4-1-1973

Special Libraries, April 1973

Special Libraries Association

special libraries

April 1973, vol. 64, no. 4

- Contract Services
- Library Cooperatives
- Information Retrieval Services
- Automated Reclassification
- Teaching Bibliographic Reference

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SPLBA 64 (4) 173–216 (1973)
ISSN 0038-6723

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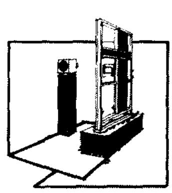

special libraries

April 1973
Volume 64, Number 4

Editor: Janet D. Bailey

Advertising Sales: Ralph Lessing

Circulation: Frederick Baum

Special Libraries is published by Special Libraries Association, 235 Park Avenue South, New York, N.Y. 10003.

Monthly except double issue for May/Jun. Annual index in December issue.

Second class postage paid at New York, N.Y. and at additional mailing offices.

Subscription Rates. Free to SLA members. Nonmembers, USA and Canada, $22.50 per calendar year; add $2.00 postage for other countries. Single copies (recent years) $2.75 except for August issue (Directory) which is $12.00.

Back Issues & Hard Cover Reprints: Inquire Kraus Reprint Corp., 16 East 46th St., New York, N. Y.

Microfilm & Microfiche Editions (1909 to date): Inquire University Microfilms, Ann Arbor, Michigan.

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Indexed in: *Business Periodicals Index, Information Science Abstracts, Historical Abstracts, Hospital Literature Index, Library Literature, Library & Information Science Abstracts, Management Index, Public Affairs Information Service* and *Science Citation Index.*

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LETTERS

Management Graphics Revisited

The most important comment on my paper "Information/Library Statistics as a Management Aid: A Graphic Presentation—Alternative Solutions" [*Special Libraries* 63 (no.10): 443–447 (Oct 1972)] in Peter Hoey's letter [*Special Libraries* 64 (no.3): 7A (Mar 1973)] is "I am not convinced . . . the linking lines are at all helpful . . . there is no unique viewing block for each service as they are in a different position each year," since it indicates that the "initial visual impact" I aimed at did not have (as far as one viewer at least is concerned) the force I intended. The fault may lie in the size of lettering used for the alphabetic notation, as the blocks are stacked in the same order each year. It may also have been preferable to use different patterns for each block (as is used in geological columns!). His comment emphasizes again the need to keep the viewer in mind, since the success of a presentation depends in the ultimate not upon the understanding of the compiler but on the appreciation of the viewer.

The two papers and subsequent correspondence will be of value, irrespective of the merits of the solutions proposed, if librarians and others concerned with the preparation of graphical presentations have been alerted to the pitfalls they may encounter. They would be advised to try their methods out on other unenlightened individuals before submitting them to their managers!

The weightings assigned in my paper were necessarily arbitrary ones chosen for illustration only, and I indicated in practice others could be used. I do not agree that it is fundamentally wrong to base weightings on internal criteria or that user-estimated weightings are necessarily more valid. The choice of weights depends on the proposition being defended; it would be proper to use complexity and staff-evaluated relative importance of functions if changes in staffing or allocation of financial resources were being considered, while user-developed weightings would be more appropriate if the value to the organization were being argued. (Parenthetically, it would be interesting to know whether these weightings prove to be comparable, as a means of assessing whether the staff's evaluation of the services provided by the library matches that of the clientele.)

My statement that all phases of operations declined in 1969 was too sweeping, as Peter

Hoey points out, and for this I apologize. My estimates of the volume of operations based on his figure (Table 1) show that five functions declined, three increased and one remained static in 1969, compared with 1968. The slopes of the lines of Hoey's original figure confirm this, but only after very careful perusal.

I accept his statement that growth only, and not the more complex operations are emphasized. There was an unwritten inference (which should have been stated explicitly) that numerically smaller operations are usually the more complex, expensive and generally of more value to users, and that by implication growth in these areas involves greater growth in the resources required and the value of the library to the parent organization.

Finally, I agree that the derived graph (Figure 1) and the component-bar graph based on weighted totals (Figure 3) illustrate relative and not absolute growth. I make no apology for this since I believe that comparison of relative change is more useful than that of absolute change, and ultimately will be more valuable as a tool for convincing managers of the importance of the library and information services to their organizations.

George J. Snowball
Sir George Williams University Library
Montreal, P.Q.

Streamlining GPO?

If I may, I would like to add my 8¢ worth to what [Ms] Smith reported about the Government Printing Office. When I was librarian for a national social agency, I felt that we received items ordered on our Deposit Account so late that I thought a private firm working that slowly would soon go out of business.

As far as improving the situation is concerned, I suggest: 1) That the Washington office cease to handle all transactions, except Deposit Account and coupon orders. I can understand that too many formats of requests can confuse the issue. This being the case, the Washington office should *insist* that the blue forms they supply be used for Deposit Accounts. 2) For institutions finding this a hardship, and individuals who rarely write for government publications, perhaps the depository libraries could handle the paperwork, and allow the person to borrow the library copy for a while. 3) Perhaps the most streamlined procedure would be to allow the public to deal with bookstores, which would be supplied by the GPO in much the same manner that commercial publishers deal with private bookstores. Indeed, Random House considers libraries as individual customers, and will not extend credit to them. Librarians could ask for an interlibrary loan if the bookstore were unable to supply a given publication.

Inasmuch as the Federal budget is a major domestic issue, I am sending a copy of this letter to Sen. Pete V. Domenici (R., NM).

Jean E. Dulaff
Albuquerque, N.M. 87109

Copying Discovery

Some time ago, we noted that forms reproduced on our Xerox 2400 copier did not "take" typewriter ink well. On inquiry, Xerox revealed that a thin film of oil is deposited on every sheet run through their copier to reduce the likelihood of paper jams. A sample of this effect is as follows:

```
This sample was typed on a blank sheet of bond paper first run
through a Xerox 2400 copier.  Note that inking from carbon
ribbon (Tech III) is weak and uneven.
```

We recently tried the same thing with our IBM copier with the following results:

```
This sample was typed on a blank sheet of bond paper first run
through an IBM copier.  Note that inking from carbon ribbon
(Tech III) is dark and even.
```

Perhaps your readers will be interested in this comparison.

Efren W. Gonzalez
Bristol-Myers Products
Hillside, N.J. 07207

Special Libraries welcomes communications from its readers, but can rarely accommodate letters in excess of 300 words. Light editing, for style and economy, is the rule rather than the exception, and we assume that any letter, unless otherwise stipulated, is free for publication in our monthly letters column.

Dear SLA Members
Let's Continue Talking Together

Edward G. Strable, President and
Zoe L. Cosgrove, Chairman, Advisory Council

This month, two of us have been precipitated into print as an after effect of SLA's Winter meeting in Tulsa. This is the major business meeting of the Association, that one time each year when the members of the Board of Directors and the Advisory Council come together for two to three full and exhausting days of discussion and interaction.

At the Tulsa meeting, perhaps more so than at others in recent memory, concern was expressed on various occasions that the officer elected to represent one or another unit in the Association frequently does not know the opinions or preferences of his constituency and must, sometimes uncomfortably, speak from his own conscience or, too often, remain silent. This was evident, for example, when the Advisory Council members at Tulsa discussed such questions as whether we should have a dues increase for members, what our position on copyright legislation should be, and whether to approve a resolution which takes a stand on a public issue.

This is a problem which is not at all uncommon in a democracy or in an Association like SLA. Most Association members seem quite willing to leave the decisions to those who have the motivation, the time and the energy to undertake leadership roles. But at the same time there must be a system which provides adequate opportunity for each member to participate in determining what his Association will do.

This brings us—somewhat long windedly—to the question for discussion here, which is:

How Can the Individual SLA Member Influence the Association?

In discussing this question, it seems to the two of us that each SLA member has a surprisingly wide choice of channels he can use to influence the Association—that is, to *have his say*. And we are also convinced that when the member uses one or more of these channels to speak and write articulately about his concerns he will invariably be heard and responded to.

Perhaps the channels need to be pointed out every once in a while. They are not hidden but may be overlooked. Those closest at hand to each member are his Chapter meeting, his Chapter publication, and his Chapter officers—particularly the two of them who sit on the Advisory Council. Student Group members have similar immediate access to and through their officers.

Farther away, but no further than the phone or a piece of stationery, are the member's Division officers, Division publication, and Division business meeting agenda.

Other channels are open at the Association level. Any Committee chairman (see Annual Directory issue of *Special Libraries*) would be surprised and delighted to hear from a member with an idea, a comment, or a point of view. Similarly, any member of the Board of Directors, or a member of the headquarters staff (and most particularly the editor of *Special Libraries*) would undoubtedly give close attention to a communication from a member, because one arrives so seldom. An intelligently chosen copy list for distribution beyond the addressee will often arouse widespread interest and/or support.

The last channel we will mention, but far from the least in clout, is that of presentation in person at the Business Meeting of the Association at the Annual Conference. This is an effective place, we learned recently in Boston, for a member to bring a concern to the Association and get action. Last June the resolution of a member concerning scholarships for minority groups, followed by discussion and additional action, sparked a process which has resulted in the establishment of a Positive Action Program within the Association.

Since we believe that SLA is an open society and since the channels reviewed above certainly seem to be open and clear, it puzzles us that they are so seldom used by the individual SLA member. Are they more complex than they appear? Are SLA members content—apathetic—indifferent? Or are there barriers to the use of these channels we have overlooked?

A stimulating conversation with a small group of our members on the West Coast early last year indicated that the answer to some of these questions might be "yes." Any other opinions? Either of us welcomes the opportunity to serve as a channel for your comments on this question.

Contract Services in the Special Library

The Make or Buy Decision

Herbert B. Landau

Auerbach Associates, Inc., Philadelphia, Pa. 19107

■ The special librarian has an alternative to providing necessary library services with his own resources. This alternative is the purchase of these services from outside contractors. Before employing contract services, the library manager must carefully consider several service and economic factors along with the range of available services. The use of contract services may then yield such benefits as cost savings, convenience and improved quality.

AS AN INFORMATION system manager the special librarian has the classic "make or buy" option available to him: he can produce necessary services and products using his own staff and facilities, or he can purchase these services from others on a contractual basis. Virtually every service generated in the dedicated special library (i.e. dedicated to serving a specific clientele) can be purchased from one or more outside suppliers. These services can range from intellectual activities such as translating and literature searching to the rental of photocopy equipment. The suppliers of these contract services (whether the contract be formal or informal) can include commercial firms, academic institutions, professional societies, and not-for-profit institutions.

Although few librarians would be willing to procure all needed services on an extramural basis, the knowledgeable library manager may find that the judicious use of outside contract services can really extend his capabilities in servicing his users' needs and in stretching his budget. This paper is directed at defining some of the matters to be considered in arriving at the "make or buy" decision. These considerations include selecting from among various classes of contract services available and contractual factors to be considered when dealing with a supplier.

Types of Contract Services

In a broad sense, use of contract services may be defined as the purchase of any product or service from another organization or outside individual in lieu of producing that service with in-house resources and with some form of contractual obligation involved. Considering this definition, the range of library oriented contract services available is quite broad. A number of typical contract services often employed by libraries and information centers are listed below.

A. *Management Consulting, Analytical and Research Services*

1. Evaluation of organizational structure
2. Library user surveys (including questionnaire design)
3. State-of-the-art surveys
4. Feasibility and cost-benefit studies
5. Systems and procedures studies and work flow analysis
6. Systems design and evaluation
7. Personnel evaluation and recruiting
8. Staff education and training
9. Facilities design and planning (including site selection)
10. Library network planning

B. *Document Preparation and Surrogation Services*
   1. Document acquisition and preparation
   2. Cataloging and catalog card preparation
   3. Indexing
   4. Abstracting

C. *Data Processing and Computer Services*
   1. Computer software design and implementation
   2. Computer software package purchase or lease
   3. Computer hardware selection
   4. Computer time rental and timesharing services
   5. Data base design, implementation and maintenance
   6. Data conversion services (e.g. keypunching)

D. *Literature Searching and Reference Services*
   1. Literature searching
   2. Fact retrieval
   3. Preparation of literature reviews
   4. Bibliography preparation

E. *Foreign Language Translation Services*

F. *Retrieval Vocabulary Development*
   1. Subject heading lists
   2. Subject thesauri
   3. Classification schemes

G. *Facilities Management*
   1. Facilities construction and outfitting
   2. Facilities operation

H. *Preparation of Publications*
   1. Book catalog production
   2. Directories
   3. Photocomposition services
   4. Printing
   5. Binding
   6. Distribution

I. *Micrographic and Reproduction Services*
   1. Equipment selection and acquisition
   2. Preparation of microforms
   3. Micropublishing
   4. Duplication services

Types of Suppliers of Contract Services

If you are interested in procuring a particular type of contract service, you should be able to identify suppliers of the needed service from among various different types of organizations, which run the whole gamut of organizational affiliation (a later section of this paper gives points on how to identify potential contractors). In the commercial sector, one encounters suppliers of various sizes, ranging from the one man shop to subsidiaries and branches of some of the largest industrial concerns in the country. There are indeed certain management or systems consulting firms which supply nothing but contract services which are in themselves very large companies with thousands of employees. In the not-for-profit area, one finds even more contractor variety. Potential nonprofit contract service suppliers can include public libraries (e.g. New York Public Library), endowed special libraries (e.g. John Crerar Library), professional societies (e.g. American Chemical Society) and professional society libraries (e.g. Engineering Societies Library). In the academic sector, it is not uncommon for a university to offer specialized information services to others, such as is done by the State University of New York (SUNY) at Buffalo, the University of Georgia and the Illinois Institute of Technology. University library consortiums, such as the Ohio College Library Center and the New England Library Network also offer services to their members and others.

Libraries can and often do purchase contract services from the U.S. government, although many librarians may not think of them as such. Government agencies, such as the National Technical Information Service, Defense Documentation Center, NASA, Library of Congress, National Institutes of Health, Smithsonian Institution and many others, offer a wide range of information services and products in many subject areas to qualified users at relatively low cost. Examples of these services include paper and machine readable abstract, index and catalog data, literature searching and reference services, foreign language translations, computer software packages and selective dissemination of information. An interesting note is that many services offered to others by the government were produced for them on a contract service basis (e.g. the ERIC services of the U.S. Office of Education).

Rationale for Using Contract Services

When the librarian ponders the question of whether he should perform a needed service or produce a needed product with his own resources (if he has sufficient resources available) or purchase the service from an outside supplier, he is facing the classic make or buy management decision. Should he decide to go the contract services route, he must be able to support his decision on the basis of four important management parameters: a) cost, b) availability of resources, c) convenience, and d) quality and objectivity of results.

Cost

There are a number of potential cost benefits to be derived through the use of contract services. One is that the economics of cost sharing may come into effect. It is relatively expensive to catalog books for an individual library. However, once the cataloging is done, the catalog data can be reproduced on a volume basis and sold to other libraries for little more than the cost of replication (as in the case with the L.C.'s catalog card and MARC services). Similarly, the cost of producing a computer program to handle a particular library function (e.g. selective dissemination of information) can be quite substantial and beyond the reach of most libraries. However, a commercial software house (or even a library) can produce a generalized SDI program and sell or lease the program to several libraries at a fraction of the development cost.

