, etc. When one of these two staff members would be gone from the office for even one or two days, a backlog would be created that increased turnaround time by several days. By mid-October, a student assistant was hired for 12 hours per week to take calls, maintain files, and make follow-up calls. Then, with additional grants from both the Meridian and Republican Valley Library Systems, two half-time Library Assistants were hired, one in October and one in November. By January of 1985, all of these new staff members were sufficiently trained so that RICK can now better cope with its increasing workload. Except for occasions when RICK is short staffed due to illness or vacation, the staff can generally process in-state requests within two days and out-of-state requests within five days, which is the goal for RICK as stated in the original proposal approved by the System Boards.

How far has RICK come since July of 1984 and where is it going in the future? When RICK opened on July 2, two uninitiated staff members entered an office consisting of a few pieces of

furniture, empty files, and a stack of office supplies. Since then, three more staff members have been hired and trained. The staff has installed a microcomputer for CMS and word processing, has presented five workshops for all librarians and media specialists using RICK, has processed 7811 interloans and 1205 reference requests, and has created the files and procedures to track these requests. We have come to know many librarians in central Nebraska by first name, but more importantly, we have learned what these librarians need and expect and what we need to do to meet their needs and expectations. We have developed ideas for special services that can be offered through RICK above and beyond reference and interloan such as maintaining a database of highly requested items, doing time and cost studies, and developing special public awareness programs. We are now reaching the point, after our initial development and training period, where we can excell at reference and interloan while developing these new services for our constituents. Given time and adequate funding, RICK has the potential to develop into a model multitype cooperative to be studied and possibly replicated. Above all, RICK is a concrete manifestation of the commitment of librarians and System Board members to provide a quality information and interloan service to all citizens of central Nebraska.



NEBRASKA LIBRARY SYSTEMS

APPENDIX A

TOWARDS A DEFINITIVE LISTING OF WORLD WAR I POSTERS

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ABSTRACT

Although almost 70 years have passed since the armistice, it is disturbing to the author that there apparently has never been a definitive bibliographical record of the posters that were printed for the various war efforts. A flurry of publishing activity followed the close of the war, continuing into the 1920's. In the last 17 years a number of exhibition catalogs have appeared, nonetheless showing only selective reproductions along with explanatory notes. Inasmuch as so much information still remains to be discovered and recorded about the war posters and their production, the author stresses the reasons for researching war posters and indicates a method of producing the beginning of a definitive catalog of the posters that were published.

I

For the purpose of mass communication, warring nations, prior to World War I, relied almost entirely

upon printed proclamations which announced such events as recruitment drives or new regulations. Pasted on bill boards or on the walls of buildings, these printed sheets were usually authenticated by some official indications, such as coats of arms. The language was authoritative; the argument an explication of the reasons for the occurrence. The issuing government, through the proclamation, attempted to show its humaneness, to remind citizens of their patriotic duty, and to portray the enemy as ruthless and relentless.

Although proclamations still appeared during World War I, especially in the invaded territories, the poster was an obvious choice to replace the proclamation as a mass-produced means for propagandistic manipulation of public opinion. This was no accident because by 1914 the poster was a medium that was accepted as well as understood by the public at large. The poster through its drawing and color could impact much more quickly and easily than the proclamation could. Not only was there a visual and emotional reaction to the design and color scheme, the war poster added the dimension of likening contemporary events to history in order to heighten each viewer's sense of

historical importance.

II

The historian or social scientist interested in World War I should find many insightful areas of research in this first use of the war poster. Not only do the posters represent the attempts by a government or its agencies to manipulate and propagandize one's own people; the changes in the formats and the treatment of the subjects of the posters during the course of the war also reflect a government's change in its own tactics for persuasion.

Such changes, nevertheless, were not necessarily a progression towards better and more efficient poster techniques as the war progressed, but, rather, were reflections of the relations between the country's moods and external events as each year of the war passed. For example, one can notice a steady change in the representations of both the soldier in battle and the enemy. The form and tone of the posters became more strident, and new devices for impressing the viewer had to be invented as it became necessary to appeal for ever higher sacrifices.

The posters show an almost steady progression towards barbarism. In fact, increasing simplification and brutalization appear to have converged towards the end of the war. Whereas at the beginning of the war there was a 'soft' presentation of the images, along with the wordiness of the message, towards the end of the war there are exploding images and burning slogans.

The particular use made in each country of the war poster figures also should provide insight into the mood of the country at that time. For example, the principal characters of the posters fall into three broad categories: allegorical figures, recognizable types, and portraits of real persons. Therefore, how one portrayed 'The Nation,' 'Victory,' 'Liberty,' 'Marianne,' 'Britannia,' 'Columbia,' 'The Red Cross Mother,' 'The Sweetheart,' 'The Enemy,' monarchs, generals, or statesmen should indicate not only the character of the artist, but also the character of the country at the moment. There is a vast difference in the portrayal of the female in "Gee! I wish I were a Man" and in a bellicose Marianne.

Besides being viewed as social manifestations of the

times and as means for manipulation of public opinion, the World War I posters should also be viewed as artistic productions: as good or bad art. This can be a fruitful area of research for the art historian. Not only can the changes in poster techniques be investigated; the quality of any poster, as art, can be assessed. There were some good artists who did war posters. Yet for every Brangwyn, SEM, or Steinlen, to name a few, who brought a grace to the war poster, there were many more who produced bad posters. The art historian may also find fruitful an investigation of the relationship between the artist and the printer, particularly in those cases where the artist did not furnish the text of the poster.

III

Although almost 70 years have passed since the armistice, it is disturbing that there apparently has never been a definitive bibliographical record of the posters that were printed for the various war efforts. A flurry of publishing activity followed the close of the war, continuing into the 1920's. Then in the last 17 years a number of exhibition catalogs have appeared, showing selective reproductions and explanatory notes. Yet so much information still re-

mains to be discovered and recorded about the war posters and their production.

In the list that follows, most of the books, particularly the exhibition catalogs, are so highly selective in their contents that all of the books, rather than individual titles, must be considered as a starting point or prolegomenon for a definitive bibliographical listing of World War I posters.

1. Clément-Janin, Noël. Les estampes, images et affiches de la guerre. Paris, Gazette de Beaux-Arts, 1919.

2. Coffey, John W., II. American posters of World War One: catalogue and exhibition. Williamstown, Mass., Williams College Museum of Art, c1978.

3. Crawford, Anthony R. Posters of World War I and World War II in the George C. Marshall Research Foundation. Charlottesville, University of Virginia Press, c1979.

4. Darracott, Joseph. The first World War in posters from the Imperial War Museum, London. New York, Dover Publications, Inc., 1974.

5. Frank, Peter Conrad. Women of the World War One poster. Middletown, Conn., Wesleyan University Center for the Arts [1981].

6. Gallatin, Albert Eugene. Art and the great war. New York, E. P. Dutton & Co., 1919.

7. Great Britain. Stationary Office. Catalogue of war literature issued by H. M.

government, 1914-1919 including: recruiting, war savings and other pictorial posters, and the more interesting of the numerous publications bearing upon the war some of which have not previously been offered for sale. London, H. M. Stationary Office, 1921.

8. Hardie, Martin and A. K. Savin. War posters issued by belligerent and neutral nations, 1914-1919. London, A. & C. Black, 1920.

9. Hoover Institution. War, revolution & peace: propaganda posters from the Hoover Institution Archives, 1914-1945. Stanford, Hoover Institution [1970].

10. The James Montgomery Flagg poster book. New York, Watson-Guptill, 1975.

11. Leblanc, Henri. Collection Henri Leblanc, destinée à l'état; la grande guerre: iconographie-bibliographie-documents divers. Paris, Émile-Paul Frères, 1916-1922. 8 v.

12. Librairie du Musée de la Guerre, Paris. Catalogue d'affiches françaises illustrées, guerre 1914-1919, en vente à la librairie du musée de la guerre. Saint-Amand, Clerc-Daniel, 1919.

13. New York Public Library. Photographs of war posters. New York, New York Public Library, 1928. 5 v.

14. Princeton University. Library. War poster collections. Princeton, Princeton University Library, 1919.

15. Rickards, Maurice. Posters of the first World War. New York, Walker and Co. [1968].

16. United States. Navy Recruiting Service. Recruiting posters issued by the U. S. Navy since the declaration of war. [Washington], U. S. Navy Recruiting Bureau, 1918.

17. United States Shipping Board Emergency Fleet Corporation. Posters issued by the United States shipping board emergency fleet corporation. Philadelphia, U. S. Shipping Board Emergency Fleet Corporation, 1918.

18. University of North Carolina. Ackland Art Center. W W I propaganda posters; a selection from the Bowman Gray Collection of materials related to WWI & WWII. Chapel Hill, University of North Carolina, 1969.

Even though it would prima facie appear from the above listing that one can obtain a goodly amount of information about World War I posters, the truth of the matter is that in fact little has been done because there is a large amount of overlap in these catalogs. It is as if everyone wished only to show the best in the collection. For example, as we have been processing our linen-backed posters, we have annotated our records to indicate whether we have a copy of what appears in Coffey [2], Crawford [3], Darracott [4], Flagg [10], Frank [5], Gallatin [6], Hardie [8], North Carolina [18], and Rickards [15]. These ten sources only have 326 unique U. S. poster citations, less than half of that published by the Committee for Public Information alone. They have only 126 unique French poster citations whereas Leblanc [11] lists almost 300 French posters printed before the early part of 1917 when he donated his collection.

IV

The Archives/Special Collections area of the University Libraries, University of Nebraska-Lincoln, has a collection of 552 World War I posters ranging in size from 40 x 22.5 cm. to 137.5 x 100 cm. 155 are U. S. war posters. The remainder are mostly French, a few coming from Canada, Great Britain, and Italy. We estimate that the market-place value of the collection is close to $40,000. That may be quite conservative inasmuch as a collection of 155 World War I Russian posters was recently advertised for $50,000. Our posters are part of a collecting specialization which includes 407 linear feet of World War I pamphlets, 1,657 World War II posters, and 3 linear feet of World War II propaganda leaflets from the Pacific Theatre of Operations.

It would appear that 14 libraries in the United States have significant World War I poster collections, in some cases the collection being numerically much larger than ours. Nevertheless, there is almost no public information about the particular posters in any of these collections, with the exceptions of those citations listed in section III above. We have no

doubt that there may also be other World War I poster collections in museums or historical societies whose existences are not publically recorded.

We believe that the value of any poster collection is not solely determined by its numerical size, although size is certainly very important. We also believe that part of the value of any poster collection is its being part of the public record. In particular, researchers should be able to consult a public or printed record as well as, or instead of, having to travel to a location for viewing the posters one by one. If our line of reasoning be correct that it may not matter whether one collection is numerically much larger than another, then what will matter will be the percentage of uniqueness in any poster collection vis-à-vis the public record: namely that information which is publically accessible.

Inasmuch as 52.6% our our U. S. posters and 75.2% of our French posters already inventoried are not listed in the ten sources mentioned above in section III, we believe that our collection shows a uniqueness that warrants the completion of objectives as listed in the next section.

V

How we obtained our World War I poster collection is now long forgotten, although we probably received it as a gift. Someone on our staff, unfortunately, folded the posters and placed them in 75 x 54 cm. portfolios where the posters remained for decades. When the posters were unpacked last year, we discovered that some had linen backing, thus surviving the years of folding well. Others had no backing, however, and are in danger of deterioration, showing wear mainly in the folds. In order that the posters, particularly those not backed, be available for research, we deemed it proper and necessary to put each one into a condition which will permit handling and to arrange the collection in an orderly sequence, with appropriate means for querying and retrieving.

