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July/August 1977, vol. 68, nos. 7/8

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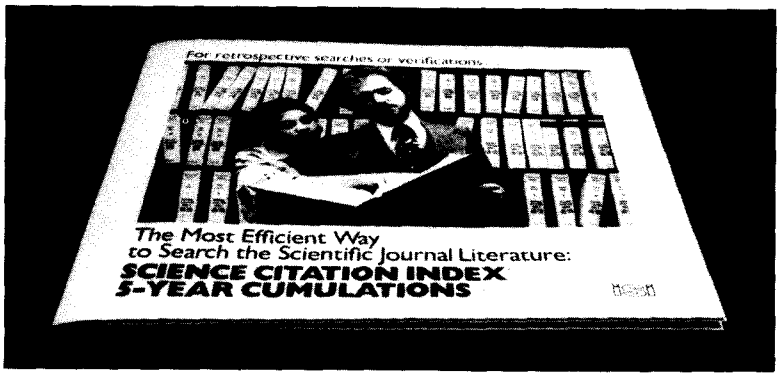

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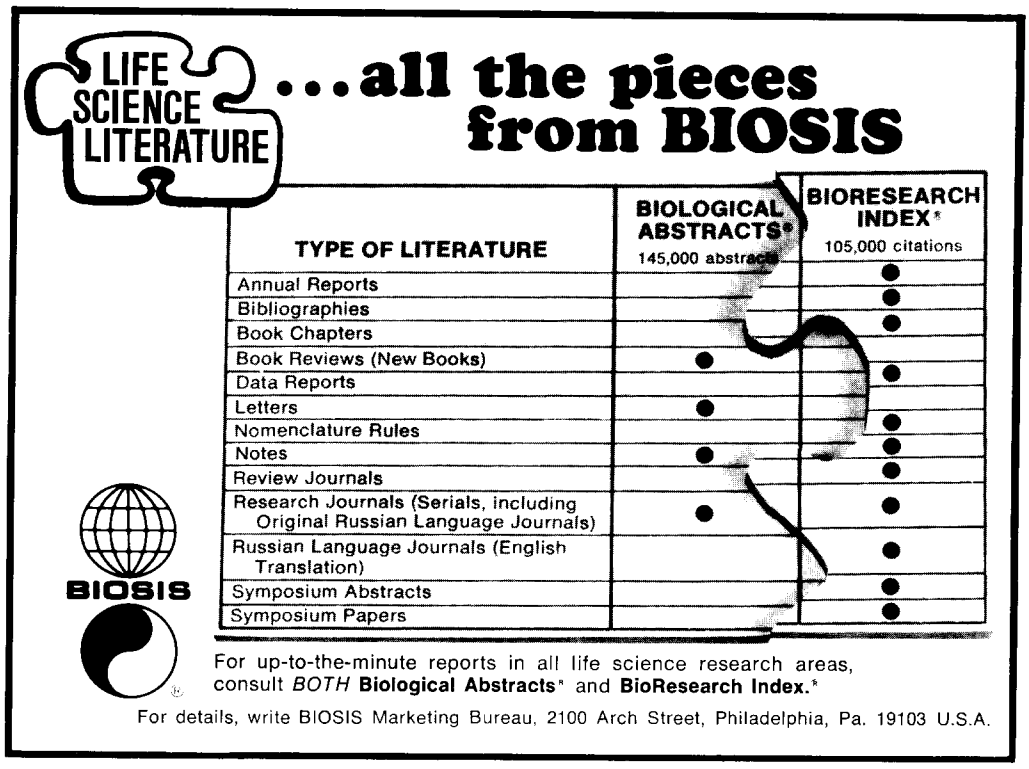

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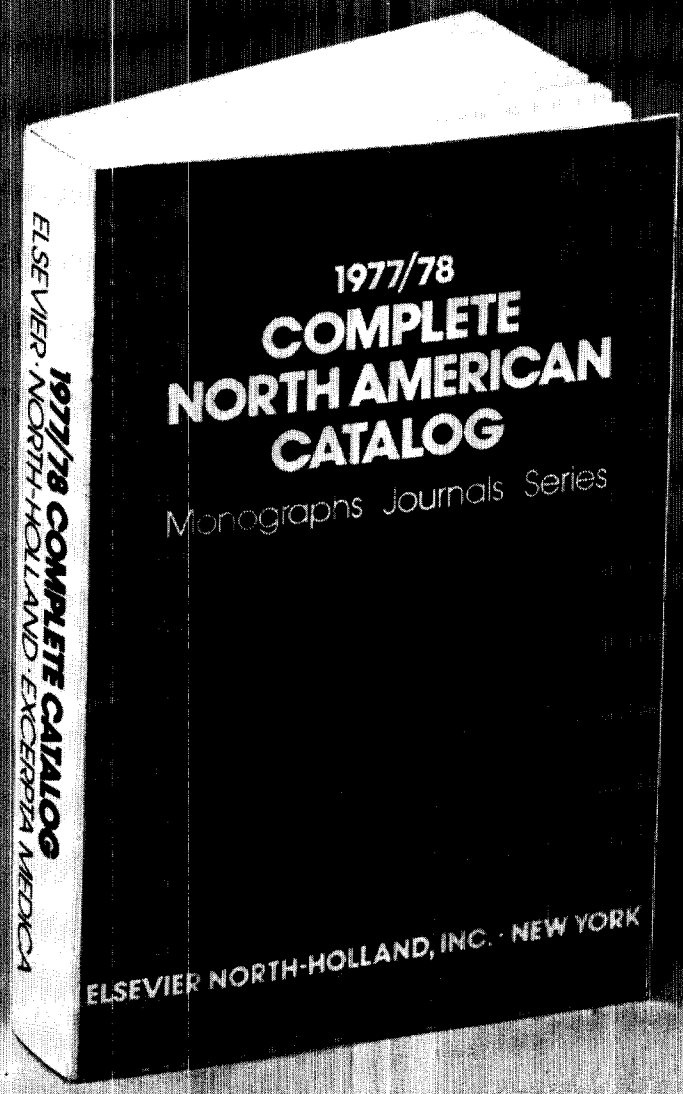

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Fourth Generation Systems for Libraries

The Marriage of Data Base Management Systems and On-Line Minicomputer Hardware

Audrey N. Grosch

University of Minnesota Libraries, Research and Development Department, Minneapolis, Minn. 55455

■ Fourth generation library systems for technical and public service functions will be easily replicated data base management systems (DBMS) hosted on flexible, modular, low cost mini to midicomputer hardware. A DBMS is defined through discussion of fundamental software concepts underlying its construction, its functions, and the program modules under which it operates. A brief discussion of minicomputer configurations, costs, and comparisons to costs of large scale shared systems are presented together with the concept of "reallocation potential" as a means of assessing the cost or benefits of this system generation.

FOR OVER A DECADE librarians have participated in the development of improved computer-based systems for their libraries. Special librarians have played a leadership role in developing many library automation applications, have pioneered the use of new hardware and software, and have contributed to the library automation state-of-the-art. During this period library systems have moved from simple list-oriented punched card systems to specific application-oriented batch processing systems and now to online interactive computer-based systems having a high degree of procedural task integration. Up to now, the main emphasis of library automation specialists has been on the design of programs specific to a given user application, for example: acquisitions, cataloging, circulation, accounting, or serials management. Files constructed for such systems have been designed to reflect the needs of these specific applications.

However, for some time librarians have recognized that virtually all library services and procedures depend on multiple use of bibliographic and non-bibliographic information. Still, many systems have been constructed in which multiple redundant transactions and files are required to perform certain processes via computer. For example, in an accounting application there may be a requirement to enter a serial subscription payment once to update the proper fund account and a second input, perhaps differently formatted, to enter this same data into a serials payment history file maintained in alphabetic title arrangement. Another, perhaps more common, example is that of a circulation system containing a short bibliographic record for each title, which necessitates separate

correction and updating independent from the generation or correction of a full cataloging record used to produce a library's computer-produced catalog.

The purpose of this paper is to introduce data base management system (DBMS) concepts and the functional modules comprising a DBMS in a generalized fashion, since this system concept forms the foundation of the latest generation of on-line systems now under development. Secondly, the use of minicomputer systems coupled with software using the DBMS concept will permit virtually any sized library to easily replicate an integrated on-line system with sufficient capability to serve the individual library's defined needs—all without any large dollar investment in professional programming personnel. In a nutshell, the marriage of the DBMS concept with low cost hardware will produce the fourth generation of library systems. For the special library, either large or small, the special librarian will be able to define the data to be stored and retrieved by the system, its uses, and its input and output form according to the needs of the specific library. Just as librarians have come to understand the fundamentals of systems analysis, computing, data entry technologies such as optical character recognition, and output generation technologies such as computer-output-microfilm, our aim here is to introduce the DBMS concept and its significance when coupled with a minicomputer-based system, so that special librarians can consider this alternative.

DBMS Defined

The fundamental definition of a DBMS is that of a data base composed of related files shared by a variety of users and applications for a variety of purposes. In other words, when the DBMS is operated on-line, different people can perform different processes at the same time, can require identical information contained in the data base, and simultaneously use the system to achieve varying product objectives. A significant characteristic of a DBMS is the independence of the data and file structure from the file maintenance and procedural programming in the system. This, coupled with generalized input/output capabilities, means that the librarian may design and specify data and its method of input and display without alteration of the programs which support the system, all through use of the DBMS system itself.

In the library the data base ideally consists of bibliographic records for each item in the collections independent of its form or type as well as those items being procured or being considered for procurement. In addition, to support procedural processes other than the reference/retrieval aspect of library service, other non-bibliographic information would also form a part of the data base.

Under this type of system users approach the system with the functions they desire to perform—for example, ordering materials, clearing invoices, cataloging materials—and can define the data needed for each of these functions, building the data base to accommodate their own perceived needs.

Security and integrity of the system's data is provided through a variety of means by the DBMS system—identifying a specific user and assigning a level of access to each user, performing audit and error detection tests on data entered, or permitting certain functions to be undertaken on a specific terminal device.

Fundamental DBMS Software Concepts

DBMS software has been designed and structured as a way to minimize the cost to develop new application capabilities, reduce program maintenance, ease the use of systems for nontechnical users, and increase the reliability of a system in operation through use of as many common functions as possible within the system. Another advantage is the ease of change in peripheral equipment under such a system, since device interfaces via program drivers are independent modules within the DBMS software and their change does not affect file creation, data, or I/O definition. However, until recently, only large scale computer systems had program packages of this type available. Most of

these are not too amenable for libraries, since some have design restrictions making the handling of variable length bibliographic data or data in MARC format less than ideal. Generally their output capability also does not lend itself to complex format problems such as the generation of catalog cards to Library of Congress specification or ISBD requirement. Special output generation programs would be required for these functional requirements.

Therefore, what really has been needed by libraries is a DBMS system of a generalized nature, yet specifically oriented to handling bibliographic needs commonly found in libraries. Such a system is now nearing the completion of its basic software and operational application modules at the University of Minnesota Bio-Medical Library. This system itself has been described in other papers (*1-6*) together with the economics of the DBMS-minicomputer-based systems approach, and details of this specific system will not be discussed here. However, in viewing the Minnesota System or any similar system individually or commercially developed, it is necessary for the librarian to understand the basic concepts or principles underlying the DBMS approach. These are:

- Flexible programming designed to help a user create new data base functional support with minimal programming investment.
- Modular, generalized design and structure within the DBMS to ease installation, replication, maintenance, and evolution of the system.
- Isolation of data related functions and their implementation in a generalized fashion to permit their use throughout the system.
- Independence of data and file structures from programming so that changes in either programming or data structure can be independent from each other.
- User orientation toward optimal man/machine aspect development of the system.

DBMS Functions

Using the above concepts DBMS software performs the following functions:

- Accepts data as required by the function to be performed as well as information about the structure of the data and its eventual storage structure.
- Performs searches of the data base, examining data and storage structures to determine existence and location of specific data.
- Stores data permanently and temporarily, permitting addition, insertion, modification, and deletion, i.e., updating functions.
- Performs its own maintenance such as generating or modifying data descriptions, input/output, data and storage structure to accommodate new or changed user needs.
- Displays the output of searches in a variety of forms according to the function.

For the librarian, the building of an integrated library management system using DBMS software gives a new freedom to tailor an on-line system to a specific library's priorities without the pitfall of later difficulties in expansion to support new applications, new data storage needs, or new bibliographic standards.

Unconventional approaches to the control of materials can be tried experimentally under the system by merely defining input/output terminal formats and data descriptions or through simulation of the application prior to any new subroutine module definitions to be added to the system through programming. In order to understand how a DBMS actually performs and enables the user to interact with the system, it is best to examine the functional program modules which in a generalized way make up the software of a DBMS. Obviously these modules may be designed and implemented in different ways using varying techniques to maximize the operation of the system in a specific hardware environment. The following briefly describes ten functional modules without which a DBMS cannot function nor be considered a true data management system.

Module 1. Data Organization Language Processor. This module establishes user access privileges to insure that only authorized individuals create, modify, or delete data structures at the requested level. It also interprets commands for maintenance of data descriptions and structures, generating new or modifying existing entries as appropriate. Usually this module also generates administrative

or error messages for both system users and analysts who maintain the DBMS.

Module 2. Data Input. This module establishes access privileges controlling the updating of the files of data comprising the data base, validating specific item values as directed and performing other audit or error detection tests as specified by the user. An example of this is the calculation of an appropriate check-digit on the library's book order numbers with accounting invoice clearances for books received. *Data Input* module also interacts with the *Search and Manipulation* module described later to store the input data and update the needed tallies being maintained in the *Statistical and Computational* module also later described. Input reloading of data from file recovery dumps may also be performed under this module. Input messages to the user via the terminal originate through this module.

Module 3. Query. This module establishes access privileges controlling reading of files by users, performs validation of file-related queries against tables maintained by the *Data Organization* module described later. *Query* module also updates tallies in the *Statistical and Computational* module, requesting data from that module or from the *Search and Manipulation* module calling on the *Data Output* module to deliver the results to the user.

Module 4. Data Output. This module is called by the *Query* module to communicate output to the user. A report generator is used to control general formats for printed output, terminal display, or tape/disk output. Special format generators may be present to control complex custom output needs such as graphing, line drawing, or in the case of a library, catalog card production. System output error messages may be generated for the user through this module. Recovery disk dumps are also performed by this module.

Module 5. Control and Error Processing. This module performs additional access control and manages the back-up facilities of the system such as the recovery disk dumps initiated within the *Data Output* module and the control of disk reloading. This module also processes errors, tallies them, generates system error messages, and initiates time or event dependent activities such as periodic file purging or warnings of conditions exceeding threshold values or time intervals monitored via the computer system's real time clock.

Module 6. Statistical and Computational. This module is essentially a system housekeeper, keeping track of file space usage, access time averages per file, frequency of data element or structure usage, standard statistical routines, and the tally of variables such as number of data elements, entries or data groups in the file structure. It may also alert the *Control and Error Processing* module, previously described, to an impending error condition and the status of certain control variables present, i.e. threshold values or time intervals.

Module 7. Data Organization. This module contains all of the system's tables, directories, dictionaries, indexes, formats, and storage mapping or packing information according to the specific file organization schemes employed.

Module 8. Search and Manipulation. This module uses the *Data Organization* module contents above to search index files, storage structures and to generate buffer storage areas to hold files for temporary manipulation, to update tallies in the *Statistical and Computational* module above, and to issue commands to the *Storage and Retrieval* module described next. It relays failure information to the *Control and Error Processing* module and may perform data compression and decompression and sort/merge functions.

Module 9. Storage and Retrieval. This module uses the *Data Organization* module and interfaces through the last described module—*System Scheduler or Executive*—to locate, store, and retrieve requested data. It notifies the *Search and Manipulate* module of failures and may have its own error recovery routines.

Module 10. System Scheduler or Executive. This module receives all user or system generated commands, routes the command to the appropriate hardware device, calls the appropriate functional modules herein described or their respec-

tive subroutines in the needed sequence to process the command, and manages multiple command sequences representing multiple users and communication devices. In a large scale computer, it is controlled and scheduled by the computer's general operating system. In a dedicated minicomputer system it is the operating system for the hardware/software environment.

This generalized functional description shows that DBMS are largely driven by user-defined tables controlling input, output, and data definition. Therefore, most activity associated with bringing a new application into operation relates to specifying the form input, output, and manipulation will take. Programming required is minimized to that which is not covered via existing subroutines within the defined modules. For example, a new application might be computer-to-computer communication in which certain communications equipment would be added to the system. Next, this would require generation of software to drive these devices, i.e., call the foreign computer, receive its recognition transmission and then translate the sending computer's commands and messages according to the communications protocol of the receiving computer. Then, depending upon the functions to be performed via the computer-to-computer link, the local DBMS computer would merely simulate an existing terminal on the other system using the same command structure and receiving the same responses as if there were no intervening minicomputer. More sophisticated forms of communication would require other programming.

Now let us turn to the hardware environment and the use of a modular dedicated minicomputer system as the host computer for DBMS designed for library and bibliographic use.

Host Minicomputer System

The central processors being marketed at a range of $5,000–$25,000 can be considered as highly capable but low cost general purpose computer systems. One of the reasons libraries have preferred the use of large generalized computer systems was because of the large amounts of core storage needed for most library application programs, i.e., usually between 96K–150K bytes. Today's minicomputers may be easily equipped with the equivalent of 96K to 1000K bytes. A 64K byte auxillary core memory with speeds of 500–900 nanoseconds costs approximately $3,000 today. A small minicomputer system can be configured to run an integrated DBMS software system of the type described above for approximately $60,000 with the system growing in disk storage, numbers of terminals and core memory as the library grows. For example, an average-sized four-year college library, i.e., a library of 150,000–500,000 volumes, can acquire its own system with 200 million bytes of disk storage, 96K bytes of core memory, magnetic tape, six terminal devices, and several low speed printer/plotter units for approximately $125,000. Annual contract maintenance for a system of this type would cost approximately $8,500.

As a comparison of these prices with those charged through a shared large-scale computer center, the annual fees for equivalent resources operating in real time would run from $45,000–$75,000 annually plus the library's cost to acquire its own terminals and remote printers, i.e., another $30,000 for the above configuration.

For a very large library or consortium of smaller libraries, a dedicated hardware environment using conventional computer systems would require from $700,000–$2 million to purchase a system or from $18,000–$35,000 per month in lease charges. A minicomputer system configured for service in this situation would probably involve several processors sharing peripheral devices and memory, each performing its specific function. For example, one processor would perform all disk accesses passing its data on to another processor to service the remaining commands while a third processor controlled input/output communications. A system of this type would require only $30,000 to $50,000 worth of central processors and system costs of $300,000–$400,000 for hardware, compared to

the above purchase costs of a large-scale conventional processor system. Such a system would have more throughput than an IBM370/145, at a fraction of the investment.

For an average library it is safe to assume that individual component system life will be a minimum of eight years so that cyclically devices would be changed as their functions were outgrown. System amortization would take place during the period of system use such that the service improvement in the library would result in reallocation of personnel resources for more meaningful, productive assignments. It would be a goal that the amount of personnel reallocation—let us call it the "reallocation potential"—would, over an eight-year period, offset the continued annual maintenance of the system, the phase out/in of any new system devices, and the investment in the original system.

Although the "reallocation potential" can be measured in "hard dollars," it also can be measured in "soft services." For example: if a library spent $300,000 to install a minicomputer-based DBMS, it would have to realize approximately $46,000 per year in equivalent "reallocation potential" in order to continue to run the system ($8,500 of that figure represents maintenance and $37,500 to pay out the investment). This is equal to the pay of approximately 3 librarians or 5 clerical staff in a 1976 fiscal budget. Through reorganization and improved efficiency produced by the system, a medium-sized library in this example would have no trouble reallocating this equivalent in record maintenance related functions. This "soft service" measurement would result in the use of the reallocated personnel in direct user services or in the support of new programs. If positions vacated by resignations, retirements, or temporary personnel were not refilled, a "hard dollar" reallocation would become possible. Either way, when measured against the benefit received, and on a cost avoidance basis, the system is shown to be beneficial.

Conclusion

Special librarians in particular should benefit from the development of data base management systems hosted on minicomputer systems, as the smaller library will now have the opportunity for systems with fully developed integrated capabilities just as the larger libraries have been striving toward. The capabilities just described usher in the fourth generation in the conceptualization of library automation systems. Soon, several systems of this type will be available for replication; in the United States and in several foreign countries, work is in an advanced stage to install such systems. Already, single and multiple application turnkey systems are available from several vendors serving the library market using minicomputer dedicated hardware. The first of these true fourth generation systems is in the advanced stages of development at the University of Minnesota Bio-Medical Library. Other systems have been created using commercially available DBMS to handle bibliographic file building tasks. For example, the Washington State Library Network system employs a package called ADABAS around which its files and on-line cataloging functions have been created.

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Budgets and Budgeting
Part I

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■ As background for constructing and justifying a library budget, various methods of budgeting are described and some basic concepts pertinent to budgeting are examined.

BUDGETS and budgeting comprise an area of competence which is essential for the special library administrator to possess. A budget is far more than just a delineation of those items that one proposes to spend money upon and that one will presumably be allowed to spend money upon. A budget is a planning document, and the budget, or more accurately the budgeting process, is frequently the most appropriate time to present new plans and new programs, to justify them, and to win support for them. For this reason budgeting should be approached carefully, yet dynamically; it has a major impact upon your library and upon you.

There are really two basic questions that concern the special library administrator. The first is, how to determine what is the right level of expenditure to request? The second is, given that determination, to adequately justify and defend that level of budgeting. The two points are inter-related; if a good job has been done at the first stage, the major portion of one's justification and defense has already been prepared.

In order to address those topics, however, it will be useful to review some basic budgetary terminology and some pertinent economic concepts.

Different Kinds of Budgets

There are basically five different kinds of budgets which one may run into or to which one may see references in the literature.

1) *Line Item Budget.* By far the most common is what is typically called a 'line item' budget. The budget is a series of "lines," each of which represents a different item of expenditure. The first line may be compensation or payroll, another line equipment rental, another line data processing charges, etc. There is nothing particularly sacred about how these lines are determined. One organization's budget may simply have one line for compensation, but in another organization that may be broken down into one line for professional payroll (usually referred to as exempt, that is, exempt from certain federal laws governing such things as payment of overtime), another line for employer contributions, a third line for non-professional (non-exempt) personnel, and so on. Even when used with more complex budgeting techniques, a "line item" budget almost always exists. This breakdown allows each item in a budget to be seen and compared with every other at a glance.

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2) *Lump Sum Budget.* A second kind of budget is the "lump sum" budget: "Here's $X,000, go run your library." It is rare that such a situation occurs. Even if it does, of course, a budget is necessary to determine what to do with that lump sum. In fact, the term "lump sum" budget is usually a misnomer. Within an organizational structure of any size there is a hierarchy of budgets. While a budget for a library may appear to be a lump sum in the organizational budget of the parent organization, it is rarely that. By the time it gets into the hands of the people who actually run the library a lump sum budget in the macro-level of the organization is usually a condensation or aggregation of a more specific budget prepared at a lower level in the organization.