Using contract consulting services to augment existing staff on a short-term basis represents another area of potential cost saving. Often, because of the demands of a special project or due to an abnormal work peak, the library manager may find that his staff cannot cope with the workload. Rather than make the long-term commitment to hire new permanent staff members, contractor staff can be temporarily retained on an ad hoc basis to help get over the hump. This also applies to obtaining special skills not available in your own organization that are required on a short-term basis.

Another cost-saving advantage of contract services is that they allow the user to avoid significant capital investments in equipment and facilities. For example, a library with low or even moderate volume needs in the areas of computer or microforms services, would be wise to consider the cost advantages of contracting its work to outside service bureaus as opposed to purchasing its own expensive equipment (not to mention the staff to run it).

Availability of Resources

There are occasions where the contract route is the only way to obtain a needed service. For example, a noted expert who would not consider working for you on a full-time basis might be willing to accept a consulting contract. Similarly, a firm may not be willing to sell you a one-of-a-kind or prototype device, such as a special purpose computer or microfilmer, but it may be willing to rent you time on the machine. It can be noted here that very few computers are purchased outright. Most are leased on a contract basis even though they are housed on the user's property.

Convenience

Using outside contract services can be a very convenient single source method of getting things done. A librarian, for example, can purchase a group of services as a package from a single contractor for a single price, instead of having to worry about producing or acquiring each service individually. The government frequently handles its contracts in this way and it is common for an original contractor (known as the prime contractor) to assume full responsibility for obtaining various required services and products from other suppliers (known as subcontractors). A good example of this type of arrangement is the facilities management contract by which one contractor will assume full responsibility for operating a facility (such as a library or information center), including the provision of all staff services and resources for a given fee. The NASA Scientific and Technical Information Facility and Department of Justice National Criminal Justice Reference Service are examples of contractor-run facilities.

Quality and Objectivity

Two valid considerations in purchasing contract services are the quality and objectivity of the anticipated products. When dealing with an outside supplier, the client, if he is wise, can often ensure higher quality control than when he employs his own staff. If he chooses a firm experienced in the particular service desired (as demonstrated by examples of prior work and happy former clients), the buyer can expect high quality since he is purchasing a tested product or approach. In addition, the purchaser of contract services will know exactly what to expect and what not to expect as this should be stated in the contract as explicitly as possible. Finally, the customer, if he has wisely protected himself by contract, has the right to reject unsatisfactory work by a contractor at little or no cost to himself. Just try to get back the salary of one of your staff members who has not performed satisfactorily!

Types of Contracts and Contract Negotiations

A fairly generalized discussion of the steps involved in letting a contract is given below. This basic approach, with some modification, can be applied by most libraries, both large and small, to most types of contracts, both large and small. If at all possible, have a knowledgeable member of your organization's legal or purchasing staff review your contracts before you sign them.

Work Statement and Proposal

A vital prerequisite to obtaining any form of contract service is that you, the customer, develop a work statement to define as precisely and clearly as possible exactly what it is that you want done by a contractor. A great many alleged contractor "failures" are actually the result of the client not satisfactorily defining his requirements.

Once you have adequately defined your needs (preferably in writing) you can begin to solicit proposals from potential contractors. (The next section gives pointers on how to identify potential contractors.) Your work statement becomes a request for a proposal which is transmitted to those organizations you have identified as likely contractors. They will reply with a proposal which contains the potential contractor's response to your work statement. In it he should clearly demonstrate his understanding of the nature of the work, present his proposed approach, his proposed time table and his price quotation along with his qualifications to perform the job.

Proposals may contain additional data as determined by the nature of the work in question. For example, proposals for consulting projects typically contain such elements as: a definition of the problem, a statement of study objectives and expected results, the proposed approach to solving the problem, proposed personnel to be employed on the project with their biographies, and evidence of the consultant's prior experience in the particular area of expertise. Proposals for data processing, microform or reproduction services should provide details on the equipment to be employed. Pay careful attention to the proposal and request that it be resubmitted if all of your questions are not answered. If the client and contractor agree, then the proposal can become the basis for the contract. Select the best contractor using *objective criteria* (e.g. demonstrated ability, references, price, etc.) to evaluate his proposal and then get down to contract negotiations.

There are a number of recent articles which look into various aspects of contractor-client relationships *(1–5)*. Although these papers are directed at the use of consulting services, they contain many points also relevant to other types of contract services.

Preparing and Negotiating the Contract

There are two basic types of contracts normally employed in the purchase of services: 1) The fixed price contract and 2) The time and materials contract.

Fixed price type contracts require that the contractor quote a firm fixed price for the services or products he proposes to provide. This type of contract lends itself to a situation where the scope of work in a particular area can be precisely defined in advance and where few problems are anticipated. If the contractor can complete the work for less than the fixed price, he may keep the difference. However, if it costs him more to complete the job, he usually absorbs the loss.

Time and materials type contracts require that the contractor be remunerated for the time (labor) and materials he expends on a particular project, at specified rates. Time and materials contracts need not be open-ended and it is usually wise to specify a ceiling cost that cannot be exceeded without prior authorization. This type of contract is normally employed where the scope of work is difficult to define, where flexibility is required and problems may be encountered.

You should know which type of contract the contractor is bidding on as fixed price rates tend to be higher than time and material rates because of increased risk. Similarly, have all potential contractors bid on the same type of contract so that prices can be compared.

Once the proper type of contract is selected (it can be specified in the request for proposal if you know in advance) the technical details of the contract can be negotiated and a price agreed upon. Needless to say, as in all contract matters, all agreements should be in writing to avoid any possible misunderstandings later and should be reviewed by an attorney if possible. The contract should specify the following mutually agreed-upon points: 1) Specific work to be performed with clarifications of what is not to be performed; 2) Work sequence to be followed; 3) The time table for the work, giving start and completion, showing all phases and indicating whether the times are fixed or variable depending on the work volume; 4) Final products or services to be delivered to the client as a result of this effort; 5) Interim reports and products required (if any); 6) Statement of what will be paid to the contractor for work performed, payment schedules, cost breakdowns to be provided to the client, and any cost constraints such as cost ceilings on certain costs or non-allowable expenses; 7) Specifications of who will represent the contractor and who will represent the client in receiving or giving technical direction; 8) Agreed-upon acceptance criteria for the final product(s).

Remember, the more detailed the contract, the less opportunity for misunderstanding, but the contract should not be so restrictive as to hamper the successful completion of the contract.

How to Identify Contract Services Available to Libraries

A good reference librarian should not have too much difficulty in identifying potential contractors. Some good places to start are: 1) Fellow librarians—find out who they have used and found satisfactory; 2) The Yellow Pages of the telephone directory under appropriate headings (e.g. Consultants, Data Processing Services, Microfilming Services, etc.); 3) Booths and literature available at annual professional society conventions; 4) Advertisements in professional journals; 5) Professional societies and trade associations with referral services (e.g. SLA Consultation Service, Information Industry Association, Association of Consulting Management Engineers, etc.); 6) Published directories, such as:

Kruzas, A. T. ed. *Encyclopedia of Information Systems and Services.* Ann Arbor, Edwards Bros., 1971. This volume includes: abstracting and indexing services, computer applications and services, consulting and planning services, data collection and analysis centers, micrographic applications and services, SDI, etc.

Directory of Library Consultants. New York, Bowker, 1968.

Bowker Annual. "Library Purchasing Guide." Includes: automation and system design, consulting services, etc.

Literary Market Place. "Services" Section. Includes: consulting and editorial services, data processing services, translators, shipping and messenger services, etc.

The make or buy decision is an interesting and important one for the special library manager. This decision must be made objectively and requires a current awareness of what contract services are available and how they can be best used. While it is hoped that this paper can provide some insight to the special librarian in this area, I suggest that some more intensive analysis and guidance may be called for. Perhaps a handbook on the effective use of library contract services could be sponsored by an organization such as the Special Libraries Association.

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Received for review Feb 6, 1973. Manuscript accepted for publication Feb 22, 1973. Adapted from a talk presented Jun 6, 1972, at a meeting of the Science-Technology Division, during SLA's 63rd Annual Conference in Boston.

Herbert B. Landau is principal consultant, Library Systems, Auerbach Associates, Inc., Philadelphia, Pa.

A Typology of Library Cooperatives

Michael P. Sinclair

Queen's University, Douglas Library, Kingston, Ontario

■ Four cooperative library system models are identified: a) bilateral exchange, b) multilateral pooling, c) dual-service common-output, d) service-center or facilitating participant; a) and d) are considered in detail. Efficiency of the individual library affects the optimal production level and time, at which the system will be advantageous. Redesign of individual library facilities will be required, to maintain relative economic positions in the system. The proportionality condition, that each participant wishes to gain advantage in proportion to the value of its inputs, is basic to the system. If any participant is less well off than before, the cooperative fails.

THE COOPERATIVE MOVEMENT among libraries ebbs and flows. With few exceptions, librarians accept the concept of cooperation, but find that it is much harder in practice than in preachment. In an issue of *Library Journal,** a number of writers discuss the advantages and difficulties of cooperative effort. They take, as a group, a somewhat jaundiced view of the success of attempts at cooperation to the present time, draw fairly common conclusions, and look more hopefully toward the future.

The wise advice of these writers is that the difficulties to be overcome are those of mutual suspicion among cooperating libraries, lack of clear goals, initial over-enthusiasm later too much tempered by dismay at real difficulties, and lack of interpersonal competence. But wise as this is, it does not really tell the reader much about cooperative activity. The assumption made throughout the *Library Journal* symposium is that "cooperation" does not *lack* definition, but is, rather, so well understood as not to need explanation and clarification.†

Would that it were so. In fact, the difficulties proposed as main cause by the contributors to the symposium are *not* central, but peripheral to the real issues. To say this is neither to negate

* Cooperation: A Library Journal Mini-Symposium. *Library Journal* 97 (no.9): 1767–75 (May 15, 1972).

† Carlos A. Cuadra / Survey of Academic Library Consortia in the U.S. *College & Research Libraries* 33 (no.4): 271–83 (Jul 1972) comes to hand too late for detailed comment. It should be noted, however, that he uses the words "consortium" and "cooperative" as synonyms; and further, that the typology he proposes is descriptive, and is precisely for that reason not of a form to explain the difficulties discussed by the *Library Journal* contributors. I regret that I have not been able to examine Ruth Patrick / *Guidelines for the Development of Academic Library Consortia*. System Development Corporation, TM-4597/005, Nov 1971. Cuadra states (p.281) that the approach of the *Guidelines* is prescriptive; but qualifies his statement heavily in succeeding sentences.

such difficulties, nor to denigrate them—they *are* important, they *do* get in the way. It is, rather, to recognize that were the forms of cooperative activity adequately prescribed, such problems might at least be lessened.

Here is proposed, then, a typology of cooperative activity; with it are offered some comments about problems raised by the models. Particularly, the comments are intended to show that solutions to the fundamental problems are sufficiently different to permit the typological distinctions which are made.

The Typology

TYPE A. This is a bilateral *exchange model,* in which materials* are exchanged between *two* participating libraries. In practice, where such an exchange is found, the exchange rate is usually calculated upon a proportional basis, according to some agreed-upon value (e.g. one for one, two for one).

TYPE B. This is a multilateral development of the first, and can be called, for convenience, the *pooling model.* In this model, more than two libraries contribute to and draw from a pool of materials.

TYPE C. This *dual-service model* is one in which two or more participating libraries take advantage of the facilities of one of the participants to produce a common output—for instance, a union list. The term "dual-service" is proposed both to distinguish this model from the next, and to emphasize the fact that all participants, including the facilitator, contribute to the common output.

TYPE D. The model is one in which a number of libraries employ the services of a facilitating participant to input and process materials for individual purposes rather than to the end of a common output. Hence, it is called the *service-center model.* While the facilitator may be merely a service bureau, and not otherwise employ its own facilities, the model holds under the pricing conditions which will be stipulated for this type of cooperative.†

The Distinctions

Certain distinguishing features are evident within the typology, but these are not the significant means of differentiating one type from another. Of the former, it is enough to say that the directions of the flows of input and output elements form the frames of the types. It is the *causes* rather than the mere direction of flows in which the distinguishing characteristics *proper* are to be discovered. For the sake of simplicity and brevity, I shall examine only problems associated with types A and D, the exchange and service-center models. Similar analysis would reveal differentiating characteristics peculiar to each of types B and C, as well.

A postulate of cooperative activity must be that, at the very least, all but one participant in the cooperative shall be at least as well off *(ceteris paribus)* as before participation, and that *at least* one participant shall be better off. In the event either that *all* participants remain *only* with their initial advantage, *or* that one or more of the participants is *worse* off, we may suppose the cooperative to be a failure.‡ The common

* In every case, what is exchanged, pooled, or created, may be either materials or information. The word "materials" should be understood in this sense.

† I refrain from citing examples for four reasons. The first is that this is a preliminary article designed, so-to-speak, to clear the ground; second, such mention might incur invidious comparisons; third, these things tend to ebb and flow—a cooperative project may be here today and gone tomorrow; the fourth is that, as with most typologies, there is likely to be disagreement about assignment of particular cooperatives. Readers will, however, be able to recall examples of each.

‡ Two exceptions to this assumption may be declared to be sports. The first occurs when one member, or more, is either over-funded or misdirects its funds across its services. In such case, it is evident, the member may find itself "worse off" in the sense that its surplus is reduced. (But this is to raise the whole question of demand analysis *versus* formula funding.) The second exception may occur as deliberate policy, for some satisfactory reason or other; but I believe this to be rare enough to warrant no further comment.

means of determining advantage or disadvantage is value received per dollar expended. This leads, for the purpose of this analysis, to a more rigorous statement of the postulate: that each participant wishes to gain advantage in proportion to the value of its inputs. This is called, hereafter, the "proportionality condition." Other standards are not persuasive, for the reason that libraries budget in theory, and increasingly in practice, to performance bases—and these are invariably related to income. A last rider is that politico-economic links are ignored; each participant is considered an economically-distinct unit. To do otherwise would be to complicate the analysis unnecessarily, but the fact of the omission should be borne in mind.

Efficiency

The *datum* for the analysis is that no two libraries are equally efficient. Even were the methodology of librarianship everywhere identical, different salary rates and means of accounting for overhead structure would vary the value of output per input dollar. For a small number of exchanges between two libraries, differences in value received from each other might be insignificant; but as the exchanges increased, all else being equal, the total difference would increase directly as the number of exchanges. If, however, there were additional distortions in the cost structure, the short-run average cost curve of the less efficient library would be shifted to the left: it would reach the optimal production point at a lower output, and hence earlier in time, than its more efficient partner, and would be forced to redesign its facilities in order to achieve economies at anticipated higher levels of output. Then, for a time at least, this less efficient library would be at an additional disadvantage as it operated on other than the optimal point of the new cost curve.* It would only achieve its former relative position as the more efficient member of the exchange reached *its* optimal production point, redesigned *its* facilities, and for a time operated at disadvantageous points on *its* new cost curve.†

It is unusual for libraries engaged in cooperative activity to operate with similar degrees of efficiency. Very often it is the fact of quite large differences which, rightly or wrongly, creates the initial cooperative impulse. One or another library discovers an advantage which

* There is no empirical evidence that library production systems are designed according to the prescriptions of any optimality analysis. There is some *small* evidence that the functions may not be linear and homogeneous (see footnote following). In the analysis, however, the liberty has been taken of assuming that a library is free to choose the size of system appropriate, in the short-run, to its output; and is able to move, from period to period, to systems of different size as predictions of output vary. In practice, it seems, additional production units are accreted to an original structure as need arises, until space and other facilities overflow and new buildings, etc., become necessary. At such time, a point-production decision is made, and the new facilities designed for that point. This practice arises principally from a complete lack of understanding of the real causes and rates of the growth and decline of library budgets, upon which to rest predictions and design decisions.