We have, hence, established three, interrelated objectives for this collection:

1. to preserve the posters so that each can be handled;

2. to arrange the collection so that it can be used by scholars for research

and so that photographic copies of the posters can be available for exhibits; and

3. to describe the collection so that offsite persons will know what we have; and to begin, in a small way, a definitive listing and description of World War I posters.

Objective 1 is not only the first to accomplish, but is the action which is basic for the other objectives. The posters are now unfolded, lying upon flat surfaces, well protected from dust. 340 posters have linen backing; 212 posters have no backing and need some immediate preservation. Following the advice of Carolyn Clark Morrow, we intend to construct a humidification chamber in order to restore some of the resiliency of the paper. Not only will we thus remove or reduce the folds of the posters; we shall at the same time accomplish the cleaning and minor repair work that is necessary.

After the humidification and repair work on all of the posters, each will be photographed both in color

and in black and white. The purpose of the 35 mm. color slides which will be produced is twofold: to show the colors as they now appear after approximately 70 years and to provide the key ingredient for a sound and slide presentation that will be offered to schools, libraries, social organizations, and civic groups as a traveling exhibit. Inasmuch as the color on the aforementioned slides will fade eventually, we shall have 35 mm. black and white negatives for permanent backups and for providing copies, as requested, to offsite persons.

After the photographing, the posters will each be placed flat in 4 mil archival polyester folders, again on the advice of Ms. Morrow. To that end, we have quotations from Conservation Resources International, Inc., of Alexandria, Virginia, for prices of their Polyweld folders. The encapsulated posters will then be placed in cabinet drawers. Each folder will only be sealed on three sides so that we can be able to remove the poster for further treatment when the costs of deacidification are so reduced to allow us to proceed to this step of conservation.

Objectives 2 and 3 relate to the arrangement of the

collection. Before each poster is photographed, each will be described in detail, as indicated in a later section of this paper: pictorial description, line by line description of the text, size, date, artist, type of reproduction, and whether in color or in black and white. An accessioning number will be added to the verso of each poster, and the collection will be stored in flat drawers of large map cases.

Lastly, we intend to produce a publication, 75-100 pages, containing the descriptions obtained in the previous step, along with some reproductions of selected posters. This publication will be distributed to the academic and archival communities to show what we have, and publicly to add a few more citations in the creation of the definitive listing of World War I posters.

VI

Our project involves the following ten steps.

Step 1. Removal from the portfolios.

Step 2. Inventory of the 340 linen-backed posters.

Step 3. Construction of the humidification

chamber.

Step 4. Repair and humidification of the 212 unbacked posters.

Step 5. Inventory of the 212 unbacked posters.

Step 6. Photographic reproduction of all of the posters.

Step 7. Encapsulation of the posters in archival folders.

Step 8. Creation of the typescript for the catalog.

Step 9. Publication of the catalog.

Step 10. Creation of the traveling exhibit.

Step 1 has been completed. We unfolded the posters, separated them into groups by country of origin and whether linen-backed or not, placed them on large flat surfaces, and then covered each group with a light-weight mylar in order to protect them from light and dust.

Step 2 has almost been completed. Once the elements of the description were selected, we described each of the 340 linen-backed posters and added an accession number to the verso of each poster. The acces-

cession number, description, and notation whether in thirteen of the eighteen sources mentioned in section III above - Coffey [2], Crawford [3], Darracott [4], Flagg [10], Frank [5], Gallatin [6], Great Britain [7], Hardie [8], Hoover [9], Leblanc [11], North Carolina [18], Rickards [15], and U. S. Navy [16] - were then typed on 3" x 5" cards which are filed both by accession number and by alphabetical entry. What must still be accomplished is annotation against Clément-Janin [1], Musée du Guerre [12], Princeton [14], and Shipping Board [17]. This work can be accomplished during the summer of 1985 when we receive those books we do not have on interlibrary loan. The annotation should take no more than one (1) week. Annotation against the New York Public Library [13] may necessitate a special trip to New York.

Step 3 will be accomplished also during the summer of 1985. Although the cost is slight, we must await our new fiscal year for the minor funding. The instructions about the construction of the humidification chamber are contained in a letter from Morrow. Since we have decided to perform step 4 during the summer of 1985, the delay in the construction of the chamber will cause us no problems. Construction is one (1)

day.

Step 4 will be performed during the summer of 1985. The instructions about the process are contained in the cited Morrow letter. The work will be performed by our project director and an hourly assistant employed on our normal personnel budget. The total time for this step should be one (1) month, but the actual working time should be ten (10) days.

Step 5 will accomplish for the 212 unbacked, but now revitalized, posters what was accomplished in step 2 for the backed posters: the describing, the accessioning, and the annotating; along with the typing and interfiling of the 3" x 5" cards. The predicted time is three (3) work/months, although the actual work will probably occur over six (6) months at approximately twenty (20) hours per week. This work will be performed by the project director who did the work in step 2.

Steps 6 through 10 are dependent upon external funding. Although the scheduling of these steps cannot, hence, be predicted with the certainty that was possible for the previous steps, we do know what must be

accomplished in each of these steps and can predict how much time each step should take.

Step 6, the photography, will be performed by a local photographer contracted specifically for this project. We shall construct the frames for the shooting. Most of the posters will be filmed from above, the posters lying flat on horizontal surfaces. A few of the larger posters will need to be photographed while in a vertical position. One (1) day will be needed to construct the frames. The camera work should actually take no more than three (3) months, but will probably be accomplished over a five-six (5-6) months period. In all likelihood, the 340 backed posters will be photographed first. The remaining 21½ will be photographed after the inventorying of step 5. The reason for filming them last is because of the special handling that will be necessary. The photography will be contracted on the basis of a unit price per poster. For the price, we shall receive a 35 mm. color slide, a 35 mm. black and white negative, and a 5" x 7" black and white print.

Step 7 will be accomplished by an hourly assistant. The mylar archival folders having been received and

the work in step 6 having been performed, the assistant will place each poster in the protective folder, seal two additional sides, and then put the posters in accession order in the map cabinet which we shall furnish. The activity should take eleven and one half (11.5) work/days and will be accomplished over a period of one (1) month.

Step 8 is the formatting of the proposed catalog, the transcription of the entries from the 3" x 5" cards, and the proofing of the typed copy. The typing of the copy will be done by an hourly worker using a word processor already owned by the University Libraries. The estimated time for this activity is two (2) months.

Step 9 is the publication of the catalog. We shall first attempt to publish the catalog as part of our University of Nebraska Studies. If we are successful in our attempts, it might take upwards to a year for the publication to appear. Should the publication not be accepted for the Studies series, then we would either apply for a local, private grant or, failing all other methods, provide the funding ourselves.

Step 10 is the development of the traveling slide and sound exhibit. Recognizing the interest that could be generated within the state and region for a traveling exhibit of our World War I posters, we plan to create a two (2) or even three (3), coordinated slide projector presentation with sound commentary. The exhibit will attempt to show the historical significance of the poster in World War I, using selected posters as illustrative examples of the commentary. We would offer this exhibit for presentation at meetings of civic groups and social organizations or at libraries and schools. We estimate that such a presentation can be devised and the slides duplicated within a three (3) months period.

We presently have a grant proposal to a federal agency for the completion of steps 6-8.

VII

We believe in the historical importance of the World War I poster and thus are committed to the preservation of this oeuvre. Unfortunately, these posters, wherever they may be found, will not last indefinitely because they were produced on paper of poor quality which is now showing the stress of 70 years. Our

ultimate goal, therefore, has been to help create a definitive catalog of the World War I posters which would preserve the information that is contained in each poster.

Hence, in creating our own 3" x 5" files we chose those elements of physical and bibliographical description which would easily and accurately allow anyone reading our description to know if a poster in hand matched our copy. Because of the goal mentioned in the preceding paragraph, we explicitly rejected the AACR2 format for posters, which lacks the line by line delineation that we deemed to be most important.

By our rejection of AACR2 for posters we do not reject the concept of standardized formats. We understand the importance and necessity for AACR2 for OCLC, RLIN, WLN, and any other bibliographical data base. Yet we believe that it would be unnecessary and highly wasteful of machine space for individual posters to be entered in one of these online bibliographical systems. All that would be necessary to enter into these online systems would be the definitive catalog of World War I posters, often alluded to above, which would be entered, as a book, in conformance with AACR2 standards.

Our object, thus, has been to further the goal of the definitive catalog while using a standardized format for our entries.

Each of the entries in our 3" x 5" files carries an accession number which indicates the country of origin, a numerical sequencing, and, in certain instances, a suffix which identifies the agency authorizing the poster. The end lines are indicated by space slash space [/]. Brackets [[lower left] [rule]] are used to indicate non-print information such as descriptions of drawings, delineating lines, or physical directions. Spacing is indicated as it occurs on the poster. Single underlining [<u>other</u>] indicates italics. Other markings, such as double underlining, are reproduced as they appear on the poster. The dimensions are given in centimeters, height being the first figure. Because posters may be trimmed when they are backed, we provide, where appropriate, two dimensions: one for the colored area or the area within a border; and another for the external size of the sheet. Each entry has three distinct parts: the description, the collation, and the reference to citations.

The following are two examples of c .r entries:

Example 1.

FR130/

PALAIS DES BEAUX-ARTS DE LA VILLE DE PARIS / PETIT PALAIS DES CHAMPS-ÉLYSÉES / [rule] / EXPOSITION / D'OEUVRES D'ART MUTILÉES / OU PROVENANT DE RÉGIONS DEVASTÉES PAR L'ENNEMI / [rule] / ORGANISÉE PAR LA VILLE DE PARIS / sous le Patronage du / SOUS-SECRÉTAIRE L'ÉTAT DES BEAUX-ARTS / et sur l'Initiative / du JOURNAL / [rule] / OUVERTE TOUS LES JOURS / de 10 heures à 4 heures / A PARTIR DU SAMEDI 25 NOVEMBRE / [rule] / PRIX D'ENTRÉE: UN FRANC / AU BÉNÉFICE D'OUVRES DE SOLIDARITÉ ARTISTIQUES / IMP / G .DUPUY . PARIS / [to right] [statue of crowing rooster] / [inside right leg of rooster] H P /

Lithograph. 118.5 x 79.2 cm. n.d. H.P.: artist. Paris: Imp. G. Dupuy. Black on white.

Leblanc: II,272

Example 2.

U.S.95/AR

[within frame of 3 lines] [frontal view of Uncle Sam pointing right hand] / [lower right] JAMES MONTGOMERY FLAGG / [across bottom] I WANT YOU / FOR U, S. ARMY / NEAREST RECRUITING STATION / [3 lines overprinted] U. S. ARMY RECRUITING STATION / FEDERAL OFFICE BLDG. / Minneapolis, Minnesota / [below frame] COPYRIGHT, 1917, LESLIE - JUDGE CO.,N.Y. /

Lithograph. Colored area: 99.6 x 73.5 cm. Outside: 101 x 73.5 cm. 1917. James Montgomery Flagg: artist. New York: Leslie-Judge Co. for the Army. Color.