3) *Formula Budgets.* A third variety of budget is a "formula" budget. This describes a situation in which the distribution of funds to various organizations performing a similar or parallel function is based on some formula. For example, a state may distribute funds to libraries within the state university or college system based on a particular formula, input for which might be the number of full-time equivalent students served, number of different masters-level programs, Ph.D.-level programs, number of faculty, the extent of the collection already on hand and to be maintained, or other factors. Such a formula could determine the precise number of dollars to be allocated to each institution or the relative size of the slice of pie which each organization gets. A formula budget, of course, determines what the library will get, not how it spends it. The library still must go through a planning and budgeting process to determine what is the best procedure for spending that money.

4) *Performance Budget.* A fourth kind of budget is a "performance" budget. In this case the budget is based presumably on what the unit does and what quantity of services it proposes or is required to perform. For each item a unit cost could be developed. For example, it costs X cents to circulate a book, Y dollars and Z cents to process a new book. The budget of the library would then simply be based on the volume of the activities anticipated for the year, times the unit cost for those activities. A performance budget *per se,* however, is generally open to endless questioning and is generally not very politic if submitted by itself.

5) *Program Budget.* In the fifth kind of budgeting the proposed expenses of the organization are delineated and analyzed by the functions it undertakes. A program budget would set forth the library's proposed expenditures as they related to each function. The advantage of such a budget is that one can see what the money expended is doing. One also, of course, has an idea of what will suffer if the budget is cut, or more hopefully, what resources will be needed to increase the scope or extent of particular services or functions. A useful and informative way of presenting a budget is to graphically combine the line item budget and the program budget. That is, assemble a matrix with the line items forming one dimension and the programs the other dimension. Such a presentation clearly shows what monies are going where and to what end (see Figure 1).

A sophisticated version of program budgeting is called PPBS, Program Planning and Budgeting System, famous ever since its introduction into the Defense Department by Robert McNamara in the 1960s. Briefly, PPBS is program budgeting on a supra-organizational basis—that is, the objectives to be accomplished are defined before resources are allocated to the appropriate organizations. After the objectives are defined, the various alternatives for accomplishing those objectives are examined and costs estimated. After selection of the appropriate alternative, the budgets for the organizations are created. Because the system looks at different alternatives, it must view those alternatives over a long period of time. In a comparison, for example, between Land Based Missiles and Submarine Launched Missles, one must evaluate the effective life of the different alternatives, which alternative will first require replacement, how costly will that replacement be, etc. In addition, PPBS does not assume an organizational structure. Only after the al-

Figure 1. A Hypothetical Example of a Line Item *vs.* Program Budget Presentation

	Make Collection Available	Current Awareness	Reference Services	Lit. Searching & Bibliography	Maintain In-House Literature	Total
Compensation	20,000	5,000	10,000	8,000	6,000	49,000
Books & Sub.	25,000	—	5,000	—	—	30,000
D.P. Internal	2,000	10,000	6,000	2,000	6,000	26,000
Supplies	1,000	200	400	400	1,000	3,000
Telephone	—	—	1,000	1,000	—	2,000
Services	—	—	5,000	4,000	—	9,000
Data Base R.	—	10,000	5,000	5,000	—	20,000
Overhead	30,000	3,000	4,000	2,000	6,000	45,000
Total	78,000	28,200	36,400	22,400	19,000	184,000

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ternatives are weighed and evaluated and a course of action chosen will the effect upon the organization be clear, i.e., what slice of the pie belongs to the Army, what to the Navy, what to the Air Force, etc.

Clearly, to express an objective and to then evaluate the adequacy of different alternatives in terms of meeting that objective, the more one can quantify both the objective and the results of the different alternatives, the easier the decision making becomes. That quantification, however, is a function of the implementation of PPBS, and while a formal PPBS program is not functional without objectives and alternatives that can be quantified in some degree, that quantification is not the essence of PPBS itself. This point is emphasized because most descriptions of PPBS go into great detail about the quantitative aspects of PPBS, of how for example to determine which alternative "dominates" another alternative. Such material is interesting but of marginal utility to the small library. What is important is to understand the concept of PPBS as a method of presenting a library's program and budget in a positive fashion to whatever authority reviews it.

Some Economic Concepts

There are three basic economic concepts that can prove to be useful for any librarian in the position of constructing and justifying budgets. Those concepts are sunk costs, opportunity cost, and net present value.

Sunk Costs. This is a simple concept. Sunk costs are basically anything that has already been spent. The essence of the concept is that anything one has already spent is totally immaterial to any decision making. That does not mean that historical data on costs are not useful and are not valid as predictors of future cost. Instead, it means that any decision should be based purely on what costs will be incurred and what benefits will be received. Any argument that, for example, "this machine was purchased with the assumption that it would last five years," or that "we've spent umpteen thousand on this system and all that money will be wasted if we don't make it operational," are completely false logic. The only thing that is relevant in evaluating alternatives A, B, and C is what will they cost and what will they yield. What has already been spent pursuing alternative A is totally irrelevant. If the best alternative is C, leasing a new software package rather than continuing with the development of the system already partially implemented in-house, so be it.

Opportunity Cost. A related concept is that of opportunity cost. If one is pursuing an alternative, the opportunity costs are those costs involved in the opportunities foregone by the pursuit of the alternative that has been chosen. For example, assume that you were told that your library is moving to new quarters in approximately a year and you have been requested to submit your plans, including your space requirements. Obviously how

Figure 2. Basic Information for a Net Present Value Calculation

You are considering joining an on-line cataloging facility.

Relevant figures:

Terminal & set up = $4,700
Estimated life = 5 years
Scrap value = $1,200
Present processing cost = $3.60/book
Expected processing cost = $2.20/book
Volume = 700/year for five years
Your firm assumes a 15% return on investment.

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you propose to provide back issues to periodicals, whether by microform or by obtaining the issues themselves, has a major effect upon the amount of space needed. So you consider various alternatives, among which are taking advantage of the opportunity for more space to get rid of those unpopular microfilm machines, or purchasing new microfilm equipment, or upgrading the present equipment. When you are evaluating the option of upgrading your present equipment, an opportunity cost that must be calculated arises from choosing that option. If pursued, you no longer have the opportunity to sell your present equipment. The price for which you could have sold your present equipment is an opportunity cost. Similarly, what you paid for your present equipment is a sunk cost and is totally irrelevant. The only relevant figure is the cost involved in the opportunity to sell those machines.

Net Present Value Calculations

In almost any major decision that one makes, there will be effects over time greater than the one-year period for which we commonly budget. This creates a problem in that a dollar today, as you well know, is not worth a dollar tomorrow. Net present value is simply a concept for making dollars expended or received in different years commensurate with each other. All of us at one time or another have had to do an exercise in which we calculated how much $100 invested in a bank at $X\%$ interest will be worth in five years. Net present value calculations are the same thing. What is involved in net present analysis is 1) lay out for each alternative the cash events, 2) the time at which they are expected to occur and, 3) recalculate each of those events in terms of today's dollars. Net present value calculations are straightforward. Thus they are relatively easy to make, even for those not mathematically inclined. Once one can do a net present value calculation with some facility, the effect upon administrators, treasurers, accountants, and others, is nearly miraculous. You have demonstrated to them that you are a rational human being and that you can talk their language.

Here is an example of net present value. You are contemplating joining an on-line cataloging facility as an alternative to your present production of catalog cards. The various costs are given in Figure 2. To make this exercise simple, we will assume that the only value of joining the facility is the actual production of catalog cards and that there are no other benefits received—such as the opportunity to produce printed catalogs or to cooperate with other libraries in producing union catalogs. These assumptions are obviously simple-minded but, for the purposes of illustration, they will serve. The first step is to determine what percentage rate to use for the calculations. This rate may be referred to as the cost of capital, as return on investment, or as the discount rate. If you are in an industrial situation, the treasurer's office will be glad to volunteer the appropriate rate used by your organization. If you are in an academic situation, the treasurer's office should be a good source of such a figure, but in any case a department of economics or business school could provide input. Lacking such a source, something in the range of 12% to 15% is a good rule of thumb. For these calculations a discount rate of 15% is used. The second step is to lay out the alternatives, or more accurately the cash events, in a chronological sequence (see Figure 3). These cash events are converted into net present dollars by the use of tables generally found in any modern cost accounting book *(1)*.

Figure 3. Layout of the Economic Alternatives
Net Present Value

	Alternative One (as is)	Alternative Two (facility)
Present Expenditure		$4,700
System Life Expenditures	$3.60 × 700 = $2,520 × (3.52) = $8,870	$2.20 × 700 = $1,540 × (3.52) = $5,421
System Closing Expenditures		−$1,200 × (0.47) = −$564
Total	$8,870	$9,557

Figure 4. Typical Net Present Value Table—Cash Stream
Present Value of Annuity of $1 a Year for T Years, Received or Paid in a Uniform Stream During Individual Years

T	5%	6%	10%	14%	15%	20%
1	0.98	0.97	0.95	0.93	0.93	0.91
2	1.90	1.88	1.81	1.74	1.73	1.65
3	2.79	2.75	2.59	2.45	2.42	2.26
4	3.63	3.56	3.30	3.06	3.01	2.75
5	4.43	4.32	3.93	3.60	3.52	3.16
6	5.18	5.04	4.51	4.06	3.96	3.50
10	7.87	7.52	6.32	5.38	5.18	4.32

Figure 5. Typical Net Present Value—Cash Event
Present Value of $1, Received or Paid in a Lump Sum at Date T Years

T	5%	6%	10%	14%	15%	20%
1	.95	.94	.90	.87	.86	.82
2	.90	.89	.82	.76	.74	.67
3	.86	.84	.74	.66	.64	.55
4	.82	.79	.67	.57	.55	.45
5	.78	.74	.61	.50	.47	.37
6	.74	.70	.55	.43	.41	.30
10	.61	.50	.37	.25	.22	.14

Figure 6. The Result Using Simple Addition

Simple Addition

Alternative One (as is)
$3.60 × 700 × 5 = $12,600

Alternative Two (facility)
$4,700 + ($2.20 × 700 × 5) − $1,200
= $11,200

There are basically two kinds of cash events and two kinds of tables that need concern us. First there are cash events that occur over time. For example, what is the net present value of a dollar a year received at a continuous rate from now for the next five years? Figure 4 is an example of the sort of table necessary to calculate such events. It presents the present value of an annuity of a dollar a year for T years received or paid in a uniform stream during individual years, discounted continuously for T years. Secondly, there is the net present value of a cash event occurring precisely at some certain time. Figure 5 is an example of the sort of table used to calculate such events. It presents a net present value of a dollar received or paid in a lump sum at date T discounted continuously for T periods. Any series of cash events can be analyzed by the two tables presented in Figures 4 and 5.

The final step is to add up the algebraic sum of the cash events for each alternative and determine which is most attractive. In this case, see Figure 3, the alternative of joining the on-line cataloging facility is less attractive. If we had not used net present value to make the calculations, however, the sums would have added up as in Figure 6. In such a case the alternative of joining the on-line cataloging facility, which given our limiting assumptions is the less attractive alternative, would have appeared to be more attractive. The reason is relatively straightforward: for the alternative of joining the on-line cataloging facility the bulk of the costs comes early, and dollars now are more expensive than dollars later. This example may be thought reactionary. However, the reason for having the alternative of joining the on-line cataloging facility appear to be the less attractive one in terms of net present value is to be able to demonstrate the value of these calculations. Without a net present value calculation, a simple summing of the costs could lead one to choose the wrong alternative. For an example of net present value analysis in a library context, see "SCOPE, A Cost Analysis of an Automated Serials Record System" *(2)*.

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Budgets and Budgeting
Part II

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■ Two principal questions are addressed: how to construct a library budget and how to justify that budget. In addition, various techniques for navigating the political shoals surrounding budgets are discussed.

THE first basic question: How does one put the budget together? How does one arrive at the appropriate figures?

Putting the Budget Together

Use the program budget concept. When you are next faced with the necessity to compile a budget, or better yet, sometime in advance of that necessity, try the concept of program budgeting, break down your operation into the appropriate programs or budgets, then cost out each program and do it without reference to what your present budget is. This process is called "zero base" budgeting. In other words, do not simply start with last year's budget and modify it, start from scratch. Once these calculations are tempered with the political and financial realities of your organization, they are the basis of a sound budget presentation.

Standards

The most common approach is to use standards to determine the size of the library budget. Typically, these are standards of library service stated as some function of the size of the community served. The standards need not be official to be useful. For example, what do other libraries supporting similar organizations spend? If published figures are not available, make some phone calls and compile them. Even in an industry like pharmaceuticals where confidentiality of information is a byword, such figures can be easily obtained; in fact, they are maintained by the professional trade association. In the pharmaceutical industry a figure of 3% of the research and development budget is a typical figure for library support. Other industries or other fields will have different norms, probably quite different. Standards will not be pertinent, unless they are derived from institutions similar to your own.

Standards, however, even if derived from libraries serving similar institutions, will be approximations only. Different organizations have different internal structures, different philosophies, and different ways of operating. In one company, for example, lab technicians may be expected to do the bulk of the literature searching. Another company may not be so generous with technician support. Thus the library may have to do substantially more literature searching. The function and the service supplied within the institution is similar, but the organizational structure and the budgets of the libraries will be radically different. Standards must be tempered to reflect the role of the library within the higher organization.

There are a variety of other standards that one can use. One norm, for example, is one library staff member for each 60–80

active borrowers. Another is that the ratio of clerical to professional staff should range between 1 to 1 and 3 to 1. The best exposition of general standards applicable to special libraries is probably that by Gordon E. Randall entitled "Budgeting for Libraries " *(1)*. Such general standards, while useful for identifying what is typical, may not be applicable to a specific situation. It is useful, however, to know if a library is typical of its type, and if not, why it differs.

Most important, however, while standards may be quite useful for estimating your budget preparation, do not count on them to serve as justification. Administrators will probably not find them convincing. In general, your management will probably not be at all interested in standards (except accreditation standards for academic institutions). It is more likely that they will be interested in how well the members of their community think the library is providing service.

Build and maintain what might be called an "ammunition file." When an article appears in a library journal calculating the percentage increase in the costs of serials or monographs, keep that information. When an article *(2)* appears reporting that the Center for Research Libraries has calculated the cost of interlibrary loans versus subscription to a journal, keep that information and cite it when appropriate.

The Incremental Method

One method of constructing and also justifying a budget is what is called the incremental method. First define a basic minimum core level of service which the institution cannot afford to be without. That may be, for example, simply acquiring and processing a certain number of journals and books, making them available for the users, and maintaining some sort of circulation system to monitor their whereabouts. Determine the costs for that minimum core of service. Then define additional tiers of service above that core. For each tier define the new services, the benefits that will be achieved, and the incremental cost of these benefits. Recommend one particular tier as the most cost-effective for the organization and give some justification for your opinion. While the more elaborate the justification the better, involved arguments are not necessary. For example, simply state that up to a specific tier each new tier achieves a major improvement in service with relatively small incremental costs. Show that additional tiers above that point require substantial increases in expenditures for comparable increases in services. It is wise, however, that your presentation is constructed so that you are not recommending the top tier. Show your administration that you are rejecting some higher priced alternatives.

Justifying the Budget

Now for the second big question. "I've got a budget, how do I justify it?" Obviously the points mentioned above for determining the budget are the bulwark of the justification for the budget. There are, however, additional points that you can make.

Keep another sort of ammunition file. In it include such things as testimonials from users and examples of specific projects undertaken for your clientele. Ideally, of course, try to document cost savings, i.e., that such and such a search has saved X department tens of thousands of dollars. This is not always possible. At the very least be well armed with examples of what has been done for use when presenting budgetary requests. Do not try to dredge these things up at the last minute. The trick is to treat projects as future examples and to evaluate them when they are completed, or soon enough afterward that the results are still fresh. Quotes that such and such a project saved X many weeks of work, or made the completion of the project within the funding agency's deadline possible are convincing. This statement may be self-evident. Yet it is often forgotten, or more accurately, ignored because it seems slightly immodest to ask for accolades. Do not be reluctant, the questions can be asked in relatively objective terms, such as "How effective was the search?" If presented as part of a standard program of feedback

and evaluation, users will perceive and accept such questions as the norm.

Performance Figures

As described in performance budgeting, keep performance figures. Know how much it costs you to perform certain functions. Do not expose all those performance costs to the unenlightened whose reactions may be negative. Keep them to be used when it is in your best interests. For example, you can say, "Do you know how much it costs to compile a bibliography for Dr. X," when questioned about the cost of bibliography compilation or of reference services. (Dr. X is, of course, a rising and productive star in the organization.)

Quantification

Quantify what you do as much as possible. Obviously it is useful to be able to document an increasing level of circulation or of reference questions answered. Set this information out graphically. A few minutes spent doing histograms or graphs can be time well spent. Keep such diagrams relatively simple however. The point of a histogram or a graph is its clarity. A graph made for analysis may look like a road map, but a graph made for presentation should be simple and clear.

Fixed Versus Variable Costs

A basic concept in accounting is a distinction between fixed costs and variable costs. Variable costs are costs that change with small changes in the volume of production or of operation (services rendered). Fixed costs are those costs that do not change with small changes in the volume of production or of operations. It does not mean an immutable cost. What is a fixed cost in one context is not necessarily a fixed cost in another context in which major changes in operations are contemplated. This distinction is important because it is frequently useful to analyze budgets or proposed operations in terms of fixed costs and variable costs.

It is typical of libraries that a high percentage of costs are fixed—principally payroll. This fact can frequently be used to good advantage. It can show, for example, that a 10% reduction in a library budget would have a major effect upon variable costs including such things as the number of journals subscribed to. On the other hand, it can show that a relatively small increase in the library budget could have an equally major effect upon the subscriptions or other services that the library can purchase. This observation, and a proper display of it, can be useful to argue against a relatively modest budget cut. Although minor somewhere else, it could be debilitating to the library and that, therefore, the organization ought to seek its economies elsewhere. Conversely, it can be used to argue that a relatively small increase in the library budget can be used to make significant improvements in the library's ability to produce a service. Obviously this argument can only be pushed so far—for example, to the point where one has to add or reduce staff. However, in the right context it can be useful.

Unchanged Performance Budget Versus Proposed Budget

A useful technique in this era of substantial inflation is to compare the proposed budget with the budget required to continue the present level of service. Be sure to incorporate the necessary expenditure increases to cope with inflation. If you are proposing new services, such a comparison can make the point that a significant portion of the dollar increases results from inflation and that the new services you propose are not nearly so grandiose as the increase in dollars would have it appear. If, on the other hand, you are not so lucky as to be able to propose new services, such a comparison can document that a no growth budget (no growth in the eyes of the administration) is in reality a decrease in library services. Your administration may not be as aware as you are that the price of journals and monographs is increasing faster than the general rate of inflation. Such a budget comparison can help you make that point more vividly.

Related Items

There are a variety of items that, while not relating directly to the two principal questions discussed, are quite pertinent to budgeting and should be considered.

Financial Politics. Be aware of and use the politics in your organization. Politics is defined here in a broad way, including what might be called financial politics. Obviously if you are preparing budgets you know what the fiscal year of your institution is. Make use of that information. Check the political wind, particularly before the end of the fiscal year. In both profit and not-for-profit organizations there may well be situations at the end of the fiscal year in which the treasurer may not be at all adverse to spending money. In profit organizations, for example, present circumstances may be reasonably good, and the projections for next year not quite so favorable. Therefore, anything that can be spent this year rather than next year will help maintain that appearance of a uniform and consistent rate of growth which companies like to be able to present to the financial public. In not-for-profit organizations it may be that money not expended this year will not be available next year. In addition, insufficient expenditure may be used as an argument for appropriating less money next year. Therefore the surplus 'needs' to be spent. In any case, ask questions and be aware of such situations. A purchase that may fill the treasurer with horror this fiscal year may be quite acceptable the next, or vice versa.

Similarly of course, the company may be tight on money at the end of the year or may want to cut back on purchases halfway through the year. If you have discretion on when you can make purchases or undertake programs, do it early while you have the money in your budget and before the organization decides to tighten its belt. This applies to such things as the purchase of major indexes and back-year cumulations, and to such things as travel or management development courses which are favorite areas for retrenchment.

Take an accountant to lunch. The advice may seem superficial, but it is not. If you are not part of the financial communication channel, you will not be privy to the information that will allow you to operate most effectively. In addition, having a channel to the financial office will make it easier to acquire the figures that you need and assistance in interpreting them. Budget information, with its accruals, transfer changes, distributed labor accounts, burden rates, etc., can be difficult to interpret without a friend at court, and your friendly (only if you make him or her so) local neighborhood cost accountant can be a godsend.

Money versus People. Objectives can of course be accomplished in different ways. One way may be to add new staff, another way may be to put dollars in your budget that can be used to purchase outside services. There are obvious political trade-offs here, one facet of which is that once you have a person on your staff, the person is there, the slot is there, and it acquires inertia. It is a major decision to cut back or eliminate the slot. For just that reason managers frequently tend to ask for increases to staff when other ways of achieving the same objective are available, for we feel we have achieved a long-term increase in our resources. For precisely that same reason, however, organizations tend to be resistant to hiring new staff. People are long-range commitments, commitments that can be cut back only with difficulty, and frequently with unpleasantness. Conversely, particularly in the case of for-profit organizations, your request for dollars is not likely to meet with such resistance, for the very reason that should the situation change, the faucet can be turned off easily. My personal opinion is that given the choice between asking for people or asking for dollars, one is better off asking for dollars. Granted the dollars are less irrevocable, yet one is far more likely to get what one wants. In fact, one can probably get more resources than if one asks for people. Furthermore, dollars are more flexible. A person only provides so many person-hours per week, but dollars spent on bibliographic on-line searching or dollars spent on information

service bureaus can be spent precisely when needed.

One reason, but not a valid one, for the preference of librarians to add staff rather than dollars, is perhaps that our profession tends to measure the size of an organization by the size of its staff, not by its dollar budget. The budget of the information center of a major pharmaceutical company, for example, is not unlike the budget of a major university library. The tendency to measure size solely by the number of people directly employed, rather than by dollars, contributes to this myopia and unconsciously prejudices decisions.

Make or Buy. In general, one should question seriously whether to perform a service that can be bought. If someone is selling a service, it is probably because that person or that organization thinks they can do it more efficiently and effectively by spreading costs over a larger economic base. Frequently they can. In economic terms this is described as the "make or buy" decision. When evaluating the make or buy decision, make sure that one is including all of the costs involved in making it oneself.

Extra-Organizational Support. Don't be hesitant about crossing organizational lines to seek extra support. Review what your library does and for whom. Is it providing services for people other than the organizational unit that picks up the tab? If it is, who are those people and what can be done to get some measure of support from them? Frequently in such a situation, particularly in an industrial organization, if you can demonstrate that you are doing such work, you can get those organizations outside your own to support your operation, at least partially. Frequently that support will not be enough to completely cover the costs. Any degree of extra support, however, makes your budgetary life that much easier, not only because you have eased the load on your own organization but because you have demonstrated that you are cognizant of where your services are going and that you have the initiative and the fiscal intelligence and responsibility to seek appropriate additional support.