† Here, the cost curves are treated as straight lines. Thus it may be supposed that cost discontinuities would appear, to signal when the system had passed the optimal point. More important perhaps, even though as a digression, is an indication of the real magnitudes involved. Very few data are available to permit the necessary calculations to be made; but in the case of one Canadian university library, it has been estimated that, at one time, the optimal output point of its computer-assisted cataloging department was 437,000 volumes and card-sets per year, at costs ranging from in excess of $15 for the first 1,000, to $3.47 for the last. Plainly, the system—which handles between 50,000 and 80,000 volumes per year—was, at that time, vastly over-designed, particularly because the slope of the cost curve began to change appreciably only beyond the 200,000 volume point. In the event, however, of cooperative activity between large regional systems (for instance, OCLC and NELINET), or between national systems, large quantities are likely to be ordinary rather than exceptional. Unless considerable technological change occurs before such cooperative groups are built, it will be financially perilous to account or engineer on a straight-line basis.

might accrue to itself, or to its potential partner(s), or to both; and proposes and proceeds with the cooperative. There is, however, an additional complicating factor which must be considered. Differences in efficiency are related to, if not caused by, differences in library methodology. These, in turn, are used to explain differences in cost-accounting practices employed to determine value of output. Yet, unless cooperating institutions account on a common basis, statements of comparative value and advantage would appear to be meaningless.*

It is legitimate to ignore the difficulty. Libraries are not in competition with each other for funds, but with sewerage and other departments of cities and municipalities, or with academic and administrative departments of universities. Thus, their accounting and reporting practices usually conform to local and institutional requirements. But more fundamentally, the real value of library output is what the consumer would be prepared to pay for it were he to attend to his utilities, and recognize that libraries function in a market-place. Further, the market-place is local, and offers more competition in one place than in another. Hence, the value of library output would, from the user's side and therefore from that of the library, vary from location to location. In a given place, libraries with identical inputs but differing efficiencies would be quickly recognized to achieve different returns; the more efficient library giving the user more for his dollar than the less efficient, and thus better withstanding other competitive forces.† It is only in the absence of information and understanding of market-place forces that resort is had to one or another means of formula financing: the latter leads naturally, for many purposes of statistical and other comparisons, into unnecessary demands for common means and bases of cost-accounting.‡

In the case of a Type A cooperative, *common* methodology and cost accounting practices would at once reveal disparities in the value of returns to members of the exchange; and, therefore, whether or not the proportionality con-

* This is analogous to the problem of comparability of *financial* statements, wrestled with by the accounting profession. The accounting problem remains largely unsolved—hence, the numerous tests of various internal ratios devised as part of accounting practice; and hence, too, investor reliance on one or another form of percentage return on input dollars. Librarianship has, as yet, devised neither meaningful sets of ratios by which *operations* may be compared; nor, save in the case of certain special libraries, measures of the comparative value of output.

† The defense that library service is free is, as is well known, patently false. Not only are there indirect charges to the user in the form of taxes; but there are direct charges in the cost and time of travel to make use of the facilities offered, and so forth. Often, additional costs are incurred when the user waits for another borrower to return a desired book. It seems not to be inherently impossible that the cost of library service to the *user* may not quite often be much *more* than if he were reliably served by a comprehensive bookstore. This begins to bring into view—possibly, into perspective—a number of murky questions, including that of authors' lending-rights. The demand for lending-rights may be as much a sign of failure by the trade to analyze properly and judiciously promote the advantages of buying rather than borrowing books, as it is of damage to authors' interests by the practices of libraries. In other words, the trade may merely be passing on costs it ought properly to assume. The trouble here, as everywhere, is that there is so little evidence to hand, even of such matters of demand elasticities, upon which to base reliable judgments.

‡ See also footnote*, p.182. It may be to the point to remember that it was because of the lack of measures of comparability of value of output between offices and projects of the Dept. of Defense, and because formula financing offered no solution to the difficulty of providing equitably for needs as different as those of weapons systems procurement and military manpower, that PPBS was introduced by Secretary McNamara when he entered the U.S. cabinet. The history of the decline of the Peace Corps, as PPBS spread through government, should serve as warning to every librarian. This note should not, however, be read as advocatory of PPBS. That method is, at best, a means of allocating funds across departments. It is *not,* as it appears too often in present guise, either a substitute for the market-place, or an alternative financing formula.

dition held. To the extent that libraries are economically independent, local accounting practices do precisely the same. As mentioned above, however, the more efficient participant is always at an advantageous position.

There are a number of alternative benefit outcomes, involving both profit and loss to the exchange members; and for purposes of illustration, the simplest case will be taken—that in which both members profit. The question which arises is: In which direction should cash payments flow (whether in fact they are employed or not) to return the system to the equilibrium condition? The answer is paradigmatic for all outcomes. At any time, the more efficient participant will be on a more efficient cost curve than its partner. Further, the advantage will vary as output increases, so that the ratio of benefits will range between a maximum, determined by the difference between the cost at the optimal production point of the more efficient participant, and the maximum cost to the less efficient; and a minimum, at the point at which the two cost curves approach most closely.*†

In analysis of the Type D cooperative, or service-center, the proportionality condition continues to be assumed. It is also to be assumed that the condition holds for the facilitator; that is, if the facilitator employs its own facilities, it then seeks to recover only those costs incurred, above its own contribution, by the other participants.

Ordinarily, members of such cooperatives are charged for proportion of use above some base calculated by the facilitator according to its prevision of break-even costs: the higher the total predicted use, the lower the base. Typically, the cost to a member increases directly as its use of the facility—rising eventually, it may be supposed, to a point at which it becomes advantageous to the member to remove itself from the cooperative and to develop its own facilities.

Such a model, however, subverts the proportionality condition. There is a cost to the participant of preparing input to the facility. A more efficient participant will prepare the same volume of input for less cost, other things being equal, than a less efficient participant; yet each will pay the same amount to have the quantity processed to output—that is to say, the value added by the facility is the same for each. Hence, the sum of input costs and processing costs is lower to the more than to the less efficient participant, for equal value received. To formulate the matter alternatively: in the event of equal expenditures, the less efficient participant again receives less value than the more efficient.

How is the proportionality condition to be maintained? Plainly, given a large number of participants in the service-center cooperative, payments between the members could quickly become too complicated to administer. More importantly, use of a set of transfers would fail to distinguish sufficiently between this type and the Type B model, of which such a set is one mark.

The solution lies in an adaptation of marginal analysis to the schedule of charges determined by the facilitator. As has been noted, increased use of a facility typically implies increased charges; the facilitator, for purposes of analysis, making the assumption (or ignoring the alternative) that the participants experience equal efficiencies. Marginalism suggests that the charge at a given level of output should be determined by summing a series of marginal costs up to that level.‡ Thus, the more efficient par-

* The ratio would be 1:1 at a crossing point, but it is unlikely that, given perception of need to redesign facilities, the more efficient library would let its costs rise to that point.

† *How much* should be paid is not at issue here; only the *direction* of payment is of concern. It should be evident, though, that neither a simple change of input proportions nor a single-value cash payment per item is sufficient, unless the cost curves are parallel straight lines —which must be a very rare occurrence.

‡ In practice, the participant would probably be charged the sum of a series of means approximating the margins. The difference is unlikely to be significant.

ticipant which achieves a high volume of input to the facility would be charged at a lower *average* rate than a less efficient participant whose input *costs* were the same, but whose volume was lower. It also suggests, however, that in order to maintain the proportionality condition where prior cost accounting reveals differences in efficiency, a more efficient participant should be charged *more* than a less efficient by the margin of efficiency at given levels of input to the facility.

Comment

It may seem odd to the reader that this typology appears to "penalize" the more rather than the less efficient user. This approach has been taken, however, because there seems, on reflection, no reason to suppose that there is any culpability associated with the notion of degrees of efficiency. In this respect, it will perhaps be argued that the typology does not reflect the real world; that many participants in cooperatives *could* increase their efficiencies were their various processes better managed. That is possibly beside the point, when the proportionality condition is considered; for what it has to teach—and the point is basic to the doubts expressed by the contributors to the *Library Journal* symposium—is that the best chance of forming successful cooperatives is to link only libraries of similar efficiencies, so that those highly placed on the efficiency scale will achieve high returns without risk of unwarranted frictional costs; and so that less efficient libraries will be encouraged to improve their processes in order to achieve the increasing direct returns on the spent dollar which is expected of cooperative action.

Acknowledgments

I would like to express my thanks to Mr. D. A. Redmond, Chief Librarian at Queen's University, whose close reading and careful criticism of drafts of this article have immeasurably improved and clarified concepts, analysis, and final presentation. Errors, alas, remain entirely my own.

Received for review Nov 13, 1972. Manuscript accepted for publication Feb 22, 1973.

Michael P. Sinclair is library research officer, Douglas Library, Queen's University, Kingston, Ontario.

Computer-Based Bibliographic Retrieval Services

The View from the Center

Margaret K. Park

Computer Center, The University of Georgia, Athens, Georgia 30601

■ The Information Dissemination Center has emerged as a broker or retailer for computer-based information retrieval services, interfacing with both the tape suppliers and with users of the search services. Five areas which impact the center's interface with these two communities are discussed: the nature of the data bases which are available for search; retrieval results and factors which affect them; the timeliness of services; costs and prices; and practical operational considerations related to library interests. Comparison shopping between centers is advised as centers differ considerably in the services which are offered, the data bases which are available, the experience of the information specialists who construct search profiles, pricing structures which are used, and the prices which are charged. Implications of the growing trend toward licensing and leasing information resources, especially magnetic tape services, are discussed briefly.

DURING THE PAST five to six years the Information Dissemination Center has emerged as a broker or retailer for computer-based information retrieval services. The interdisciplinary nature of their role is apparent in the variety of sources from which they have evolved. Recognizing their relationship to traditional reference services, some libraries have extended their facilities and services to include the magnetic tape media and searches based on them.

Technical libraries in industrial organizations have generally taken the lead in this approach since the profit motive is more likely to add budgetary funds for innovative information resources than is academic instruction or research. The computer technology aspect of the service has led to the outgrowth of dissemination services from computer centers, especially in the academic environment where the requisite computer hardware and staff resources are more likely to be available than in the university library.

Dissemination centers have also been established by the tape producers themselves, combining their expertise in both the subject content and the handling of bibliographic information by computer technology. Leaders in this area were the Medlars and NASA centers in the government sector, the ASCA and similar services from the Institute of Scientific Information in the commercial sector, and society-based or discipline-oriented organizations such as Biosciences Information Service and the American Psychological Association in the not-for-profit sector. At the present time there are approximately 30 centers in this country that qualify for "Information Dissemination Center" status under the membership rules of the Association of Scientific Information Dissemination Centers (ASIDIC); approximately a dozen of these provide searches to the public at large. There are some 15 centers in the European counterpart organization, EUSIDIC.

Information Centers, as retailers, find themselves in the center of the information transfer process between the tape suppliers and the end users. They often process magnetic tapes from a number of tape producers in a wide range of disciplines, and the users they serve may be located in industry, government agencies, and academic institutions. Interfaces with the tape producers include the acquisition functions for procurement and the serial cataloging functions for inventory control. Royalty payments, sliding usage scales, restricted data rights, and the magnetic tape media all contribute to a complexity which is not normally encountered in traditional library operations, however.

On the opposite side of the center's activities are the users of the searches, consisting of both individual scientists and librarians. The interface with the users is characterized most strongly at this point in time by its educational nature. Computer-based retrieval services are still a relatively new information resource, and just what portions of the information transfer process can be handled adequately by this technique are still being learned. Users vary by extremes from those who feel the computer should be all-knowing and solve all problems with 100% accuracy to those who will never forget the incorrect computer-produced bills their local department store has sent them in the past. Between these two extremes lies reality, of course, tempered by the fact that the computer itself can do only what it is instructed to do.

To illustrate these aspects of the tape supplier—center—user continuum, five areas which impact the center's interface with these two communities will be discussed. These are: 1) the nature of the data bases which are available for search, 2) retrieval results and factors which affect them, 3) the timeliness of services, 4) costs and prices, and 5) some practical operational considerations related to library interests.

Nature of the Data Bases

The introduction of machine-readable versions of the well-known and long-revered reference works in science and technology, and to a lesser extent, the social sciences, has highlighted both the strengths and deficiencies of the corresponding printed materials. Information centers have become, willingly or unwillingly, the technical representatives of the tape producers. They must explain the subject and journal coverage of the various data bases ("Why didn't I retrieve this document; it has chemical compounds in it"), the indexing vocabulary ("Why did you use this term? I didn't suggest it."), the contents of the data bases, and, unfortunately, the errors in the data bases. Although the Georgia center handles over 16 different data bases from 8 different tape producers, it often faces an identity crisis with users who are searching only one or two data bases. That is, it is looked upon as the representative of that particular data base supplier—an extension of his technical and marketing staff resources. It is not a unique situation, of course, for a retailer of any product, and it is a two-edged sword. Your local automobile dealer gets blamed for errors made at the manufacturing plant, while the manufacturer bears the brunt of mistakes made by untrained mechanics at the local agency. Aside from the Medlars centers which provide—in fact, require—an extensive training program at NLM for their search analysts, the tape suppliers have generally not recognized that educational resources must be made available to the centers' staff if effective use is to be made of their magnetic tape products. Centers, too, have a largely unmet responsibility to provide educational resources for their own users.

Training in indexing terminology is another area which needs to be supported more extensively by tape producers than is presently done. Profile construction is essentially the same process as document indexing. The vocabulary of the document or the question, as appropriate, is being translated to the conventions of the data base. Tape producers, who invest several man-years in training staff for document indexing and then omit all training for the profile construction process, are looking at only half the problem and, indirectly, wasting a large portion of their investment in construction of the data base. The Georgia center has subscribed to or evaluated an unexpectedly large number of tape services which included classification codes or indexing codes for which no corresponding authority list was readily available. The codes are meaningless, of course, without the corresponding assignments. Yet only by annoying persistence have these lists been obtained and many are available only in machine-readable form. For those centers which choose to have the users prepare their own questions, or search profiles, these types of indexing resources are essentially unavailable, especially where they are considered proprietary or copyrighted information by the tape producer.