Darracott: 13
Flagg
Hoover: 15
Leblanc: II,288
Rickards: 14

Traditionally, however, bibliographers have divided poster entries into three paragraphs: text, description of the drawing, and collation. The textual paragraph may have the complete wording or may only indicate part of the wording; the words may frequently be reproduced only in upper-case; and line breaks may or may not be indicated. As an illustration, we reproduce Leblanc's entries for the two examples:

Example 1a.

ANONYME. - Palais des Beaux-Arts de la Ville de Paris. Petit-Palais des Champs-Élysées. Exposition d'OEuvres d'Art mutilés ou provenant des régions dévastées par l'ennemi... A partir du samedi 25 nov.

Un coq chantant, sculpture ancienne.

Lithographie. Impr. G. Dupuy. Paris, 121x80.

Example 2a.

MONGOMMERY FLAGG (James), - ...

- I want you for U. S. Army, nearest station.

L'oncle Sam pointe son index vers un citoyen, et lui rapelle son impérieux devoir.

Lithographie en couleurs. 102x74.

The other citations from the list in section III above to example 2, the Flagg poster, rely mainly upon photographic reproduction for identification. The Hoover entry [9], however, has the following:

Example 2b.

James Montgomery Flagg (1877-1960)
I Want YOU / for U.S. Army
1917. Lithograph. 40 x 29 inches
Leslie-Judge Co., New York

Darracott [4] is even briefer, adding the following entry in his index:

Example 2c.

JAMES MONTGOMERY FLAGG (American)
"I Want You for U.S. Army"; 39 1/2
x 29 3/4 in., 100.4 x 75.1 cm.

Given our goal of definitive verification, what others had done, as indicated by the examples above, seemed to us to be much less than satisfactory. Even Leblanc, who is usually reliable and who has the most detailed entries of all, changes the "MUTILÉES" to "MUTILÉS" in example 1a; and he misses the H P hidden in the rooster, denoting the entry instead as "Anonyme." One should note also his charming spelling of the

name in example 2a: "MONGOMMERY."

Nevertheless, for the sake of standardization, it does seem reasonable for us possibly to change our 3" x 5" entries to a three paragraph format. Thus, example 1 would become:

Example 1x.

FR130/

PALAIS DES BEAUX-ARTS DE LA VILLE DE PARIS / PETIT PALAIS DES CHAMPS-ÉLYSÉES / EXPOSITION / D'OEUVRES D'ART MUTILÉES / OU PROVENANT DES RÉGIONS DÉVASTÉES PAR L'ENNEMI / ORGANISÉE PAR LA VILLE DE PARIS / sous le Patronage du / SOUS-SECRÉTAIRE D'ÉTAT DES BEAUX-ARTS / et sur l'Initiative / du JOURNAL / OUVERTE TOUS LES JOURS / de 10 heures à 4 heures / A PARTIR DU SAMEDI 25 NOVEMBRE / PRIX D'ENTRÉE: UN FRANC / AU BÉNÉFICE D'OEUVRES DE SOLIDARITÉ ARTISTIQUES

[statue of crowing rooster] [H P inside right leg]

Lithograph. 118.5 x 79.2 cm. n.d. H.P.: artist. Paris: Imp. G. Dupuy. Black on white.

Leblanc: II,272

and example 2 becomes:

Example 2x.

U.S.95/AR

I WANT YOU / FOR U. S. ARMY / NEAREST RECRUITING STATION

[frontal view of Uncle Sam-pointing right hand] [overprinting: U. S. ARMY RECRUITING STATION / FEDERAL OFFICE BLDG. / Minneapolis, Minnesota]

Lithograph. Colored area: 99.6 x 73.5 cm. Outside: 101 x 73.5 cm. 1917. James Montgomery Flagg: artist. New York: Leslie-Judge Co. for the Army. Color.

Darracott: 13
Flagg
Hoover: 15
Leblanc: II,288
Rickards: 14

Although at present our choice for the entries in our proposed catalog is the format of examples 1 and 2, we recognize that the format of examples 1x and 2x is more common. Therefore, before we proceed to step 8 we shall reexamine the situation in order to determine which of the two formats is better suited to reach our ultimate goal.

RECORDS MANAGEMENT AND THE RELATIONAL DATABASE

Louis Laudermilk
University of Nebraska at Omaha
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ABSTRACT

Innovation in computerization and telecommunication has led to an exponential growth of information. Fast processing and accessing of this information is essential, as firms seek to increase their efficiency and adaptability to changing, competitive emvironments. Similarly, libraries must process, index and store a proliferation of data, yet the usefulness of this information is determined by the speed and ease of its accessibility to the system, which employs innovations in microform, mini- and micro-computer, and relational database technology, results in quicker access of data, flexibility to handle rapid increases in volume of data, and ease of cross referencing. Additional benefits which accrue from implementation of an automated records management system:

- reduce storage space formerly occupied by printed records
- reduce manpower required to process and maintain records/documents
- reduce redundancy of records by creating a central database
- reduce occurrence of misfiles and missing files

As organizations have grown larger and their activities more

diverse, their filing systems have become larger and more complex. Concurrently, innovation in computerization and telecommunications has led to an exponential growth of information. Fast processing and accessing of this information is essential, as firms seek to increase their efficiency and adaptability to changing, competitive environments. To cope with a proliferation of data, organizations may implement automated records management systems which employ innovations in microform, mini- and micro-computer, and relational database technology.

The objectives of a modern, automated office are: to help the firm produce more, produce it earlier and at higher quality, to increase the ease of revenue collection, and to provide for faster, more reliable service.[1] To acheive these ends, the automated office relies on the speed at which information can be processed and the ease with which it may be accessed using high technology. It is common for a firm to have several files in each department, a central files department and a computer utilizing a database system. Redundant information appears, as identical copies of a single document reside in several files. Misplacement of records occurs in the active files where they are most needed, while correlation of data from different files to answer specific information needs is impracticable.

Coupling such an unwieldy, intractable records system with expensive, computerized office equipment results in:

1. Jonathan Dower, "The Automated Office and Accurate Records," Administrative Management (March 1981):46.

-Wasted investment, as "hi-tech" office equipment is underutilized when matched with a manual records system.

-Reduced employee productivity. Systems based offices have evolved from a centralized to a distributed configuration, as information is shared by greater numbers of people. Loss of/tardy access of information reduces worker productivity.[2]

To gain quicker access of data, flexibility to handle rapid increases in volume of information, and ease of cross referencing, the papers-in-a-folder files of a firm may be converted into automated, active files with the technology of the relational database, condensed disc files and computer controlled microphotography.

It is possible to use a relational database system for control of both digital memory of selected data and microform memory of the original document page from which that data came. A relational database system has the following characteristics:

-Structurally, data is arranged in tables, so that each record forms a row and each field a column. Associations between rows are represented by the values appearing in the columns.[3] Similarly, in the table below, each row describes a periodical relative to fields/attributes (title, call number, subject, price and periodicity). By employing the relationship between fields of a similar type, information may be retrieved from the file. For

2. Ibid.

3. Michael Lesk, "Computer Software for Information Management," Scientific American (September 1984):164.

example, a request for journals classified as management, would retrieve two records from the table below:

Title	Call No.	Subject	Price	Period
Journal of Accountancy	HF 5601...	Accounting	$20	M
Financial Analysts Journal	HG 4501...	Finance	$36	BiM
Operations Research	Q 175...	QBA	$60	BiM
Marketing Executives Digest	HF 5415...	Marketing	$72	M
Economic Review	HC 440.5...	Economics	Free	Q
Management Science	HD 28...	Management	$65	M
ARMA Records Management	HF 5735...	Records Management	$30	Q
Management Research	HD 28...	Management	N/A	M

Management Science	HD 28...	Management	$65	M
Management Research	HD 28...	Management	N/A	M

- Since each field may be used as a key to access data, any questions relating to the values in the fields may be posed to the database.

In contrast, a heirarchical structure would divide the above record scheme into smaller groups of fields, so that a series of tables would be formed. One of the fields would be designated the master field/key, while the remaining tables would be linked to the table containing the master field in a serial manner. Fields would be duplicated from table to table to create a correlation between the tables, so that increased memory space would be required, in contrast to the relational model.

Prior to creation of the database, the master field must be designated with an expectation toward answering specific questions submitted to the system. The resulting database would be more amenable to answering questions related to the master field's value than those of the other fields. To retrieve data from the remaining fields, queries must be formed to access first the master fields, then traverse through the subsequent linked tables.[4] Thus the heirarchical model is not as hospitable to as wide or unexpected a range of queries as is the relational model.

More direct links could be constructed to the fields in the tables below the master field, so as to reduce the time needed to access the information there, but additional memory space would be required. The resultant structure would be termed a network model.

- Another advantage of the relational structure is that the addition/deletion of data items does not require reorganization of structure, so that keys to fields need not be altered.[5]

- A disadvantage of the relational structure is that the speed of access decreases as the number of records contained and fields indexed increases. To increase the access time, the file could be sorted into a serial order. A binary search could then be performed whereby the serial list would be divided in half and the program

4. Ibid.

5. Ibid, p. 165.

would determine which half contained the value sought. This process would then be repeated on successive "halves" until the data item/s was located. Yet the sorting of the file into an order would have certain drawbacks:

- additional memory would be consumed by the sorting program
- with addition of data items into the list, the file must be re-sorted, consuming additional computer time
- to gain flexibility to search by different sorting schemes, data items must be duplicated and sorted relative to different keys/ schemes, thus consuming additional computer time and memory[6]

Having indexed the data, storage mediums may be employed which range from disc to microform in format. At the forefront of technological innovation is the optical disc which yields increased storage density. One 11" disc may hold approximately 20,000 record pages versus the 4 rolls of film required for microform storage.[7]

For an organization with multiple users needing access to a large database/s quickly, the optical disc represents a less expensive archival means of storage than magnetic disc or tape. As the data is stored in binary form, telephone transmission is facilitated to both adjacent and distant departments of a firm.

In comparison to microform, access is quicker and data may be easily updated. Yet optically digitizing records onto disc, film or tape yields disadvantages:

- Expense, the start up cost for an optical disc system may be in excess of 1 million dollars. This is emphasized by the $200-300 cost of a single blank 11" disc (discs may be stacked on drives).[8]
- Lack of standardization of physical form and dimensions of disc types, as the technology is still developing. Further, longevity of individual vendors in the marketplace may be questionable.
- Inadmissable in court as evidence, as the medium may be tampered with.

6. Ibid.

7. Gerald F. Brown, Union Pacific Railroad, Telephone interview, 10 May 1985.

8. Brown, Personal interview, 20 March 1985.

- "Slippage of data may occur over time due to the nature of the high density storage.
- 10 years is the lifespan of data recorded onto optical disc.
-Optical scanning of data is slower than the rate of an auto-fed/ rotary camera (microform).

If an organization does use an optically scanned medium for retention of records, it is probable that microform will be used as a backup medium.

For firms with smaller operating budgets and/or smaller records collections, microform represents a less expensive means of storage. Assuming an approximate cost of $.015 per image (excluding development) for the aforementioned 4 rolls of microfilm needed to record 20,000 pages of records, the resulting cost would be $300.00 which is the estimated cost for a blank 11" optical disc.[9] In contrast to the optical disc, microform is admissable as evidence in court.

To gain the ability to update data in storage, a COM (Computer Output Microfilm) system may be used to record data stored on magnetic disc or tape onto microfilm/fiche. A savings in storage space would result as 300 pages of computer printout may be recorded on a 4" by 6" fiche, but COM is only applicable to computer generated data.