Library Committee/Customer Support. If you have a library committee or any sort of advisory committee, use it. If you do not have one, consider one. Consider carefully the people who will be on that committee. Do not necessarily go for the biggest and the most prestigious names. They may not have the time or the inclination. Do, however, deliberately try to pick the rising stars and the opinion leaders within your users. Not only are such people useful now, but they may be of major importance in a few years.

What are you being charged for? Be aware of what you are being charged for. For example, an overhead allocation may be based simply on the number of square feet that one's department occupies. You may be able to point out that while that probably adequately represents the heating expenses for the library, it may substantially overcharge the library for telephone services or other support services such as janitorial services. Even though it may be suboptimal for the Accounting Department to change its method of allocation, you will at least be in the position of being able to explain why the allocation is so high and that, in fact, it overestimates the true cost of the library's support services.

Controllable versus Non-Controllable. Along the same lines, make a distinction in your budget between controllable items and uncontrollable. For example, 'books and subscriptions' is a budget item that you control. The amount you get charged by Data Processing, or for overhead, or distributed labor from other departments, is probably an uncontrollable expense. Be aware of any of these uncontrollable items exceeding the budget estimate, and be prepared to point out that these are not items under your control. Divide your budget into two parts: a controllable part and an uncontrollable part. Then you will be in a position to demonstrate that the controllable part of your budget is in fact under control. If the data processing manager underestimated the effect of the

new on-line systems upon his system throughput and has had to order four new disc drives whose costs have to be passed along to the customer, do not allow that happenstance to make it look as though you are going over budget. That is the DP Department's problem, not yours. As an aside, when preparing a budget do not just extrapolate from last year's charges for uncontrollable items. Get estimates from the DP manager, from the accountant, or whomever, as to what these items will be so that if something as described above happens, you cannot be accused of underestimating and underbudgeting.

Adhering to Budget. Know what the procedures in your organization are for adhering to budgets. In most for-profit organizations rigid adherence to the line items in your budget is not terribly important. What is important is whether you are staying within the overall envelope. Do, however, document why you are deviating. If your company has a budget updating cycle, request changes. Make sure that you and your boss have an understanding—whether that is a private understanding or whether it is company policy—as to how the budget should be adhered to. Does he or she want to know of every minor deviation or is it acceptable to remain within the envelope? In governmental organizations, adherence to the line items of a budget is typically much more rigid; modifications and exceptions typically have to be justified and approved. Do not hestitate, however, to go through those processes. Budgets should never be gospel. A budget is a planning tool and only a fool expects the world to stand still for a year. Do not be afraid to request budget changes. It is not an admission of poor planning or poor budgeting. Requests for budget changes, if done in a timely and well thought out fashion, can instead be an indication that you are staying on top of the situation and that you are maintaining your plans and your operations in as up-to-date a fashion as possible.

Confidence Level

A major problem that we librarians face is the image that we have in the eyes of our managers or directors. Frequently we are perceived as professionals who know our field but who possess neither a realistic business sense nor financial acumen. This perception is frequently a serious constraint upon the librarian's ability to adequately and efficiently perform the job. The budget is the ideal vehicle to dispel this conception and to build your superior's confidence in your financial common sense. Demonstrate that you have in fact evaluated all alternatives. Demonstrate that you know that things cannot be justified on the basis of what has already been spent. Demonstrate that you know the concept of sunk cost and opportunity cost. As librarians, you are familiar with the concept of the invisible college. The easiest way to deal with programmers, for example, is to be a programmer, to be a member of that invisible college oneself. The next best, however, is to be able to speak the language. If one can demonstrate a familiarity with the field, then one will be accepted as at least an associate member. The same thing is true in dealing with those who will review and pass upon library budgets. The community is not so clearly defined but there is obviously the same sort of sociological phenomenon working with managers, treasurers, directors, and administrators. If you can speak the language, and if you can demonstrate through your budget preparation that you are cognizant of the basic concepts of cost analysis and budgetary thinking, then you will have gone a long way toward establishing that confidence level. The budget will have been far more than just a delineation of what will be spent.

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Problems in Accessing Scientific and Technical Serials

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■ The availability of scientific literature and efficient access to it are of great concern to special libraries in their efforts to best serve the needs of their users. An analysis of the titles in the *Chemical Abstracts Service Source Index* which have no reported holdings is provided to help focus on the nature of such literature. Document access problems and the effect of standards on solutions to these problems are discussed.

LIBRARIANS make a continuing effort to provide the best possible service to their users. One of the foremost considerations in this effort is the ability to provide literature which satisfies user requests. The quantity of scientific and technical material has increased dramatically in recent years as have the problems associated with acquiring and accessing it. Secondary services are providing broadened coverage of this increasing amount of literature and offering additional services and products, particularly computer-readable services. The result is faster and improved access to information derived from an ever-growing quantity of literature.

Literature searches in the scientific area return large numbers of citations to specific documents. Usually, a literature search begins with a secondary service, which may be a printed product or an on-line data base. The normal procedure, if printed services are used, is to use the indexes to gather citations and then to examine the appropriate abstracts to decide which full documents are needed. The process is similar for using an on-line data base. The result in either case is the identification of full documents potentially containing information of value to the user. Of the relevant documents, some will be easily available while others will not.

Document availability, especially in terms of interlibrary loan transactions, is being affected by current developments which aggravate traditional document access problems, by the characteristics of unavailable scientific serials, and by a lack of standards that hampers document acquisition.

In the discussion of these issues, the more important impediments to accessing a document will be emphasized, and a few new developments that are complicating the accession transaction will be pointed out. An additional area to be considered is the body of scientific literature that is abstracted and indexed but not reported as available in libraries. Several improvements in document access that are being applied to some of the problems will be mentioned, e.g., the special importance of union lists, both computer-readable and printed, such as the *Chemical Abstracts Service Source Index*.

Table 1. Interlibrary Loan Requests Received by Academic Libraries (1973 Estimates)

Year	Loan Requests	Periodical Requests
1972–73	2,240,000	1,070,000
1974–75	2,700,000	1,300,000
1976–77	2,860,000	1,370,000
1978–79	3,170,000	1,520,000

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Impediments to Document Access

Interlibrary loan transactions are particularly important to special librarians. Because they keep specialized and often limited collections, they must rely on outside resources to supply documents that are unavailable in their local collections. For a number of reasons, the volume of interlibrary loans has continued to increase. Association of Research Libraries (ARL) studies (see Table 1) have found that there is a huge quantity of interlibrary loan transactions each year (*1*, p.23). With interlibrary loan requests being generated in the millions, it is certain that some documents will be difficult or impossible to obtain.

Users of library services often meet with difficulties in gaining access to documents which they need, even when the journal is one which is normally held by the library. There are various reasons. The particular document might be checked out, at the bindery, off the shelf, misshelved or lost, mutilated, not yet received, delayed in processing or cataloging, delayed in acquisition, unidentifiable from the abbreviated title.

The impediments which block access to a document in the local library can also affect the supplying of a document at the lending library. However, there are usually other factors which hinder the efficient and effective transfer of a document or its surrogate between libraries. Some are traditional factors. Others are new factors introduced by the use of modern technology into the interlibrary loan process.

Traditional impediments are those problems, or interferences, that have obstructed or hindered fulfillment of interlibrary loan transactions for many generations of librarians. Most of these are evident to those who use interlibrary loan frequently. They include invalid or incomplete citations; slow communications media (e.g., mail); temporary unavailability for loan (including problems met at local level); insufficiently trained staff; incomplete or inaccurate union list data; lack of standardization *(2)*.

Union list data operates to communicate information on document availability. But too often the data supplied in a union list is difficult to interpret due to the different conventions used in developing the bibliographic descriptive data and in displaying the holdings. For example, many union lists give only a serial title and a code for the holding library. If more than one serial has the same title, there is often no way to determine which title is listed, presuming both are not. A user nearly always requests a specific article in a serial issue. If the union list does not give a unique level of detail for title data, the borrowing librarian must guess whether or not the listed library has the document. Putting this problem in a broader context, the lack of commonly accepted and commonly used standards seriously affects interlibrary loan transactions. Some of the areas where standards, when accepted by user and supplier, could improve document access, are interlibrary loan policies and procedures, title selection rules, holdings data, and bibliographic data provided.

Current Developments

Consideration of some of the traditional problems hindering document access leads naturally to a review of the developments in document publication, distribution, bibliographic description, and storage that are having a direct impact on document access *(3)*. These are evolving within the context of finding new and better ways to disseminate scientific and technical information. They are of particular interest when one considers that, meanwhile, the traditional impediments to interlibrary loan have not been diminished.

1) *Non-print and mixed media.* Scientific publishers are experimenting with the use of non-print media. This has most often been microform, but audiotape cassettes and videotape are also being encountered. To complicate the situation further, there are now combinations of media, e.g., print and microform, microform and audiotape cassette. One reason behind the publishers' shift to these innovations is the dramatic increase in the costs of publishing.

Dr. Russell J. Rowlett, Jr., Editor, Chemical Abstracts Service (CAS), summarized the viewpoint of editors at a recent Institute of Electrical and Electronic Engineers (IEEE) Conference on Scientific Journals:

> There is absolutely no doubt that mushrooming costs demand more control over the amounts of data keyboarded, typeset, and delivered to the majority of users. The future of the author-controlled, traditional scientific paper is being rightfully questioned. Editors and publishers are experimenting with depositing a part of the original disclosure in some form other than a normal typeset manuscript. No longer can one say that all journals look alike. There are original disclosures supplemented with microform, microfiche, and miniprint. There are members' copies and library copies. There are printed disclosures plus depository supplement, non-printed disclosures which only exist in depositories, summaries with the original author retaining the only complete disclosure. Now we have the concept of a dual original disclosure including both a printed two-page summary plus a complete archival copy in either printed form or microform. The latest example is a multipage insert just inter-leaved within the journal, printed and folded in such a way that alternating pages are upside down. It cannot be bound effectively in a volume archival copy even if it is not lost in the meantime *(4)*.

With these shifts in the techniques of publication already with us and with more undoubtedly just over the horizon, old problems are being aggravated. For example, in terms of archival responsibilities, the physical storage of and access to multimedia publications pose new problems. In terms of bibliographic control, the problems of mixed media are causing significant headaches. In fact, the information community is just beginning to cooperate in developing standards to alleviate the more-or-less traditional media problems, in terms of medium designators, holdings statements, and standard references. The bibliographic linking of publications that have one part distributed while another portion is stored should pose a real challenge to our archival, descriptive, and access responsibilities.

2) *On-line data bases.* The most obvious change affecting document availability is the growth of direct access on-line data bases *(5)* available through commercial vendors like Lockheed Information Systems, System Development Corporation (SDC), and the National Library of Medicine. Not-for-profit information dissemination centers such as those at the University of Georgia, University of Pittsburgh, and Indiana University provide access to machine-readable data bases, usually through batch processing. Together, these vendors greatly enhance access to secondary services. A primary impact of these activities on document access is that more citations are retrieved more rapidly. Rarely are all of the cited publications available in the local collection. Consequently, the user must go to other sources for the needed documents, and unfortunately, the document delivery techniques available are not equal to the searching techniques. Interlibrary loan processing is not fast, not accurate, and not cost-effective.

There are a few innovations currently available for obtaining cited documents rapidly. The Institute for Scientific Information (ISI) offers its Original Article Tear Sheet (OATS) service *(6)*. Documents can be ordered from ISI by coupon and are usually supplied as tear sheets from the journal issue. Occasionally photocopies are supplied. The service is fast and covers about 4,500 different journals. Another innovation melds the rapid on-line access to a bibliographic data base with the ability to automatically order documents from a distant collection. From their terminals, SDC customers can

place orders for documents in the National Technical Information Service (NTIS) collection *(7)*.

Unavailable Scientific Material

As mentioned before, the scientific literature is growing and secondary services are supplying broader coverage of that literature. One result of this development is that some cited documents are not reported as being held. This means that the union lists do not include the title as cited in their lists or that no library reports to a union list that it holds the particular title. In order to determine some of the characteristics of this literature, the CAS SOURCE INDEX (CASSI) data base was analyzed. It is a large and comprehensive union list that contains serials as well as nonserials across a broad set of scientific disciplines.

CASSI contains bibliographic and library holdings information for scientific and technical primary source literature relevant to the chemical sciences. It was developed primarily to support CAS products and services, but its coverage has been expanding to encompass other abstracting and indexing services in other disciplines.

At the end of 1976, there were a total of 398 libraries participating, with 72 located outside of the US. In fact, major libraries in 27 countries have reported their holdings for publication in CASSI. This includes such libraries as the British Library Science Reference Library, the National Diet Library of Japan, the Library of the Russian Academy of Science, and the Library of the Canada Institute for Scientific and Technical Information. Most of the large US resource libraries participate in the CASSI program. For instance, 86 of the 99 members of the Association of Research Libraries participate *(8)*, as do nine of the Big 10 universities. The fact that holdings for the US national libraries in medicine and agriculture and the Library of Congress are supplied in CASSI reflects its comprehensiveness as a union list of scientific and technical serials.

A total of 916,154 holdings in the data base published in CASSI 1907–1974 Cumulative were distributed among 34,855 titles. Of these, 24,072 were serial titles and 10,783 were non-serials. Routinely, CAS extracts from the CASSI data base lists of titles without holdings information. These lists are processed against NEW SERIALS TITLES (NST), the NATIONAL UNION CATALOG (NUC), and other major union lists. While this processing finds some library locations, there are still serials for which none of these union lists show any holdings for the libraries participating in the CASSI program. In 1974, 1,178 serials of the 24,072 fell into this category. The examination of their characteristics can have broad implications in terms of improving document resources and resolving document access and availability problems.

Table 2. Serials Without Reported Library Holdings

Time in file		
1969 and longer	275	23.3%
1970	183	15.5%
1971	179	15.2%
1972	171	14.5%
1973	143	12.2%
1974	227	19.3%
	1178	100.0%

Time in file. One area of analysis deals with the length of time a title has been in the CASSI file. The longer it has been in the file, the more opportunity there has been for a library to report holding it. Those titles that have been on the file for several years without being reported as held become more difficult and more unlikely to be reported through regular channels. Almost one-quarter of the titles without library holdings fit into this category. At the other end of the scale are those titles relatively new to the file (see Table 2). Many of them have been entered into the CASSI file before libraries could complete their acquisition, processing, and reporting. The high figure is one indication of CASSI's currency. Subsequent examination should find that many of these titles will have holdings listed.

Origin. Table 3 summarizes data on language of publication for the titles without

Table 3. Serials Without Reported Library Holdings

Language	% of Total
Cyrillic languages	35.7
Western European (FR,GE,IT,SP)	19.1
English	16.6
Oriental	12.6
Other (22)	16.0
	100.0

Table 4. Serials Without Reported Library Holdings

Country	% of Total	Country	% of Total
USSR	33.4	Czechoslovakia	2.3
Japan	8.1	England	2.2
W. Germany	4.5	Bulgaria	2.1
USA	4.1	Netherlands	2.1
Poland	3.3	S. Korea	2.0
France	3.1	Romania	1.7
Italy	2.8	Others (53)	25.8
India	2.5		

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holdings. There were 35 languages in all, and the most obvious observation is that there is a potential problem with obtaining the Cyrillic language serials. The "western European" languages include those most easily handled in US libraries—German, French, Italian, and Spanish. Although English is the most productive language of science *(9)*, only one-sixth of the serials without holdings were in English.

Table 4 shows what percentages of the serials in CASSI without library holdings were published in the various countries. It shows that the Soviet Union supplies the most unheld titles. Next are Japan, West Germany, and the US. With the US and England contributing only about 6% total, this indicates relatively good acquisition and reporting practices for this category of serial publication by the participating libraries. As might be expected, it is the non-English body of serial literature that poses the greatest problem in acquisition, archiving, access, and availability.

Intertwined in these areas are such casual factors as lack of standardization in translation and romanization. For example, CASSI enters Oriental language titles in the romanized version, while BioSciences Information Service of Biological Abstracts (BIOSIS) and Engineering Index (Ei) prefer the translated title. But even presuming a consistent approach on title selection, there is the problem of which romanization scheme to use—Wade-Giles, Pin-Yin, Hepburn, Yale, etc.

Table 5. Serials Without Reported Library Holdings

Beginning Dates	No. of Serials
1970s	169
1960s	392
1950s	149
1940s	118
1930s	124
1900–1929	86
1848–1899	23

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Age and activity. The examination of the unheld serials revealed that 56.9% are still active titles. The others have been changed or discontinued. Active titles are still potential sources of citations and, therefore, might pose future problems in document availability. Special efforts are warranted to identify these titles and collectively acquire them. By "collectively acquire," it is meant that the library community should insure that at least one library acquires each title and reports holdings to a union list such as CASSI. Those titles not active have supplied all the abstracts they ever will and are of lesser importance to the local library in terms of a potential document availability need.

In reviewing when these unheld serials began publication, it is noted that the decade of the 1960s was a prolific time for new serials (see Table 5). The economic troubles of the 1970s have obviously affected the beginning of new serials. Slightly over 60% of the serials have begun since 1950, while the remaining 40% are spread over a 100 year period.

Table 6 presents data on the length of time a serial lived or, if still being published in 1976, how long it has been alive. There appears to be less of a problem of "no holdings" with new, active

Table 6. Serials Without Reported Library Holdings

Publication Life	
Title changes and discontinuations	
1 year or less	72
2–5 years	141
6–25 years	193
26–85 years	45
Active in 1975	
1 year or less	5
2–5 years	144
6–25 years	361
26–66 years	48

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titles. The "one year or less" refers to 1974 and 1975. The 2–5 years are the 1970s. If a title lasted one year or less, there would be a much greater chance that libraries would not acquire it, would discard it, or would enter it with the successor title. The result would be that no holdings would be reported for it. Another reason for the apparently short-lived titles being on this list is that many libraries may have considered them monographs rather than serials. This could affect how and whether or not they are reported. The titles beginning in the 1950s and 1960s (6–25 years) offer the greatest challenge to the reporting libraries, because the technology reported during those years is still useful, while acquiring the individual documents is hampered by a lack of holdings or gaps in the reporting of holdings. Differences in cataloging practices have a great effect on union lists—another indication of the lack of standardization and consistency.

CASSI Entries

Before turning to a brief discussion of standards, an illustration of two CASSI entries will show typical data available for most serial entries. Even though the previous discussion was on nonheld titles, it must be pointed out that only 4.9% of the 24,072 serials were without reported holdings. This means that for the vast majority of publications listed in CASSI, at least one holding library is reported. And, holdings are reported in CASSI in such a way as to contribute to effective document access by librarians and other users.

To illustrate, Figure 1 shows the CASSI entries for two publications. For each publication, CASSI provides the following data: holding libraries, the publishers and/or sales agencies, the Anglo-American Cataloging Rules (AACR) form of the entry as listed in NUC and NST, the translation for each title, abstracting and indexing coverage codes, and other useful bibliographic data. The abstracting and indexing coverage codes are listed following "Sec. Serv:". BIOSIS and CAS cover the Japanese title. The other secondary services that cooperated and have their codes listed are Ei and ISI. The listing of ISI helps the user identify those titles available through OATS. The holding libraries are indicated using the codes established by the Library of Congress for NUC. Library codes without year data denote complete holdings; an asterisk indicates incomplete holdings; the plus sign means that the library has continuous holdings from the date given.

Improved information on library holdings will lead to improved document access for library users. Information must be accurate, current, and complete. Its format should provide several ways for the user to access a given document. Standard and consistent methods must be developed to identify titles, report and display holdings data, prepare references, romanize titles, and so forth.

Standardization. A "standard" can be defined as a publication that establishes by recognized authority a set of conditions to be fulfilled to achieve a specific purpose. These conditions include the measure of quantity, weight, extent, value, or quality for a product, process, or material.

At the international and US national levels, there are only two recognized standards-setting authorities. They are the International Organization for Standards (ISO) and the American National Standards Institute (ANSI). However, many other institutions or entities prepare and issue specifications, testing methods, rules, and guidelines. They often become standards in their own right because of

Figure 1. CASSI Entries

Kagoshima Daigaku Suisan Gakubu Kiyo. KDSGA3 (Memoirs of the Faculty of Fisheries, Kagoshima University) (Formerly Kagoshima Suisan Semmongakko Kenkyu Hokoku). In Eng, Japan; Eng, Japan sum. v2 Jl, 1952+. *a* **20 1971.** *Kagoshima Daigaku Suisangakubu, 470, Shimoarada-machi, Kagoshima, Japan.*
KAGOSHIMA DAIGAKU. SUISANGAKUBU. KAGOSHIMA DAIGAKU SUISANGAKUBU KIYO. KAGOSHIMA, JAPAN.
Sec Serv: BIO, CAS
CLSU H; CU; CU-S; CoFS 1952; DLC; DNAL 1952; FU; HU EWC; ICRL 1960+; IU; LNHT 1953+; MWhB; MiU 1952-1961; NIC; WaU; CaBVaUW; ItRC 1952; JpTJ 1962+; JpTN; RuLA 1962+

Trudy, Moskovskii Aviatsionnyi Tekhnologicheskii Institut. TMATAC (Transactions, Moscow Aviation Technology Institute). In Russ; Russ sum. n1 1940+. [Two issues designated as n1: 1940 and 1945.] *irr* **n72 1971.** *Moskovskii Aviatsionnyi Tekhnologicheskii Institut, Moscow, USSR.*
MOSCOW. AVIATSIONNYI TEKHNOLOGICHESKII INSTITUT. TRUDY. MOSCOW.
Sec Serv: CAS
CU 1957+; DLC 1948,1954+; FMU 1956+; GAT 1956-1966; MoKL 1960+; NIC 1964+; OCoB 1948+; RPB 1959; ViU 1954,1956* 1959*,1960-1965; CaOON 1957+; GyJK 1961+; RuLA 1940,1945,1948-1966; RuMG 1945,1947+

Source: *Chemical Abstracts Service Source Index 1907–1974 Cumulative.* Columbus Ohio, Chemical Abstracts Service, 1975.

widespread usage and adherence or because ANSI or ISO do not publish equivalent standards. Often such *de facto* standards are adopted and issued by ANSI and/or ISO.

Under the current circumstances the task of selecting standards to adopt in library operations is difficult, and it is unlikely to become easier. However, the responsibility and authority to draft and publish standards must rest with a single national or international body. Suffice it to say that standards are a must, and they must be used if document access problems are to be effectively resolved. In view of these needs, what efforts are being made in developing and publishing standards that impact on the information community?

The ISO standards that affect document access are primarily handled by the technical committees on documentation (TC 46) and on computers and information processing (TC 97). Six of the ISO standards currently available and in use are listed in Table 7. ISO 4-1972 provides the rules for abbreviating titles, and ISO 833-1974 gives the correct abbreviation for each word in the title. Both are applied in CAS products. The International Standard Serial Number (ISSN) is available in the CASSI computer-readable file. There are 37 standards from TC 46 and 59 from TC 97 of ISO. A catalog of ISO standards is available from ANSI *(10)*.