The identity crisis carries over to the problem of errors in the data, especially keyboarding errors which affect the search results or appear in the printed bibliography. Invalid Codens, unidentifiable journal titles, incorrect bibliographic citations, and rampant keypunching or computer-induced errors in abstracts are all deposited at the doorstep of the center, usually with a wail of "why don't you do something about them." These types of errors are, of course, beyond the control of the information dissemination center, and the user probably does not expect action from the center as much as he expects a sympathetic ear. Most of these comments are relayed to the tape producers, usually to be met with the very real, but nevertheless unsatisfying, refuge in production problems and their associated costs.

The situation with respect to errors in data bases has improved significantly over the past two or three years as computer-based publishing technology has advanced. Devices such as check characters on abstract numbers, the Standard Serial Number, and the International Standard Book Number, are providing greatly improved reliability. The discussions which are underway in several national and international organizations for defining consistent methods of handling bibliographic data should also lead to still more improvement. This leaves only the educational area which is virtually unexplored, yet it appears to be one in which tape producers and centers alike could make great strides with a relatively minor investment.

Retrieval Results

The number of factors which affect search results is relatively large, and includes such things as the subject coverage and vocabulary of the data bases, the proficiency of the center in handling both the questions and the data bases, the clarity with which the question is stated by the user, and the accuracy with which computer search programs perform their expected functions. Assuming that factors such as the data base content and question formulation (which are beyond the control of the center) are constant, the question can logically be raised as to whether or not there are significant differences between centers. The users' viewpoint might be more pertinent, but the question can also be addressed from the viewpoint of the center.

Since the Georgia center is one of the few which offers retrospective searches in addition to SDI searches, it receives from other dissemination centers a fairly large number of questions which have already been coded into profiles. The Georgia facility also operates an information dissemination network whereby other centers can enter their profiles directly into the Georgia computer files, with search results returned to their own printers by telecommunications facilities. The profiles submitted from these external sources differ widely in terms of both accuracy and completeness. A few of the inconsistencies can be attributed to unfamiliarity with the particular search system, but the majority of the inconsistencies reflect varying levels of knowledge of the data bases and of good profile construction techniques. The same variation can also occur within a single center, however, where experience in profile coding and familiarity with different data bases or the subject matter they cover differs among information specialists.

Comparison shopping among established centers is highly desirable, but comparative evaluations such as those reported in the symposium on Evaluation of Existing Chemical Information Services at a recent American Chemical Society meeting can be very misleading. Most, if not all, of the papers in this symposium reported performance judgments based on uncontrolled studies and without quantitative differentiation of those factors which were center-specific as opposed to those controlled by external sources (e.g., the tape supplier or the user). As an example, one speaker reported precision and recall values for a number of centers, then went on to say that significantly different search strategies had been used for the test question. Scientific experimental methods should be applied to these comparative studies, just as they are (or should be) to other information research problems.

Timeliness

The computer-based SDI services have introduced at least one interface problem which the Georgia center's staff did not foresee, and that is the timeliness with which the computer-based searches are expected. For printed serials it has seldom been possible to keep up with late deliveries on a day by day basis. In most libraries it is only when an issue is completely missed that an inquiry is made and then only after the succeeding issue has triggered the request.

The same has not been true of the machine-readable serials. Delayed delivery of even one day causes telephone inquiries to start coming in, asking "where are the search results?"

The three possible points of delay are the tape producer, the center, and the delivery system—the latter either between the producer and the center or between the center and the user. Production problems associated with either the manual or computer portions of the tape suppliers' systems are responsible for most of the delays at the point of origin. These delays most frequently occur at changeover times, such as conversion from one tape format to another, introduction of new indexing vocabulary, change in volume number, or introduction of new computer equipment. Delays incurred by the dissemination center can also be attributed to computer hardware problems, but most are caused by receipt of altered or inoperable data base tapes from the tape suppliers. Past experience with tape problems has been an exercise in puzzle solving since tapes have been blank, been incomplete, been the incorrect density, been the completely wrong data base, had invalid control data such as record lengths, or, the most frequent problem, had altered tape format or data content. Most of these types of errors cause the computer runs to terminate abnormally, and it is then left to the center's sleuthing ability to uncover the reason for failure.

Some problems can be corrected or compensated by the center, but most require replacement of the data base tape by the producer, which can cause delays ranging from days to weeks. The last cause of delay mentioned earlier is the delivery system—in most cases, the U.S. mail. Suffice it to say that numerous delays can and do occur in this area; for example, mail has been routed to Athens, Georgia by way of Athens, Greece.

Surface mail to Europe and Japan can also be a problem for packages too heavy to go by air parcel post. Whenever significant delays are encountered, the commercial and governmental agency users are usually advised, but it is economically unfeasible to do so for the 2,500 or more users at the participating academic institutions.

Costs and Prices

In discussing costs and prices, costs will refer to the funds required to operate a center, and prices will refer to the charges levied for the services. The costs of operating a center will vary somewhat, depending on the extent of the services offered. Some centers expect users to prepare their own profiles, while others are staffed to handle this function. Some centers have a fairly extensive marketing effort, while others have none. Search results range from lists of bibliographic citations to manually screened search results, including copies of abstracts.

These differences between centers affect the costs, and ultimately the prices they charge. There are also considerable differences in the pricing schedules used by centers, depending on their profit or not-for-profit status, the operational costs incurred, and the size of the user base over which they can amortize their fixed costs. Some centers require a sign-up or subscription fee; others require participation for a fixed period of time; many charge only for searches processed. Prices may vary by the number of profiles, the number of answers, the number of changes to the profiles, and the size of the data base being searched. Subscription discounts for large volume use are offered by at least one center. These variations reflect the competitive nature of the centers and emphasize the advisability of comparison shopping in order to evaluate services and prices.

Operational Considerations

As the last area regarding the view of computer-based bibliographic services from the "center," several operational considerations which may have a considerable impact on libraries in the future are explored. The central issue is the matter of data rights in the information being searched and disseminated, which has wide-reaching implications in terms of copyright provisions.

In the early 1960s, the machine-readable data bases were generally sold on a subscription basis, much like the corresponding printed publication, except that use was restricted to the purchasing organization. In the late 60s, however, the matter of data rights in the machine-readable materials became a major concern to tape producers, and there was a shift to license or leasing arrangements in which the data rights were retained by the producer. Thus, annual payments in the thousands of dollars per data base were, and still are, simply "right to use" fees, with all rights in the data reverting to the tape producer upon cancellation of the order for the service. In addition, many of the tape producers lifted the restrictions on in-house use, but imposed royalty charges based on the volume of usage over and above their initial lease or license fee. Unfortunately, the unit of measure used for assessing royalties varies among the data base suppliers, with the result that some charge by the number of hits (answers), others, by the number of profiles, and still others, a percentage of income. The result is an unmanageable and unnecessary bookkeeping burden on centers that handle a number of data bases. This condition may be forewarning of what may happen in the library community if royalties or similar usage fees are assessed for hard copies as an outgrowth of the Williams and Wilkins decision.

The trend toward licensed or leased information resources also implies a trend away from the traditional archival functions of the library and a trend toward the clearinghouse function. Rental of information resources is being used not only with the machine-readable data bases, but also with microforms, rental libraries, audiovisual materials, and computer software.

More and more authors are beginning to refer to the coming decades as the "Information Age," and it is provocative to imagine what changes may occur in the structure of the information transfer process and the organizations which administer those functions. For example, will the Information Dissemination Center survive as a recognizable entity from what may be a revolution rather than an evolution? The answer may well be "no" as the functions they perform are assumed by other operational entities in the information transfer scheme.

Received for review Jul 20, 1972. Manuscript accepted for publication Dec 27, 1972. Presented Jun 6, 1972, at a joint meeting of the Documentation and Engineering Divisions, during SLA's 63rd Annual Conference in Boston.

Margaret K. Park is manager, Information Services, Computer Center, The University of Georgia, Athens.

Automated Cataloging and Reclassification by ATS

Simon P. J. Chen

Western Kentucky University, Bowling Green, Kentucky 42101

■ A collection of 250,000 volumes was converted from Dewey to LC by the online Administrative Terminal System (ATS) within seven months at Western Kentucky University Library. In turn, new catalog cards, Hollerith book cards, pockets, labels, bibliographies, and catalogs were produced by the automated ATS system. Reclassification can be improvised as a subsidiary when automated cataloging is applied. The machine readable cataloging data created by the new cataloging and reclassification serve as the information retrieval of the online and real-time query and circulation devices.

IN THE SPRING of 1970, the author recommended that the library collection be converted from Dewey Decimal into Library of Congress (LC) classification. In May of that same year, the adoption of LC and the reclassification of the retrospective Dewey collection of over 250,000 volumes were approved by the administration of Western Kentucky University *(1)*. Among various methods and implementations, another automated reclassification system with keypunch and batch processing by IBM/1401 at Auburn Community College, New York *(2)* was studied; however, the on-line "Administrative Terminal System" (ATS/360) was found to be the most feasible and up-to-date innovation for reclassification and cataloging *(3)*.

Our ATS is a typewriter terminally connected by standard telephone line to the campus IBM 360/40 computer. The terminal (IBM 2741) is also a programmed IBM selectric typewriter with an extra key "ATTN" (attention) to give commands by the typist to the computer. When off-line it can serve as an ordinary electric typewriter. This significant feature of the time-sharing online system demonstrates the ease with which documents can be converted into machine-readable form at a typewriter terminal for further computer processing. Documents are entered by keying the cataloging data in a normal typing fashion at the terminal. Stored documents may be automatically retrieved for deleting, correcting, and inserting words, a sentence or paragraphs. The speed at the typewriter terminal of the automatic feedback is 150 words per minute. This system was reported earlier by Gerald J. Lazorick as used for shelf list conversion at SUNY Buffalo *(4)*, and recently a similar device was used by Ellen Wasby Miller and B. J. Hodges in Shawnee Mission's operation *(5)*.

Implementation

In early spring of 1971, ten ATS terminals (IBM 2741) were installed in the

Cataloging Department. Seven of the ten ATS operators were drawn from the trained clericals within the Department. A pilot project for the on-line cataloging data processing was completed in March 1971. The 13,000 titles classified in LC (Library of Congress) since the library started the conversion from Dewey a year ago were used in the pilot project. Printed LC shelf list cards with complete cataloging information were used as masters to key in by the ATS operators. Later these books also served as pilots for applying computer-printed book cards, pockets and labels.

The tags which are used for coding catalog cards consist of three letters. Letters are used instead of digits because the former are easier to identify and simple to remember *(6)*.

A. Control and Information Tags.

acc	Number of copies, volumes, etc.
nls	Number of label sets needed.
xer	Original cards are to be Xeroxed.
inc	Call number is incomplete for label sets.
dia	Diacriticals present on catalog cards.
cds	Number of card sets needed.

B. Coding Catalog Card Tags.

srl	Serial.
obr	Old branch of the library.
nbr	New branch of the library.
olo	Old location of the collection.
nlo	New location of the collection.
dew	Dewey call number.
non	Non-LC or non-Dewey call number.
men	Main entry name.
met	Main entry title
uni	Uniform (or conventional) title.
tit	Title statement.
rom	Romanized (or transliterated) title.
aut	Author statement.
eds	Edition statement.
imp	Imprint (except date).
dat	Date.
col	Collation.
ser	Series note.
not	Note.
sub	Subject tracing.
add	Added entry tracing.
set	Series tracing.
lcc	Library of Congress call number.
num	LC card number.
sbn	Standard (or International Standard) book number.

C. Cross Reference Tags.

1. See reference.

scs	For subject catalog only.
sca	For author-title catalog only.
scb	For both subject and author-title catalogs.

2. See also reference.

sas	For subject catalog only.
saa	For author-title catalog only.
sab	For both subject and author-title catalogs.

3. Body of see or see also reference.

fro	From part of cross reference.
too	To part of cross reference.

On March 2, "Project Reclass" was officially launched. The ATS operators keyed into on-line discs storing cataloging data from the main entry card of the Dewey books. Due to limited and incomplete cataloging on Dewey shelf list cards, main entry cards were used as masters instead of shelf list cards. Proof sheets (Figure 1) were printed daily by the IBM 360/40 computer and

Figure 1. Proof Sheet

```
    DOCUMENT:  192006:05    PAGE 01 OF 01    11/08/71    10/25/71
001  $dew  796.03  L322w
002  $men  Lardner, John, 1912-
003  $tit  White hopes and other tigers.
004  $eds  [1st ed.]
005  $imp  Philadelphia, Lippincott
006  $dat  [1951]
007  $col  190 p. ports. 21 cm.
008  $sub  Boxing--History.
009  $add  Title.
010  $num  51-3082
011  $lcc  GV  1125  .L3
```

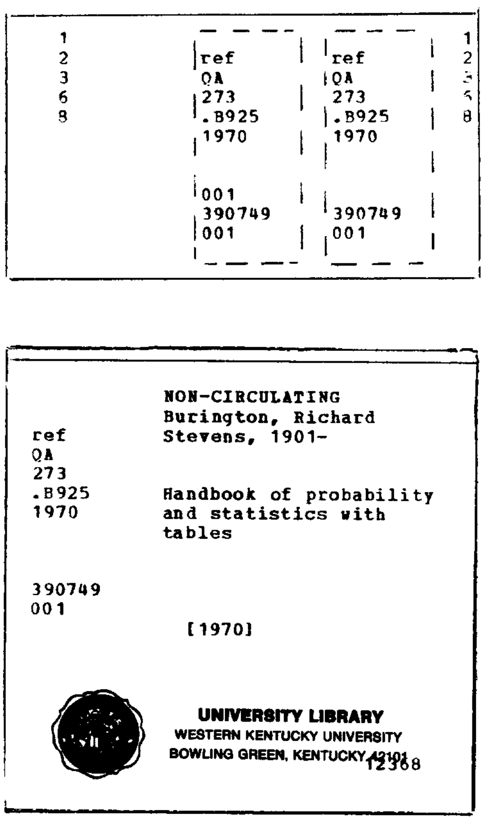
1403 printer. Seven catalogers devoted full time to proofread them. When they were running behind, 15 librarians from public services and acquisitions spent two hours weekly to relieve the overworked catalogers.

In the beginning of the summer, four more ATS terminals were added and 18 operators employed to make two shifts. The new operators consisted largely of students majoring in office education with high typing speed. Eight full-time proofreaders were also employed. They were faculty members not teaching summer school, graduate students, recent college graduates, library science students, and school teachers. All of them were employed on a temporary basis and would be terminated in the middle of August.

When the ATS operators keyed in the main entry into the computer, they were instructed to key in LC printed cards with LC call numbers. Concurrently the home-spun cards were copied by Xerox 914 immediately before re-filing. Xeroxed cards were searched by student assistants through the LC Catalog and National Union Catalog. After this search there were 8,000 cards considered "nonlisted" by the student searchers. Eventually they will be handled by the catalogers for original cataloging. From May 17 to August 13, there were 70 workers employed in the Cataloging Department. Among them there were 25 full-time student assistants who were able to participate and to work in the project due to the summer work-study program. A total of 2,800 man-hours were utilized.