To record documents existent outside computer memory, a rotary or planetary camera may be used. With the former, up to 3000 documents per hour may be photo'd if they are letter size and of uniform thickness.[10] For larger, nonuniform records, a planetary camera will yield rates varying from 15 to 75 images per hour.[11]

During the filming process, the records may be coded to aid either manual or automated location and retrieval. With the latter method, CAR (Computer-Assisted Retrieval), active records (accessed greater than once per month) might be kept on magnetic memory, while archival data would exist on film. By entering a key to a

9. Ibid.

10. Betty R. Ricks and Kay F. Gow, Information Resource Management (Cincinnati: South-Western Publishing Co., 1984), p. 155.

11. Gerald F. Brown, Wilmer O. Maedke, and Mary F. Robek, Information and Records Management (Encino, California: Glencoe Publishing Co., 1981), p. 377.

document, it could be viewed on a CRT from magnetic memory or a roll of film accessed (by robotics if desired) and advanced by computer to the pertinent image. Such a system is termed online, while one that merely indexes the location and attributes of the record in computer memory is offline in nature.

Whether an office automates its records management system digitally or in a microform manner, advantages will result:

- Protection of vital records which might be lost due to misfiling: Next to its employees, records are an organizations most valuable asset and one of its largest overhead expenses. Records are difficult, to impossible to regenerate after loss. With government agencies increasingly requiring that companies retain and present records of their operations, it is prudent to employ an automated records system that yields increased accessibility and surety of retention.
- Increase speed of access of information
- Save space
- Reduce manpower requirements: 10 percent of a company's revenue dollars may be spent on information handling with 70 percent of that amount going to personnel. Implementation of an automated records system may result in a reduction of an office workforce, which would yield savings in operations expenditures.[12]
- Reduce redundancy of records with a central records database (allowing simultaneous access, cross referencing and remote access), as multiple copies of documents in each department are eliminated.
- Confidentiality of records may be ensured: Digital and film records may be coded online to control access to a central database which is easier to police than multiple record collections dispersed throughout a firm.

12. Dower, "Automated Office," p. 46.

- Records may be programmed online for updating, deletion and reclassification. For example, former employee's records may be coded for deletion after the retention period required by federal and state law has been exceeded.
- Reduction of misfiles and missing files results in more efficient use of an organization's funds and employee's time.

The disadvantages associated with implementing an automated records system are few:

- By obviating the need to file, transport, type on or look for pieces of paper, far fewer employees will be required. Management may resist a system which reduces the complexity, size of budget, and number of people in their departments.
- If volume falls far below forecast levels, employee staffing may be reduced, but a capital investment in an automated file system cannot. [13]

In summary, implementation of an automated records management system allows an organization to more quickly and efficiently process and access a proliferation of data that grows inexorably in volume daily. As this information is necessary for the operation and evolution of a firm in a competitive, changing environment, an automated records system is necessary for the survival and success of a business. As the cost of labor, paper and floor space increases in the future, replacement of a manual system with an automated file system becomes increasingly attractive. Though computer-based record systems carry a higher initial cost than other processes, their traits of control, accountability and fast access allow the investment to be recovered many times over. Most effective use of automated files exists in service organizations such as banks, libraries, universities, insurance companies and hospitals.

13. Charles Simon and Donald Gerber, "Fully Automated Records Management," Journal of Systems Management (May 1978):6.

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SMALL DATABASES IN THE LIBRARY

THE PROGRAMMER'S PERSPECTIVE VS. THE LIBRARIAN'S PERSPECTIVE

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ABSTRACT

Computerized databases are well suited to the library. Yet automated databases on microcomputers remain, for the most part, unexplored. There are many factors involved in designing and selecting databases for the library. However, most commercially available databases are geared toward generic data, hence, they will not handle library data right off the shelf.

There are, though, standard programming techniques that allow that allow the librarian to modify standard database packages so that they will handle bibliographic data. At the Learning Resources Center, using these techniques, we have implemented several databases. This paper will outline some of those techniques which we have found helpful, as well as some of the problems which we encountered in implementing our databases.

Microcomputer databases are ideal tools for the librarian. Given the very nature of managing and disseminating information, a database can simplify this task. While databases can simplify repetitive chores such as entering and editing data, updating bibliographic indexes, and printing out reports, there are drawbacks, indeed, large hurdles, to implementing databases in the library. One can easily find the rationale for implementing a small database, however, one cannot always find the time to design, test, and implement a database, let alone enter the data. Furthermore, the task of implementing a database is not simplified by the fact that the documentation that accompanies a "commercially" available database package does not give a clue about how one can handle bibliographic data, at least not in the detail that librarians need. This should not come as any surprise, as most software developers aim to design generic packages that will handle different types of data. It is up to the individual to apply the package to her or his specific application. The advantage to this is that you can modify a package to fit your specific needs. The disadvantage to this is that you may have to spend a great deal of time learning the nuances of the package before you can take it from the general to the specific.

However, librarians, being resourceful individuals,

know quite a bit about databases. After all, the library is a database. If one can clearly enunciate what information one wants from a database, and most librarians can, it is, then, merely a matter of translating the methods one uses already into a program that will automate many of the tasks involved in managing bibliographic data. This paper will outline several databases that we implemented at the McGoogan Library of Medicine at the University of Nebraska Medical Center emphasizing the fact that the librarian's perspective is really quite similar to the programmer's perspective. Furthermore, I shall outline several programming techniques which we employed that we have found helpful in implementing our databases.

Database packages are generic systems that handle generic data. With modifications, these systems will handle particular data such as ledger balances, inventories, and, of particular interest to the librarian, bibliographic data. The advantage to selecting a commercially available package versus a programming language lies in the fact that the package does most of the work for you. For instance, if I edit records in a database package, I do not have to worry about the details of reading and writing records from disk to memory. I merely have to position the record pointer over the record I wish to view and the database will take care of details of reading the record and loading it into memory. With a

programming language, I would have to take care of all of the details myself. For instance compare these two pieces of code, one from Pascal, and one from dBASE II:

Pascal

```
{ open the input file }

reset( textin ) ;
rewrite( textout ) ;

while not eof( textin ) do

     begin     { while }

     { statements to process bibrec }

       put( textout, bibrec ) ;
       get( textin, bibrec )
     end       { while }
```

dBASE II

```
*    open the library
*    database
use b:library.dbf

*    statements to
*    process the
*    library.dbf
```

To use and manipulate the database we only need a few statements. Furthermore, databases use random access files; Pascal, in comparison, allows only sequential files that, moreover, may only be opened for input or output, but not both.

Therefore, I can create and edit a database using the databases built-in functions to enter, edit, and print titles. However, this would hold true only for those databases that handled generic data, that is short fields and short records. Databases are poor communicators, however. This is especially true for bibliographic data; most databases do not present information very neatly on the screen, nor do they inform you of the function that you are currently performing. Newer databases have become more adept at this with interactive menus and the like; yet they still will not format

bibliographic records nicely on the screen.

For instance, consider an inventory database. If you have ever read the inventory labels at the grocery store, you have a good idea of what I'm talking about: truncation city! I'm always amazed at some of the names such as 'Dole Ripe Tomat.' As an example of this (sans truncation), I have listed, in Figure I, the output from a small inventory database which we use at the Learning Resources Center.

The most striking fact about the inventory database is the ease with which we can handle the different fields. Since each field is short, one can position all of the fields necessary for the report on one line of an eighty column page. One really does not need any sort of special system to handle this type of data, however, we wrote a small program to create the report as our database package would not print the subheadings centered on the page as we wanted them. A good example of generic data, this, and a good example, furthermore, of why one might select a commercially available database to manage their records. The documentation that accompanied the database that we use (dBASE II) gave a slew of examples that dealt with data of this type; nice short fields, nice easy reports. Entering and Editing these records was no problems as the fields fit nicely on one line.

Dare I say that in reality, especially in the library, we are not blessed with data that is so easily

FIGURE 7, INVENTORY DATABASE OUTPUT

Learning Resources Center
Equipment Inventory

8mm Projectors

8P	6	Technicolor 510	578866
8P	6	Technicolor 510	578866
8P	15	Fairchild Mark-IV	558417
8P	44	Fairchild Seventy	567595
8P	10	Fairchild Mark-IVs	544697

Carts

C	18	Wilson 42" Tan	558459
C	50	Bretford Tourodise-Shelf	n/a
C	53	VTR cart, black cabinet	703575
C	57	Luxor 34" orange cabinet	568817
C	58	Luxor 34", orange cabinet	586823
C	113	TV Monitor shelf	703577
C	191	TV Monitor Shelf	n/a
C	171	Bretford, 3 shelf cart	n/a
C	60	Luxor 34", Orange Cabinet	586827

Cassette Tape Players

CT	216	Bell & Howell 3070	582403
CT	217	Bell & Howell 3070	586833
CT	221	Bell & Howell 3070	582348
CT	239	Bell & Howell 3070	591030
CT	242	Bell & Howell 3070	591035
CT	243	Bell & Howell 3070	591026
CT	244	Bell & Howell 3070	591036
CT	247	Bell & Howell 3070	n/a
CT	251	Bell & Howell 3070	591029
CT	253	Bell & Howell 3070	n/a
CT	332	Bell & Howell 3070	602031
CT	257	Bell & Howell 3070	n/a
CT	258	Bell & Howell 3070	n/a
CT	326	Bell & Howell 3070	n/a
CT	328	Bell & Howell 3070	602025
CT	329	Bell & Howell 3070	602024
CT	334	Bell & Howell 3070	602029
CT	335	Bell & Howell 3070	602027

handled. In Figure II, I have listed the output from another database which we use. This database handles bibliographic data, and although, we were still working with the system's default settings, we were limited as to the number of fields which we could print. Using the system's default report function we could not display extra data such as place, publisher, and abstract on the same page. Most commercially available databases, as they arrive of the shelf, are oriented toward columnar input and output. That is to say, if the fields that you want to use for your report are greater than eighty columns, you are not exactly sitting in the clover. Strike two comes when one considers that fact that most title fields will have to be, at least, one hundred characters long.

The output in Figure II comes straight from the built-in report function. We were able to print this report in columnar format, but the amount of data which we could print was severely limited as a result. Although the system will print more than two columns on the printed page, it would print only these two columns neatly on the page: one for the call number, and one for the title. Note that this function did neatly wrap the titles around to the beginning of the same column on the next line. There are some saving graces to these things. If you need to have a great deal of information in your reports, you will need something more sophisticated than a commercial product's default settings.