ANSI is based in New York City and has numerous committees. Three of the most relevant to the library community are Photographic Reproduction of Documents (PH5); Computers and Information Processing (X3); and Library Work and Documentation (Z39). The types of standards with which the PH5 and X3 committees are concerned are illustrated in Table 8. Library collections and operations, including accessing remote data bases, are affected by numerous ANSI standards.

Table 9 lists some of the committee Z39 standards. Twenty-five have been accepted and published; some have matching ISO standards (as do *many* ANSI standards). Those standards "in process" should have great and beneficial effect on document access if widely adopted. The standard on bibliographic references has been approved and will be published soon. It deals with the data in references for print and nonprint material supplied in human-readable form. The standard on serial holdings concerns the display of data in union lists and catalogs. The bibliographic code standard refers to a new standard being developed to provide guidelines for codes such as those required to uniquely identify the journal name and issue on its cover. The code would include the CODEN* or ISSN, the volume, issue, date, and pagination.

De facto standards including AACR, the various Machine Readable Cataloging

*Unambiguous identifiers for publications assigned by the International CODEN Service at CAS.

Table 7. TC 46 Standards

Reference	Title
ISO 4-1972	Code for Abbreviation of Titles of Periodicals
ISO 9-1968	Transliteration of Slavic Cyrillic Characters
ISO 833-1974	List of Periodical Title Word Abbreviations
ISO 2108-1972	ISBN
ISO 3166-1974	Codes for the Representation of the Names of Countries
ISO 3297-1975	ISSN

Table 8. ANSI Standards

Number	Title
PH 5 Photographic Reproduction of Documents	
PH 5.1-1959 (R1970)	Microfilm Readers for 16mm and 35mm Film on Reels
PH 5.4-1970	Storage of Processed Silver-Gelatin Microfilm
PH 5.9-1970	Specifications for Microfiche
X3 Computers and Information Processing	
X3.4-1968	Code for Information Interchange
X3.30-1971	Representation for Calendar Date and Ordinal Date
X3.38-1972	Identification of States of the United States

Table 9. ANSI Z39 Standards

Z39 Library Work and Documentation	
In-Process Number	
SC/4	Bibliographic References
SC/40	Reporting Serial Holdings
SC/43	Bibliographic Code Design
Published	
Z39.1-1967	Periodicals: Format and Arrangement
Z39.2-1971	Bibliographic Information Interchange on Magnetic Tape
Z39.11-1972	System for Romanization of Japanese
Z39.23-1974	Standard Technical Report Number

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(MARC) manuals, the International Serials Data System Guidelines, and the various International Standard Bibliographic Descriptions are affecting cataloging practices and the exchange of bibliographic data. Their impact on document access is significant. It is important to become standards oriented, to use standards, and to participate in their development.

Aids to Document Access

The most important development affecting document access in all of its areas and forms is computer technology. The computer, in its micro, mini, and macro forms, is being used in internal library operations and among libraries in networks/consortia. This tool makes possible the management of the document resources needed by a library's users. Growth of networks of libraries with the attendant communication needs depends on advanced computer technology.

Another positive factor evolving in document access is the growth of networks. Networks are being organized covering various localities and regions from metropolitan areas (e.g., METRO in New York City) to those covering several states (e.g., MIDLNET in the Midwest). One of the major goals of networks is the improvement of access to their combined

Figure 2. Additions and Changes in CA Coverage.

Applied Botany. *irr* **3 1975.** *Academic (London).*
Archiwum Procesow Spalania. Changed to **Arch. Termodyn. Spalania.**
Archiwum Termodynamiki i Spalania. (Formerly Arch. Procesow Spalania). *q* **6 1975.** z1 100. *Ars Polona-RUCH.*

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Fizika Plazmy (Tiflis). *irr* **1, 1975.** *Akademiya Nauk Gruzinskoi SSR, Institut Fiziki, Tiflis, USSR.*
Fizicheskie Svoistva Gornykh Porod i Mineralov pri Vysokikh Davleniyakh i Temperaturakh, Materialy Vsesoyuznogo Soveshchaniya, 4th, *Tiflis,* Oc 9–13, **1974.** *Akademiya Nauk Gruzinskoi SSR, Institut Geofiziki, Tiflis, USSR.*

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Kogai. *bm* **8 1973.** ¥2,000. *National Research Institute for Pol-*

Source: Chemical Abstracts "CA Abstracted Publications Additions and Changes."

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literature resources. This often leads to developing an on-line union catalog unique to the network or to sharing in the development of a multi-network on-line union catalog, such as that established by the Ohio College Library Center (OCLC). OCLC is impacting on cataloging rules, holdings statements, library management, allocation of library resources, as well as basic concepts of cooperation and networking *(11)*.

Advances in telecommunications are now, or soon will be, affecting how all libraries operate. A major feature of the advancing telecommunications system is that geography (i.e., distance) is no longer such an important factor in communication. Obvious products of this technology are the services offered by SDC and Lockheed. The cost of using these on-line data bases is largely dependent on time and the specific data base accessed. It is now possible through the use of satellites to communicate to remote on-line data bases. This again points to a discrepancy between the time required to access an on-line data base via telecommunications and the time required to obtain the cited document through normal channels. For instance, OCLC is developing an interlibrary loan system utilizing their union catalog and telecommunications facilities *(12)*. This should speed up delivery of the request and reduce confusion about whether or not the lending library does or does not have the required document, but it cannot affect the actual time taken to deliver the document from the lending library to the user.

Identification of new material selected for coverage by the abstracting and indexing services is another important area of the document access picture, and the secondary services generally notify users of such changes. Many publish annual lists of serial titles monitored. For example, CAS publishes a biweekly list of changes to its coverage (see Figure 2). This list, which is published as part of the even-numbered issues of CHEMICAL ABSTRACTS, includes titles added, changed or discontinued. Publisher, price, and other data is supplied. These titles are published later in CASSI along with known library holdings. Library cooperative acquisition programs could easily use such information to acquire new titles.

Abstracting and indexing services can do much to identify the serial titles which will be accessed library collections. The foundation for this operation could be an aggregate CASSI-like data base where all services use common cataloging rules *(13)*. There has been some movement in this direction. In 1974, BIOSIS, CAS, and Ei merged their respective list of serials in order to publish a single, combined list of serials. Into this merger went 8,700 BIOSIS titles, 24,000 CAS titles, and 1,400 Ei titles to form a single list of 27,700 scientific and technical serial titles. This publication was called the BIBLIOGRAPHIC GUIDE FOR EDITORS AND AUTHORS (BGEA). The ab-

Figure 3. BGEA Sample.

Journal of Biological Standardization. JBSTB1.
BIO CAS

Journal of Biology, Osaka City University. JBOLA7.
CAS

Journal of Biomechanics. JBMCB5.
BIO CAS I IX

Veterinaria (Prague). VJVPA4.
CAS

Veterinaria (Sarajevo). VTRNAE.
BIO CAS

Veterinaria (Kiev). VMSKAT.
BIO CAS

Veterinariya (Moscow). VETNAL.
BIO CAS

Source: Bibliographic Guide for Editors and Authors. 1974.

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breviated title (in boldface type), complete title, CODEN, and secondary service codes are supplied for all titles (see Figure 3). City names are appended to make each title unique, as shown by the many serials with the title "Veterinaria." BGEA also includes a section describing the ANSI and ISO standards pertaining to bibliographic data.

Summary

Document access is considered in this paper in terms of the traditional problems as well as current developments that are aggravating the situation. Reviewed in more detail are two specific aspects of document access: 1) characteristics of serials listed in CASSI without library holdings, and 2) the potential impact of standards. Also discussed are some of the directions being taken recently to alleviate document access problems.

The present and future importance of interlibrary loan transactions is stressed. The growing expectations of users becoming accustomed to rapid access to large bibliographic data bases will accentuate the difficulties of interlibrary loan processing if no improvements in this area are forthcoming.

More cooperative efforts are needed to reduce the number of serials without library holdings. These serials are cited in secondary services and may result in document access problems, more specifically, unfilled interlibrary loan transactions. Some users' needs will not be met—a concern that bothers all librarians.

The development and application of national and international standards can make a significant impact on solving document access problems. There is a need for compatibility among editors, publishers, authors, engineers, chemists, librarians, and others. Both the producer and the user must see the value of using standards so that they will gain the wide acceptance required to solve problems. Librarians can and must help promote the wider use of these standards.

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Libraries and Information Services in the U.S.S.R.

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A THREE-MEMBER delegation of U.S. librarians, headed by ALA Executive Director, Robert Wedgeworth, visited the USSR from Nov 14–27, 1976, under the auspices of the U.S. Department of State. The Ministry of Culture of the USSR served as host in the Soviet Union. The delegation visited 16 institutions—mostly libraries and information centers. At the request of the delegation, two children's libraries and a youth library were added to the itinerary. However, the delegation was unable to work out either a scheduled visit to Moscow University Library or to Leningrad University Library. The exact nature of the difficulties was not clear. Since the delegation was hosted by the Ministry of Culture and academic institutions are under the jurisdiction of the Ministry of Education, the dual jurisdiction may have contributed to the scheduling problems. The absence of school libraries on the itinerary may have a similar rationale.

The primary purpose of the visit was to discuss appropriate exchange relationships between Soviet and American libriarians under the Helsinki Agreement and the new bilateral cultural agreement between the two countries. The trip was also designed to provide a basis for generally assessing the present status of library service in the USSR in order to determine more precisely mutual needs and interests of Soviet and American librarians upon which exchange programs might be developed.

On a short visit to so many institutions it is extremely difficult to obtain more than an impressionistic view of Soviet librarianship. Some of these are:

- The bibliographical work performed by Soviet librarians is quite extensive in depth and staggering in quantity.
- Soviet libraries give a high priority to library research.
- Library staffs tend to be much larger than comparable libraries in the U.S.
- Management information for planning and analysis is given a high priority.
- There is a heavy dependence upon exchange and depository arrangements for building collections, especially of foreign materials.
- There is much interest in library automation but little capability and questionable motivation.

There is much which can be shared among Soviet and U.S. librarians. There are areas of librarianship where both countries enjoy a high level of development: bibliographic work, children's literature and library services to children. There are areas in which the Soviets have the edge in development—library statistics, and others where the U.S. is stronger—application of technology. For several other topics the approaches of the two nations vary enough to make for interesting exchange possibilities. Library education is one such area.

Other areas include: information needs and uses; library planning and development; application of technology to library

procedures; library statistics; library service to children; national subject bibliography; library education; technical services.

Ministry of Culture

Of the approximately 360,000 libraries in the USSR, the Ministry of Culture is responsible for 103,000. In addition to the libraries under the Ministry, other large groups of libraries include technical and specialized libraries (64,000), school libraries (150,000), and trade union libraries (23,000). Of the two thousand libraries opened annually, the Ministry opens over one thousand libraries in new towns, by building new library buildings or by occupying space allocated for library use on the ground floor of a district administration building. However, Mr. Serov, Main Library Inspection Office, Ministry of Culture, explained that a considerable amount of merging of smaller libraries is underway.

The libraries under the jurisdiction of the Ministry of Culture are: the State Lenin Library, all public libraries, republic libraries, and the Library of Foreign Literature. Basically the republic libraries are in three categories--adult, youth, and children—although this configuration may vary with local conditions. For example, Lithuania has no separate youth libraries. The structure is hierarchical, with republic libraries responsible for regional, district, city and rural libraries. Again, the local conditions may cause variations in the common pattern. A large city such as Moscow contains many districts, each with its sub-system of libraries.

In establishing libraries, the Ministry of Culture uses quantitative standards designed to provide adequate library service to the entire population. Towns with populations over 10,000 may have not fewer than twenty staff members in their libraries. In rural areas, one library with one staff member is established for every 1,000 people. Variations due to local conditions are again possible. In the current five-year plan, efforts are being made to merge smaller libraries into larger and more centralized facilities, as mentioned earlier. Where this has occurred, bookmobiles are provided to take up any slack in service to the population. Approximately 300,000 bookmobiles are in operation; these bookmobiles are often stocked with duplicated holdings from merged libraries.

In the past five years, the Republic of Armenia has been the focus of building of new large libraries. A republic library in Alma-Ata (Kazakh SSR) was built last year for a collection of five million items. Other new libraries with projected collection sizes are: an academic library (ten million items), a scientific and technical library (four million items), two additions to regional libraries (two million items), and a depository library (eight million items.)

During the current five-year plan, emphasis will be given to the planning and organizing of despository libraries throughout the Soviet Union. Studies show that at the present growth rate, Soviet libraries will hold twelve to fourteen billion items by the year 2000. With a system of depository libraries, the Ministry of Culture believes that this figure can be reduced to four billion items. Approximately 250 depository libraries will be required; many will use existing libraries as the facility, while others will be built. The intention is that each library would retain only its high-demand or "most important" literature, sending other materials to the depository or requesting these materials from the depository on interlibrary loan. Each republic would have at least one science-technology library and one humanities library responsible for the activities of all similar libraries in the republic.

The planning for this rationalized depository system began in 1968. Studies were conducted to sample users and library use to determine which materials were most in demand. These studies were conducted in thirteen cities with populations over 600,000, examining the use of materials, subjects being used, and the characteristics of the users. Not unnaturally, 98% of the users of periodicals are interested in the past two years' publications; 10% request imprints from 1900–1950.

A law to establish depository libraries was passed in 1974. However, the plan is not proceeding as well as anticipated, and a nationwide conference was held in early November to address the problems and issues. The delegation noted that, although librarians in the visited institutions were aware of the plans for a depository network, they were not excited at the prospect nor did they seem to feel any particular involvement. Perhaps this is one of the reasons for the relative lack of progress expressed by the Ministry of Culture spokesman.

State Lenin Library

The Lenin Library is the Soviet Union's largest library, as well as being a national storage facility. In addition, the library is an information center, a research center in the field of librarianship, and the center of methodological guidance for the country's libraries. Basic statistics are: twenty-seven million items in the collection (includes each periodical issue and each annual volume of newspapers), 22 reading rooms, up to 8,000 readers daily, and 3,000 staff members.

Although the State Lenin Library is ostensibly available for the use of all, except children, investigation into the applications for a user's card revealed that the library requires a diploma of higher education *and* a specific reason for using the library before a card will be issued. Users may not take books out of the library; all use of materials is either within the building or through interlibrary loan. When a reader is issued a card, he is assigned to one of the 22 reading rooms, according to the subject area. Academicians and professors, however, may use any reading room, although a specific reading room is available strictly for their use.

Some of the major tasks of the library are: catalog assistance for users; coordination of and response to written reference questions; seminars for users, special tours of various aspects of the library; preparation of bibliographic indexes; cataloging of maps and music (not covered by the Book Chamber); compilation of retrospective indexes on specific topics. Publications of the library include biliographies, abstracts, and reviews of specific fields (11 are published annually). Also published at irregular intervals is a calendar of international events.

Three major methods of obtaining materials are used by the library. First, it is a depository library for Soviet publications, receiving three copies of Russian publications and two copies of publications in other languages. Of these copies, at least one is kept, although it may be moved to auxiliary stacks. Second, the library has approximately 4,000 exchange relationships. Finally, some materials are obtained through purchase, particularly to supplement the auxiliary collections near the reading rooms.

As with all libraries in the Soviet Union, the Lenin Library receives catalog cards for Soviet publications from the All-Union Book Chamber. However, the books arrive before the cards, and temporary cataloging is done to place the new acquisitions in special reading rooms. Catalogers provide full cataloging for foreign publications and Soviet materials not covered by the All-Union Book Chamber or the republic Book Chambers. Within the library, 220 catalogs are maintained, representing 89 languages of the USSR and 86 of Africa and Asia. A library use study is currently under way, with a five-year goal to integrate the catalogs. The basic approach to the collection is by language, format, and subject.

Staff of the Lenin Library train employees of publishing houses to produce the Soviet equivalent of Cataloging-in-Publication data. The librarians told the delegation that an interdepartmental commission on cataloging standards includes representatives of republic cataloging committees, and that ISBD will be incorporated in the standard which is expected to be approved and published in 1977.

The Lenin Library maintains a union catalog for 2,000 Soviet libraries, and also a union catalog for pre-Revolutionary Russian books which complements that of the Book Chamber. A union catalog for foreign literature in science and

technology exists in card and book form; the cards are manually produced, and the book is computer produced.

In the area of automation and mechanization, the library is closely linked with the Ministry of Culture. Research is ongoing in mechanization of library processes, automation of bibliographic procedures, and management information systems. The library owns a minicomputer system which manages the transportation of call slips and materials within the building. Call slips are transported from the 22 reading rooms to the appropriate area within the 18 floors of stacks via pneumatic tubes. Books are transported by horizontal conveyors and vertical elevators.

Centralized plans for automation by the Ministry of Culture cover five areas: 1) automation of bibliographies in the humanities (they hope to have magnetic tapes in the future to facilitate processing and bibliographic searches); 2) a museum information system, also to handle exhibits of archaeology; 3) management of library systems (the interpretation of this area was not completely clear to the delegation, but it apparently refers to statistical and budgetary information related to libraries); 4) a coordinated plan of library automation for the Soviet Union (this effort will begin with new acquisitions data, next year, maps and music will be included; the system will use magnetic tapes from the Book Chamber); and 5) a general management information system for the Ministry of Culture (the first phase—a circus scheduling module—is ready for testing).

The library managers indicated that the problem was to make the library system efficient by automating complex manual routines. Based on the delegation's observations of the staggering amount of paper work performed by the large library staff, this is an admirable objective but poses an interesting question of whether it is not in conflict with the Soviet government's commitment to full employment. Also expressed was an interest in increasing the accessibility to the collections. However, it must be remembered that accessibility in Soviet terms is not congruent with American ideas of accessibility. Finally, the Lenin Library staff informed us that these automated systems were expected to pay for themselves within one to two years.

The All-Union Library of Foreign Literature

This library collects literature in 132 languages about and by countries other than the Soviet Union. Twenty-one percent of its holdings are in English. Until recently the collection encompassed all fields of knowledge, but current policy restricts it to humanities and social sciences. The library receives 40,000 monographs and 500 periodical issues annually, adding to a collection of five million items. Special departments study foreign librarianship, the teaching of foreign languages, and problems of foreign literature.

As is true of the major libraries of the Soviet Union, the Library of Foreign Literature serves as a methodological and consultation center for other libraries in the country. At bimonthly intervals a catalog of foreign language holdings is published. Other publications include bibliographies, abstracts, and indexes of writings of individual authors. The library interacts with republic libraries through the loan and methodological departments and attempts to achieve nationwide coordination of foreign-language materials.

A special department has been created for the theory and practice of acquisitions, with a section devoted to United States publications. About 40% of acquisitions are obtained on exchange, with about 1,200 titles purchased annually. The remainder of materials are received on deposit; these items may be sent to other libraries if they are deemed not to fall within the scope of the library's collections. Because of the relatively limited sources of books, the library attempts to collect the most prominent foreign publications and reference literature.

In the United States, the library has 149 exchange partners. In the last year, it has received 1,600 publications in exchange for 5,100 items sent. This imbalance of exchange concerns the Soviets, as it does most of the librarians involved in

exchange programs, although they were philosophical about the inflationary increases in Western countries. More important is the quest for additional exchange partners—a relatively frustrating task. The aim of the library is to collect 20% of the world's publications.

Special programs of the library include collections of children's literature in English, French, German, Spanish, and Russian. Recordings are made of meetings and of speeches of foreign visitors. The state film organization presents the capability of showing foreign films. Records and tapes are housed in the library, but cassettes present a problem due to lack of compatibility with the available equipment.

Last year the library had 56,000 readers, and the delegation was told that the aim was to add 20,000 readers this year. This goal seems somewhat ambitious and was justified neither by the user growth rate nor any notable new plans for service. The library is open from 10 a.m. to 10 p.m. every day except national holidays and New Year's Day. The loan department has divisions for Moscovites, other Soviet libraries, and foreign libraries. Non-Moscow residents must present a passport and a statement of need in order to use the library.

As in the Lenin Library, a number of reading rooms exist for categories of topics and/or users. An outside lending department does exist; it provides access by means of a card catalog to 150,000 titles for users wishing to check books out of the library. For interlibrary loan, the full collection is used as a resource.

A few miscellaneous comments may be made about the library's technical services. Since most of the collection is non-Soviet, catalog cards cannot be obtained from the Book Chamber and thus are either handwritten or typed, with the former predominant. Card catalogs are arranged by language; the delegation did not hear a figure of how many catalogs were maintained by the library. Although the automation department has a staff of 20 people, they are unable to proceed unilaterally with firm automation plans. Therefore, the department is considering the problem of horizontal and vertical movement of materials within the building commitment with the plans of the Lenin Library.

In response to a question about difficulties encountered in obtaining qualified staff, the delegation learned that more specialists are available than can be hired by the library. Other questions focused on the area of decision-making; the library director makes decisions which impact only on the internal functions of the library, down to the level of approval of specific orders. The focus of wider-ranging decisions was somewhat unclear, but we were told that some decisions were made in conjunction with Mr. Serov. Other decisions, such as those concerning foreign travel, are made with other departments of the Ministry of Culture.

Institute of Scientific Information for the Social Sciences

The Institute is a unit of the Academy of Sciences, and therefore derives its budget and authority directly from the academy rather than from a ministry. It is an information center located in an attractive new building, with seven million items (same definition as that used above) in the building, and two and one-half million items in various branches throughout Moscow.

For its functions of reference and abstracting, the institute employs a staff of 1,000. The staff is distributed approximately as follows: 300 are librarians; 200 staff in the 23 branches elsewhere in Moscow; 150 employees are in the department of bibliography, which comprises ten divisions according to topic; approximately 500 are engaged in the abstracting service (also divided along subject lines); 45 staff are in subject analysis; and 45 are in computation and mechanization.

The institute indexes 300,000 items annually. A new activity is the reference or digesting service. Published are sixteen abstracting journals—nine for foreign literature and seven for Soviet literature, all in the social sciences. These journals, which have been published quarterly, are

scheduled to become bimonthly publications. Special subject-oriented abstracts and indexes are also issued.

Selective dissemination of information (SDI) is offered to approximately 300 academicians and 20 doctors of science by routing the contents page of the indexing journals to them for selection of materials. The Institute has developed its own classification schedule; its subject headings are based on the 1924 Library of Congress Subject Headings, with modifications wherever necessary. Staff members are developing a language which will play the role of a "switching" language for subject access. Especially in the area of classification, the institute works closely with VINITI (the All-Union Institute for Scientific and Technial Information).

Although it is stated that anyone can use the institute and its collections, in fact it is necessary to be doing research in the social sciences in order to gain access to the collection.

When asked about specific problems, the administrators cited problems outside the linguistic area—those areas where ideological differences make terminology a problem in classifying and categorizing a work. The user-scientists request not only literature but also recommendations for reading, creating additional workloads. The question of machine-readable data arose; the institute is now installing a computer and planning systems. A general-purpose computer and a photocomposition device are apparently available and in use. However, the time lag between publication of documents and distribution of the indexes continues to be greater than desired.