• •

Figure 2. Computer-Produced Labels, Pocket, and Book Card


1 2 3 6 8

ref QA 273 .B925 1970

001 390749 001

ref QA 273 .B925 1970

390749 001

1 2 3 6 8

NON-CIRCULATING
Burington, Richard Stevens, 1901-

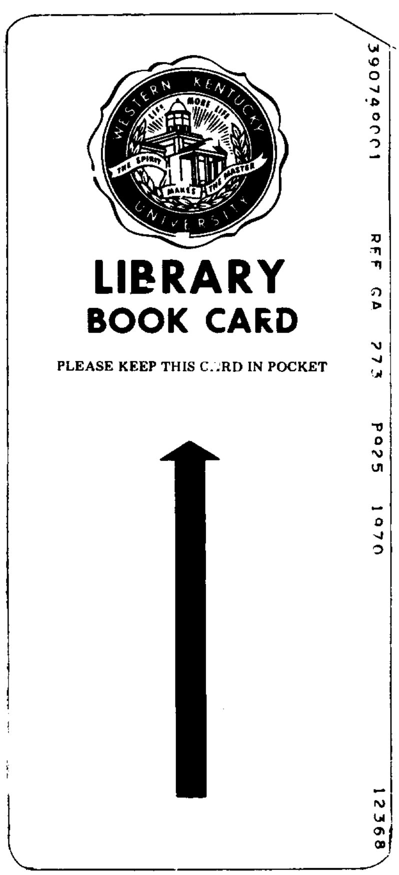
ref QA 273 .B925 1970

Handbook of probability and statistics with tables

390749 001

[1970]

UNIVERSITY LIBRARY
WESTERN KENTUCKY UNIVERSITY
BOWLING GREEN, KENTUCKY 42101
12368



On August 16, the Hollerith punched book cards, pockets, and labels (Figure 2) which were printed by the IBM 1403 Printer were ready. Three assembly lines with five workers each were formed. At the head of each line was a trained cataloging assistant who was responsible for matching the book with pocket, label, and book card. During the peak of the re-labeling, 6,000 books were reprocessed a day. Again the 13,000 titles which already had been classified in LC served as the pilots. By the end of October, nearly 250,000 books were reprocessed.

In 1972, 1,000 hours of computer time will be projected to print the divided card catalog which contains 2 million cards (Figure 3). In the reclass project one cataloger also cataloged 4,000 books of newly acquired materials. A classified list called *Library Leaves: Current Acquisitions* (Figure 4) arranged by LC call number is being published as a by-product of the automated processing. It is distributed within the university community.

At the end of October 1971, IBM 1030 Data Collection Systems were installed at four circulation stations of Helm and Cravens Libraries and one station at the Science Library. The IBM 1030 is composed of IBM 1031 Inputer and IBM 1033 printer. A punched plastic ID card with social security number and owner's picture on it will serve as a borrower's card. In addition an IBM 2848 Display Control System was installed in the Technical Processing area. Four cathode ray tubes (IBM 2260 Display station) will be attached to the IBM 2848. The complete library collection of 450,000 items will be available to the reader by author, title, date and physical count of the item connected on-line to the computer stored on discs. Readers and library personnel can query the computer through IBM 2260 for status of a book on-line and real-time through the combined systems of IBM 1030 and IBM 2848.

• •

Figure 3. Computer-Printed Catalog Cards

```
   412132
Ed Center      Carpenter, Perry Amherst, 1881-

QA      EDGERTON, EDWARD IRA, 1877-1947.
152        Fundamentals of algebra, course 1;
.E255   teacher's manual.  Myron R. White,
1971    revising author. Boston, Allyn and
Manual  Bacon [1971]
           43, xi, 404 p. illus.

        Published 1929-1957 under title:
        Elementary algebra.

           1. Algebra. I. Carpenter, Perry
        Amherst, 1881- II. White, Myron R.
        III. Edgerton, Edward Ira, 1877-1947.
         Elementary algebra. IV. Elementary
        algebra. V. Title.

                        000181
                      A-T (SAMPLE)
```

```
   409628
               BURR CONSPIRACY, 1805-1807.

E       SAFFORD, WILLIAM HARRISON, 1821-1903.
334        The life of Harman Blennerhassett;
.B64    comprising an authentic narrative of
1972    the Burr expedition and containing
        many additional facts not heretofore
        published.  Freeport, N. Y., Books
        for Libraries Press [1972]
           239 p. front.

           Reprint of the 1850 ed.

           1. Blennerhassett, Harman, 1764-
        1831. 2. Burr Conspiracy, 1805-1807.
        I. Title.

                                   78-039476
ISBN 0-8369-9921-5          000091
                          SUB (SAMPLE)
```

Figure 4. Library Leaves: Current Acquisitions

CALL NUMBER LISTINGS---LIBRARY OF CONGRESS TITLES 09/13/71 PAGE 0114

AUTHOR	TITLE	EDS	DATE	DOCUMENT	ACC	LOCATION-CALL NUMBER
MII Associates.	How to use the library: teach		1966.	383387:07		Ed . Z 710 .M6 Manual
MII Associates.	How to use the library: progr		1966.	383386:07		Ed . Z 710 .M6
MLI Associates.	How to use the library: exhib		1966.	383249:07		Sci . Z 710 .M6
American Library Associat	Guidelines for audiovisual mat		1970.	378033:08		Ed . Z 717 .A69
Libraries & the arts; a symposium of papers and discussio			1970	385837:04		. . Z 717 .L48 1969
Comparative and international librarianship; essays on th			1970	378786:06		. . Z 721 .C68
Gates, Jean Kay.	Introduction to librarianship.		1968	380341:09		. . Z 721 .G33
Olle, James Gordon Herber	Library history,	2d	1971	385850:18		. . Z 721 .O48 1971
Bobinski, George Sylvan.	Carnegie libraries; their hist		1969.	381781:06		. . Z 731 .B67
Raffel, Jeffrey A	Systematic analysis of univers		1969	383154:05		. . Z 733 .M406 R33
Jordan, Alma Theodora, 19	The development of library ser		1970.	384160:06		. . Z 753 .J6x
Streeter, Burnett Hillman	The chained library; a survey		1970	382371:06		. . Z 791 .A1 S86 1970
Ferguson, John, 1919-	Libraries in France		1971	385873:18		. . Z 797 .A1 F45
Lemke, Antje B	Bibliography of the humanities	Rev	1970.	374875:10		. . Z 1001 .L4x 1970
Saracevic. Tefko.	Introduction to information sc		1970.	376161:17		. . Z 1001 .S24
Besterman, Theodore, 1904	A world bibliography of biblio	4th	1965-66	377121:07	005	. ref Z 1002 .B5685
Carlsen, G Robert,	Books and the teen-age reader;		1967	375562:06	006	Ed . Z 1003 .C26
Encyclopedia of library and information science.			1968-	373627:02	004	. ref Z 1006 .E57
Guide to microforms in print.			1961-	374061:17		Sci ref Z 1033 .M5 G8
Public Library Associatio	Books for public libraries; se		1970.	382161:06		. . Z 1035 .P93
Ladley, Winifred C	Sources of good books and maga	Rev	1970.	376911:10		. . Z 1037 .A1 L22 1970
Child Study Association o	Children's books of the year,		1970	382219:14		. . Z 1037 .C527 1970x

Conclusion

The utilization of ATS terminals is a leap forward for cataloging personnel. Whenever permanent cataloging data are stored through the automated processes utilizing ATS terminals as input, pockets, labels, cards, bibliographies and book and card catalogs are available as output. At present, the ATS seems to be the best automation device available for library cataloging.

Libraries converting 250,000 books with the manual system cannot foresee completion in five years, but on-line ATS can actually accomplish reprocessing within seven months. The time saved is a real blessing to librarians and their users. With this automated cataloging system, reclassification is merely one of its by-products. Furthermore, this automated cataloging system makes on-line and real-time circulation systems come true.

Acknowledgment

The author wishes to thank Jean Stadlinger of the State University of New York at Buffalo for her generosity in letting us share the operation manual of her automated system. Gratitude is also expressed to Henriette Avram of the Library of Congress for her encouragement. Finally and particularly to the author's colleague at Western Kentucky University, System Analyst Patty Custead, he wants to extend his sincere thanks for compiling the manual and for perseverance in conducting the reclassification.

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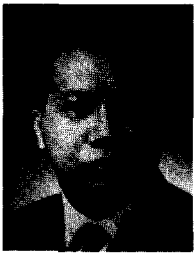
4. Lazorick, Gerald J. / Computer/Communications System at SUNY Buffalo. *EDUCOM:* 2 (Feb 1969)
5. Miller, Ellen Wasby and Hodges, B. J. / Shawnee Mission's On-Line Cataloging System. *Journal of Library Automation* 4 (no.1): 14 (Mar 1971)
6. Custead, Patricia W. / *Project Reclass Manual.* Bowling Green, Kentucky, Western Kentucky University Library, 1971, p.5–7.

Received for review Feb 4, 1972. Revised manuscript accepted for publication Jan 30, 1973.



Simon P. J. Chen is head cataloging librarian, Western Kentucky University Library, Bowling Green, Kentucky.

Overseas Report

Recent Activities of the Special Libraries Association, Japan

—On the Occasion of Its 20th Anniversary—

Rokuzo Kato

National Diet Library, Tokyo

THE SPECIAL LIBRARIES ASSOCIATION, Japan, or Senmon Toshokan Kyogikai (abbreviated Sen-To-Kyo), the sole national organization of special libraries in Japan, celebrated the 20th anniversary of its establishment in autumn 1972, and several commemorative events including a congratulatory ceremony, a general workshop and lecture meetings were held in Tokyo, Osaka and Fukuoka from October 26 through November 21, 1972.

The story of the development of special libraries in Japan does not go further back than the end of the last century, 1899, when a Research Section was organized in the Inspection Bureau of the Bank of Japan. Years later, the East Asian Economic Research Department was established in the South Manchurian Railway Co. in 1908. When the Federation of National Research Organizations was formed in 1919, as many as fifty-three research organizations joined it. As a whole, however, special libraries in pre-war Japan had not always achieved sufficient mutual cooperation and collaboration, both of which are essential for the performance of library activities.

After World War II, research activity of governmental and non-governmental organizations has grown increasingly active, and special libraries of these organizations have achieved further specialization, so that the necessity of enhancing mutual cooperation among them and helping them fulfill their tasks in a more efficient way was keenly felt by the persons concerned. To meet these changing requirements, Sen-To-Kyo was established in March 1952.

The Association has made a steady progress since then with the total cooperation of the National Diet Library, and with the constant efforts of non-governmental research organizations, research sections of private enterprises, libraries of prefectural assemblies and libraries of central government agencies. At present, the Association has seven district councils in the seven districts into which the country is divided and all of them are actively engaged in their respective activities. The member institutions and libraries numbered 513 at the end of October 1972.

Objectives

The objectives of Sen-To-Kyo may be summarized as follows: 1) Promoting cooperation among member institutions in acquisition, maintenance and use of research materials; 2) helping the development of special libraries by providing bibliographical information about materials indispensable for them, and giving guidance in their administration and management; 3) holding study seminars and lecture meetings to improve the knowledge and technique of staff members working in special libraries; 4) maintaining closer cooperation with related organizations at home and abroad, through exchange of information and personnel, and by other means.

Organization

The Association is composed of the Board of Directors, the Board of Secretaries and various Committees, and seven district councils; i.e. the whole country is divided geographically into seven districts, in each of which has been established a district council. Each council is independent of the others and operates under its own bylaws. One library, charged with secretarial work for each district council, acts as a district center for research materials, and to this center official publications and research materials emanating from member institutions and libraries are sent as comprehensively as possible for the use of member libraries in that district. The total of such materials that have been sent to the seven centers to date amounts to 820,000 volumes.

The numbers of member institutions in the respective districts are as follows:

Kanto district	261
Kansai district	96
Chubu district	40
Kyushu district	46
Hokkaido district	32
Tohoku district	13
Chugoku district	25
Total	513

The Association is presided over by the President, under whom are a number of Vice-presidents, the Chairman of the Board of Directors, several Directors, three Auditors and several Secretaries, and the Secretariat. Several standing committees and special committees are organized in the Association. The President currently is Mr. Shigeo Nagano, President of the Tokyo Chamber of Commerce and Industry. The General Meeting and the Board of Directors are the organs for the management of the Association. The former is held once a year, at the beginning of each fiscal year, to determine the budget and working plans. The Board of Directors is convened at any time when necessity arises to deliberate on important matters of the Association.

As mentioned above, each district council operates according to its own bylaws. One special feature of the district councils is that they organized specialized study groups on local autonomy, economy, labor, science and technology, marketing, etc.

The member libraries of the Association include the National Diet Library, in which the Secretariat in charge of general and financial affairs of the Association is located, its thirty branch libraries in the central government agencies, libraries of prefectural assemblies, research libraries of various private enterprises and organizations, research institutions including those of the Federation of Economic Organizations, Chamber of Commerce and Industry, and those in the fields of industries, finance, trade, transportation, culture, and information media.

The National Diet Library plays a major role in the management of the Association with its ample experience in the operation of the national central library of Japan and its large and wide range of library resources.

The Secretariat of the Association and secretarial offices of district councils are as follows:

The Secretariat of the Special Libraries Association:
National Diet Library, Tokyo

Secretarial Offices:
Kanto District Council: Tokyo Chamber of Commerce and Industry, Tokyo
Kansai District Council: Osaka Chamber of Commerce and Industry, Osaka
Chubu District Council: Nagoya Chamber of Commerce and Industry, Nagoya
Kyushu District Council: Kyushu Economic Research Association, Fukuoka
Hokkaido District Council: Hokkaido Industrial Research Association, Sapporo

Tohoku District Council: Tohoku Economic Research Association, Sendai

Chugoku District Council: Chugoku District General Research Association, Hiroshima

General Activities

1. *District centers for research materials:* District centers for research materials collect publications of local governments and member institutions as well as publications of the central government. The latter are sent to them twice each month by the Secretariat of the Association and made available to members of the Association. During FY 1971 the Secretariat sent a total of 42,626 items to the district centers.

2. *Exhibition of Japanese government publications:* The Association organizes every year an exhibition of Japanese government publications, chiefly displaying those issued during the preceding year. It is circulated to district centers in order to make known to member libraries the publications of local and central governments and public corporations so that these might be better used for their research activities. In the exhibition of 1971, nearly 2,000 items were displayed successfully. The catalog of the exhibition has been published each year.

3. *Mutual loan of materials:* Mutual loan of materials is one of the most important activities of the Association. This is conducted through the district centers, among member libraries in the respective districts as well as between the district and the Association's Secretariat in the National Diet Library. Materials not locally available may be borrowed from other district centers, from the National Diet Library and from its branch libraries via the district centers and the Association's Secretariat according to the special arrangement for loan between the National Diet Library and the Association. In FY 1971, loans were made of about 600 volumes from the National Diet Library to the Association's member libraries. Mutual loans among member libraries are increasing year by year.

4. *Reference services:* The district centers provide reference and information services to their member libraries at their requests. Full assistance is given them in this regard by the National Diet Library and the Association's nationwide cooperative system.

5. *Activities of committees and working groups:* Several standing and special committees including those on planning, publications, the Association's official magazine, copyright, local assembly library, information management, etc. are organized in the Association and function as the brain of organization of the Association. The *Catalog of Basic Books Recommended for Prefectural Assembly Libraries* published recently is a good example of the outcome of several years of study and discussion by members of the Committee on Local Assembly Libraries.