FIGURE II. BIBLIOGRAPHIC DATABASE USING THE SYSTEM'S DEFAULT REPORT FUNCTION (dBASE II)

PAGE NO. 00001 ANATOMY

Call #	Title
ATC 302	Lymphatic audiotape: introduction, upper limb, axilla, breast
ATC 303	Lymphatic audiotape: head and neck
ATC 304	Lymphatic audiotape: thorax
ATC 305	Lymphatic audiotape: abdomen
ATC 306	Lymphatic audiotape: pelvis
ATC 307	Lymphatic audiotape: lower limb
ATC 886	Normal Upper Abdominal Anatomy
ATC 888	Anatomical Terms
MP 63	Anatomic Landmarks in Panorex Radiography
SL 123	The Eye
SL 124	Introduction to radiological anatomy of the normal individual
SL 125	The Ear
SL 126	Radiological anatomy of the normal individual: upper extremity
SL 127	Radiological anatomy of the normal individual: head and neck

My third example (Figure III) displays bibliographic citations in all of their glorious difficulty. In this case we are not only dealing with longer fields, but also with more of them. Clearly one cannot, as a result, use the system's defaults for such a report. As data structures become more complex, records become harder to manipulate. Bibliographic data tends to organize itself both vertically and horizontally; a record may run across several printed lines. If a database orients itself in a columnar fashion, bibliographic records orient themselves in both columnar and linear fashion. Certainly, then, it is not only the matter of a complex bibliographic data structure. Indeed, one encounters problems because of the complex data structure and the way in which we want to display that data structure. It becomes clear that a package right off the shelf will not necessarily fit the bill for the librarian. This is where one should begin to consider modifying the system to fit one's own needs. I shall examine this database in greater detail than the two previous databases as we had to use more sophisticated techniques to implement this one.

Our first consideration was that of data structure. Data structure, of course, refers to combinations of primitive data types (character, integer, real number, and boolean) into fields, and combining fields into records. We had no trouble defining the data structure for the CHIRS database (illustrated in Figure

FIGURE III. BIBLIOGRAPHIC OUTPUT FROM CHIRS DATABASE

CHIRS COLLECTION
SUBJECT LISTING

Abortion

WQ 225 P695c 1980
Pizer, Hank.

Coping with a Miscarriage: Why it Happens and How to Deal With Its Impact on You and Your Family.
New York Dial Press 1980

Acquired Immunodeficiency Syndrome

WD 308 A2888 1983
Cahill, Kevin M., editor.

The Aids Epidemic.
New York St. Martin's 1983

WD 308 M468a 1983
Mayer, Kenneth H. and Pizer, H. F.

The Aids Fact Book.
Toronto New York 1983

Allergy and Immunology

WD 300 A4347 1981
Norback, Craig T. editor.

The Allergy Encyclopedia.
New York New American Library 1981

Alzheimer's Disease

WM 220 P884a 1983
Powell, Lenore S.

Alzheimer's Disease: A Guide for Families.
Reading, Mass. Addison Wesley 1983

TV). The CHIRS collection, incidentally, is a collection of consumer health related materials. The database is our means for managing this collection.

The CHIRS database capitalizes on a two dimensional data structure arranged into rows and columns, otherwise known as the relational model. Each column represents a unique field and each row represents a unique record. Most commercially available databases are built on the relational model. The corollary of this is that all input and output operations that are built-in to the system will be columnar in orientation. This is unfortunate because the relational model is an elegant and efficient means for handling data. This also means that unless the fields in your database will fit neatly on one eighty column line you will need to modify the database in order to accommodate your particular application. Database packages make allowances for this by including a built-in programming language.

Bibliographic databases utilize, to an overwhelming degree, character data types combined together to form character fields. The data structure for the CHIRS database presented no problems, indeed, most commercially available databases will have no problem creating large character databases. The major problems we encountered had nothing to do with the creation of a data structure, however. The overriding problem was how to organize the longer fields so that they would appear neatly on

FIGURE IV. DATA STRUCTURE FOR THE CHIRS DATABASE

FIELD	LENGTH	TYPE	DECIMALS
call:1	3	character	
call:2	3	character	
call:3	5	character	
call:4	5	character	
call:5	4	character	
title	140	character	
place	21	character	
publis	25	character	
date	4	character	
cost	6	real number	2
subject1	35	character	
subject2	35	character	
subject3	35	character	

both the screen and the printed page. Remember that databases tend to adhere to a columnar approach. For the most part, this only involved juggling the smaller fields around on the screen until we came up with a logical arrangement. Since this involved modifications that the system could not handle, we created a series of programs to act as an interface between the user, the programmer, and the database. This allowed us to display all of the fields neatly for reports and entering and editing data.

In Figure V, I have listed one of the programs that displays the data on the screen for editing. The general algorithm is to first position the record pointer over the record that you want to read. One then assigns the fields in that record to memory variables so that one can process that record. Once one has processed the record, one then performs the reverse by assigning the memory variables back to the fields in the record. One might ask, "Why assign the fields to memory variables, why not process the fields directly?" The reason for doing this is twofold. Firstly, one can verify the data before it goes into the database. For instance, if I had a small database that processed a computer science bibliography, I might want to make sure that all of the first call fields contained 'QA' in their first two character positions. Secondly, I can break the fields down into any particular size that I might need for display. Since

FIGURE V. PROGRAM TO EDIT THE CHIRS DATABASE

```
* program       Liquid Catalogue
* module        b:eddisrec.prg
* called from   b:edimenu.prg
* programmer    Mark Olson
* date          February 14, 1985
*

*    Save the memory variables to disk
SAVE TO b:temp

* Store the current record into temporary variables

STORE call1 TO mcall1,call2 TO mcall2
STORE call3 TO mcall3,call4 TO mcall4
STORE call5 TO mcall5,author TO mauthor
STORE $(title,1,60) TO mtitle1
STORE $(title,61,60) TO mtitle2
STORE place TO mplace,publis TO mpublis
STORE date TO mdate,cost TO mcost
STORE subject1 TO msubject1,subject2 TO msubject2
STORE subject3 TO msubject3
*
*    Set up the screen for editing
*    And set a new working environment
*
SET COLON OFF
SET FORMAT TO b:eddisrec
STORE "Editing Record" TO mode
STORE "Revise the record" TO prompt1
STORE " " TO prompt2
* Let the user enter the data
READ
*
*    Trap as many errors as possible
DO b:errtrap.prg

* Place the edited data back into the same record

REPLACE call1 WITH mcall1,call2 WITH mcall2
REPLACE call3 WITH mcall3,call4 WITH mcall4
REPLACE call5 WITH mcall5,author WITH mauthor
REPLACE title  WITH (mtitle1 + mtitle2)
REPLACE place WITH mplace,publis WITH mpublis
REPLACE date WITH mdate,cost WITH mcost
REPLACE subject1 WITH msubject1,subject2 WITH msubject2
REPLACE subject3 WITH msubject3

* Return the memory to its original state

CLEAR GETS
RESTORE FROM b:temp
```

title fields tend to be over one hundred characters in length and CRT's tend to be eighty characters in length, this, then, becomes a necessity. Now let's examine the program in greater detail (Figure V). The translation of the algorithm is, basically, as follows. Firstly, the program activates a data entry screen with the SET FORMAT TO statement. Secondly, the program assigns each of the fields in the current record to a memory variable for display. The program breaks the title down into two smaller memory variables of sixty characters each and assigns these smaller portions to two smaller memory variables. This illustrates the use of the substring operator (represented by the '$' character in dBASE II). This is an important function for it allows us to break a larger field into smaller fields so that they will be easier to manipulate. Thirdly, the variables are displayed on the screen with the READ statement, which, and it will come as no surprise, reads the variable into its location named in the format file. This allows the operator to edit the data accordingly. Once the operator has edited the data, the program calls an error trapping (b:errtrap.prg) routine to make sure that the author and title fields contain alphanumeric characters.

The program also illustrates the converse of the substring operator. That is the concatenation operator (represented by the '+' character in dBASE II). This operator allows me to string together a number of memory

variables into one field. This is handy for data entry, as one can split larger fields into smaller fields for display and editing, then one can concatenate them back together to create one field. Once the operator has edited the data, the data is assigned back to the fields in the database.

Any commercially available database must also have ample facilities for indexing a database. An index is, essentially a file that contains only the indexed field or fields, and a pointer that points to the records physical location on the disk. This makes the database appear as though it is sorted, but has the advantage of allowing one to define multiple indexes; sorting pretty much locks you in to one arrangement of the data.

We were distraught to learn that dBASE II would only allow us to create an index file whose field was one-hundred characters or less. Ostensibly, this would not present a problem as most titles are unique within their first one-hundred characters. Furthermore, one can index the title field on a substring thereof, say the first thirty-five characters. However, we wanted to index the CHIRS collection on all three subject fields and all three subject fields added up to a total of on-hundred and five characters. Attempting to do so would result in dBASE II issuing the error message "Logical End Of File Encountered." It is interesting to note that the dBASE II manual does not document this error message; it is,

however, documented in several other references that deal with dBASE II. However, returning to the point of indexing, we decided upon creating three separate index files, one for each subject field. When we, then, needed to access the data using all three subject fields as keys, we had to open all three index files for use. Doing this, however, allowed us to use a file that was entered in random order as if it were a sorted file!

An application for this, of course, would be the bibliographic search. To expand upon the algorithm which we examined earlier, one can use this technique to position the bibliographic records anywhere one wants them. This also allows the individual to employ sophisticated programming techniques for searches. An application of this would be what you COBOL'ers will recognize as the classic control break program. A control break program is essentially a program that prints record in groups. Our goal was to print out a listing of all of the references in subject order. Under each subject, we wanted to print all of the titles that fell under that particular subject heading. In Figure VI, I have listed the program that performs this feat. The process is classic and goes like this: go to the top of the database, save the first subject field into a memory variable, skip through the database printing each record until the subject no longer equals the subject field that we saved. When the subject field changes, save the new

subject field, and repeat the process. This process continues until the program reads the end of file marker.

Now let's examine that program in greater detail (Figure VI). Since an indexed database lets us treat it as though it were sorted, we know that the first subject field in the indexed database will start with 'A.' Therefore we can save this subject field to a memory variable (msubject), and process the database sequentially until the subject field no longer equal msubject. At that point a control break occurs, so we assign the new subject field to msubject and continue to process records sequentially until another control break occurs, a page break occurs, or the program reads the end of file marker. Once again we use the substring operator to prepare the title for display, breaking it into smaller fields, however, since we are not modifying the data in the database, we can process other fields directly without assigning them to a memory variable.

There are a few other important points to this program. Although all of the title fields will be one-hundred characters in length, <u>not all of the titles will be</u>! Nor will all of the author fields have an author in them. Therefore, we need some means to determine whether a field contains data or is blank. By setting up two test variables (authblnkd, tleblkd) which contain all blanks, we can compare the fields in the database to

FIGURE VI. CONTROL BREAK PROGRAM TO PRINT BIBLIOGRAPHIC RECORDS IN SUBJECT ORDER

```
* Program       b:subjprn.prg
* date          March 25, 1985
* called by     b:prnmenu.prg
* subjprn prints the entire database grouped into subject
* categories

*    Set up test variables
STORE "                                                    ";
     TO authblnkd
STORE "                                                    " + ;
"          " TO tleblkd
STORE "                                          " TO subjblankd

USE b:chirsdbf INDEX b:chirsbj1,b:chirsbj2,b:chirsbj3

GO TOP
     @ 5,32 say "CHIRS COLLECTION"
     @ 6,33 say "SUBJECT LISTING"
     STORE 0 TO pagenumber

DO WHILE .NOT. EOF
     STORE 8 TO counter

DO WHILE  .NOT. EOF  .AND. ( 54 - counter ) > 4

     STORE subject1 TO msubject
     STORE counter + 2 TO counter
     @ counter,0 say chr(027) + chr(BoldOnPRN)
     @ counter,5 say msubject
     @ counter,70 say chr(027) + chr(BoldOfPRN)

     DO WHILE subject1 = msubject ;
              .AND. ( .NOT. EOF ) .AND. counter <= 54

       STORE counter + 2 to counter
       STORE $(author,1,50) to mauthor1
       STORE $(author,51,50) to mauthor2

       * Prepare the title to be printed
       STORE $(title,1,60) TO mtitle1
       STORE $(title,61,60) TO mtitle2

       @ counter,10 SAY call1
       @ counter,17 SAY call2
       @ counter,24 SAY call3
       @ counter,33 SAY call4
       @ counter,42 SAY call5

       IF mauthor1 <> authblnkd
        * move down one line
        STORE counter + 1 TO counter
```

FIGURE VI. (continued)

```
         * Print the author's name beginning in column 10
         @ counter,10 SAY mauthor1

         IF mauthor2 <> authblnkd

         * move down one line
         STORE counter + 1 to counter
         @ counter,10 say mauthor2

         ENDIF
        ENDIF

        * move down one line
        STORE counter + 1 to counter

        * print the title beginning at column 14
        @ counter,14 SAY mtitle1

        * move down one line
        STORE counter + 1 to counter

        IF mtitle2 <> tleblkd
         @ counter,14 SAY mtitle2
         * move down one line
         STORE counter + 1 to counter
        ENDIF

        @ counter,14 SAY place
        @ counter,39 SAY publis
        @ counter,65 SAY date
        @ counter,71 SAY cost

       SKIP

     ENDDO
   ENDDO
STORE pagenumber + 1 TO pagenumber
@ 62,38 SAY pagenumber using "##"
EJECT
ENDDO
```

these. If they are equal, the field is blank so we don't want to print it.