"Over the past 20 years exchange programs with the Library of Congress have created a close link between these two institutions [VINITI and LC]."

The collection is augmented by a combination of exchanges and purchases. More exchanges are being sought; the institute has 54 U.S. exchange partners. Of the items acquired and the 300,000 indexed, only 10,000 are selected for abstracting. Apparently this selection of abstracts is a particular problem at the present time.

VINITI

VINITI, already well-known in information activities throughout the world, it also an institute of the Academy of Sciences. One of the copyright depositories of the Soviet Union, the institute processes, analyzes and selects literature in the scientific and technical fields. During the past three years, its abstracting journal has covered approximately one million items annually in all branches of science except clinical medicine, agriculture, and construction.

In addition to Soviet deposit, literature comes to VINITI by subscription and exchange. In all three categories, 42,000 items are received annually (this figure includes serial issues). This material can be divided into the following categories, with approximate numbers: 19,000 foreign periodicals; 8,000 foreign books; 6,000 Soviet periodicals; and 10,000 Soviet books. From these acquisitions, VINITI staff select documents for inclusion in their publications. Also available for processing and selection are some patent data, preprints, and deposited manuscripts.

A summary of VINITI's relationships with U.S. organizations was provided to the delegation. Over the past 20 years exchange programs with the Library of Congress have created a close link between these two institutions. VINITI has exchange arrangements with 192 U.S. organizations and receives 3,100 periodicals and 1,500 books. In exchange, the institute sends 2,045 books and 590 periodicals. Additionally, 440 serials and 200 books are received in exchange for VINITI's abstracting journals.

At VINITI, bibliographic data are prepared from materials received, and then the materials are distributed to other branches of the academy's libraries. With the current implementation of the ASISTENT computer system (see the following), the activities of the bib-

liographic department are changing. The department is intended to prepare a machine-readable data base of analyzed literature. Also, with ASISTENT implemented, every document will be filmed for microfiche production. The delegation was shown a sample of the fiche, which appeared to be a reduction of 18 ×. A subsystem will link the machine-readable abstracts and the filmed documents. A possible future addition would be COM production of the abstracts themselves. For film equipment and processing, German equipment and techniques are used. When questioned about problems of copyright, the VINITI staff indicated that they follow the guidelines of the Geneva Convention, and that a statement is placed on all copies stating that the copy is only to be used for scientific purposes.

Ms. Fenina, one of the designers of the ASISTENT system, briefed the delegation on the structure and goals of the system. ASISTENT consists of several subsystems. The automated preparation of scientific documents for the production of abstracting journals is operational, now covering 20% of the documents received by VINITI. Also operational is an information retrieval system in the subject area of informatics (information science), serving a user group of 250 with a data base of about 4,000 documents. This subsystem supports both SDI and restrospective searching.

At the present time, a second generation Minsk-II computer is being used. By 1980, VINITI anticipates that the system will be run on the third-generation ES-1050 computer. Although the description was not completely clear to the delegation, the data bases will apparently include bibliographic descriptions plus links to the microform images of the documents. They also include within the basic record the control codes for photocomposition and codes for scientific symbols.

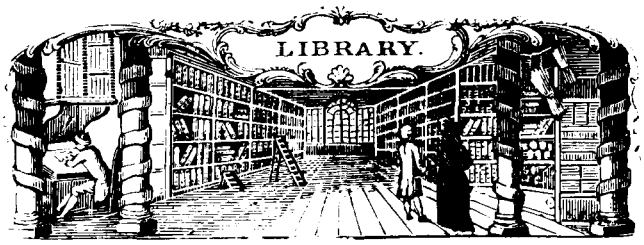
ASISTENT is intended to fit into the state information systems, and will also be used for exchange of information with other countries (see description of International Center for Scientific and Technical Information). The UNISIST format will be used as the exchange format. Experiments are either ongoing or proposed for exchange of tapes within and outside the Soviet Union. Ms. Fenina described the system as similar to those operated by Inspect and Chemical Abstracts.

Academy of Sciences (Leningrad) Library

The library of the Akademiia Nauk was founded in 1714 and is considered to be one of Europe's major libraries, with a collection of fourteen million items. Although it is basically devoted to the natural and physical sciences, its collections also contain some humanities, literature, and philosophy. Agriculture and medicine are excluded from the collection, however. The academy coordinates a network of 36 specialized academy libraries in Leningrad. (The academy libraries in Moscow form a separate network). Specifically, the library is responsible for the coordination of book exchange for all academy libraries and for the production of bibliographies in the Soviet Union. The staff complement of the library is approximately 800.

The AN Library is the richest collection of older domestic literature. It is a full depository, although it uses material not within its scope for exchange purposes. It used to keep 20 copies of each title, but it now keeps only 7. A special building outside Leningrad houses most of this "reserved" collection, which was, in effect, the first depository in the country. The reserved collection contains all the publications of the academy and is drawn upon to supply the basis of new academy library collections, such as the library established within the last few years in Novosibirsk. It is also used to replace individual copies when the need becomes apparent; however, special permission is required from the Praesidium of the Academy to remove books below a mandated number of copies.

Annually the library receives 400,000 items, although it must be kept in mind that this figure includes 7 copies of a large number of titles. Exchange arrangements are used to acquire 85% of the foreign receipts; otherwise, 60,000 rubles (about



\$80,000) are available for purchase of books.

The clientele of the library are, in order of "importance," researchers within the academy, doctors of sciences, masters of sciences, candidates, and fifth-year university students. The library has 50,000 readers. The academicians and scientists may charge books out for home use; all other categories of users must read within the building. Interlibrary loan is conducted with foreign and other Soviet libraries.

The library staff produces 700 bibliographic lists annually; the word "list" is specifically a 22-page document. In addition, the library publishes an annual bibliography of academy publications. The goal of these publications is to provide information to academy scientists about work being carried out within the academy. The dissemination of information is judged as being insufficiently rapid; as a result, a new monthly publication of recently received foreign literature is now published. The verso pages of this bibliography are blank, so that if a researcher wishes the library to order the item, he may snip out the citation and send it to the library. Finally, an active exhibits program provides displays of current accessions which are replaced weekly.

In 1930 library processes were centralized. All libraries of the academy have acquisition profiles. A central unit orders materials for all the libraries; the books are cataloged centrally and then distributed to the libraries (it was unclear whether this process referred to *all* academy libraries, or only those academy libraries in Leningrad). Union alphabetic and classified catalogs are maintained centrally, and books are borrowed on interlibrary loan from other academy libraries if requested by a reader. The public catalog contains cards for works only since 1930. Efforts are being made to slowly fill in the retrospective collection.

Cards are ordered from the All-Union Book Chamber for material published in the Soviet Union. For all other items, the library provides original cataloging and prints its own catalog cards. Unfortunately, the quality of the card stock is poor, and cards printed in the 1970s already look quite old. The classified catalog is structured in a similar manner as those in the other large Soviet libraries; the user consults printed indexes to locate the classification number of his field of interest, and then goes to the catalog to look under that number. Selected topics also have card-form subject indexes interspersed among the trays of classified cataloging.

The academy library provides methodological direction for the smaller libraries. Each library works according to a plan developed for its subject area and situation. A methodological commission meets semiannually, with representatives from almost all academy libraries, to identify and discuss current problems. This year, the topic was centralization; last year, methods of determining the effectiveness of library cataloging. The library's department of research directs the methodological work, but every department of the AN Library also assists other academy libraries in problems concerning their specialties.

Staff of the library conduct research in librarianship, the theory of bibliography and information, and the problems of automation. In the latter area, planning is under way for mechanization of acquisi-

tions, processing, reference, and retrieval. The library will participate in the national automated system and machine-readable union catalog. It plans to develop its own system for the major library functions mentioned above. The system would call for information stored on magnetic tape, both generated by the Academy of Sciences Library and received from other libraries in the Soviet Union. The delegation was informed that this planning includes close contact with other Soviet libraries. The automation department has a staff of 20.

In another area of technology, the library has 40,000 microfilms. It would like to be able to acquire better readers, and it would like to film its manuscript collection for preservation purposes. However, the director fears that the microfilm available to him is not of archival quality.

Institute of U.S. and Canadian Studies

Founded in 1968 as part of the Academy of Sciences in Moscow, this institute focuses on economics, American foreign policy, military policy, domestic policy, and ideological questions. The staff consists of 300 people, half of whom are researchers.

The institute library is small, with 14,000 books and 30,000 serial issues. A staff of 9 people emphasizes the difference between U.S. and Soviet staffing patterns more clearly here than in the larger organizations. The collection again is acquired by a combination of exchange and purchase, although the statement was made that most acquisitions are acquired with hard currency—highly unusual for a Soviet library. Approximately 300 current serials are received, mostly American. An official at the Soviet embassy in Washington has the function of collecting and sending materials (mostly government documents) to the institute.

Mr. Orlov, head of the institute's information department, told us that no two information departments are alike within the academy. His department works closely with the institute library, basing its work on the library's collection. To acquaint researchers with new acquisitions, the information department prepares a weekly annotated bibliography of all items received, including journal and newspaper articles. About one hundred subject files of leaflets and clippings are maintained. The department investigated an SDI program, but discovered that the institute's researchers wanted access to all items rather than selections.

An extensive exchange of lecturers exists, with about 30 people coming from the United States annually. The director of the institute felt that an exchange of librarians might be difficult because of the size of their library, but he was interested in exchanges of seminars. Book exchanges are not of particular concern to the institute; however, it could act as facilitator of exchanges for other libraries.

All-Union Book Chamber

The delegation asked the director to describe activities new within the past few years, and plans for the future, since the basic functions of the Book Chamber are well known to foreigners.

In January 1976, the Book Chamber embarked on the first phase of computerization. Basically, this phase incorporates detailed planning for a machine-based system and gradual implementation of computerized processing. Initially, automated input for all products of the Book Chamber will be achieved. Already they have begun photocomposition of catalog cards. The record format is based on MARC which has been "modernized" to allow multiple outputs from a single input. The system uses an ES-1020 computer and a 2-MFA photocomposition device. Special edit programs are being developed. The automation department has a staff of 25 people.

The Book Chamber issues 160–180 million cards annually for 47,000 titles. At present, the various functions of the Book Chamber are scattered in several smaller old buildings. A new highrise building, to be completed in 1978, will house all staff (796 people, including 300 in bibliographical editing), and storage for 44 million copies of books for distribution to institutions. The Book Chamber has the

largest and richest collection of materials; it also determines cataloging rules and standards. Its catalog has at present over 50 million items, with 100,000 titles added annually. (Some of these figures appear contradictory. In part, this is because each republic has its own book chamber which processes titles published in the republic. The cards, however, are sent to be filed in the All-Union Book Chamber. The delegation did not receive a definition of "item" as used by the Book Chamber.)

Plans call for the coordination of an automated system with the republic book chambers, exchange of machine-readable data, and development of an information retrieval system dependent on the demands of the users—publishing houses, republic book chambers, and libraries. There are no plans to bring together the processing of foreign and Soviet materials; those libraries which catalog foreign materials will continue to do so, with no clear provision of cataloging copy to other libraries.

Some variations exist in machine processing of ISBD between the USSR and the U.S. The Book Chamber has made changes in the imprint and in some punctuation conventions, but despite some difficulties in reconciling ISBD with traditional practices, it is moving back toward the use of the standard ISBD. It is beginning to include ISBN in its records to improve access to materials.

In the area of management information, the Book Chamber will coordinate the planning of the publishing activities and the issuance of a catalog analogous to the American PTLA. Imprints for 1977 are already known; the Book Chamber wishes a management information system to monitor and regulate supplies, paper, binding, printing, the budget, and other considerations. A supplement to *Novye Knigi* will be published, providing information about forthcoming books. This effort will be under the State Committee for Publishing and Printing's jurisdiction.

Due to the republic book chambers, fifteen plans exist for forthcoming books for 1976. The Book Chamber is preparing a coordinated plan for 1977 and 1978. Publishers' changes will be reported to the Book Chamber to update the list and to coordinate publishing.

State Archives

The Soviet State Archives has an existing cooperative relationship with U.S. archivists and welcomes the opportunity to develop it further. Soviet archivists are to sign a joint agreement with the U.S. National Archives for the exchange of publications, the annual exchange of specialists, and the joint publication of early materials and records.

Founded in 1917, the Soviet archival system is centralized. All government records are stored in the archives, which is an All-Union institution. Within the archival system are subordinate archives in the following areas: the revolution; economy; history of literature and art; cinematography, documentary films and photographs; science and technical research; Army and Navy; contemporary records (Soviet period); phonograph records; and several historical archives (feudalistic period; central historical archives; capitalistic period; military history). There is some contact between the archives and libraries, especially the large libraries and museums. Although the libraries do not collect official records, they own manuscripts which are considered to be a part of the State Archival collection. Some cooperative work occurs, such as joint publication. The archives holds conferences which are attended by library and museum staff. Librarians and archivists are trained at the Moscow Historical Archival Institution.

As with other large institutions, the State Archives is a methodological center. Library and museum archival work is performed in accordance with guidelines established by the archives. To coordinate the methodology, a special institution for methodology of archival affairs works with each library or archive to establish procedures and instructions for that particular organization. Each district has its own archival department and historical archives.

In cooperation with scientific or educational institutions, all archives publish

documents. About 700 publications have been prepared, and 250 are planned in the current five-year plan. The publications focus on a variety of topics regarding the USSR, such as the history of agricultural workers, or disseminate information about the archives and its contents. Additionally, 3,000 articles and presentations are prepared annually by archives staff. An archives reference service answers 5,000 reference questions annually. Most surprisingly, archives staff prepare 1,200 radio programs and 400 television programs annually.

In response to a question about difficulties found by foreign scholars in using the archives, the delegation was told that the best method is to request archives use in advance, indicating precisely which documents are desired. In most cases, service will be rapid; however, if the nature of the work is sensitive for the Soviet Union, archives use may be refused.

Institute of Culture, Leningrad

The Institute of Culture is a sizeable institution of higher education. The delegation met with the dean and members of the two library faculties. The institute is the oldest in the Soviet Union, founded in 1918. In 1974, a party decree was issued to raise the level of librarianship, affecting the scope of the work of the library faculties.

Library education in the USSR takes place on several levels; the Institute of Culture represents the middle level, where the U.S. equivalent of professional librarians are educated. However, everyone who works in a library must have some education in librarianship.

The two library faculties offer educational in general and special librarianship. Special librarianship applies to technical, medical, agricultural, and other similar special libraries. The definition of general librarianship was clear in that it refers to public librarianship; however, the members of the faculty themselves could not agree as to whether academic librarianship was general or special.

The enrollment in the library faculties is: daytime—1,130 (400 in special, 730 in general); evening—800; and correspondence—1,500. While a postgraduate program exists, enrollment figures were not given for it. The course of study for daytime students is four years; for all other students, the program is five years. Correspondence students tend to be working librarians in other parts of the country.

General courses are common to students in both faculties, and each faculty also has its specialization. Every student studies social and political sciences, political economy, literature, and history. Specific disciplines are history of the Communist party, Marxist-Leninist philosophy, principles of scientific Communism, Marxist-Leninist aesthetics, scientific atheism, Marxist-Leninist theory of culture, Soviet literature, history of the USSR, and two foreign languages.

Basic courses common to both the special and general information faculties are bibliography and librarianship. Special courses in the general faculty include: social science and political literature, arts and literature on art, children's librarianship and bibliography. Special courses in the special faculty include librarianship and bibliography of technical literature and librarianship and bibliography of natural sciences (including medicine). Courses in librarianship in both faculties are information storage and retrieval, service to readers, administration, mechanization and automation, history of librarianship, history of the book, informatics, foreign bibliography, historiography, fiction, and book illustration.

Students select specialities, and may take optional courses during the latter part of their programs. Examples of a specialization: children's literature of all countries and languages, service to children, pedagogy, and psychology of children's literature.

In response to a question about the availability of management and information science courses, the faculty listed courses in scientific management, library statistics, planning of library systems, economics, the organization of research in libraries, and the methodological management of literature.

When a student enters the postgraduate program, there is some emphasis on training for library education—an area almost totally ignored in the U.S. Students study foreign languages, literatures, and philosophy. Advanced courses are in methods of special research in bibliography, pedagogy, and field work in teaching. A three-year program, the postgraduate course includes 50–70 hours of pedagogical work, with the student required to give two lectures a year.

As an example of the treatment of a subject area, students take 60 hours of descriptive cataloging at the institute.

The members of the faculties are, for the most part, librarians: they teach at the institute, but may have in the past worked as a practicing librarian or may do so in the future.

International Center for Scientific and Technical Information

Founded in 1969, the membership of the center includes the Soviet Union, Hungary, Poland, Rumania, Czechoslovakia, East Germany, Mongolia, and Cuba. Any country has the right to join, as long as the rules of the center are acknowledged.

The center cooperates with the Council for Mutual Economic Assistance, and participates in UNISIST. Among its goals are the development of national systems for international scientific and technical information, coordination, and communication. Training and preparation of specialists are major functions of the center. A five-year plan which is unique to the center forms its operating mechanism; this plan takes into consideration the five-year plans of the member countries. At the present time, the task under way is the organization of the international system; the next task will be the development of automated systems and networks.

Exchange of magnetic tapes between the member countries and the center is visualized. Beginning in 1977, a portion of the relevant information will be in machine-readable form. A subsystem for unpublished documents is already operational.

The system under development consists of 27 subsystems, six of which are already operational in one or more member countries. The subsystems are organized by type of document, i.e., published, unpublished, patents, scientific films, and so forth. In order to maximize use of existing work, systems which are already operational are to be used as models for similar systems in other countries. For example, VINITI's system is being planned for use by the subsystem for published documents in chemistry.

"Although the center is interested in EURONET's activities, it will not take an active part without a formal agreement. Exchange of tapes with the International Standards Serials Center has occurred, and communication is now in progress with the International Institute of Applied Systems Analysis in Vienna."

Approximately 150 organizations are taking part in research work, developing principles of large information systems. Studies of the possibilities of technology result in recommendations to the member countries. Development of an information retrieval language is progressing, resulting in a complex of standards for the system as a whole. Machine translation is another area where research is being conducted.

The base of the system consists of bibliographic data and abstracts. The official language is Russian; titles are translated into Russian, as well as being represented in all languages in machine-readable form. The subsystem for unpublished documents contains 150,000 records.

The RIAD computer series was described as in use by all countries. However, the delegation was later told that Bulgaria has IBM equipment. An international commission is responsible for coordination of computers and is working on experiments to ensure compatibility of hardware.

The membership fee for the center is set in accordance with each country's national budget. Mongolia and Cuba pay

only nominal sums, because they have not developed national STI systems. For the center, the budget this year is $300,000 for scientific research work, supporting a staff of 200. Although the center is interested in EURONET's activities, it will not take an active part without a formal agreement. Exchange of tapes with the International Standards Serials Center has occurred, and communication is now in progress with the International Institute of Applied Systems Analysis in Vienna.

Ministry of Culture Computer Center

A new and relatively small department, the computer center is 2½ years old, has a staff of 120 people, and is in the process of a major organization of work.

The work of the computer center is divided into three areas: scientific work, projects, and documentation. The majority of the staff is engaged in projects. Thirty-seven tasks have been identified; of these, five are library-related. These are: systems planning; statistics; analysis of library activities; network development; and technological implications for libraries. Twenty staff members are working on the library tasks.

Center director Fenelonov told the delegation that the Ministry of Culture expects to achieve the most success with statistics and anticipates the most difficulty with planning and developing a library network. The center would like to develop models which would allow them to attract more readers. Because of the formula-driven apportionment of libraries within the country, methodology is needed to determine where to open libraries and where to place additional resources.

A RIAD 20-ES series computer was installed at the Ministry three months ago, and programming, debugging, and testing are in progress. The configuration has two disk and six tape drives, as well as a terminal console. Peripheral equipment includes keypunches and paper tape typewriters. Programming is done in PL/1, with statements written in English. The print train has both Roman and Cyrillic alphabets, and a printout of a program compilation was mostly in English, with some constants or comments in Russian.

The computer center works closely with the library systems group at the State Lenin Library, which is responsible for national library systems development. There are currently about 100 teletypewriters in the Soviet Union, but they plan to install CRTs in the future.

Ministry of Culture

At this final session, the delegation summarized for Mr. Fonotov its findings during the two-week visit and took the opportunity to ask questions about institutions it had not visited and about points that required clarification.

Among the major libraries not on the itinerary was the State Public Library for Science and Technology (GNTB). The automation activities of the GNTB were of interest to the delegation, since they had been mentioned in a number of conversations. These activities fall into two major categories: bibliographic data and interlibrary loan. By means of computer processing, bibliographic data on foreign literature and periodicals are stored for production of a union catalog of material held within the Soviet Union. The GNTB also is a center of interlibrary lending, fulfilling thousands of requests from various industries. The computer keeps track of overdue interlibrary loan transactions.

The GNTB is pursuing several projects also of interest to the delegation. In an effort to initiate a card distribution service, GNTB is working with the Lenin Library and the Book Chamber.

Coordination of libraries in the Soviet Union is complex. Each library, by virtue of its affiliation, reports to one of the approximately 100 ministries. The Ministry of Culture coordinates library activities by means of a state interdepartmental library council, the members of which are deputy ministers. The council meets several times yearly to discuss problems and set priorities. In June 1976, the major topics were automation and mechanization, tasks for scientific searching, and the recently signed five-year plan. The December 1976 meeting was to address

standards for libraries. In March 1977, the council will discuss the work of school libraries and the status of library education.

Because the delegation was unable to determine specific information about plans for automated library procedures, the following questions were asked (and responses given):

1) Will library systems use machine-readable bibliographic data for ordering books? (No)

2) Will libraries use machine-readable bibliographic data to replace or supplement their catalogs and/or publications? (No)

3) Will libraries use computers for accounting procedures? (Probably not)

4) Will libraries use computers to expand existing access to bibliographic data? (No)

5) Will there be an attempt to use a standard format, adding control codes only as necessary for output? (Yes, the Lenin Library uses a standard format)

6) Is there any anticipation of on-line systems? (Yes)

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Technical Assistance for the Bureau of Outdoor Recreation

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■ A group of students from Emory University's Division of Librarianship organized the collection of the U.S. Bureau of Outdoor Recreation (Regional Office in Atlanta, Ga.). The students set up simplified methods for classifying materials and for adding new items to the collection; for typing catalog cards and for processing the items. This project provided an unusual opportunity for the students to gain practical experience and at the same time to assist an organization with a collection too small to warrant a professional librarian.

AN AGENCY in search of library assistance and a group of library school students in need of practical experience became a winning combination when students from Emory University organized the collection of the Regional Office of the Bureau of Outdoor Recreation. This federal agency with its small, specialized collection of materials provided valuable experience in organizing a "mini-library" for the students. At the same time, the agency received library expertise and assistance that would have been difficult for it to obtain otherwise.