6. *General workshop and lecture meetings:* For the purpose of encouraging studies and improving the qualities of individual members working in member libraries of the Association, the General Workshop is regularly organized each year, in May or June, at the time of the General Meeting, which is held in one of the cities where district councils are located. Subjects for discussion in the workshop are both general and specialized on the operation and management of special libraries, and problems produced by local study groups on such specialized subjects as local autonomy, economy, labor, science and technology. At the same time, lectures by eminent scholars may also be given.

7. *Cooperation with related organizations at home and abroad:* A close cooperation has been kept between the Association and the Committee on Special Libraries of the Japan Library Association, a nationwide organization of libraries in Japan. It would also be worthy of mention that Sen-To-Kyo gives every possible assistance to the study seminars held by the Japan Documentation Society. The Association has also maintained friendly relations with the Special Libraries Association and

Aslib in the U.K., and occasionally supports librarians' travel abroad for inspection tours or for participation in related international conferences and for studies of the current state of special libraries in other countries.

8. *Financial affairs:* The fiscal year for the Association begins on April 1 and ends on March 31 of the next year. The revenue of the district councils is composed of the fees received from member institutions, contributions and other miscellaneous income. The annual membership fee varies with district councils from ¥10,000 to ¥30,000. Each district council contributes a certain sum out of its revenue in proportion to the number of member institutions to the central fund held by the Secretariat of the Association.

9. *Main publications:*

Bulletin of Special Libraries Association (Senmon Toshokan), a quarterly, was started in January 1960. It contains information about the activities of the Secretariat of the Association, district councils, member libraries and specialized study groups, as well as articles on the professional studies by the staff of member libraries and news about special libraries abroad.

Directory of Special Libraries, Japan was first published in 1956 and revised in 1969. It covers research libraries in Japan, with brief descriptions of the outline, material holdings, publications, public use of each library, etc. A third revised and enlarged 1972 edition in both Japanese and English versions will be published soon.

As a project to commemorate the 20th Anniversary of the establishment of the Association, the following have been published this year (all in Japanese). They are: 1) *The Role of Special Libraries;* 2) *Special Libraries and the Copyright System;* 3) *Catalog of Basic Books Recommended for Prefectural Assembly Libraries;* 4) *Fact-Finding Study of Special Libraries in Japan;* 5) *Bibliography on the Study of Use of Special Libraries* (foreign language resources); 6) *Twenty Years' Activities of the Special Libraries Association, Japan.*

Activities of Local Organizations

The above-mentioned activities of the Association are in fact the activities of each member institution accomplished through the best use of the facilities of the Association. Thus, each member institution contributes its part to the total activities of special libraries in Japan. By participating in these activities, the member institutions realize that there are unlimited possibilities for materials control and the use of information which might be developed and accomplished through cooperation with other member institutions.

1. *Activities of specialized study groups:* Local organizations of the Association are suitable footholds for utilizing the facilities for such interlibrary cooperation. District councils and their centers for research materials serve as parent bodies for the cooperative activities of special libraries in Japan. During the past several years, district councils have organized various kinds of specialized study groups on such subjects as local autonomy, economy, labor, science and technology, marketing, etc. according to the interests, scope and specialized fields of their members.

2. *Seminars and study courses for the handling of research materials:* In order to enhance the knowledge and technique of processing of research materials in the member research libraries and to solve various problems in the operation of research libraries, special seminars and courses on library management and techniques of librarians in charge of research materials have been organized by district councils. Seminars for economic documentation (Kanto district), special library management courses (Kansai district), seminar for staff members of special libraries (Kanto district) and a seminar for basic knowledge of reference services in research libraries, etc. are some examples of the activities of the local organizations.

20th Anniversary of Sen-To-Kyo

The year 1972 was the 20th anniversary of the establishment of Sen-To-Kyo, or Special Libraries Association, Japan, and several commemorative events were held in Tokyo and Osaka. On October 26, the congratulatory ceremony was held in the International Conference Room of the Keidanren Building in Tokyo. Thirty-one persons and two organizations won official commendation for their many years of meritorious services to special library activities and to the Association.

On this occasion, Dr. F. E. McKenna, Executive Director of the Special Libraries Association, was invited under the visiting professorship program of the Japan Society for the Promotion of Science and gave a series of lectures on special library and information services in Tokyo, Osaka and Fukuoka. Several social meetings and bull sessions with Dr. McKenna proved very effective for the mutual understanding of persons in special library circles in Japan and the U.S.

On October 27 and 28, the General Workshop was held at Nihon Toshi Center Hall (Tokyo) with the general theme of "Systematization of Information Flow." At the committee meetings on the first day and at the meetings of institutional sections on the second day, more than twenty reports were presented. A panel discussion on "the foundation and future prospects of special libraries" concluded the two-day workshop.

For the future development of the Association, a strong campaign to invite new members has been carried out since April 1972. Brochures describing the Association have been prepared and distributed widely through the district councils to obtain new members.

Received for review Dec 6, 1972. Manuscript accepted for publication Feb 20, 1973.

Rokuzo Kato is managing director, Special Libraries Association, Japan and director, Division for Interlibrary Services, National Diet Library.

This Works For Us

Teaching Bibliographic Reference in a Reports Collection

Barbara A. Rice

Knolls Atomic Power Laboratory, Schenectady, New York 12301

■ Bibliographic reference is here defined as identification of a document by any combination of report number, accession number, contract number, personal author, and/or corporate author with subject. Bibliographic reference was taught to a non-professional staff member to service an uncataloged collection of AEC, NASA, and DOD scientific and technical reports. The main bibliographic structure is outlined for 1945 to date.

THIS PAPER is based on the author's experience as document librarian in a collection of scientific and technical research and development reports, assorted government documents, and internal informal documents. It should be applicable to AEC, NASA, and DOD contractor and depository libraries.

At present the 25-year-old collection consists of some 200,000 documents with bibliographic records for at least twice as many. It is serviced by a staff of four—the document librarian, a circulation clerk, a cataloging/filing clerk and a reference assistant. It is a closed shelf operation for all documents due to the varying limitations on them, i.e. classification, AEC category, company privileged, DOD limited, etc. One master record card with complete bibliographic identification is made for each hard copy title received and is filed, as are the reports, by the originator's report number. Cross reference cards are made for any additional numbers a report has when it arrives in our collection, e.g. AD, NASA-CR, PB, NP, etc. Thus the catalog is a report number list only. Microfiche are simply filed by the number on the header and no cross reference numbers are listed. If there is no number at all on the report it is assigned a corporate author accession number according to the issue date, e.g. Argonne National Laboratory 70–2.

Therefore, continuous use is made of AEC, NASA, and DOD book catalogs to determine whether we do indeed have any requested document if the requestor does not happen to have our file number or has no report number. All such requests are submitted to the assistant reference librarian who is a high school graduate and has currently worked in the library for 3 years. She had no prior library experience. The training described herein extended over a 2-year period and at present the assistant handles all but the most difficult bibliographic requests. She averages 10 look-ups/day in addition to her other duties.

The Training

In training such a person one should ideally start with a graduate of a library trainee program or someone with previous library experience. (Such a person has never been available to us at the time of a vacancy.) For such a person the training would be greatly accelerated. I anticipate that some will argue that reference should not be the responsibility of a non-professional. I will not get involved in a rehash of the voluminous literature on this subject. I submit that the function as defined here is within the realm of the description of a "technical assistant" as set forth by the American Library Association *(1)* and as carried out by the Maryland public libraries in-service program *(2)*. Even Astbury *(3)*, in an otherwise negative discussion of the subject, acknowledges that "locating simple bibliographic information by which is meant checking the card catalogs, book catalogs, and periodical indexes" is within the realm of the non-professional.

The first year in our library is spent in learning the basics of all the routine jobs in the library, i.e. circulation, filing, interpretation of our records, security procedures, etc. The SLA San Francisco Bay Region Chapter book, *The Library: An Introduction for Library Assistants (4)*, is a valuable aid in teaching general library practices, although there is little specific material on reports. Central to the training are the elements of bibliographic description peculiar to reports. These elements are summarized on the library request form shown in Figure 1. This form is filled out by a staff member when a routine number check fails to turn up the requested document.

Staff members are taught that a reference may give any combination of these descriptors but the form helps the staff and user to get as much information about a document as possible. The date is underlined to stress its importance. Where to begin in a set of book catalogs can seem overwhelming if the searcher has absolutely no idea of the date. Even if the exact date is not known the staff member tries to get an approximate idea, e.g. being written 6 months ago, 5 to 10 years ago, etc.

The preceding applies to all staff members whether they are to be trained as a reference assistant or not. Then the specific reference training begins with a trainee who has shown ability in this area.

Training Materials

Begin by listing your major bibliographic tools. For us these are Nuclear Science Abstracts (NSA), Index of Limited Distribution Reports (ILDR), Scientific and Technical Aerospace Reports (STAR), Classified Scientific and Technical Aerospace Reports (CSTAR), and Technical Abstract Bulletin (TAB). Then examine with the trainee the organization of each, beginning with the most current. Point out what indexing

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Figure 1. Library Request Form

Front

Name. hc____ mn____
Degree urgency.

Date.

Report no.
Personal author.

Corporate author.

Sponsoring agency.

Contract no.
Title or subject.

Back

Where referenced?

Conference.

is available and the varying entry formats. A table such as Table 1 is helpful. The author constructed this table but expects next time to use one index as an example and require that the trainee do the others.

Wallace, Grace, et al. *(5)* developed an in-service package of training materials with a unit on Reference Tools and Services which is designed for paraprofessionals and professionals. Within this unit there is material on commercial directories, engineering handbooks, serials indexing and abstracting services and reports indexing and abstracting services. Katz *(6)* has further comments on this work.

Once the trainee has had guided look-ups in all these tools and gained considerable familiarity with them, begin training in search strategy. Point out any type of report that does *NOT* fit the main structure. In our case we have many General Electric reports, and in many cases these are verified by calling the GE Technical Information Service in Schenectady.

The big question is, "How do I know where to look first?" The main determinants here are corporate author and sponsoring agency. If either of these are known to the searcher the task is greatly simplified because the trainee knows whether to try the AEC, DOD, or NASA lists first. If the installation is unknown to the trainee Godfrey and Redman's *(7)* *Dictionary of Report Series Codes* provides assistance. If it is not known then the trainee must use the subject matter as a guide.

The trainee should be taught always to select two descriptors to search on whenever possible. This eliminates missing a reference due to an incorrect number, incorrect location in an index, variant spellings, filing conventions, corporate name changes, etc. He should learn to locate later reports in a series. For example, if the requested item turns out to be a 3rd quarterly progress report the searcher should determine if there are subsequent reports or a final report for the series.

Use each problem which the assistant

Table 1. The Bibliographic Tools

Index	Date Period	Descriptors Indexed
Nuclear Science Abstracts Index of Limited Dist. Reports	1951–date	Report number, personal author, corporate author
	1947–1951	Report number, personal author
Scientific and Technical Aerospace Reports	1965–date	Report number, accession number, contract number, personal author, corporate author
	1962–1964	Report number, accession number, personal author, corporate author
	1960–1961	Report number, personal author
	1915–1960	Personal author
Classified Scientific and Technical Aerospace Reports	1965–date	Report number, accession number, contract number, personal author, corporate author
	1963–1964	Report number, accession number, corporate author, personal author
Index of NASA/NACA Technical Publications	1957–1959	Personal author
Technical Abstract Bulletin	1960–date	Report number, accession number, contract number, personal author, corporate author, title
	1956–1960	None
Government Reports Announcements	1960–date	Report number, accession number, contract number, personal author, corporate author, title
	1954–1959	Report number, personal author, corporate author
	1953	Report number, corporate author
	1946–1952	None

cannot resolve as a teaching situation. If the search strategy seems satisfactory, recheck the work. If you do find it discuss how you did it and find out why the trainee missed it. If you do not find it either, show him how to proceed from there and in this way introduce him to the secondary bibliographic structure, e.g. the Monthly Catalog (of United States Government Publications), lists of publications from various installations and information centers, and subject bibliographies. This can be extended as far as the ability of the trainee and training time permit.

In summary, train all the staff to take as complete a reference as possible, define the basic bibliographic structure, study the structure with the trainee, and then extend the training to specialized search tools.

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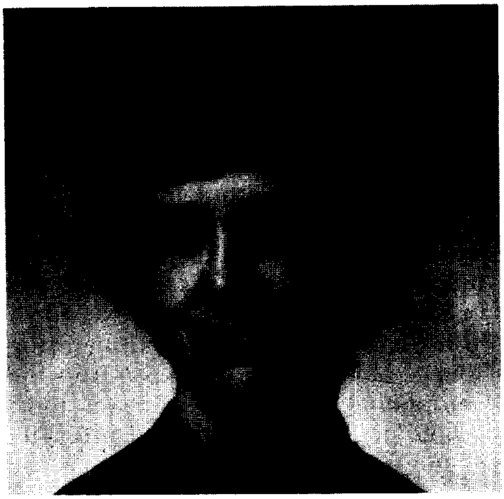
Received for review Jan 3, 1972. Manuscript accepted for publication Jan 15, 1973.

Barbara A. Rice is a member of the staff of the Document Library, Knolls Atomic Power Laboratory, Schenectady, N.Y.



sla news

SLA Hall of Fame/1973

President Edward G. Strable has announced the election of one member to the SLA Hall of Fame in 1973 who has made outstanding contributions to the growth and development of Special Libraries Association at the Association, Chapter and Division levels.

Sara Aull

For her dedicated service during a period of more than twenty years, SLA presents Sara Aull with the 1973 Hall of Fame Award.

Born in China Grove, N.C., she received her BA from Lenoir Rhyne, Hickory, N.C.; her BSLS from Columbia and her MA from the University of Houston. Her library experience has been varied, both in type of activity and in geographical location. She was a cataloger at New York Public Library; Lansing Public School Library; and at the Foreign Economic Administration Library at Washington, D.C. As Research Assistant, Association of American Railroads, and in her long career as science librarian at the University of Houston, she broadened her horizons and acquired the background from which she was able to make significant contributions in truly "special" library service. Sara exemplifies the best in the responsible and creative member who accepts responsibility and approaches the problems of the Association at all levels objectively and carefully to provide solutions of lasting value.

Her efforts on the local level have instilled respect for what special library service can provide as is evident in the large number of young people she has recruited and in the respect she has attained from the academic and scientific community whose requirements she has met with such success.

In the Texas Chapter, Sara has served as Secretary and twice as President and on innumerable state committees. Her advice is sought constantly by members and officers alike for guidance in Chapter affairs.

In 1960 she helped plan the Petroleum Section's Forum on the Abstracting and Indexing of Petroleum Exploration and Production Literature in Dallas held in Dallas in 1960 which resulted in the establishment of the Abstracting and Indexing Service known as Petroleum Abstracts published by the University of Tulsa. She served on the Houston Committee for the Development of Library Resources which was instrumental in the establishment of the Regional Information and Communication Exchange at Rice University, and she helped organize a series of Seminars on Information Sources for the Businessman held at the University of Houston and co-sponsored by the Texas Chapter. She served on the Board of Governors of the American Geological Institute.