The most important consideration for librarians who are considering a microcomputer database just how well will it will handle bibliographic data. Although some of the default functions work quite well, most databases just do not have the facilities built into the program to handle large character fields with aplomb. Unless one is inclined to purchase a program that is written specifically for bibliographic data, one will have to make some modifications to one's database package. Through the use of programs to handle one's specific application, one can manipulate bibliographic data into such a form that it can be displayed neatly on the screen. Items such as the substring and concatenation operators allow the librarian to manipulate a bibliographic database to perform efficient and effective input and output.

Librarians have long been famous for their databases and their expertise therein. Creating databases on microcomputers allows the librarian to carry this expertise into new areas and establish new standards.

WHAT DO THEY WANT FROM US:
CHANGES IN JOB ADS IN RECENT YEARS

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ABSTRACT

An analysis of job advertisements for academic librarians published in College & Research Libraries News during 1974, 1979, and 1984 reveals notable changes of several types. Job titles, specifications of education and experience, and salary (corrected for inflation) are among the factors treated in this survey.

The nature and substance of job ads for academic librarians have changed in several ways over the past decade. From a discussion of our impressions of this phenomenon, the authors decided to try and quantify a sampling of ads in ways that would permit direct comparisons of a number of different components of such ads. We were particularly concerned with

the types of education and experience specified for applicants, as well as with some analysis of the positions being described. Research similar to this project has been reported before, but the data in those works is not as current as the information gathered for this paper.

For the current presentation to College and University Section members, we felt that we should limit ourselves to ads for academic library positions. We designed a data collection sheet, and after many revisions, came up with a form that we felt would permit the three authors to code ads independently yet consistently. (See appendix.)

Our original plan was to analyze job ads from the Academic Libraries section of American Libraries, from the Chronicle of Higher Education, and from College & Research Libraries News for all of 1974, 1979, and 1984. Extensive duplication of ads and sheer numbers forced us to pull back, in two stages, to the point where we only fully analyzed the ads from C&RL News for the three years specified.

I. LEVEL OF POSITION AS PROPORTION OF TOTAL ADS

	1974	1979	1984
Directors	10.2%	8.0%	4.4%
Administrators, not Directors (Assoc. Dir., Dept Chairs, etc.)	28.6	32.1	32.5
All others	61.1	59.9	63.2
Total Jobs N =	283	274	551

Table I indicates our findings in the area of job titles of advertised positions. We established 21 positions titles and two "other" categories, and still found that we should have included at least an additional half dozen titles. In numerous cases we had to adapt and interpret, because job ad authors seem to be endlessly creative. Perhaps the most noteworthy point in this first table is the total numbers of ads in the three sample years: virtually unchanged between 1974 and 1979, then a doubling over the next five year period. We are guessing that this substantial increase, as well as a number of items that we will comment on later in

the paper, is a response to government Equal Employment Opportunity and Affirmative Action requirements. The most noteworthy shift that we observed (apart from those dealing with differences in technology, i.e., computer applications), was that the proportion of ads for directors dropped off from 10.2% of the 1974 ads to just 4.4% of the 1984 ads. This does not suggest to us that fewer director's jobs are being advertised, but rather that professional positions at lower levels <u>are</u> being advertised at a much higher rate.

In looking at salaries associated with job ads, we arbitrarily used the bottom end of the advertised range, if no single figure was named. Table II shows the figures for each year, first in dollars offered and then, in parentheses, in terms of 1984 dollars. We used the Consumer Price Index (all items) as the conversion factor.

We found it terribly discouraging, though not very surprising, that at each level we seem to be losing ground. Of course, we also need to remember that the number of ads went up substantially over the ten year period, so the 1974 jobs are not directly comparable to the 1984 jobs. Also, as later comments make clear, many of the additional ads are coming from smaller, non-ARL libraries. The fact remains, though, at each of the three levels analyzed in Table II, the average salary has declined in relation to what it can buy.

II. AVERAGE SALARIES FOR THREE LEVELS OF LIBRARIANS IN THOUSANDS (1984 DOLLARS)

	1974	1979	1984
Directors	18.9 (39.7)	25.1 (35.8)	35.0
Administrators, not Directors (Assoc. Dir., Dept. Chairs, etc.)	13.9 (29.2)	16.7 (23.8)	24.7
All others	10.3 (21.7)	13.5 (19.2)	17.8

Another factor that interested us was the extent to which a masters degree from an ALA-accredited program was

specified as a requirement for the position. Table III would indicate that this has permeated very broadly.

III. DEGREES SPECIFIED IN JOB ADS

(PERCENT)

	1974	1979	1984
ALA-Accredited MLS	43.5	71.2	86.4
MLS	37.8	26.2	11.0
No Specification	18.7	2.5	2.5
Total Jobs N =	283	274	551

Looking at ads in different publications, such as the Chronicle, suggests to us that this is not just because we were using an ALA publication as our source. The increase has been very dramatic in the extent to which the ALA accreditation is specified. Also, it seems likely that a number of those ads that just say "MLS" may be assuming the ALA

accreditation. Among several ads where no MLS was specified, especially in 1984, some other specialized degree was required, such as a PhD, MBA, or JD. The proportion of ads that mentioned a second masters degree for hiring remained virtually unchanged: 31.1%, 28.8%, and 29.6% for 1974, 1979, and 1984, respectively.

An analysis of the subject backgrounds mentioned in library job advertisements showed very little of a surprising nature.

IV. SUBJECT EXPERTISE SPECIFIED

	1974	1979	1984
Science	7.8	19.3	18.5
Social Science	12.4	12.0	12.5
Humanities	9.5	6.9	10.7
Professional	2.5	1.5	3.6
Business	2.5	2.9	4.5

In the period studied there was a slight increase in the percentage of job advertisements listing knowledge in a subject area. In 1974, 31.1% of the job advertisements mentioned a subject background. This figure rose to 37.2% and

then 40.7%, respectively, for the years 1979 and 1984. Not surprisingly, the sciences showed the greatest increase over the ten year period studied, although with a slight decrease from 1979 to 1984. The social sciences were basically stable, while the humanities were somewhat erratic. There were slight increases for both professional (essentially law and medicine) and business knowledge.

One of the most interesting aspects of this study are the the various "competencies" - management/supervision, language, audiovisual, database/online reference, automation, OCLC, bibliographic instruction, and "work with," that were examined.

V. SKILLS, EXPERIENCE, OR OTHER ATTRIBUTES LISTED IN JOB ADS (PERCENT OF ADS)

	1974	1979	1984
Management/Supervision	29.0	36.9	43.3
Language(s)	12.7	24.8	28.1
Audiovisual	6.7	7.3	3.4
Database/Online Reference	1.4	15.3	26.0
Automation (Misc)	12.0	20.1	34.0
OCLC (Specifically)	1.1	18.6	22.0
Bibliographic Instruction	1.8	13.1	18.9
"Work with"	6.0	20.4	43.7
Tenure	1.1	10.9	18.3
Faculty status	21.9	30.3	33.0
ARL Libraries	55.5	45.2	44.3
Total Ads N =	283	274	551

The most striking feature of the eight competencies studied was that all but one of these areas (audiovisual) showed increases, many of a dramatic nature. In addition to suggesting that academic positions are requiring increasingly greater amounts of knowledge and expertise, this may also reflect a growing professionalism, as well as longer and more precise job advertisements. Perhaps the most surprising element was the "work with" category. This was a

kind of catchall category encompassing the ability to work with co-workers, patrons, and members of the academic community; interpersonal skills; communication skills; and oral and written skills. From a modest level of only 6% of the job advertisements in 1979, this category had risen by 1984 to 43.7%, and thus became the competency most mentioned by employers of academic librarians. This would seem to indicate that there has been a growing perception and/or need for academic librarians to communicate effectively in a variety of situations.

An examination of Table V will also show that the percentage of institutions advertising tenure for academic librarians has shown a great increase from 1.1% in 1979 to 18.3% in 1984. These advertisements have also shown an increase in the number of institutions with faculty status (i.e., rank) for librarians. Also, the number of job advertisements from ARL libraries as a proportion of all job advertisements has shown a gradual decrease in the years studied, due no doubt to Affirmative Action legislation and growing professionalization, which have made it increasingly necessary for smaller academic institutions to advertise.

Finally, the geographical distribution of academic j[illegible] advertisements did not provide any real surprises.

VI. STATES WITH THE LARGEST NUMBER OF JOB ADS

1974	1979	1984	Total
CA(32)	CA(37)	CA(69)	CA(138)
OH(32)	NY(27)	NY(48)	NY(98)
IL(24)	OH(22)	AZ(35)	OH(80)
MI(23)	IL(20)	TX(34)	IL(76)
NY(22)	MI(12)	IL(32)	MI(59)
TX(16)	AZ(12)	MA(27)	TX(59)
CT(10)	MD(12)	OH(26)	AZ(54)
PA(9)	IN(10)	IN(25)	PA(42)
WA(9)	NC(10)	PA(25)	IN(40)
MN(8)	TX(9)	MI(24)	MA(37)
	KS(9)		

As is obvious from the table, a small number of states had a disproportionally large number of the job advertisements, with California and New York alone accounting for approximately one out of every five academic job advertisements. Not surprisingly, the most populous states were generally those with the greatest number of job advertisements. A surprise to some may be the number of advertisements from institutions in Arizona, which showed an impressive growth in the ten year period studied.

Obviously, job ads can supply us with much thought-provoking information. From the analysis in this paper alone, we can see the degree to which faculty status and government regulations have affected librarian jobs and the recruitment for the jobs. Additionally, the decline in real salary and the increased demand for skills can provide fodder for hours of discussion by those of us with the much sought interpersonal skills.

Finally, further exploitation of this topic is possible and occasional updatings will be interesting to us all.