In order to provide resources for its employees, the Southeast Regional Office had been collecting technical assistance materials for several years. Employees in the office had felt a need for some systematic arrangement and access to these materials and they contacted the Division of Librarianship at Emory University to ask whether any of the students would be interested in organizing their collection.

It was evident from the outset that this "library" would never be formally given that title and that a librarian, even on a part-time basis, was out of the question. The collection is maintained by the technical liaison officer in the Regional Office who takes care of technical assistance materials along with her other duties.

A group of students from Emory were interested in organizing the collection and made the job a seminar project. The situation offered actual "hands-on" experience in a special library environment and for this reason it appealed to a group of five students.

The actual work of the seminar began in the summer quarter, but during the spring quarter preceding it, the entire group met with the people who would be most concerned with the collection. These meetings gave the students a chance to determine the scope of the collection and to decide on a method of access and an arrangement which would be most useful to the users. By the end of the spring quarter they had devised a method for arranging the materials and had outlined a procedure to be followed in classifying the

collection, producing the cards, and processing the materials.

Method of Access

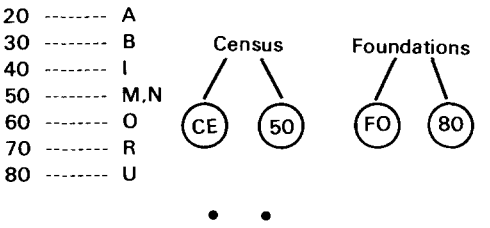
The employees of the bureau had indicated that they primarily hunted for materials by browsing and that an arrangement by subject would be most useful to them. Second in importance to them was the state coverage of the materials. They seemed to see no need for any access by author or title, although they decided that these should be indicated on the catalog cards. To comply with these requests, the students decided to shelve any materials covering one state, or part of a state, together. For example, a pamphlet dealing with recreation in Florida would be shelved with others covering recreation in that state specifically. In order to bring these state-related materials together, the standard postal zip code designation for that state was used. This two-letter abbreviation was placed on the spine above any subject call number and given further emphasis by underlining.

As the students scanned and "classified" the collection of materials, they quickly found that the bulk of materials covered two or more states. Provision was made for shelving these in a "general area" arranged by subject. The subject categories or areas chosen were those already in use in the Washington office of the bureau. Although these subject keywords were intended for use in indexing materials, they proved to be equally useful for classifying the collection at hand, and their use meant that this collection could be made to fit into the larger context of Outdoor Recreation Bureau holdings nationwide.

Call Numbers

The list of subject keywords reflected the wide range of subjects of interest to the bureau and included such topics as "Beautification," "Nature Centers," "Aging," and "Bicentennial." Call numbers were built from this comprehensive list using the first two letters of the keyword and a number corresponding to the

Figure 1.



third letter of the word. A table was devised to indicate the numerical values for these third letters which would allow ample room for the addition of new number values (see Figure 1).

These call numbers were placed on the spine, or lower front cover of the items, to bring materials of the same subject together. If the states dealt with in an item were indicated on it, such coverage was noted as part of the contents note on the catalog card.

Classification of Materials—Procedure

Using the procedure for classification established by the group, the title page of the book or pamphlet served as a "p-slip." On that page the main title, which was to be recorded on the catalog card, was indicated with a "T," and the end of the title marked with a period. "A" and "S" were used to indicate the author and sponsoring group, respectively. The number of pages, copies, and/or volumes was given at the lower right-hand corner of the page. Any special information, such as an indication of maps, photos, or bibliographies was recorded there as well. The subject keywords were listed at the lower left-hand side of the page. An example of the completed card is given in Figure 2.

Implementation of the Project and Follow-Up

During the summer quarter the five students were able to complete the classification of the collection, see the bulk of the cards typed, and do much of the actual filing of cards and shelving of materials. They were able to see the "library" change from an assortment of books and pamphlets in cardboard boxes to classified

Figure 2.

GA LA50	TITLE:	The future of the marshlands and sea islands of Georgia. 1968.
	AUTHOR:	Maney, D.S.
	SPONSOR:	Ga. Natural Areas Council and the Coastal Area Planning and Development Commission.
	CONTENT:	130 p. Maps. Charts.
	KEYWORDS:	Land Use Planning—Food Plains/Watersheds/Swamplands—Water Resources, Islands.

and neatly shelved items with a card catalog for further access.

As a last step the group wrote a *Library Manual* which is still serving as a guide to the operation of the library and as an outline of the procedure for adding new materials to the collection.

If the final test of any system is its usefulness, then this project was successful. The collection in the Regional Office is fully accessible and the procedure for adding to it is operating well. The students involved were able to apply the knowledge gained in their seminar to their own special libraries after graduation (of the five students, three are in charge of small special libraries), so the project can be said to be a success from all points of view.

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A Trade Information Service in Asia

New Dimensions in Special Librarianship

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■ On Nov 2, 1976, ESCAP officially opened its Trade Information Service (TIS). Supported by financing from two projects and administered jointly by the International Trade Centre and ESCAP, TIS is being developed from two directions: the Bangkok-based documentation unit which serves the burgeoning needs of the ESCAP Secretariat, member states, and countries of the region; and the regional advisory service which helps Asian countries strengthen and develop their own trade information services. It is anticipated that TIS will eventually offer trade-related information and clearing house services to a trade information network throughout the Asian region. Such a service, it is believed, will be another step toward further international understanding in the most important field of trade. A glossary of acronyms used here is included at the end of the article.

IN JANUARY 1967, the United Nations launched the UN Export Promotion Programme as a collective effort of the United Nations family to attack the problems of trade expansion of the developing countries. In the following year, UNCTAD and GATT combined their resources and trade promotion activities to create a joint International Trade Centre UNCTAD/GATT (subsequently referred to as ITC), with headquarters in Geneva, Switzerland. ITC was recognized by the General Assembly and the contracting parties to GATT as being an effective contribution to the UN Export Promotion Programme as a whole.

In their turn, the UN Regional Economic Commissions were expected to assist the governments of their respective regions, not only in the development of trade promotion policies, but also in the formulation of requests for technical assistance, particularly from the International Trade Centre. ITC contributions would include advisory services, market surveys, marketing development, training programmes, and reference/research publications and handbooks.

In July 1967, the meeting of the Executive Secretaries of the regional Economic Commissions from Asia, Africa, and Latin America produced a recommendation for the establishment of regional trade pro-

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motion centres in each of the Economic Commissions.

At its 11th session, in January 1968, the Committee on Trade proposed the establishment of a Trade Promotion Centre (TPC) within the ESCAP* Secretariat. The Commission, at its 24th session, on Apr 29, 1968, endorsed the Committee's recommendations. In May 1968, the Trade Promotion Centre was established within ESCAP's International Trade Division, with a mandate to coordinate its activities with those of the International Trade Centre, UNDP, UNIDO, and all specialized agencies of the United Nations having programmes in the field of trade.

The Documentation Unit

The Trade Information Service (TIS) was one of four services subsequently developed by TPC. The first step was the establishment of the Trade Information and Documentation Unit (TIDU), in November 1973, with two staff members of the International Trade Division assigned to man it. The unit undertook the task of gathering and organizing, in a central location, the considerable amount of trade-related documentation which was scattered throughout the Trade Division and other departments of ESCAP. A request made to member countries of ESCAP yielded a large number of trade directories and other useful national publications such as trade statistics. ITC, FAO, and UNIDO all contributed relevant and up-to-date documents. In addition, subscriptions to some 40 journals greatly expanded the scope of the embryo collection, which was initially aimed at 10 major categories: international trade statistics, customs and tariff schedules, GSP, trade agreements, commercial policies, export marketing, market research, packaging, trade fairs, and lists of exporters/importers, including their products.

At its 18th session, held in December 1974, the Committee on Trade took cognizance of the fledgling unit and gave strong support to its future development. The Committee saw the unit not just as a servicing centre and informational backstop to ESCAP's trade promotion endeavours; also endorsed was a plan to use the new physical facility as a training base in the operation of national trade documentation centres in developing countries. This placed the unit in a new context, and the Committee approved measures to ensure the unit's development to meet the new expectations.

External Assistance

Two projects were funded and went into operation in 1975. The UNDP financed a three-year project, "Regional Advisory Services in Trade Information," which started in May 1975. The International Trade Centre, as implementing agency, in collaboration with ESCAP, provided three experts in trade information. The goals of the project were to provide assistance and advice to developing countries of the region concerning the establishment, strengthening, or improvement of national trade information services, as well as to organize and conduct training programmes on trade information for staff of national trade information centres.

The project "Trade Information/Documentation, Marketing and Training Assistance Programme to the Trade Promotion Centre" was funded by the Swedish goverment and also administered by the International Trade Centre in collaboration with ESCAP. The terms of reference of this project were, *inter alia,* to strengthen and develop the TPC documentation unit and to provide in-service training for TPC staff, as well as to prepare the centre for its role as a training model, as envisioned by the Committee on Trade at its 18th session. ITC provided an "Adviser on Trade Information and Documentation" and two supporting staff. Al-

*By a resolution of the UN Economic and Social Council, the name Economic Commission for Asia and the Far East (ECAFE) was changed to the Economic and Social Commission for Asia and the Pacific (ESCAP) effective Aug 1, 1974. This was done to reflect ESCAP's broader social and geographical mandate.

though the adviser did not join until October 1975, the project was launched in January 1975 when the two ESCAP staff assigned to the unit were sent to the International Trade Centre, Geneva, for intensive training in trade information procedures. The course, which included a study tour of several trade information centres in European capitals, focused on the organization and operation of trade documentation services.

Needless to say, the two projects are closely related. Collaboration and cooperation in the form of constant dialogue between their personnel have paved the way for the unit to plan absorption of the numerous activities of the Advisory Services project upon its termination at a future date.

The Trade Information Service

The Documentation Unit itself has been renamed the Trade Information Service, for it is anticipated that, given the required resources, the unit will be able to offer total trade information services in the foreseeable future. This title also reflects the extensive regional services offered by the Regional Advisory Services project.

By the end of 1976, TIS had reached its minimal functional level which, though a long way from the total services projected in the future plan outlined below, nevertheless presented a formidable support base for ESCAP's International Trade Division. In the course of a relatively short period, TIS has developed from a small storage room of sundry documents in the old ECAFE headquarters, to a dynamic trade information facility with a rapidly developing research potential, now located in spacious premises on the third floor of ESCAP's magnificent new headquarters building, sharing accommodation with the Population Division's Clearing House and Information Section. Even at this level of operation, with very limited resources, TIS has already spread its services into the region. Feedback from the units in the Division—and eventually from trade information centres in the region—will greatly enhance the data base being developed.†

Collection Scope

A considerable infusion of funds from the project budget, together with a vigorous acquisitions policy, have been instrumental in acquiring a substantial core of research and reference works such as directories, foreign trade statistics data, trade-related yearbooks, catalogues, bibliographies, encyclopedias, and official trade documents from member countries of ESCAP, international organizations, and institutions in the public and private sectors. The collection currently contains approximately 3,000 books and documents. Subscriptions to 200 journals, newspapers, and other serial publications ensure up-to-date additions to the data base. The collection comprises international trade statistics, customs and tariff schedules, information on GSP, trade agreements, commercial policies, legal information, export marketing and market research, packaging, trade fairs, product information, commodity markets, lists of exporters/importers, transport data, air cargo schedules and rates, material on documents simplification, and data on trade promotion organizations and international organizations. Newspaper clipping files with daily inputs contain up-to-the-minute information on these subjects.

A substantial section of the collection is devoted to shelves and files on individual countries. In addition to trade information, these sections contain background data on a country's historical, political, and social conditions. Although emphasis is placed on collecting information on countries within the region, TIS country shelves include the nations, countries, and regions of the world. The total collection is

†TIS has established links with 18 trade information centres in ESCAP member and associate member countries and has worked closely with export promotion organizations in the following nine countries: Afghanistan, India, Indonesia, Malaysia, Nepal, Philippines, Singapore, Sri Lanka, and Thailand.

Figure 1. Reading Room

divided by product, country, and function, in accordance with general principles laid down by ITC's recently developed *Trade Information Classification.*

The immediate objective of TIS, as noted, is to serve the Trade Promotion Centre, by providing information backstopping of materials and teaching and training equipment for TPC's regional endeavours. Region-wide services are being developed. A sampling of three of the services is given here.

Selective Dissemination of Information (SDI)

This service is implemented through current awareness and reference/research services. Although the majority of these services are performed "in-house," expansion to regional services is inevitable, with the exception of the daily circulation of newspaper clippings. Distribution of a TIS *Trade Data Base* (monthly accessions list), and the monthly circulation of contents pages of incoming journals, will become key regional services. "On-demand" services, which are increasing, include telephone enquiries from within and outside ESCAP (though the latter is confined pricipally to Bangkok), preparation of bibliographies and reading lists on demand from within ESCAP as well as region-wide, and, finally, the written Enquiry-Reply service which is almost entirely a regional endeavour. A fully annotated central catalogue has been established, subject files are being developed and expanded, and files of newspaper clippings, retrospective for six months, complete the current data base. A description of some of these services follows.

Newspaper scanning service. Although TIS receives a minimum number of newspapers—*Bangkok Post, The Nation Review, Asian Wall Street Journal, Financial Times,* and *International Herald Tribune,* it is interesting to note that since the service started in July 1976, an average of 30 items covering some 200 subjects are monitored daily, clipped and circulated throughout the Division. Even this small contribution to the "information explosion" is quite startling. When examined after one month's circulation, it was found that somewhat more than 600 articles had been filed. Retrospective materials are classified and filed in alphabetical sequence of product/country/function.

Trade data base. This commenced simply as the TIS accessions list, produced monthly and arranged alphabetically within separate categories. It is a reproduction of all catalogue entries which, in turn, are the bibliographic data compiled on every publication selected for cataloging. As TIS develops, the data base will take on increasing importance, particularly to any regional operations. It is anticipated that eventually journal articles will be included. In addition to the information stored by TIS, a vast amount of material gathered by the Regional Advisory Services project will be added to the base.

Central catalogue. Not all materials gathered are cataloged, for it could not be justified to commit a disporportionate amount of staff time to cataloging an item which is of only emphemeral value. Therefore, a pre-selection is made; the publication is assigned to a category and all materials then undergo full cataloging—which includes an abstract—in accordance with guidelines established by the *Trade Information Classification.* The catalogue is divided by author/title and subject—the latter being further sub-

divided by product/country/function. Product designation is assigned according to the UN *Standard International Trade Classification (SITC)* (Revision 2, 1975); country follows the UN Country Code; and function is arranged according to ITC's *Trade Information Classification* (1975). Subject headings are standardized and drawn from OECD's *Macrothesaurus* as well as the SITC and the ITC code. Standardization and accuracy of entries are especially important; precise and accurate retrieval of information can only be achieved if input data are correct. For example, if a client requires information on "Polypropylene," he does not want information on "Polystyrene" or "Polyethelene" or a lot of general information on plastics; a potential exporter/importer of carpets wants specific details of the product—whether made of wool, fine animal hair, or man-made fabric, whether knitted, tufted, woven, etc; he does not want to wade through a sea of references on floor coverings. A precise and correct classification number will ensure exact retrieval. SITC, for example, allows classification to the fifth digit.

Contents/index pages of journals. This is a standard information/library procedure, designed to bring the most information to the attention of a maximum readership in the shortest time. It consists of circulating photocopy of the index and/or contents pages of current incoming journals and other serial publications throughout the entire constituency served. Even when selected articles are going to be added to the data base, this service will be continued, to supplement other components of the current awareness services.

Enquiry-Reply Service

The vigorous acquisitions policy, particularly the approach to the Governments (Commercial Attaches, Representatives of the Diplomatic Corps, and ESCAP Permanent Representatives), has greatly assisted TIS in developing a substantial data base consisting of official publications, statistics, lists of exporters/importers, and other reference/research materials which are invaluable in the enquiry-reply service. This is the first regional service to be offered by TIS and it is offered to both the public and private sectors.

Figure 2. Periodicals Display Racks

The Enquiry-Reply service has, in fact, been in operation since 1973—before TIS was launched—but is now an integral operation of TIS. Information requested is incorporated directly into the written reply. When an answer cannot be retrieved from the TIS data base, the reply refers to the most direct source of information. This latter service resembles somewhat a clearing house function.

It is worth noting that over 90% of enquiries received since TIS became operational have been sucessfully answered "within the house." In one eight-month period tabulated in 1976, 19 enquiries for information on more than 250 specific products from 12 countries were successfully answered. Markets for some products were, in fact, found.

Training Services

Current staff of TIS numbers seven—three professional librarians and four supporting staff members. Training undertaken by TIS in the first year has been in the form of in-service professional development of the two ESCAP staff members assigned to the unit. In cooperation with the Population Division's Clearing House and Information Section and

other Divisions of ESCAP, a fully equipped training room is being established. Seminars and workshops in trade information will be held for nationals of ESCAP member countries who wish to receive basic instruction, refresher courses, special training in any or all aspects of administration of a trade information service. It is expected that the majority of participants will be drawn from those countries where trade information services now exist or are planned, regardless of the level of development of the particular service. One purpose for locating training seminars and workshops in TIS is that the participants will be able to observe and study, at first hand, TIS services and facilities as a model layout.

Future Regional Role of TIS

Careful planning has been put into TIS in its formative stages to ensure it conforms to the criteria expounded by the Regional Advisory Services in Trade Information—a modern trade information service must be efficient, flexible, adaptable and compatible. The introduction of the International Trade Centre's *Trade Information Classification* in TIS and in the ESCAP region will greatly assist the future interchange of intra- and inter-regional trade information. Furthermore, the timely appearance of this classification presents a set of guidelines which have become a major factor in the establishment of efficient, flexible, adaptable and—especially important—compatible trade information services in ESCAP and the Asian region.

In assessing the future scope of TIS, the termination of the Regional Advisory Services project and the preparation which TIS must undergo to step into the breach must be taken into account. Future services which TIS would undertake can be summarized here.

A regional selective dissemination of information service would be undertaken, whereby the services currently being offered to ESCAP could be enlarged and refined to be made applicable on a regional basis. Information would be retrieved from the TIS data base and disseminated according to the needs of individual centres as discerned through client profiles.

National data bank servicing, which is currently operating in 18 countries of the region where the Regional Advisory Services project has established national trade information centres, has been absorbed by TIS. Reference cards prepared in TIS for entry into the catalogue will be reproduced on the offset machine and distributed simultaneously throughout the centres in the region. A *Directory on Trade Information Sources,* prepared and distributed by the Advisory Services project, will also be incorporated into this service—new information on publishers, trade information sources, publishers' addresses, etc., will be circulated as and when it is received in TIS.

A clearing house function is also not an unrealistic possibility for TIS in the future. In fact, a certain aspect of this is already evident in the Enquiry–Reply service. A more defined and broader clearing house role would require a study on the application of microforms: with a region as vast as Asia to service, the use of microfiche or microfilm would become mandatory.

The publication of a trade information bulletin, printed in TIS and distributed in the region, would be a major contribution to the exchange of trade information. It is a function that is essentially a part of a clearing house operation.

"On demand" bibliographies could be provided when requested by member countries.

TIS could offer trade information advisory services, training programmes, and refresher courses for personnel of trade information centres in the region.

Conclusion

Here, then, is a brief look at a new ESCAP endeavour in the Asian region. With expertise provided by the International Trade Centre UNCTAD/GATT and funds supplied by UNDP and the Swedish government, ESCAP has launched a bold, imaginative, and highly

valuable contribution to the assistance offered to the developing countries of the region. One of the best means of reaching understanding in a world divided between the wealthy North and the struggling South is through international trade. The Trade Information Service of ESCAP's Trade Promotion Centre has already crossed the threshold of communication. The International Trade Centre's commitment to this goal is total, extending beyond Asia; ITC eventually hopes to establish trade information networks in Latin America and Africa, as well. This will allow the exchange of current, relevant trade information intra- and inter-regionally.

Glossary of Acronyms

ECAFE—Economic Commission for Asia and the Far East.

ESCAP—Economic and Social Commission for Asia and the Pacific.

FAO—Food and Agriculture Organization.

GATT—General Agreement on Tariff and Trade.

GSP—General System of Preferences.

ITC—International Trade Centre.

OECD—Organization for Economic Cooperation and Development.

SDI—Selective Dissemination of Information.

SITC—Standard International Trade Classification.

TIDU—Trade Information and Documentation Unit.

TIS—Trade Information Service.

TPC—Trade Promotion Centre.

UNCTAD—United Nations Conference on Trade and Development.

UNDP—United Nations Development Programme.

UNIDO—United Nations Industrial Development Organization.

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Commentary on
FOIA—Neither Sacred Nor Safe

THE CRUCIAL event in the activity of a librarian is "that moment when a book [or document] . . . passes into the hands of the reader. If this event takes place frequently and fruitfully, the library may be said to be successful; if it never takes place, nothing the library could be or do would justify its existence" *(1)*. For the government documents librarian, Jesse Shera's statement bears a special kind of truth, a truth that can on occasion demand an extra display of initiative to ensure the patron access to the information which he or she seeks. For there is a special quality about the information to which it is the professional duty of the government documents librarian to provide access. This quality exists because the information on almost any subject in the collection is only a fraction of the entire universe. The remainder rests under the custodianship of a bureaucrat in a government agency. That which is published by the government often tells only a part of the whole story, and generally only that part which will present the issuing agency in a favorable public light.

Thus the government documents librarian can be confronted with the professional duty to provide both access to the collection and access to information still in government hands. This is not to imply that the librarian ought to be responsible for wresting the information from the hands of the reluctant government agency. However, the librarian, as a specialist in finding information, ought to be able to tell the patron how he can get, or attempt to get, the information, if he wants it badly enough. This duty will demand, on the part of the govenment documents librarian, a thorough knowledge of the Freedom of Information Act. Those who take this duty seriously will probably come to the conclusion that they have a professional responsibility to make their patrons aware of FOIA.

It seems reasonable to suggest that there is a need for advocacy of FOIA on the part of librarians, especially government documents librarians. In *Juris Doctor* a recent article on FOIA concludes that:

> the amended FOIA is forcing the government to release more information to more parties with less foot-dragging than ever before. It took no time at all for business and industry to discover that important fact. The pity is that, so far, most of the public and much of the legal profession doesn't know it's there *(2)*.

Librarians, and government documents librarians in particular, as specialists in providing their user public with information, would appear to be members of a profession uniquely well qualified to let the public know FOIA " is there."

Librarian advocates of FOIA should be aware of the essentially political nature of this resource tool. The fact that it was greatly strengthened by amendments in 1974 doesn't mean that it could not be grievously emasculated by the same process in 1977 or any other future time. One such attempt has already been made. H.R. 12975 "died" with the end of the 94th Congress. As of March 1, 1977, Rep. Maguire had not resubmitted it to the 95th Congress. However, this bill and others which will likely follow deserve the closest scrutiny of librarians. While FOIA is strong and mature, it would be a mistake to view it as either sacred or safe.*

*There is another equally restrictive aspect of the Maguire bill; however, the space available here does not permit its discussion. A more complete analysis of the entire bill is available on request from the author.