Cooperation with the Texas University School of Librarianship has been a major activity of the Texas Chapter and Sara has been responsible for much of the progress in this area. She assisted in a joint Texas Chapter-Library School Workshop on Procedures Manuals and started a collection of procedures manuals for the school. She has assisted the school in planning field trips for students to special libraries.

Another evidence of her keen interest in helping young librarians was her part in planning a week long Workshop for Library Assistants in Special Libraries held at the University of Houston and sponsored by the Texas Chapter.

On the Association level she has served on the Board of Directors, Chairman of the Committee on Committees and Chairman of the Planning Committee. Her many presentations to the Board have reflected the careful thought and attention to detail which enable Board members to arrive at effective decisions.

As Chairman of the Houston Chamber of Commerce Committee on Library Resources, Sara worked for the establishment of information centers to serve the general public and her work on this committee anticipated the requirements of a rapidly developing industrial area. This activity resulted in the publication of a union list of serials in Texas libraries and, through her foresight, it was so organized as to be self-supporting and regularly updated, now in its eleventh year.

She is responsible for recruiting many young people to the profession, and the outstanding abilities of many of these people have contributed meaningfully to the staffs of libraries throughout the nation.

For her influence, her high professional standards and her dedicated service to SLA in all the responsibilities she has assumed for it, SLA proudly adds her name to its Hall of Fame.

SLA and GPO: A Response

Following is a letter and fact sheet received in the SLA New York offices from Leonard T. Golden, acting deputy public printer, in response to the SLA statement on the inadequacies of the U.S. Government Printing Office. The text of the SLA letter appears in the March issue of Special Libraries.

Mr. F. E. McKenna
Executive Director
Special Libraries Association
235 Park Avenue South
New York, New York 10003

Dear Mr. McKenna:

This is in further response to your letter of January 31, 1973, to the Acting Public Printer, H. J. Humphrey.

Mr. Humphrey, prior to his recent retirement, was deeply concerned over the difficulties our Public Documents Department has been experiencing in processing and mailing orders for publications in a timely fashion. Much of his time and energy was devoted to this situation. As his Acting Deputy Public Printer, I was instrumental in recent organizational changes which we hope will play a major role in improving all of the services and activities of the Office of the Superintendent of Documents.

As you know, President Nixon nominated Mr. Thomas F. McCormick to become the 16th Public Printer of the United States, and Mr. McCormick's nomination was confirmed by the Senate on February 8, 1973. Mr. McCormick is expected to assume his duties as Public Printer almost immediately and you may be assured the Public Documents Department will receive his immediate attention.

A number of things have been done and are being done which I am confident will result in measurably improved service not only to the library community, but to all customers who purchase U.S. Government publications. For your convenience, we have prepared a fact sheet which details programs and accomplishments to date and outlines, in part, what we hope the future will bring.

I hope you find this information helpful and you may be assured one of our primary objectives is to improve the services for which the Public Documents Department is responsible so that communications in the future will be in the form of compliments rather than constructive criticism.

Sincerely,
Leonard T. Golden
Acting Deputy Public Printer

Public Documents Department Fact Sheet

Order Processing Programs—On January 6, 1973, the Acting Superintendent of Documents made a complete inventory of all orders that had been received in the Public Documents Department for processing. These orders were separated into two major groups; namely, any orders received or introduced into the system with a 1972 date to be characterized as "old mail," and new orders received or introduced into the system beginning January 2, 1973, which were identified as "new mail." Effective January 8, 1973, the Acting Superintendent of Documents made his second- and third-shift personnel totally responsible for processing, packaging, and mailing all old mail. The majority of these orders had been received in November and December 1972, but some, admittedly, dated back as far as August. The time frames were established and all of the 1972 orders will be totally processed, packaged, and mailed before March 31. Simultaneously, day-shift personnel were charged with the responsibility of processing all new mail (January 2, 1973, and forward) within a 21-workday cycle. We are proud to say this schedule is being rigidly maintained and will continue to be maintained. Approximately 70 percent of the new-mail orders received at the Government Printing Office in Washington, D.C., are processed and mailed within ten days, but as stated above, all with minor exceptions will be processed, packaged, and mailed within the 21-workday cycle.

Quality Assurance—The activities of the Public Documents Department Quality Assurance Section have been intensified. Order processors are receiving additional training and a larger sampling of completed orders are being verified for accuracy. Through this concentrated effort, the error percentage has been greatly reduced and we are confident of further reductions in this area. Packaging procedures and materials are also being reviewed through test mailings in an effort to identify materials that can be effectively utilized so that customers will receive their publications in the best possible condition.

Customers Service Programs—A program was put into effect January 8, 1973, so that all letters of inquiry from customers concerning orders, claims, or requests for adjustment are immediately acknowledged. Acknowledgment is in the form of a postal card on which a control number has been imprinted. The card asks the customers to make reference to the control number should they find it necessary to reinquire about an order, thereby providing the Public Documents Department with necessary controls so that shipments will not be needlessly duplicated. Additional personnel have been assigned to the Public Documents Department's Customers Service Section so that requests for claims and/or adjustments can be handled without undue delays.

Periodicals and Subscription Services—For the past two years, the Public Documents Department has been in the process of converting all of its 1,300 mailing lists, which embrace more than 3.5 million names and addresses, from a stencil system to a computerized magnetic tape system. This conversion project is scheduled for completion on or before May 30, 1973. The bulk of our mailing lists have already been converted to magnetic tape. We are utilizing Optical Character Readers (OCR) and remote terminals (ATS) to enter new subscriptions into the computer data base and to accomplish changes of address, changes in quantities ordered, etc. Mailing labels are being produced through our videograph system which has the capability of producing 135,000 mailing labels an hour. Mailing labels are affixed to envelopes and/or self-mailer publications with Cheshire and Magnacraft equipment both in our Washington, D.C. office and at the Public Documents Department Distribution Center in Pueblo, Colorado. The same order-processing schedules are being maintained for periodicals and subscription services as outlined above for orders for individual publications. The only deviation would be when a subscription is entered for a publication that is not scheduled to be available for mailing for several weeks, as in the case of a monthly, and perhaps several months in the case of a quarterly. Generally, this system provides for the entry of new subscriptions so that service will begin approximately six weeks from the date the order is received at the Government Printing Office. Remote terminals are being considered at the Pueblo Distribution Center to provide for the immediate processing of subscription orders received at the Center, and in the near future similar programs will be considered at the Philadelphia Distribution Center.

Availability of Publications—The Public Documents Department currently stocks approximately 24,000 titles while maintaining an inventory of more than 100,000,000 publications. Admittedly, it is difficult to maintain adequate stocks of all publications at all times so that every order received can be serviced without delay. Every effort is made to order adequate stocks of new publications and to reorder additional copies in ample time so that back orders will not materialize. However, many publications are listed or reviewed in newspapers and nationally-distributed magazines without our knowledge. When this happens, inventories inevitably are depleted before reprints can be ordered and received. We will continue in our efforts to maintain adequate inventories of all popular publications to the best of our ability, both for processing mail orders and for across-the-counter sales in our 20 Government Printing Office bookstores.

Personnel—In September 1972, the Public Documents Department requested and subsequently received funds for 398 additional positions in the Washington, D.C. office. Unfortunately, the President's hiring freeze interfered with promptly filling all of these vacancies, but we will continue in this endeavor as regulations are relaxed. We are now processing, packaging, and mailing customer orders 24 hours a day, operating three shifts. Additional personnel have also been added to various administrative functions and to warehousing activities, both of which vitally support order processing.

Space—The Public Documents Department has been plagued for the need of more space for many years. Approximately one year ago, new warehousing space, which is utilized primarily to maintain inventories of sales publications, was obtained in nearby Virginia. A letter has been submitted to the Joint Committee on Printing requesting permission to advertise for an additional 150,000 square feet of modern warehousing space in the Washington, D.C., metropolitan area. We are anticipating favorable approval of this request. Simultaneously, we are informally looking into the possibility of acquiring additional space in the metropolitan area to be utilized primarily for the distribution of publications to Federal depository libraries and the Congress. Space now assigned to these two activities is identical to the space utilized 15 years ago when these distribution programs constituted only one-half of today's activities.

Government Printing Office Bookstores—As of this date, the Government Printing Office is operating 20 bookstores. Six of these are located in the Washington metropolitan area, and the others strategically located in cities throughout the United States. During the current fiscal year, we plan to open three additional bookstores. They will be located in Cleveland, Ohio; Houston, Texas; and Seattle, Washington. As part of our fiscal year 1974 budget, we are requesting funds for six additional bookstores to be located in cities yet to be selected, as well as for one additional bookstore in a Federal agency in Washington, D.C. The number of publications that can be displayed for across-the-counter purchase in our bookstores is wholly dependent on the space available. We have found, by actual experience, that we can display, stock, and service one publication for each square foot of space. Consequently, some of our bookstores display only six to 800 titles, whereas others display over 2,500. Every effort is made to display and have available publications that customers in the immediate vicinity of the bookstores desire to purchase. Also, new and popular publications are automatically forwarded to all bookstores to be placed on sale as soon as possible after they have been received from the printer. As a case in point, the 1974 budget publications were mailed to all bookstores the same day they were released to the public. Display equipment used in bookstores is constantly being examined and modified to provide for the best possible utilization of available space and to attractively display publications for our customers' convenience.

Monthly Catalog of U.S. Government Publications—After approximately one year of study and testing, we are about to automate our input into the "Monthly Catalog." While this program will produce only a single, readily-identifiable, external change, the savings in production costs are expected to be substantial. Prior to the inception of this new program, the compilation of the "Catalog" was 100 percent manual and required thousands of valuable man-hours. The new system utilizes remote terminals communicating directly with the Government Printing Office computer complex. Both textual and indexing material will be keyed into the computer, subsequently to be verified upon return from the computer. We will produce three index tapes: subject, title, and author, permitting us to have three indices in each "Monthly Catalog" rather than a single merged index. By utilizing remote terminal operations, we will free valuable cataloging man-hours which, in turn, can be employed on cataloging itself, thereby accelerating the whole cycle of publishing catalog data much earlier than heretofore. Action has already been taken to publish and distribute the "Monthly Catalog" earlier than in the past. The "Monthly Catalog" is now being received from the presses and distribution is being made within the first week of the month of issue. Also a distinctive color scheme for the cover of the catalog has been adopted so that the catalog for a given year can be easily shelved and identified. Intensified studies are being made which, hopefully, will result in making the catalog more comprehensive by including entries that in the past have been omitted. Of course, many of these projects are wholly contingent on the cooperation received from the various departments and agencies of the Federal Government and the Congress who originate the publications.

Depository Libraries—At the present time, there are 1,106 designated Federal depository libraries and seven designations pending. The Depository Library Act of 1962 provides for a maximum of 1,350 designations and the recently enacted Public Law 368 of the 92nd Congress made provision for 47 additional designations; namely, the highest appellate court in each State. Legislation is now pending, which could greatly increase the number of Federal depository libraries. We favor any legislation which would provide for additional libraries to be designated, providing funds are also appropriated so that the libraries can be serviced with the publications they elect to receive. Recently, the Acting Public Printer of the United States reconvened the Advisory Committee to the Public Printer on Depository Libraries in an effort to receive advice and suggestions from representatives of the library community for improving the program. The conference got off to a good start, and we are hopeful for continuing activity which should prove to be productive. The Acting Superintendent of Documents has indicated that either he or a representative of the Public Documents Department will be made available to meet with librarians at workshops and meetings to discuss the activities and programs of the depository libraries and to discuss ways of improving the programs. During the past year, visits to depository libraries have been increased and will be sharply increased during the next fiscal year. Should the acquisition of additional space become a reality, we are confident we will be able to distribute depository library selections in a shorter time frame so that needed publications will be available on library shelves throughout the country without undue delays.

IFLA

Special Libraries Association is an international Member-Association of IFLA (International Federation of Library Associations).

Much of the important work of IFLA is done in its Committees. These Committees are: Committee on Cataloging, Committee on International Lending and Union Catalogues, Committee on the Exchange of Publications, Committee on Official Publications, Committee on Serial Publications, Committee on Statistics and Standardization, Committee on Rare and Precious Books and Documents, Committee on Library Buildings, Committee on Mechanization, Committee on Bibliography, Committee on Library Theory and Research. SLA members are invited to participate in the work of these committees. Interested persons should contact SLA's Executive Director for information.

Allotments/1972 for Chapters and Divisions

Chapter and Division allotments for 1972 were mailed from the New York offices to Chapter and Division treasurers the end of February. Chapters receive $3.00 per member based on the Dec 31, 1972 count of all membership categories, excluding Student Members. Divisions receive $2.00 per member. The amounts each Chapter and Division received are as follows:

Division Allotments

Advertising & Marketing	$ 660
Aerospace	388
Biological Sciences	1,288
Business and Finance	1,870
Chemistry	512
Documentation	1,594
Engineering	490
Food Librarians*	154
Geography & Map	476
Insurance	238
Metals/Materials	382
Military Librarians	660
Museums, Arts & Humanities	756
Natural Resources	306
Newspaper	360
Nuclear Science	216
Petroleum	252
Pharmaceutical	348
Physics-Astronomy-Mathematics*	150
Picture	354
Public Utilities	208
Publishing	384
Science-Technology	3,062
Social Science	1,378
Transportation	272
TOTAL	$16,758

* Provisional Division

Chapter Allotments

Alabama	$ 195
Baltimore	249
Boston	984
Cincinnati	192
Cleveland	333
Colorado	300
Connecticut Valley	288
Dayton	198
European	150
Florida	261
Greater St. Louis	222
Hawaiian Pacific*	150
Heart of America	210
Illinois	1,206
Indiana	243
Kentucky*	150
Long Island	150
Louisiana	150
Michigan	684
Minnesota	426
Montreal	597
New Jersey	687
New York	3,477
North Carolina	159
Oklahoma	150
Pacific Northwest	525
Philadelphia	789
Pittsburgh	465
Princeton-Trenton	234
Rio Grande	183
San Diego	180
San Francisco Bay Region	1,050
South Atlantic	207
Southern Appalachian	150
Southern California	1,104
Texas	561
Toronto	750
Upstate New York	549
Virginia	243
Washington, D.C.	1,842
Wisconsin	246
TOTAL	$20,889

* Provisional Chapter

CHAPTERS & DIVISIONS

Boston—The Chapter met Nov 16 at Boston Public Library for a tour of BPL's new addition.

Directory of Special Libraries in Boston and Vicinity, 7th ed. is available for $5.00 for SLA members, $7.50 non-members. Order from Boston Chapter SLA, Publications Office, c/o 77 Allen St., Arlington, Mass. 02174.

Cleveland—The Chapter held a joint dinner and theater party with ASIS on Dec 2.

"Trends in Education for Library and Information Science" was the topic of a joint panel discussion Jan 16 with ASIS. Panel participants discussed the historical overview, programs at Kent State University and at Case Western Reserve, and what employers expect of library school graduates.

Florida—The Chapter's midwinter meeting was held Dec 9 at the Ringling Museum. Guided tours were held and a special exhibition ("After Surrealism: Metaphors and Similes") was featured.