	TITLE CODE		TITLE	MLS	2YR	2YR	SUBJ	YRS	MGMT	LANG	AV	DATA	AUTO	OCLC	BI	WORK	NOT	TEN	FAC	ARL	STA	MIN		COMMENTS
				ALA/MLS-0	HIRE	TEN	SCI 1	EXP	SUPV			BASE	MATE			WITH	12	TRK	STR			SAL		
1	DIR			MLS- 1			SOC SCI 2																	
2	ASSTDIR TS			NONE- 2			HUMANIT 3																	
3	ASSTDIR PS						PROF 4																	
4	ASSTDIR						BUSI 5																	
5	HEAD TS																							
6	HEAD PS																							
7	HEAD CAT																							
8	HEAD REF	1																					1	
9	HEAD CIRC																							
10	HEAD ACQ	2																					2	
11	HEAD DOC																							
12	ILL	3																					3	
13	CATALOG																							
14	SERIALS	4																					4	
15	REF LIB																							
16	REF/BIB	5																					5	
17	CD LIB																							
18	SYSTEMS	6																					6	
19	DOCUMENTS																							
20	AV/MEDIA	7																					7	
21	SUBJECT																							
22	OTHER/HEAD	8																					8	
23	OTHER																							
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AN EXAMINATION OF COMPARABLE WORTH

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ABSTRACT

The concept of comparable worth is attracting more attention around the country as diverse groups bring pressure for an evaluation of the methods by which an employer or society as a whole determines the value of a particular job. Because comparable worth addresses the inverse relationship between the percentage of women in an occupation and the compensation of the workers, and because the overwhelming majority of librarians are women, librarians have often been in the forefront of efforts to implement comparable worth studies. With the introduction and subsequent defeat in committee of LB206, a bill which would have instituted a pay equity study of state jobs, comparable worth is an issue of immediate concern to Nebraskans and especially to the Nebraska Library Association. The authors explore the concept of pay equity/comparable worth by examining several cases involving librarians and others and by analysing the arguments on both sides of the issue.

"In American libraries we set a high value on women's work. They soften our atmosphere, they lighten our labour, they are

equal to our work and for the money they cost - if we must gauge such labour by such rules - they are infinitely better than equivalent salaries will produce of the other sex."[1] So spoke Justin Winsor, first president of the American Library Association, at the conference of librarians held in London in 1877, pointing out the value of the work performed by women within the profession and underscoring the fact that women would perform the same or better work than men - for less money.

With that historical antecedent, we begin our examination of comparable worth or pay equity. We will attempt to define it and explain how it works, examine some of the social issues which have led to it, present a brief history of some of the important cases, explain why it is of concern to Nebraska librarians, and analyze the pros and cons.

In simplistic terms, comparable worth calls for employers to base the compensation of their workers on the inherent value of a job to the organization rather than on prevailing market considerations. It is distinct from equal pay for equal work, which was legislated in the federal Equal Pay Act of 1963. Rather, comparable worth proponents seek to establish a system whereby equal pay is received for work of comparable value to the firm. It is based on a social philosophy which asserts that earnings from employment ought to be proportional to the contributions made through employment. Economists from Adam Smith's day to the present have been concerned with how to assess value and they have not been able to come to a consensus on the issue. This difficulty over how to determine

worth is at the heart of part of the controversy surrounding pay equity.[2]

As well as being controversial from an economic standpoint, comparable worth creates dissension because it also addresses a very real and continuing societal problem - the wage differential between men and women. The figures vary slightly from one study to another but the essential fact remains: female workers earn considerably less than their male counterparts and the gap between male and female earnings is widening. In 1955, women full-time workers earned an average of 64 cents to the dollar for what men earned. In 1980, according to U.S. census figures, women earned an average of 55 percent of what men earned. More recent studies place the figure at 55-60 percent of what men earn. The fact is that the average female college graduate earns less than the average male high-school dropout. These figures assume a greater significance when one considers the changing nature of the American household. People tend to assume that men are generally the primary support of American households. In 1950, men were the heads of 56 percent of all American households. By 1977, that figure had declined to 44 percent. The trend continues, with women bearing primary responsibility for support of themselves and their families more often than men.[3]

Another factor which needs to be considered in the discussion of the earnings gap is the increasing feminization of poverty. Women and children are comprising a larger percentage of the total number of Americans living in poverty. Twice as many women as men

live below the poverty line. The National Advisory Council on Economic Opportunity stated that, if present trends continue, by the year 2000 the entire group of those falling below the poverty line will be women and children.[4]

How can the earnings gap between men and women be explained? The Equal Pay Act has opened many doors that were traditionally closed to women. Violations of the Equal Pay Act now account for only a small part of the earnings gap between men and women. A larger portion of the pay gap can be attributed to the distribution of men and women in various occupations. Women workers are clustered in a small number of all possible occupations. In 1982, 50 percent of the female workforce in the United States worked in only 20 of 427 census occupations. People who work in predominantly male occupations are paid more than those in predominantly female occupations. There is an inverse relationship between the percentage of women in an occupation and the amount of compensation received. As the National Research Council of the National Academy of Sciences concluded in 1981: "Not only do women do different work than men, but the work women do is paid less, and the more an occupation is dominated by women, the less it pays." An occupation is considered either male- or female-dominated if 70 percent or more of all the people in that occupation are of one sex. Earnings in male-dominated jobs are consistently 30-50 percent higher than earnings in either predominantly female or integrated occupations. Comparable worth proponents maintain that the differential wage rates are the result of a subtle form of discrimination which systematically undervalues

work traditionally performed by women. They assert that salaries in historically female work are artificially depressed and would be higher if the jobs had been and were being performed by men. They maintain that value is being determined not by measurements of output, but rather by the status of the person providing the imputs. Opponents of comparable worth frequently explain the wage differential as the natural functioning of the free market based on lower educational qualifications of women in general and their lack of seniority in the workforce. These arguments will be discussed further at a later point.[5]

The comparable worth strategy calls for a reevaluation of the absolute and relative worth of the jobs that women have traditionally performed and, in so doing, raises the question of how correctly to determine value. Advocates of comparable worth propose a system of job evaluation to determine whether or not pay equity exists within a firm or municipality. Such a job evaluation system seeks to accomplish three things:

1) describe job content accurately, comprehensively, and consistently;

2) assign to each specific content factor a standard of worth or point value that can be systematically applied to all jobs in the specified work force;

3) compare jobs with similar point values to see if compensation rates are similar.

Job content information considers such factors as skill or knowledge necessary to perform a job; effort or problem-solving requirements

requirements of the position; degree of responsibility, accountability or interpersonal skills required and working conditions. Proponents recommend an evaluation committee composed of an outside personnel firm and a broad range of employees from within the firm. Each group can then act as a check against the possible bias of the other and work together to ensure greater objectivity.[6]

Hundreds of comparable worth studies have been conducted by a variety of consultant firms around the country. A consistent pattern emerges from all of them. Female-dominated job titles have been found to receive between 5 and 20 percent lower pay than male-dominated job titles assigned the same point value. The Washington State study of 1974/75 revealed that state employees in female job classifications received, on the average, 20 percent less compensation than state employees in male job classifications. In San Jose, California a study of municipal employees revealed the same pattern. For instance, the male-dominated job of street sweeper received 5200 dollars more per year than the equally-ranked female-dominated job of library clerk. The male-dominated job of sign painter received 8000 dollars more per year than the equally-ranked female-dominated job of senior library clerk. And the male-dominated senior chemist position received 5700 dollars more per year than the equally-ranked female-dominated position of senior librarian. It needs to be emphasized that this study evaluated the job and not the individual currently holding it and the salaries were base salaries and did not represent an individual's years of service on the job. These findings are repeated around the country.[7]

Comparable worth or pay equity is not a concept which sprang wholesale from the women's movement of the 1960's and 70's. The country experimented with it during World War II when the male workforce was severely depleted and industry was forced to rely on women and minorities to fill the gap. Employers were initially reluctant to hire women for many jobs traditionally filled by men and frequently sought to pay lower wages to the women than they had been paying their male counterparts. The National War Labor Board was created in 1942 in part to deal with these problems. In a 1945 decision against General Electric, the NWLB ruled that "community sanction" did not justify discriminatory practices. GE argued that the wage differentials were of long standing, that the wage rates were similar to those prevailing in the marketplace, and that to alter the wage structure would place companies at a serious economic disadvantage. Many opponents of comparable worth today are using similar arguments. Yet, the importance of women's contribution to the war effort mandated that they be treated in a most unusual manner for the times. After the war, the very organizations that had promoted women's full participation in the workforce, the Office of War Information and the War Advertising Council, launched a massive campaign to persuade women to return to the home or to less lucrative female jobs. Women who had performed competently in challenging war jobs were depicted in ads and magazine stories as yearning for domesticity. By April of 1947, the pre-war employment pattern had been reestablished and most employed women were once again clerical workers, domestics, and service workers.[8]

Employment patterns for women were essentially unaltered in the 1950's. Change began in 1963 with the Equal Pay Act mandating equal pay for equal work. In 1964, Title VII of the Civil Rights Act prohibited discrimination of any kind in employment and in 1965 the Equal Employment Opportunity Commission was established to monitor the implementation of the legislation. This legislation has apparently made some inroads in breaking down occupational segregation along sex lines. During the 1970's, women entered jobs that had been traditionally male-dominated at an increasing rate, especially younger women. Yet the decrease in occupational barriers has not yet brought about a corresponding increase in women's wages. Women's earnings continue to hover around the 60 percent mark of what men earn.[9]

There have been numerous cases relating to comparable worth around the country. Many, but not all, of these have directly involved librarians and other library workers. One of the most significant cases currently pending concerns the state of Washington and its municipal and state employees. In 1981 and 1982 the American Federation of State, County and Municipal Employees (AFSCME) and the Washington Federation of State Employees (WFSE) filed complaints with the EEOC alleging that the state compensated workers in female-dominated job classifications "at lower rates of pay for work of comparable, equal or greater value than work performed by men and women in predominantly male classifications." Three trials were held from August through December 1983 at the end of which the district court decided that the state had discriminated against its

employees on the basis of their sex, in violation of Title VII. The court ordered the state to award back pay and to implement a comparable worth plan as quickly as possible. That decision is currently being appealed although the state has begun to award the back pay. This case is considered vital because it hinges on the scope of Title VII. An earlier case directly involving librarians occurred in 1977 when employees of the San Diego Public Library filed a complaint with the city alleging that librarians earned less than other city employees of the same rank, even though they were required to have more education and experience. A survey revealed that 80 percent of the librarians were in the lowest third of the pay range for all professionals in the city and none of them were in the highest third. In 1978, librarians at Temple University filed a pay equity complaint with the EEOC but settled with the University for a ten-month contract and a small pay increase. In 1981, librarians and other library workers were among those who went on strike against the city of San Jose. The results of a comparable worth study done there by the Hay Associates of San Francisco revealed that library workers were paid 20 percent below the average salaries paid by the city. The study further showed that in female-dominated jobs, pay ranged from 2 to 10 percent below the city average while in equally male-dominated jobs, pay ranged from 8 to 15 percent above the city average. The strike won 1,450,000 dollars in extra compensation for approximately 750 employees in female-dominated job classifications. Complaints continue to be filed with the EEOC and with various municipalities around the country. Comparable worth

lawsuits are pending in Hawaii and Wisconsin, as well as in Washington State. 22 states have recently initiated legislative measures to consider pay equity and at least 25 states had begun or completed job evaluation studies by May 1984. Several have acted to implement comparable worth. The Iowa legislature passed a bill in April of last year to begin comparable worth salary adjustments in July. They appropriated 10 million dollars for fiscal year 1984-85 and the goal is to complete comparable worth pay adjustments by June 1987.[10]

Why is this issue of interest to the Nebraska Library Association? Comparable worth merits discussion by all librarians, pro or con, because the profession is numerically dominated by women. In 1973, 83 percent of librarians were women. In 1983, that figure had increased to 87 percent. Studies have repeatedly shown that female-dominated occupations receive less compensation than comparable male-dominated occupations. It is therefore possible that our salaries could be improved through comparable worth studies. It is also of interest to us as Nebraskans because of recent activity in the Nebraska legislature concerning comparable worth. Last year a bill was introduced in the legislature calling for a pay equity study of state employees, excluding university employees. The bill was defeated, but it laid the groundwork for this year's legislative effort, LB206, which was broadened to include university employees with other state employees to be studied. LB206, which called only for a pay equity study, carried an estimated cost of 300,000 dollars. It was defeated in committee before it could

become part of the general file of bills to be discussed by the entire legislature. However, an interim study on pay equity is planned for this summer which will provide an opportunity for both supporters and detractors to have input.[11]

What are some of the arguments most frequently advanced by opponents of comparable worth? The most commonly heard criticism is that it would interfere with the free functioning of the marketplace. The market functions in response to supply and demand. In the ideal market system, a shortage of workers in one occupation would force wages up in order to attract the needed people. Critics maintain that comparable worth would create artificially high wages in some jobs and would thereby attract more people than the field could absorb. They also assert that if a wage board were to determine that a specific job merited a certain salary, employers would be unable to change the salary level if a sudden shortage of workers were to occur and they needed to attract more people.