Characteristics of the Attempt

The attempt was made on April 1, 1976, by Congressman Andrew Maguire (D. N.J.-7) with the introduction of "H.R. 12975: A Bill To Amend the Freedom of Information Act" *(3)*.

In 1975 the Freedom of Information Clearinghouse filed a lawsuit which "alleges that CIA regulations are drawn so tightly that the agency won't divulge any materials it originally obtained from another agency, whether or not the agency of origin retains copies.

Maguire's bill has several interesting characteristics. Most interesting from the viewpoint of the CIA practice that the FOIA Clearinghouse lawsuit seeks to challenge is his insertion of a lengthy subparagraph "any agency may refer a request for a document which originated in another agency to that other agency for direct response, with the consent of that other agency and with notice to the person making such request." The subparagraph goes on to state that such a referral constitutes "full compliance" with the request for a document by the referring agency. The referring agency must act within ten days and the agency to which the referral is made will have another ten days to act on the request (*2*, p. 17–18).

In general, this part of Maguire's bill would greatly weaken FOIA by setting up the potential for a "bureaucratic buck-passing merry-go-round." It would appear to suit this purpose particularly well in that, if it had been passed, the CIA could no longer have been sued for refusing to release materials that it obtained from another agency. All it would have had to do is refuse to release materials and refer the request to the agency from where they came. Of course, the agency to which a request was referred could refuse to give its consent to the referral and the original agency would presumably then be left with the responsibility of supplying or not supplying the document to the requestor.

Limitations of Current FOIA Legislation

FOIA does need further amending. In the year that followed the implementation of the amendments, the total volume of FOIA requests more than quadrupled over the year preceding the change. The FDA, for example, is processing five times as many requests as it did in 1974. The new burden will cost that agency $1.5 million this year alone *(4)*. Congress, with much lack of foresight, appropriated no additional funds for agencies to use in handling the requests (*2*, p. 20–21). The result is that we now have a law on the books with no funds available for its implementation. Agency heads have been forced to shift dozens and, in a few cases, hundreds of employees to full time FOIA work. These are employees who are now presumably unable to perform the tasks for which their agencies hired them in the first place. The search fees which the agencies are allowed to charge are insufficient to compensate for the total clerical and professional expense involved (*2*, p. 17). These are serious monetary problems that H.R. 12975 totally overlooks.

There is at least one other major problem with FOIA as it now stands. Business uses FOIA far more than the ordinary citizen. Indeed, corporations have seen such excellent possibilities for finding out what their competitors are doing (and their competitors are often compelled to tell government regulatory agencies what they are doing) that there have actually sprung up companies which specialize in handling the FOIA requests of their corporate clients. Other companies specialize in watching FOIA logs of government agencies in order to inform their clients when a competitor is seeking information about them (*2*, p. 18). In general,

> . . . officials estimate that more than two thirds of the FOIA requests come from private industry. Moreover, because of the relatively low document search and duplication fees set by the amendments, business is getting almost a free ride. "What we have," says FDA attorney Stuart Pape, "is the taxpayers subsidizing the information gathering activities of the corporations" (*2*, p. 22).

While it is common practice for business to pay more than the individual for sources of information like trade journals, the present structuring of FOIA puts corporation and individual on an equal economic footing. One would think it might be possible to legislate a separate and higher fee structure for what corporations would be charged for searching. Certainly their "needs" in using FOIA are rather different from individual needs. They should be made to pay accordingly. It can be argued that this is a major defect of the present law, one for which H.R. 12975 does not even attempt to provide a remedy.

Epilogue

In March of 1977 it is impossible to say whether or not H.R. 12975 will be placed in the legislative hoppers of the 95th Congress. Whatever happens to the Maguire bill, the moral of this story is evident. There are those in the vast reaches of our government who are totally opposed to the current status of FOIA. Having mounted one legislative assault on it, they will surely try again. It is to be hoped that when they do, librarians will be there—ever vigilant and determined to expose such efforts for what they are.

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4. It might be argued that funds were not appropriated because this would have given President Ford yet another excuse to veto the bill.

AWARDS 1977

President Mark H. Baer has announced the following elections.

Honorary Member

Barbara Alice Ringer

After twenty-seven years of service in the Copyright Office Barbara Ringer was appointed as Assistant Register with recognition of her superior service. Even so she was later passed over for promotion to Register of Copyrights, one of the top-level policy-making posts in the Library of Congress. She chose to challenge the discriminatory practices of LC relating to both sex and race through the Equal Opportunity Employment Commission and through subsequent court actions. Her challenges were upheld, and she was appointed Register of Copyrights.

Miss Ringer's firm determination to achieve her desired professional recognition—and her own firm convictions that her actions against racial and sexual discrimination were correct—demonstrated a personality and character that were soon to be focused on the intricacies of the revision of the U.S. Copyright Law.

Through a maze of the many very technical areas to be considered for copyright protection, she provided a high level of intellectual guidance to American legislators. Through a maze of contenders in every area of the copyright bill, she acted as the stabilizing fulcrum to achieve equitable compromises of compromises. She demonstrated a capability to see not only the viewpoints of the contending factions but, more important, to recognize that the basic philosophy of copyright affects every segment of the nation's citizens. Librarians—in all types of libraries—may come to consider the role of the Register of Copyrights as that of a concerned friend or even an unfriendly adversary. Only history can be the final judge. The Register's responsibilities include the protection of the rights of creators and the rights of the users of the products created.

By election of Barbara Ringer as an Honorary Member of Special Libraries Association, the Association recognizes that the Register in no small way provides a link between the interests of special libraries and the broader domain of all library and information activities. As the new U.S. Copyright Law was being fabricated, Miss Ringer demonstrated her ability to familiarize herself with problems that were of special concern to special libraries, some of which we ourselves do not always recognize. Of major importance for recognition is her basic humanity as she strove for equality of opportunities; her competence in her chosen profession of the law; and that she has, with distinction, combined her professional knowledge and her human instincts for the benefit of all parties who, in the words of the Constitution, can be benefited by promoting the progress of science and the useful arts.

Margreet Wijnstroom

Qualified as a librarian in the Netherlands, Margreet Wijnstroom also earned a doctorate in law with specializations in both Anglo-Saxon and Dutch copyright. Her professional career, begun as a public librarian, led to her appointment as Secretary-General of the Central Association for Public Libraries in the Netherlands. During her tenure the Central Association was amalgamated with denominational public library organizations to form the Dutch Center for Public Libraries and Literature (Nederlands Bibliotheek en Lectuur Centrum). Miss Wijnstroom reorganized the office of the Central Association, strengthened the influence of the association, and organized central services for public libraries which are now in active operation by the Dutch Center.

Her specializations include: library law, library standards, public lending right, structure and organization of library work, and pay and pension for library staff.

Since the appointment of Margreet Wijnstroom as IFLA Secretary-General in 1972, she has demonstrated a consistently high

degree of understanding of all types of libraries, their functions, and the necessary interrelations between types of libraries. In the IFLA Secretariat such understanding, of necessity, includes the understanding of differing usages as reflected by the more than 600 members of IFLA in more than 100 countries.

As a result of her position as Secretary-General of IFLA, she has participated in meetings related to Unesco's Department of Documentation, Libraries and Archives. She has also participated in meetings of the World Intellectual Property Organization (WIPO) whose concerns are patents and copyrights.

In IFLA, she has demonstrated a strong interest and a keen concern that special libraries will be properly represented on the international scene with an appropriate place and voice in the structure of IFLA. Her attendance at the SLA 1974 Conference in Toronto and the 1975 Conference in Chicago, and her resultant personal contacts with many SLA members have broadened her knowledge of the concepts of special librarianship—and especially how SLA "puts knowledge to work."

SLA Professional Award/1977

Audrey Noiske Grosch

Twenty years ago the recipient of the SLA Professional Award/1977 began her library career at General Mills Electronics Division in Minneapolis. She became a member of Special Libraries Association in 1958. In 1965 she transferred to academia from a corporate library; but this transfer did not diminish her interests in special libraries and SLA.

In the Systems Division of the University of Minnesota Libraries her knowledge and expertise led her step-by-step to the development of the Marc II-format-based Minnesota Union List of Serials. The data base of MULS contains the verified and complete information for more than 65,000 serial titles held by 125 libraries in Minnesota. The special significance of MULS to the library profession is that it is the most fully enriched serials data base of its size extant. It contains both current and retrospective serials of virtually every type and in every subject area.

The National Serials Data Program at the Library of Congress has recently entered into a contract with the University of Minnesota Libraries to study the feasibility of converting MULS to NSDP specifications. MULS was chosen because it most nearly resembles the current input to the NSDP data base as provided via the Library of Congress MARC serials cataloging tapes.

To the special library, MULS represents a significant achievement since many of its participating libraries are special subject collections in state agencies, private and public institutions of an academic nature, and the largest private special library in Minnesota—the James Jerome Hill Reference Library in St. Paul. The value of MULS to the information community is at all levels where serial information is used as MULS contains not only the holdings records, but also substantive bibliographic information. MULS serves as the major tool of Minnesota librarians who use networking arrangements to procure serial materials.

The impact of MULS has also reached the international level as both the Canadian National Library and the National Science Library of Canada have studied its structure and content. They have deemed it the best system which could be used in the initial development of the Canadian Union List of Serials.

MULS was conceived, designed, and developed by Audrey N. Grosch who organized, staffed, and directed the project. Because serials are a basic ingredient of the many information sources used by special libraries, it is fitting that Special Libraries Association recognize this achievement by the individual responsible for the creation of the Minnesota Union List of Serials, Audrey N. Grosch.

SLA Special Citation

Frank E. McKenna

The SLA Special Citation recognizes extraordinary and continuing efforts on behalf of the entire membership of SLA.

This award appropriately marks a recognizable peak of achievement in a continuum of service. Today, Special Libraries Association celebrates such a peak by awarding its Special Citation to its own Executive Director, Francis E. McKenna, for his outstanding service to the Association, to its individual members, and to librarians everywhere in regard to the General Revision of Copyright Law in the U.S.

SLA's involvement and Frank McKenna's

involvement in the revision of the Copyright Law are synonymous; for it was his perception of the possible range of implications of the coming revision which first alerted us to the need for active involvement in the legislative process. He drafted the first "SLA Statement on the Copyright Revision Bill" and presented testimony to the McClellan Subcommittee in the U.S. Senate during 1973. These early and significant statements resulted from his exhaustive review of the proposed bill as it then existed, and its legislative history. He strove to establish a middle ground between the adversary positions of other library associations and of publishers. This middle ground became pivotal in the development of a unified voice for the library community.

McKenna was selected as co-chairman of the Working Group of the Conference on the Resolution of Copyright Issues. He labored intensively for many months to achieve written reports which detailed agreements reached by librarians and publishers on several fundamental issues. His organizational efforts were central to the production of the first meaningful evidence that librarians were receptive to meaningful discussions with publishers and authors.

Emerging clearly as a leading library spokesman on copyright, McKenna was asked by the counsel for the Kastenmeier Subcommittee in the House of Representatives to organize the oral testimony on behalf of libraries. He managed, by persistence and unusual negotiating skills, to coordinate the preparation of a unified statement by the six major library associations—an achievement which is, of itself, a unique contribution to librarianship. This achievement enhanced immeasurably the impact of the librarians' positions upon the legislators, and its importance cannot be overstressed.

In establishing and maintaining contacts with legislators, Frank McKenna exhibited an erudite understanding of the issues and an invaluable, if indefinable, sense of what should or should not be said in successive dialogs with legislators and their aides. With regard to the language of the legislation, he convinced other library associations that special libraries must not be separated from the photocopying rights available to other libraries. He was responsible for the confirmation in the final Report accompanying the legislation that libraries in profit-making organizations are not to be considered separately or denied privileges available to other libraries.

The new Copyright Law is the most effective testimony to the efforts of Frank McKenna. The compromises proposed and interpretations sought can be found in the new Law and the final Conference Committee Report. He recognized that copyright was, is, and will continue to be one of the most important legislative issues to affect librarians within our working lifetimes. His tireless and gargantuan effort on copyright is not yet completed, but by his willpower, erudition, professional stature, organizational acumen, personal commitment and abiding dedication to SLA and its members, he has been instrumental in the shaping of a law in which the needs of all librarians and all library users have gained substantial recognition.

AUDIT REPORT JAN. 1, 1976-DEC. 31, 1976

BOARD OF DIRECTORS SPECIAL LIBRARIES ASSOCIATION, INC.

We have examined the statement of assets, liabilities and fund balances of SPECIAL LIBRARIES ASSOCIATION, INC. at December 31, 1976 and the related statement of income, expenses and fund balances for the year then ended. Our examination was made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, these financial statements present fairly the financial position of SPECIAL LIBRARIES ASSOCIATION, INC. at December 31, 1976 and its income, expenses and changes in fund balances for the year then ended, in comformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

J. K. Lasser & Company

New York, New York
March 24, 1977

(Notes to Financial Statements are on page 284.)

SPECIAL LIBRARIES ASSOCIATION, INC.
STATEMENT OF ASSETS, LIABILITIES AND FUND BALANCES
DECEMBER 31, 1976

	TOTAL	General Fund	Nonserial Publications Fund	Scholarship Fund	Research Grants In-Aid Fund
ASSETS					
Cash (Including $418,663 in savings accounts)	$445,870	$312,778	$ 77,275	$41,707	$14,110
Marketable securities—At cost (Approximate quoted market value $137,166)	122,740	82,527		40,213	
Accounts receivable—Net of provision for doubtful accounts of $800 in General Fund and $500 in Nonserial Publications Fund	27,663	14,648	12,390	625	
Interfund receivable (payable)—Net		45,816	(44,275)	(1,541)	
Inventory of nonserial publications and insignia (Note 1)	60,797		60,275	522	
Prepaid expenses and deposits	24,428	24,428			
Furniture and fixtures—At cost—Net of accumulated depreciation of $14,670 (Note 1)	2,564	2,564			
	$684,062	$482,761	$105,665	$81,526	$14,110
LIABILITIES					
Subscriptions, dues, fees and contributions received in advance (Note 1)	$282,291	$281,165	$ 81	$ 1,045	
Accounts payable—Trade	27,187	27,187			
Withheld taxes and accrued expenses payable	10,495	2,495	8,000		
Income taxes payable (Note 1)	6,863	6,863			
	326,836	317,710	8,081	1,045	
COMMITMENT (Note 2)					
FUND BALANCES	357,226	165,051	97,584	80,481	$14,110
	$684,062	$482,761	$105,665	$81,526	$14,110

See accompanying notes to the financial statements.

SPECIAL LIBRARIES ASSOCIATION, INC.
STATEMENT OF INCOME, EXPENSES AND FUND BALANCES
YEAR ENDED DECEMBER 31, 1976

	TOTAL	General Fund	Nonserial Publications Fund	Scholarship Fund	Research Grants In-Aid Fund
INCOME					
Dues and fees	$365,355	$365,355			
Subscriptions and advertising	149,639	149,639			
Net receipts from conference, less allocation below	71,781	65,775		$ 6,006	
Net receipts from education program	8,738	8,738			
Net receipts from mailing list service program	7,773	7,773			
Interest, dividends and net gain on sales of investments	24,017	16,931	$ 1,618	4,710	$ 758
Sale of nonserial publications	107,395		107,395		
Gifts	18,138	3,850		14,288	
Miscellaneous	3,726	3,571		155	
Total income	756,562	621,632	109,013	25,159	758
COSTS AND EXPENSES					
Allotment of funds to subunits	64,663	64,663			
Salaries, wages and benefits	199,246	198,231		1,015	
Office services and occupancy costs	112,501	112,501			
Professional fees and services	19,721	19,721			
Travel and entertainment	16,806	16,806			
Member services and promotion	25,055	25,055			
Copyright law revision	32,021	32,021			
Salary survey	11,352	11,352			
Cost of periodical publications sold, including allocation below	185,932	185,932			
Scholarships	7,500			7,500	
Cost of nonserial publications sold	63,882		63,882		
Miscellaneous	1,780	952		398	430
Depreciation	1,322	1,322			
Allocation of above expenses to -					
Cost of periodical publications	(33,503)	(33,503)			
Conference	(19,955)	(19,955)			
Other funds and programs	(14,864)	(21,762)	6,532	366	
Total costs and expenses	673,459	593,336	70,414	9,279	430
EXCESS OF INCOME OVER EXPENSES BEFORE INCOME TAXES	83,103	28,296	38,599	15,880	328
Provision for income taxes	7,800	7,800			
EXCESS OF INCOME OVER EXPENSES	75,303	20,496	38,599	15,880	328
FUND BALANCES—BEGINNING OF YEAR	281,923	94,157	109,383	64,601	13,782
FUND TRANSFERS		50,398	(50,398)		
FUND BALANCES—END OF YEAR	$357,226	$165,051	$ 97,584	$80,481	$14,110

See accompanying notes to the financial statements.

SPECIAL LIBRARIES ASSOCIATION, INC.
NOTES TO THE FINANCIAL STATEMENTS

1. Summary of Significant Accounting Policies

The accounting policies that affect the significant elements of the Association's financial statements are summarized below:

OPERATIONS: The Association encourages and promotes the utilization of knowledge through the collection, organization and dissemination of information. It is an association of individuals and organizations with educational, scientific and technical interests in library and information science and technology.

INVENTORY: Inventory of nonserial publications and insignia is stated at the lower of average cost or market, which does not exceed net realizable value.

FURNITURE AND FIXTURES: Depreciation of furniture and fixtures is provided on the straight-line basis at various rates calculated to extinguish the book values of the respective assets over their estimated useful lives.

SUBSCRIPTIONS, DUES AND FEES: Membership in the Association, except for subscriptions to periodicals published by the Association, is based on either a calendar or a July 1 to June 30 year. Dues, fees and subscriptions are credited to income in the year to which the membership or subscription relates.

PENSIONS: The Association has a contributory group annuity retirement program with an insurance company covering substantially all qualified employees. There is no unfunded past service cost to be paid by the Association as of December 31, 1976.

INCOME TAXES: The provision for income taxes is based on unrelated business income, which consists of net advertising income and net mailing list service income.

2. Commitment

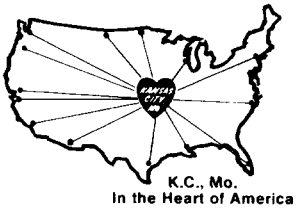
The Association occupies offices under a lease which expires in 1977. The lease provides for minimum annual rentals of $21,000, plus certain taxes and maintenance costs.

SLA Election Returns

Vivian D. Hewitt has been elected to the office of President-Elect of the Association for 1977/78. Jeannette M. Privat has been elected Chairman-Elect of the Chapter Cabinet. Virginia E. Yagello has been elected Chairman-Elect of the Division Cabinet. The two new Directors, elected for 1977/80, are Floyd L. Henderson and Doris Lee Schild.

The 1977/78 Board of Directors held its first meeting in New York on Friday, June 10. Shirley Echelman automatically succeeded Mark H. Baer as President; Mark H. Baer will serve on the Board as Past President. Mary Sexton automatically succeeds to the office of Chapter Cabinet Chairman, and Renata Shaw automatically succeeds to the office of Division Cabinet Chairman.

Robert G. Krupp and H. Robert Malinowsky will serve the third year of their three-year terms (1975/78) as Directors. Aphrodite Mamoulides and Mary Lee Tsuffis will serve the second year of their three-year terms (1976/79) as Directors.



Managing for Change

CALL FOR PAPERS 1978

69th Annual Conference
Special Libraries Association

Kansas City, Mo.
H. Roe Bartle Convention Center
and Radisson Muehlebach Hotel
Jun 11–15, 1978

The 1978 Conference theme is "Managing for Change." You are invited to share in the expansion of knowledge within the information professions by submitting a paper on your research or personal experience for presentation at the Conference.

Contributed Papers are solicited from SLA members, library school faculty and students, and all others interested in making a substantive contribution to the Conference.

Topics for presentation should be of professional interest and need not be limited to the Conference theme. Papers must be based on original research or personal experience and not have been previously presented to any national or international group or submitted for publication.

Two types of papers will be considered for presentation:

1) Brief Papers: about 15 minutes of oral presentation.
2) Extended Papers: about 30 minutes of oral presentation.

Papers may be delivered in the usual oral presentation or possibly by utilizing the poster session technique. Diagrams and data for visual presentation should be legible. Use large letters, heavy lines, and limited data on each illustration. Lettering should be readable from 150 feet. Projection equipment must be specified and requested when the abstract is submitted. An overhead projector is suggested.

Papers will be accepted only if the author expects to be present, and only if he or she has submitted an abstract first according to the following procedure.

An abstract of 100 words maximum must be submitted using the official abstract form on the reverse side of this page, or a copy of it. Send the form postmarked no later than Oct 14, 1977 to:

Robert B. Lane
Director
Air University Library
Maxwell AFB, Ala. 36112

Your abstract should be informative and carefully prepared so as to 1) set forth the purpose of the paper; 2) state the research methods used if applicable; 3) state the important results obtained; 4) draw a conclusion. Please use significant words descriptive of the content and avoid generalities.

Abstracts will be reviewed by the Conference Contributed Papers Committee to determine their interest to Conference attendees. Notification of acceptance will be given no later than Nov 11, 1977. Full text of all papers accepted must be received by Feb 24, 1978. All papers submitted will be considered for first publication in *Special Libraries* and are the property of Special Libraries Association. Abstracts not accepted as Contributed Papers will be referred to Division Program Chairmen if authors so wish.

69th Annual SLA Conference

Abstract of Paper for Presentation at Kansas City, Jun 11–15, 1978.
Abstracts of papers should be mailed no later than Oct 14, 1977.
Mail this abstract to:

Robert B. Lane
Director
Air University Library
Maxwell Air Force Base
Alabama 36112

Title of Paper _____

Expected length of paper (number of words) _____

Institution or company where work was done _____

_____

Author(s) (underscore name of person presenting paper) _____

_____

Affiliation of author(s) (company or institution) _____

_____

Mailing address _____

_____ Telephone _____

Choice of Divisions (if you wish abstract submitted for their program use):

1) _____ 2) _____

Presentation will be (check one) ____ Oral delivery. ____ Poster Session format. Audiovisual or other equipment needed for presentation _____

_____

Abstract (100 words maximum):

STAFF DEVELOPMENT

In July 1974 an introduction to this column explained the purpose of the column which is worth repeating again in 1977. "The effectiveness and efficiency of the library and its personnel, always important, become even more important in these days of ever-increasing technological changes, innovative management practices, budget trims and the demand of accountability." Successful staff development efforts are some of the best ways to improve the effectiveness of the human resources in the library. The ALA LAD PAS, Staff Development Literature Review Subcommittee comprised of John Mayeski, Barry Ormerod, Jim Locke and Harry Llull hopes to increase the number of librarians interested in staff development through supplying brief annotations of articles found in the literature outside the field of librarianship that pertain to staff development in order to broaden the awareness of nonlibrary resources in the area of staff development.

Boudewyn, Adri G. / The Open Meeting—A Confidential Forum For Employees. *Personnel Journal* 56 (no. 4):192–194 (Apr 1977).