A seminar on "Systems Analysis in Library & Information Center Operations" was sponsored jointly with the University of Florida Libraries Feb 1–3.

A Directory of State Agency Libraries and Information Centers in Tallahassee, Florida is available for $1.00 prepaid from John A. Riggs, Division Library Manager, Division of Planning and Evaluation, Dept. of Health and Rehabilitation Services, Room 202B, 310 Blount St., Tallahassee, Fla. 32304.

Florida, Tallahassee Group—The Group met Nov 28 to discuss cooperation between state agency information centers/libraries and the State Library. Cecil Beach (director, Division of State Library Services) met with the group.

Greater St. Louis—SLA President-Elect Gilles Frappier visited the Chapter Oct 17. During his visit he was a guest on the "Noon Show" on KSD-TV. He was also interviewed and taped for a future radio program by Doris Potts of the St. Louis Public Library.

A panel discussion on "Reference Update—Government Documents" was the feature of the Dec 6 meeting.

The Chapter's joint meeting Feb 10 with the Greater St. Louis Library Club was held at the Central Institute for the Deaf. The topic for discussion was the effects of noise on people.

Illinois—Robert Wedgeworth, ALA Executive Director, addressed the Chapter's Nov 13 meeting.

The Chapter met Feb 8 with the Chicago Library Club to hear Ruth Schoneman speak on "Special Collections at the Art Institute."

The Chapter's Education Committee held a workshop, "Sources for the Seventies," Mar 30. Areas covered were Science and Technology Sources, Business and Marketing Sources, and Public Affairs and General Reference Sources. Dr. Charles Van Doren (associate director, Institute for Philosophical Research) spoke at the luncheon on "The Faith of Knowledge—The Idea of an Encyclopedia."

Indiana—At the Chapter's annual membership meeting Dec 6, Betty Jo Irvine (Indiana University Fine Arts Library), Robert Mathews (Grissom Air Force Base) and Thomas Hull (American Legion) discussed their special libraries, materials and services.

Michigan—Clara Jones (director, Detroit Public Library) addressed the Chapter's Feb 19 meeting. She discussed her tour of German libraries.

A tour of Edwards Brothers Printing Company was featured at the Mar 23 meeting.

Minnesota—The Chapter's Dec 6 joint meeting with ASIS featured a tour of the new North Regional Library, the first Minneapolis Library to use book catalogs. An introduction by Margaret Mull (chief, Community Library Services) was followed by discussion of the library system by Doris Northenscold (district librarian).

A program on the Hamline University Information System was presented Jan 10 by Jack King. Emphasis was on how the system strengthens traditional library and teaching programs.

The Chapter's Feb 15 meeting was a repeat of a program presented at the Research Libraries dinner, Medical Library Association Annual Conference, San Diego, Jun 1972. David Hines (IBM, Rochester) discussed "Foibles and Fiscal Responsibilities" geared to the medium and small libraries.

New York—The Chapter met Mar 8 at the new McGraw-Hill Book Co. for tours of the McGraw-Hill and American Heritage libraries. A tour of the new Bookstore and refreshments were also featured.

New York, Publishing Group—Richard L. Darling (dean, Columbia University library school) spoke on "Columbia's Collections and Courses in the Book Arts."

New York, Technical Sciences Group—Remaining copies of *Technical House Organs: A List of Titles in New York Chapter Libraries,* 1971, are available at half price: $2.00 prepaid from Carmela Carbone, Engineering Societies Library, 345 E. 47th St., N.Y. 10017. Checks payable to Tech-Sci Group, N.Y. Chapter, SLA.

The Group met Feb 28 to hear John P. Baker (chief, Conservation Division, Research Library, NYPL) discuss the Research Library's book conservation program.

Pacific Northwest—The Chapter's annual recruitment meeting was held Jan 15. A silent auction netted $40 for the SLA Scholarship Fund. A new Chapter award was presented to Helen Strickland for distinguished and long-term service. In her honor, a cassette tape recorder and the tapes from SLA's 1972 "Institute on the Teaching of Special Librarianship" was presented to the University of Washington library school. A slide presentation, "A Special Librarian in Action," was also presented.

The Chapter met Feb 24 at the University of British Columbia library school. A program on problems of small libraries and a tour of the new undergraduate library were held.

An all-day workshop on library consulting was held Mar 17. Earl Sibley (vice-president, Shannon & Wilson, Inc.) spoke on "What Management Needs to Know." Other speakers and panel discussions were featured.

Philadelphia—A wine and cheese fund-raising benefit was held Oct 18 in the "Lower Egyptian Galley" at the University of Pennsylvania Museum.

Charles H. Stevens (NCLIS) spoke at a joint ASIS/SLA meeting on Dec 13.

Pittsburgh—At the Chapter's Sep 28 meeting, John Ferguson (Bell & Howell), James Morrow (Eastman Kodak) and Paul Bard (3M) discussed "Micrographics Update."

Public Utilities—A meeting of American Gas Association Member-Company Librarians was held Oct 4. Topics discussed included the growth of gas literature, the problems experienced by gas librarians in dealing with this expansion, and the adequacy of present services for the exchange of information within the gas industry.

Rio Grande—A workshop on "Serials Automation in Anticipation of a Statewide Serials Network for New Mexico: Step 1—Standardization" was held Jan 19–21 and sponsored jointly with the University of New Mexico Library, Lovelace Foundation for Medical Education and Research Library, and New Mexico Library Association—College, University and Special Libraries Division.

The Chapter met Nov 5–6 to tour the facilities of the 6585th Test Group (missile range), Holloman Air Force Base. A business meeting was also held.

St. John's University/SLA Student Group—Group members attended the ASIS Annual Meeting in October. They also toured the National Library of Medicine and the National Library of Agriculture. Some of the students also visited the new Martin Luther King Library.

San Francisco Bay Region—Ethel Crockett addressed the Chapter's Jan 18 meeting. Her talk was on "What's So Special About the State Library?"

Simmons/SLA Student Group—John Stewart (assistant director of archives, John F. Kennedy Library) spoke at the Group's Nov 28 meeting. The talk concerned the concept of presidential libraries.

Southern California—The Chapter held a program on "Information Data Centers Vertical Adjunct" at the AFIPS Fall Joint Computer Conference, Dec 5.

The Chapter's Jan 31 meeting was devoted to "How to Find What You Want or Need in a Law Library: A Discussion of Legal Materials."

A night at the Magic Castle on Feb 19 was the occasion of the Chapter's Scholarship Fund event.

SLA Employment Clearinghouse

The SLA Employment Clearinghouse was announced on p. 160 of the March issue of *Special Libraries.* In the announcement it stated in error that the Clearinghouse will be in Boston; rather, it will be held in Pittsburgh, Jun 10–13, during SLA's 64th Annual Conference.

REVIEWS

The Foundations of Education for Librarianship, Jesse H. Shera. New York, Wiley-Becker and Hayes, 1972. 511p. Index. $14.50. LC 72-3851.

This is a difficult book to review in many respects. It seems to be two books in one. The first half deals with Shera's philosophy of librarianship, while the second half is concerned with his concept of library education. Clearly the two aspects are or rather should be completely interrelated; however, as presented in the book there is a distinct division between the two sections. As a result, this review will deal with the material in the same two-part manner.

The first half of the text (Chapters One to Seven) might well have started with the words, "In the beginning there was. . . ." Shera starts with the human mind in Chapter One and slowly builds a total picture of knowledge, society, and the library. (Chapter One—Communication and the Individual; Chapter Two—Society and Culture; Chapter Three—Communication, Culture, and the Library; Chapter Four—Role of the Library in the Social Process; Chapter Six—The Role of the Library in the Dissemination of Information; and Chapter Seven—What the Librarian Needs to Know.) In the middle of Chapter Four there is a section that could have served as an introduction to the book.

"If the librarian's bibliographic and information system are to be structured to conform as closely as possible to man's uses of recorded knowledge, the theoretical foundations of his profession must eventually provide answers to such questions as:

> "The problem of cognition—how man knows.
>
> "The problem of social cognition—the ways in which society knows and the nature of sociopsychological system by means of which personal knowledge becomes social knowledge.
>
> "The problem of the history and philosophy of knowledge—as they have evolved through time in variant cultures.
>
> "The problem of existing bibliographic mechanism and systems and the extent to which they are in congruence with the realities of the communication process and the findings of epistemological inquiry." (p.113–114)

Each chapter in the first half of the book represents a concise review of the major works of the major writers in the particular field being considered. What appear to be wide ranging ideas and fields are slowly tied into librarianship, thus building a broad cultural/knowledge base for librarianship. What Shera provides is a highly personal view of the role and function of librarianship in society. It is a view many share and wish was more widely accepted and acted upon. Many beginning library school students would be rather highly motivated by his high ideals, hopefully they will not be too disappointed by the practice. A friend said, "given that much money" (referring to Shera's Carnegie Grant), "anyone could string a group of quotes together." Indeed there is an impressive number of quotations and citations, but the tying together was very thoughtfully done. I am not at all certain there are many people in the profession who could have done the job as well. The job in this case is to place librarianship in society and begin to develop a theoretical base. All in all the first seven chapters would make any excellent textbook for an introduction to librarianship course.

The second half of the book provides a review of education for librarianship. As in the first half of the book Shera begins at the beginning of library education and traces its history and surveys the major trends. Again much of the text represents a series of extended quotations. In this section the results are not as impressive as in the first half of the book. Small errors appear such as L. C. Powell founding a library school at the University of Southern California (p.250). Since the reviewer is a faculty member at the school Dr. Powell established (University of California, Los Angeles) the error should be corrected in this review. Overall this section does not have the quality or depth of the first seven chapters.

Some people will complain that most of the book has appeared before as journal articles, speeches, etc., admittedly in different words and form but they are the same Jesse Shera ideas. This is a valid criticism but here in one place is "most of Shera." From a teacher's point of view it would have been nice to have had the first seven chapters published as a book for use in introductory courses. Most practicing librarians will find the early sections of the book rather interesting. Individuals interested in library education will find parts of the second section of some interest. In summary, although somewhat expensive, it is a worthwhile book, and it is so convenient to find so much of Jesse Shera's thinking in one place.

G. Edward Evans
School of Library Service
University of California, Los Angeles

An Introduction to Computers in Information Science, by S. Artandi. Second edition. Metuchen, N.J., Scarecrow Press, 1972. 190p. $6.00.

Dr. Artandi has updated her first edition of *An Introduction to Computers in Information Science.* This updating could have been much more extensive. I am especially disappointed in the coverage of on-line display information systems. Dr. Artandi has included only the Project Intrex as an example of on-line display systems. The effort that has gone into the NASA and AEC RECON systems presents far better examples for a textbook than the experimental Intrex system. The use of the on-line display system has become a part of the state of the art. It is not so defined in this book.

A minor disappointment with this book results from the omission of the programming language, BASIC. There are several books available in-print to teach BASIC. When other languages are mentioned, BASIC should be mentioned as well. The statement that on-line computers allow "each user to be on-line so as to get immediate response from the computer" should be qualified. I have had to wait many minutes for an answer from an overloaded online computer. The "immediate" response is dictated by many factors which were working against me when I used a very involved program on-line.

This book is divided into two sections: a section on information processing and a section on computer characteristics. The material on information processing consists of the usual explanation of subject headings and document descriptions. The computer characteristics section contains descriptions of the hardware and some of the software.

The word "introduction" fits this book. The discussion of the computer is only an introduction. It is not sophisticated enough for the computer expert and it left me with the impression it was too detailed for the beginning library student. What librarians need to know about a computer is not how their memories are constructed, but how digital information can be manipulated by the computer for library purposes. The limits of the computer in handling words is important, yet I feel this book does not provide that kind of information.

I am not satisfied with this edition. I would recommend other books such as those by Kent or Lancaster or Chapman or Markuson or Becker and Hayes when trying to learn something about the use of the computer for information storage and retrieval.

Masse Bloomfield
Hughes Aircraft Company
Culver City, Calif. 90230

* *

PLACEMENT

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BS (Spanish/French major, library science minor) MA in library science due '74—5 years experience in secondary school. Desire position in special library. S. Staerkel, 1742 Elinor St., Appleton, WI 54911.

Librarian—MLS, experience in historical research and television libraries. Seeks position in television, publishing or editorial library on West Coast. Write: Johanna D. Guba, 1007 Euclid, Lawton, Oklahoma 73501.

Experienced librarian (10 yrs.)—MALS Univ. of Chicago. Administrator in library development programs abroad in economic development, agriculture and general university. Seeks position as head of special or departmental university library. Wife also MALS Univ. of Chicago. Prefer West, Southwest. Thomas Bloch, INCAE, Apartado Postal 2485, Managua, Nicaragua.

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POSITIONS OPEN

Science Reference Librarian—Science background and experience in science library required. Salary dependent on experience and recommendations (upwards from $9500). Faculty status. TIAA/CREF. Washington State University is an Equal Opportunity Employer. Send Résumé to Dr. G. Donald Smith, Director of Libraries, Washington State University, Holland Library, Pullman, WA 99163.

Bibliographer—To select materials in science and engineering fields. Requires MLS or equivalent and graduate degree in science or engineering; reading knowledge of one or more foreign languages, preferably German or Russian; several years academic library experience. Faculty status, liberal fringe benefits. Salary from $10,000, depending on qualifications. Unique region, excellent climate. Apply to Ms. Dorothy Webb Trester, Chmn., Search Comm., Zimmerman Lib., Univ. of New Mexico, Albuquerque, N.M. 87106. (Position available 1 July 1973.)

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Qualifications: University and Library degrees, with at least five years experience as Head or Senior Librarian; knowledge of African affairs and international relations, and the related literature; reading knowledge of French and one other foreign language an advantage. Salary: Not less than ₦6,000p.a. Passage paid to Lagos and return, housing and transport allowances provided, and conditions of service are similar to those operating in the Federal Civil Service. Excellent working conditions in ultra modern headquarters building. Applications (six copies) with curriculum vitae and three references to be sent to the Administrative Secretary, Nigerian Institute of International Affairs, G.P.O. 1727, Lagos, Nigeria.

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POSITIONS OPEN

Reference Librarian—Science Specialist. Will work with a team of reference librarians in major new research library building in NYC. Applicants must have degree in biology, chemistry or physics plus an MLS from ALA accredited school. A minimum of 2 or 3 years experience in an academic and/or research library required. Initiative, enthusiasm and ability to work with students and faculty both at the undergraduate and graduate levels essential. Salary: $13,000. 5 weeks vacation and the usual academic benefits. New York University is an Equal Opportunity Employer. Send résumé to: Dean Eugene P. Kennedy, 10 Washington Place, Rm. 403, New York, New York 10003.

Systems Analyst—For Chicago Public Library. Will have responsibility for development and definition of automated systems for library financial, technical and public service applications. Requirements: Degree in business administration, accounting, or related fields and at least 3 years experience in systems and computer application. Library training or experience would be valuable. Challenging opportunity. Excellent salary and fringe benefits. Send complete résumé with salary requirements to John F. Galvin, Personnel Manager, Chicago Public Library, 78 East Washington St., Chicago, Ill. 60602.

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64th Annual Conference

Special Libraries Association

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