Another criticism frequently levelled against comparable worth is that the rankings of jobs would inevitably be subjective and arbitrary. Opponents maintain that the rating would be based on an individual's assessment of the components of the job and would reveal more about the evaluator's perceptions than about the job itself. They also contend that it is impossible to compare jobs that are completely dissimilar - it would be like comparing apples to oranges. In addition, the enormity of the task - evaluating every job within an organization - would require an excessive amount of time and would simply not be feasible.

Opponents of pay equity explain the earnings gap - one of the basic justifications for comparable worth - in several ways. They maintain that women pursue certain low-paying jobs because these jobs offer a greater degree of flexibility and allow them to take time off to raise a family and handle domestic problems. They also affirm that lower salaries in female-dominated positions are, in part, a reflection that women have chosen jobs with less hazardous working conditions. The earnings gap also reflects, they say, that women as a group are less eduacted than their male counterparts and that they have less seniority and job experience because of their frequent leaves of absence to raise a family or due to relocations to follow their husband's career moves.

Critics of pay equity are wont to predict that economic chaos would follow in the wake of implementation. If salaries for all female employees were to be raised, opponents maintain that it would price some companies out of the market and there would then be fewer jobs for the women the program was supposed to help. They assert that higher unemployment for low-skilled workers would result. Additionally, consumers would be faced with higher prices in order to cover the wage increases. And, finally, they predict an increase in litigation that would cost the taxpayers more money and would tie up the courts endlessly.

Opponents of comparable worth also assert that new legislation is not needed because sex-based discrimination is already illegal. They point to the Equal Pay Act and Title VII of the Civil Rights Act and claim that if society would simply give this

legislation more time, the situation would correct itself. They state that the earnings gap is actually considerably smaller when one compares only young, single men and women and that this can be taken as proof that discrimination has been curtailed and that new laws will not advance the cause any more quickly.[12]

How do advocates of comparable worth respond to the criticisms levelled against it? To the argument that we must not interfere with the free functioning of the marketplace and that we must rely on market rates to determine salaries, supporters of comparable worth make several responses. One is to question the essential fairness and objectivity of the marketplace. They maintian that market values reflect prior discriminatory practices and are therefore suspect. As the judge in Norris vs. the Arizona Governing Committee commented: "Title VII has never been construed to allow an employer to maintain a discriminatory practice merely because it reflects the marketplace." Advocates also suggest that there really is no such thing as the free market. The government interferes with the functioning of the market repeatedly, as when private firms like Lockheed and Chrysler are bailed out, or when the auto industry is protected from the importation of Japanese cars. In addition, the government interferes with the market when changing social values demand it, as it did with child labor laws, minimum wage laws and the Equal Pay Act.[13]

To the assertion that comparable worth would be impossible to implement because it involves the comparison of apples and oranges, is simply not feasible, and would necessarily be subject-

ive, supporters frequently point to the Dictionary of Occupational Titles published by the U.S. government for years. The dictionary currently identifies some 20,000 occupations in the country, describes each one and how it is performed and, most importantly, assigns every job an occupational code number. The middle three digits of this number are the "worker functions ratings." As the introduction to the 4th edition states: "Every job requires a worker to function to some degree in relation to data, people and things. A separate digit expresses the worker's relationship to each of these three groups ... The worker functions code indicates the broadest level of responsibility or judgement required in relation to data, people or things." Not only has the government been assigning point values to different jobs for years, but personnel officers have frequently referred to the Dictionary to help them establish compensation policies. Advocates also point out that employers have always relied on evaluation systems that rank jobs within the organization and therefore the concept of evaluation and ranking does not represent a radical departure from current practices. They wonder if existing evaluation systems are any less subjective than opponents fear comparable worth evaluations would be. Additionally, proponents like to point out that, while no apple is exactly equal to any orange, each can be compared based on the number of calories or on the vitamin and mineral content.[14]

Proponents of comparable worth respond in several ways to the argument that the earnings gap between men and women is due to women having chosen jobs requiring less skill, responsibility, or

experience because it provides them with the flexibility to interrupt their work for the demands of motherhood. Even disregarding the blatant sexism, the choice argument is considered one of the weakest justifications for the status quo. The idea that women in lower-paying jobs can take off at a moment's notice to care for a sick child or to take care of some other domestic crisis, is seen as ludicrous. How many people who have worked as waitresses, secretaries or service workers remember their employers as flexible, sensitive people who didn't mind being left short-handed on a moment's notice? Several recent studies, among them one at the University of Michigan's Survey Research Center, have found that self-imposed work restrictions, absenteeism or relocation (to follow a spouse's career change) did not significantly affect earnings for either sex. The study has found, however, that the higher a worker's professional level, the greater that person's flexibility in taking time off or setting his/her own hours.[15] This would seem to refute, at least in part, the idea that women choose lower-paying, less responsible positions because they afford them greater flexibility. Furthermore, proponents of pay equity maintain that many women have little choice in the type of job they hold. They point out that women now head 56 percent of all American households and are concerned first with supporting their families. Many have little opportunity to acquire the advanced degrees which would enable them to choose more lucrative occupations. They are more likely to be concerned exclusively with day-to-day survival than their male counterparts. It must also be remembered that women were tradition-

ally socialized into believing that only certain occupations were suitable for them. Women today are beginning to break out of these molds, but it is estimated that it will take an additional 75 to 100 years before job categories are no longer dominated by either sex. Should the work of teachers, nurses or librarians be less valued now because the professions are dominated by women? Should these people be retrained to go into male-dominated jobs? Who would do their work in the meantime? Must workers abandon jobs they enjoy because the market doesn't acknowledge the value of their work?

In response to those predicting economic chaos if comparable worth were widely instituted, supporters point out that such predictions were made when child labor laws were proposed, when the abolition of slavery was advanced, and when the Equal Pay Act was introduced. But the country managed to adjust. They also point out that comparable worth does not propose that all women and only women would automatically receive pay increases. They maintain that both men and women would benefit from a more equitable system of compensation. For those who maintain that it would be too expensive to implement such programs, comparable worth advocates point out that the cost of correcting discriminatory practices is not a justification for maintaining the status quo, nor has the EEOC accepted it as a defense for non-compliance with Title VII, for example. They also assert that, in many cases, the costs of litigation to combat comparable worth are greater than voluntary compliance would be. For instance, in Washington State where back pay has been ordered because of non-compliance, costs are estimated

at 500 million dollars to be paid out in one large chunk. However, in Minnesota, where the state is beginning voluntarily to close the pay gap, costs are estimated at 22 million dollars to be paid out over several years. In various states and municipalities that plan to implement comparable worth programs, cost estimates range from a high of a 4 percent increase over the amount currently spent on salaries to a low of 2 percent. The Republican mayor of Colorado Springs has said of his city's comparable worth plan: "We did something fair and just, and in return we got ourselves great employee morale, lower turnover and higher productivity. Isn't that what the private sector's always looking for?"[16]

For opponents who argue that women receive less compensation because they are not as well educated as the male work force, have fewer skills, and less seniority, comparable worth advocates note that women with four or more years of college earn on the average only as much as men with one to three years of high school. Several studies have shown that educational differences can account for only approximately 2 percent of the earnings gap. Differences in levels of experience account for approximately 30 percent. Other measurable factors were found to have little effect on earnings capability. Comparable worth advocates assert that the more than 50 percent of the earnings gap that cannot be explained by productivity-related factors are an indication that sex-based discrimination very likely accounts for at least part of the differential.[17]

Lastly, in response to the argument that either legal recourse already exists to eliminate sexual discrimination and therefore no

new legislation is needed or that Title VII does not cover comparable worth cases, proponents respond in several ways. They acknowledge that the Equal Pay Act has virtually eliminated unequal pay for the same work. Such discrimination is blatant and easily proved. However, neither the Equal Pay Act nor Title VII, as generally interpreted, have had any effect on eliminating the earnings gap between men and women. They see this as evidence of a more subtle form of discrimination that must be dealt with in new ways. As regards the applicability of Title VII to comparable worth claims, no one is yet sure of the legality. In June 1981, the Supreme Court ruled in County of Washington vs. Gunther that wage discrimination claims brought under Title VII are not restricted to equal pay for equal work. However, the Court did not elucidate on how far and when Title VII might be applied to comparable worth.[18] Advocates also tend to view the issue more in moral than legal terms. They maintain that if existing laws are not sufficient to rectify the inequities, then it is time to draft new legislation, as we have done in the past to protect various groups of workers with child labor laws, minimum wage and the like.

In 1981, Linda Chavez, the staff director of the U.S. Civil Rights Commission, remarked sarcastically that comparable worth has supplanted the Equal Rights Amendment as "the women's issue of the 80's." While her intent was to belittle, her remark is nevertheless accurate. Librarians, as members of a profession that is heavily dominated by women, at least in numerical terms, and also one that functions to supply and disseminate information of all kinds, have

a responsibility to keep informed on an issue that is of such concern to the public at large and to their own professional well-being.

We have attempted here to present some of the key elements of the comparable worth controversy. While we personally support the concept of comparable worth, we do not see it as a panacea for all the inequities of the American labor system. We believe that it is unjust to rely exclusively on a market system which was developed when discrimination was the norm rather than the exception and which still reflects the centuries-long male bias. But neither do we advocate the formation of a national or state comparable worth board, as critics fear, that would mandate wages for large segments of the country. If comparable worth is to be an improvement over the current market-based system, it must represent a compromise between the two extremes.

We would like to close our presentation with a quotation from Helen Remick:

> "Women are showing far more enthusiasm for men's work than vice versa, and for some very obvious reasons. To the degree that cultural values determining salaries are widespread and women's work is undervalued, men can readily see that they maximize their return for education, skills and work done by doing men's work; to change from men's to women's jobs, the men would have to return to school to learn more in order to earn less. Few men are so inclined." 19

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