The Bank of America has developed a program which allows employees to discuss their feelings about their jobs openly and confidentially. A "facilitator" guides the discussion and relays the consensus of the group to the supervisor. The action of the supervisor is critical. He must be willing to report back to the staff and implement an action plan in problem areas. Such a program would help to identify areas needing training programs.

Broadwell, Martin M. / Avoid These 10 Steps to Ineffective Management Training. *Training* 14 (no. 3):20 (Mar 1977).

Staff development officers should keep this list available to insure that their training programs are relevant to organizational goals.

Bucalo, Jack / Personnel Directors . . . What You Should Know Before Recommending MBO. *Personnel Journal* 56 (no. 4):176–178+ (Apr 1977).

Of relevance to all supervisors, MBO must be recognized as a system of management, not simply a performance appraisal system. MBO is not needed for all organizations, is very time-consuming and demands pinpointing where authority and accountability lie in the organization.

Cooper, Lloyd / How To Make More Effective Use of Your Training Consultants. *Training and Development Journal* 31 (no. 3):16–18 (Mar 1977).

The author points out the benefits a consultant can bring to an organization's training program. Three areas of major concern when bringing in a consultant are: selection, preplanning, and follow-up procedures.

Ewing, David W. / Participative Management at Work; An Interview with John F. Donnelly. *Harvard Business Review* 55 (no. 1): 117–127 (Jan/Feb 1977).

The president of Donnelly Mirrors, Inc., explains the basis of the manufacturer's leadership in participative management, despite the operational problems encountered in applying the concepts of the Scanlon Plan. "His two fundamentals for success are: involving all employees in the issues and problems facing the company, and by cooperative effort making sure that the benefits and burdens from any courses of action taken will be shared equitably."

Gayle, John B. / How Job Pressure Affects R & D Productivity. *Research Management* 20 (no. 2):35–37 (Mar 1977).

This brief article concludes that encouragement toward increased productivity is best directed toward the average or near average employee. The unproductive employee is unlikely to be changed, while the highly productive one is "best left to his own devices."

Globerson, Shlomo / The Just Noticeable Difference in Complexity of Jobs. *Management Science* 23 (no. 6):606–611 (Feb 1977).

"To enable the job designer to evaluate the nature of jobs and to compare the complexity of one job to another," this paper reviews the historical relationship of increased job specialization and heightened interest in job enrichment programs and proposes a mathematical formula for the measurement of job complexity. In devising a method of calculating the magnitude of Non-Repetitive Time (NRT) that can be subjectively perceived as significant, Globerson provides a valuable concept for the evaluation of job enrichment programs which claim to increase job variety.

Hellwig, Karl D. / Ten Steps Toward Successful Work Measurement. *Management World* 5 (no. 11):3–6 (Nov 1976).

This "how-to" article addresses supervisory management and proposes the following steps as guidelines for planning and establishing a work measurement program: (1) Thoroughly inform all staff; (2) Review and analyze operations; (3) Develop and discuss work simplification; (4) Instruct employees and install improved methods; (5) Compile and code an operations list; (6) Study and measure operations; (7) Install activity and attendance reporting; (8) Report to and counsel management; (9) Plan and improve performance; and (10) Improve and control operational activities. Hellwig offers insights for the successful use of this organizational development tool, with particular emphasis on frequent interaction with staff.

Hess, Robert H. / A Supervisory Development Program—On Video Tape. *Personnel Journal* 56 (no. 1):34–36 (Jan 1977).

The author discusses an eight-hour workshop on interviewing skills which involved video taping and role playing techniques. One result of the program was an increase in the self-esteem among the participants taped. The increase in self-esteem among the supervisors led to improved supervisor-employee relations.

Hunt, Eugene H. / Expanding Your Repertoire of Managerial Behavior: Development of Human Skills Through Tape Cassettes. *Management World* 5 (no. 1):21–23 (Jan 1976).

This is a bibliographic essay of sorts which enumerates the advantages of recorded instructional and discursive training materials and describes the range of topics currently available from management and associations and their distributors.

Jackson, Sister Margaret Ann / Continuing Education in Eight Allied Health Professional Organizations. *Adult Leadership* 25 (no. 5): 153–156 (Jan 1977).

A comparison and contrast approach is used among eight health professional organizations in terms of 1) their encouragement or requirement of continuing education on the part of their membership, 2) offering of some specific system of participation, and 3) the specific nature of the educational activity (workshops, self-study, formal course work, publications, etc.). It is concluded that the diversity of the requirements of professional associations and the differing nature of the programs make it difficult for educational institutions to provide relevant opportunities.

Johnston, Wallace R. / Orientation Programs: Meeting the Real Needs. *Management World* 6 (no. 2):3–5 (Feb 1977).

Orientation programs conducted on the basis of "unfounded assumptions about the capabilities, feelings and expectations of new employees" are shown to adversely affect turnover, attendance and job performance. Johnston enumerates his own broad guidelines for a well-planned and monitored orientation program linked to the selection process.

Kaufmeyer, Richard A. / Thinking of Starting a Skills Inventory System? *Management World* 5 (no. 9):15–16 (Sep 1976).

Before authorizing the implementation of a Skills Inventory System, management must be able to determine its potential advantages, costs and benefits. While the costs of developing and operating an internal system can be reliably estimated, the benefits derived are intangible. Kaufmeyer argues that "once management acknowledges that benefits cannot be measured accurately in terms of dollar savings and net worth," they will focus on the system's value in monitoring personnel assets.

Livingston, Donald G. / Rules of the Road: Doing Something Simple About Conflict in the Organization. *Personnel* 54 (no. 1):23–29 (Jan–Feb 1977).

This article reports on the use of an effective method for resolution of conflict, in this case, interdepartmental. The rules used in resolving the conflict ask "What am *I* doing that *I* can control that is causing problems between us?"

Reber, Robert E. / Some Key Principles for Guiding Adult Education Programs. *Adult Leadership* 25 (no. 4):117–118 (Dec 1976).

This is a brief articulation of the principles in adult learning that contribute to the foundations of an effective adult education program. The sixteen principles are grouped under the following headings: characteristics of adult learners, how adults learn, the teaching-learning transactions and evaluation of learning.

Schneier, Craig Eric / Multiple Rater Groups and Performance Appraisal. *Public Personnel Management* 6 (no. 1):13–20 (Jan–Feb 1977).

There are benefits in using several groups such as subordinate, supervisor, peer, self or field reviews in performance appraisal. Differences between groups can occur and can be incorporated with the performance appraisal system being more objective and job-related and more responsive to anti-discrimination legislation.

Umstot, Denis D. / MBO + Job Enrichment: How to Have Your Cake and Eat It Too. *Management Review* 66 (no. 2):21–26 (Feb 1977).

Umstot reports of a successful attempt to linking goal setting with job enrichment, thereby simultaneously achieving the state of higher productivity and employee satisfaction.

Villareal, Morey J. / Improving Managerial Performance. *Personnel Journal* 56 (no. 2): 86–89, 96–97 (Feb 1977).

The key element in the job performance planning and assessment system discussed by the author requires one to clearly define "performance impact factors and standards." The manager and subordinate work closely together to develop these factors and standards which in turn become the tools used in evaluating job performance.

Whitsett, David A. / Where are Your Unenriched Jobs? *Harvard Business Review* 53 (no. 1):74–80 (Jan–Feb 1977).

A fundamental condition which must exist prior to job enrichment efforts is the structural opportunity to redesign the job. There are obvious clues such as the creation of assignments with titles containing words "reviewer," "checker," or "inspector" to help identify positions which differ significantly from the definition of the well-defined job.

Yorks, Lyle / Managing Professional Relationships: Part I—Communication Skills. *Journal of Systems Management* 28 (no. 1): 6–12 (Jan 1977).

The first of the two parts presents a model for increasing communications skills, including a framework for recognizing and avoiding interpersonal conflicts of "style."

Yorks, Lyle / Managing Professional Relationships: Part II—Influencing Skills. *Journal of Systems Management* 28 (no. 3):6–12 (Mar 1977).

The second part focuses on the influencing process. A step-by-step model for overcoming conflict on substantive issues is discussed. The process is designed to obtain the commitment of others to the professional's proposal.

COMING EVENTS

Aug 11–13. Midcontinental Regional Medical Library Group, Annual Meeting . . . Vermillion, S.D. Theme: Patient Education. Contact: Patrick Brennan, Director, Lommen Health Sciences Library, University of South Dakota, Vermillion, S.D. 57069.

Aug 15–16. Institute on Federal Library Resources . . . Washington, D.C. Sponsor: The Catholic University of America Graduate Department of Library Science. Fee: $230. Write: Director of Continuing Education, The Catholic University of America, Washington, D.C. 20064.

Sep 5–10. IFLA 50th Anniversary, 1927–1977 . . . Brussels, Belgium. Theme: Libraries for All—One World of Information Service, Culture and Learning. Write: Belgian Organizing Committee IFLA 1977, c/o Congress Centre, Service belge des échanges internationaux, 80–84 rue des Tanneurs, B-1000 Brussels, Belgium.

Sep 9. Maps in Libraries—An Update, Workshop . . . Travelodge Motel, Urbana, Ill. Sponsor: University of Illinois Graduate School of Library Science. Fee: $10. Write: Edward C. Kalb, Office of Continuing Education, 116 Illini Hall, University of Illinois, Champaign, Ill. 61820.

Sep 12–15. International Congress on National Bibliographies . . . Paris, France. Sponsors: Unesco and IFLA. Proceedings conducted in English and French. Write: Division of Documentation, Libraries, Archives and Book Promotion, Unesco, 7, Place de Fontenoy, 75700 Paris, France.

Sep 14–16. FID/CCC Central Classification Committee, Meeting . . . Madrid, Spain. Write: FID Secretariat, 7 Hofweg, The Hague, Netherlands.

Sep 20–23. Aslib 51st Annual Conference . . . University of Lancaster, England. Write: Aslib, 3 Belgrave Square, London SWIX 8PL, England.

Sep 26–29. International Micrographic Congress, 9th Annual Convention . . . Washington, D.C. Theme: The Use of Micrographics in Government. Contact: G. J. Bujkovsky, P. O. Box 22440, San Diego, Calif. 92122.

Sep 26–Oct 1. American Society for Information Science, 40th Annual Meeting . . . Conrad Hilton Hotel, Chicago, Ill. Theme: Information Management in the 1980s. Write: ASIS, 1155 16th St., N.W., Washington, D.C. 20036.

Sep 27–29. NMA/IMC Midyear Meeting . . . Washington Hilton Hotel, Washington, D.C. Theme: Micrographics—A Partner in Emerging Technologies. Sponsors: National Micrographics Association and International Micrographic Congress. Contact: NMA Conference Department, 8728 Colesville Road, Silver Spring, Md. 20910.

Sep 27–29. Fifth Data Communications Symposium . . . Snowbird, Utah. Sponsors: IEEE Computer Society, IEEE Communications Society, and ACM Special Interest Group on Communications. Write: Executive Secretary, IEEE Computer Society, P. O. Box 639, Silver Spring, Md. 20901.

Sep 28–30. Missouri Library Association, Annual Conference . . . Ramada Inn, Columbia, Mo. Theme: Networking. Write: Marilyn Lake, Executive Secretary, MLA, 403 S. 6th St., Columbia, Mo. 65201.

REVIEWS

Pictorial Resources in the Washington, D.C. Area. Compiled by Shirley L. Green. Washington, D.C.; Library of Congress, 1976. 297p.

This reference indicating agencies and institutions in the Washington, D.C. area where pictorial materials can be located is the most comprehensive volume of its kind since 1966, when Legare H. B. Obear, edited *Library of Congress Library and Reference Facilities in the Area of the District of Columbia.* Another such work edited by Ann Caffrey, and entitled *Capital Mediaguide 1: A Guide to Libraries, Information Centers, Bookstores, and Media Stores in the Washington, D.C. Area* was published in 1970. Although this was a com-

posite of all media, not just pictorial resources, it was neither as comprehensive as Green's volume nor the 1966 volume by Obear.

The inclusiveness of Green's work spans every conceivable area of interest. *Pictorial Resources* does exactly what the compiler intends for it to do:

> The directory is designed to provide information on the availability of visual materials in the Washington area not only to specialists working in the media but also to a wide variety of other potential users of pictorial materials. (p. vii)

Green does not purport to have listed all resources in the area. However, so many valuable collections have been listed that the audience drawn to this volume can readily overlook the omittance of a few of the resources.

Some of the well-known federal and district collections listed are: 1) National Museum of History and Technology with its *Department of Applied Arts* containing prints and reproductions pertaining to printing techniques from the 16th century to date, *Department of Cultural History* containing approximately 1,-700 American and European fashion plates, transparencies, and daguerreotypes from 1796–1890, *Department of Industries* containing photographs and films about agricultural machinery and technology, as well as, mining methods, *Department of National and Military History,* and *Department of Science and Technology;* 2) The District of Columbia Public Library (Martin Luther King, Jr. Memorial Library); 3) Library of Congress; 4) National Archives and Records Service; 5) National Museum of Natural History; and 6) National Gallery of Art.

Several lesser known federal collections included are: 1) *Bureau of Outdoor Recreation* with a relatively small file of photographs and slides of individuals engaged in outdoor recreational activities; 2) *Export-Import Bank of the United States* containing color prints of manufactured products in foreign countries; 3) *Drug Enforcement Administration* containing color prints and transparencies, black and white photographs pertaining to drugs and drug abuse, and international trafficking and law enforcement; 4) *National Ocean Survey* with color and black and white photography concentrating on aeronautical and nautical charting programs.

Other district collections listed are the Board of Education (Educational Media Center of the District of Columbia Public Schools), Department of Human Resources, and the Washington Metropolitan Area Transit Authority.

International collections included range from the International Labor Organization to the United Nations Information Centre. Well-known and less well-known private collections are listed also.

Pictorial Resources in the Washington, D.C. Area is relatively easy to use because of its arrangement:

> . . . the directory is divided into two major sections listing government and private organizations, respectively. The government section is further subdivided into agencies and units within agencies. (pp. vii–viii)

The first part of the book describing U.S. government agencies takes up approximately half of the book. The D.C. government agencies are listed next, followed by the international organizations. The last group is private organizations, followed by a useful index listing subjects, agencies, and institutions. Even though the volume is easy to use, some may find the section on government agencies a bit difficult because the agencies are not listed alphabetically under the sub-divisions. However, one may readily refer to the index which will immediately guide him to the agency he is seeking.

In addition to describing in detail the pictorial collections, this book includes the hours of operation of the agencies and the availability of reproductions of pictorial works.

Librarians and media specialists should consider this volume a must for their collections. In addition, every researcher, and each individual in charge of exhibits and/or public relations will also find this an invaluable volume.

Dolores C. Leffall
Moorland-Spingarn Research Center Library
Howard University
Washington, D.C.

PUBS

(77-061) **Serials Updating Service Annual 1976.** Sweeney, Mary Jo and Judith Horn, eds. Westwood, Mass., F. W. Faxon, 1977. 158p. $10.00. ISSN 0095-2702

Covers such information as: title changes, combined and out-of-print issues, mergers, and delayed, discontinued, irregular, resumed and suspended publications.

(77-062) **Information Sources in Transportation, Material Management, and Physical Distribution; An Annotated Bibliography and Guide.** Davis, Bob J., ed. Westport, Conn., Greenwood Press, 1976. 715p. $35.00. LC 75-23864 ISBN 0-8371-8379-0

Books, government publications, organizations, educational materials and activities, statistical publications, and atlases and maps have been included.

(77-063) **Cumulative Subject Index to the Public Affairs Information Service Bulletins 1915–1974.** Blackmore, Ruth Matteson, ed. Arlington, Va., Carrollton Press, 1977. 15v. $1,075.00 (pre-publication price). LC 76-50520 ISBN 0-8408-0200-5

(77-064) **Information Processing in a National Professional Association: Programs of the American Medical Association.** Crawford, Susan. Tempe, Ariz., World Information Systems Exchange, 1976. 39 p. ISBN 088-254-177X

Volume 1, issue 3 in Automated Activities in Health Science Libraries series. Four issue series, $50.00 ($40.00 LARC Association members), as well as individual issues available from: World Information Systems Exchange (WISE), 2121 South Mill, Tempe, Ariz. 85282.

(77-065) **Perspectives in Information Science.** Debons, Anthony and William J. Cameron, eds. Leyden, Netherlands, Noordhoff, 1975. 797p. ISBN 90-286-0583-5

Proceedings of the NATO Advanced Study Institute held in Aberystwyth, Wales, Aug 13–24, 1973. For ordering information, contact: Noordhoff International Publishing, P.O. Box 26, Leyden, Netherlands.

(77-066) **Video in Libraries: A Status Report, 1977–78.** Goldstein, Seth. White Plains, N.Y., Knowledge Industry Publications, 1977. 104p. $24.50. LC 77-3554 ISBN 0-914236-07-5

Much of the information in this report was obtained through a mail and telephone survey of public libraries. Attempts to provide up-to-date picture of video's role in specific libraries. Examines the potential, performance, and problems of video.

(77-067) **Anglo-American and German Abbreviations in Science and Technology.** Wennrich, Peter. 1st ed. New York, R. R. Bowker, 1976–77. 3v. $24.00 per volume. ISBN 0-7940-1024-8 (part 1), ISBN 3-7940-1034-5 (part 2), ISBN 3-7940-1044-2 (part 3), ISBN 3-7940-1014-0 (3-volume set)

Part 1 covers A–E. Parts 2 and 3 are expected to be available in spring and summer 1977, respectively.

(77-068) **Directory of Continuing Education Opportunities for Library/Information/Media Personnel, 1977.** 2d ed. Continuing Library Education Network and Exchange. Washington, D.C., CLENE, 1977. 265p. $25.00 ($15.00 CLENE members).

Arranged by subject, with geographical, primary sponsors, and individual leaders listings.

(77-069) **Biblioteksadministration 1. Om samverkan.** Möhlenbrock, Sigurd. Lund, Bibliotekstjänst, 1976. 184p. 58:85 Swedish crowns. ISBN 91-7018-143-8

In Swedish. Available from: Bibliotekstjänst AB, Fack, 221 01 Lund 1, Sweden.

(77-070) **Nonprint Materials on Communication; An Annotated Directory of Select Films, Videotapes, Videocassettes, Simulations and Games.** Buteau, June D., Metuchen, N.J., Scarecrow, 1976. 444p. $16.00. LC 76-21857 ISBN 0-8108-0973-7

Approximately 2,235 listings arranged by subject within sections devoted to the specific media.

(77-071) **International Bibliography of the Book Trade and Librarianship.** 11th ed., 1973–1975. Lengenfelder, Helga and Gitta Hausen, eds. New York, R.R. Bowker, 1976. 704p. $49.50. ISBN 3-7940-1247-X

Geographical listing of monographs, doctoral theses, periodicals, and other reference works published from 1973–1975. Author/editor and subject indexes included.

(77-072) **National Information Policy.** Domestic Council Committee on the Right of Privacy. Washington, D.C., National Commission on Libraries and Information Science, 1976. 233 p. $4.65 (U.S. Govt. Print. Office, S/N 052-003-00296-5)

Examination of and recommendations for the establishment of a national information policy.

(77-073) **Bericht über die 15. Tagung in Düsseldorf, 18. bis 21. März 1975.** Arbeitsgemeinschaft der Spezialbibliotheken (ASpB). Berlin, ASpB, 1976. 260p.

Report of the 15th meeting of the ASpB. The main topic was "Special information and supply with literature. Points of main effort and systems." Available from: Universitätsbibliothek der Technischen Universitat Berlin, Abteilung Publikationen, Strasse des 17, Juni 135, D-1000 Berlin 12.

(77-074) **Copyright in Canada: Proposals for a Revision of the Law.** Keyes, A.A. and C. Brunet. Hull, Quebec, Consumer and Corporate Affairs Canada, 1977. 245p. ISBN 0-662-00564-3 (Cat. no.: RG 43-15/1977)

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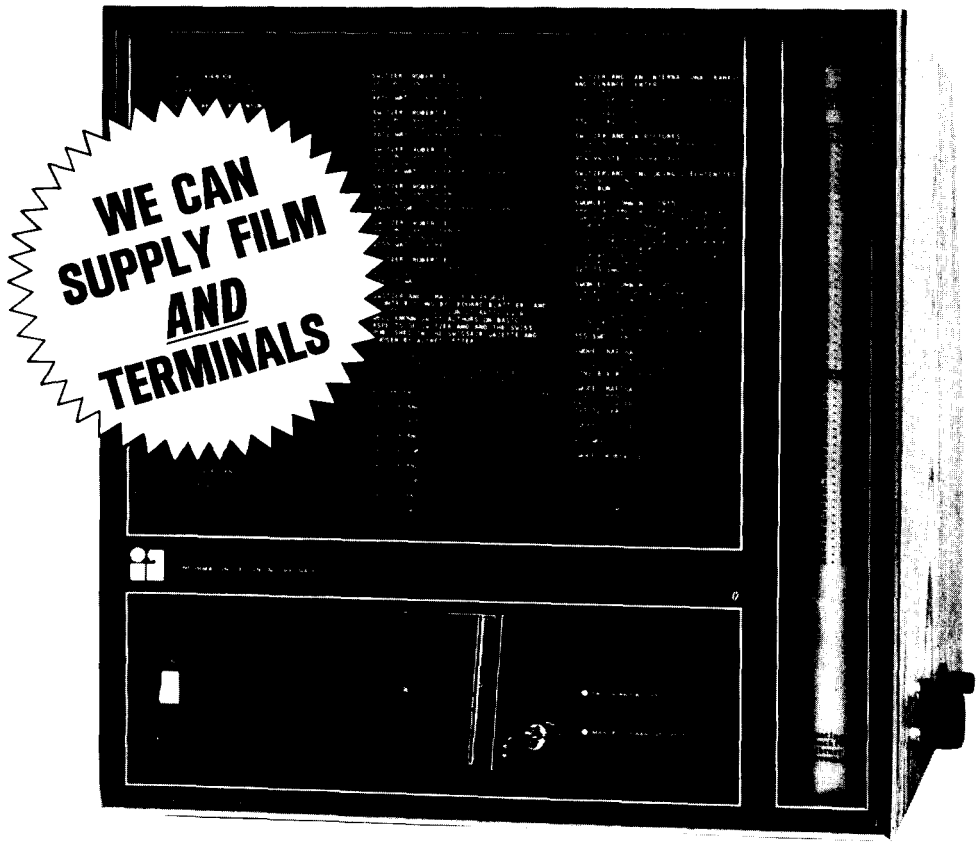

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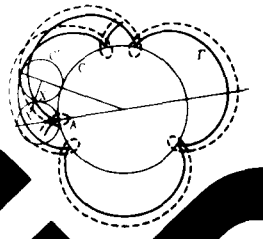

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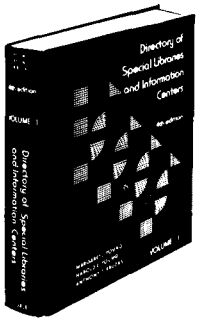

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