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special libraries

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- ☐ Libraries as Businesses
- ☐ Energy Information
- ☐ Picture Professionalism
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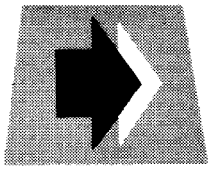

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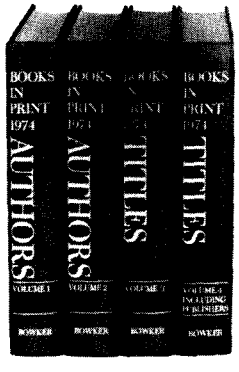

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LETTERS

An Addition

Jo Epstein's article in *Special Libraries* ["An Early Warning System for Monitoring State Legislation." 65 (no.4): 161–168] April 1974, is a thought-provoking one; however, though I do not wish to comment on her legislative sources for other states, I would like to take issue on those listed for Washington State.

In the first place, she has listed the Seattle Chamber of Commerce, which is the last source we'd ever turn to, and has ignored, among others, the *Seattle Times,* the Association of Washington Cities, Washington State Research Council, and, last, but never least, the Washington State Library which is always on top of state legislation.

While "Status of House Bills" is prepared by the Chief Clerk of the House of Representatives, "Status of Senate Bills" is prepared by the Secretary of the Senate, Washington State Legislature.

Margaret E. Chalfant
Seattle Public Library
Seattle, Wash. 98104

A Comment

I couldn't agree more with your editorial in the April 1974 issue. The question of why librarianship is a disadvantaged profession —if indeed it is recognized as a profession at all—has always bothered me.

In my own field of hospital librarianship, the problem has become obvious in several ways. For example, preliminary results of a recent survey of 223 personnel that staff New Jersey hospital libraries revealed that only 17 had a Master's degree.

About a month ago, I received a letter from a person who stated that she was in charge of setting up a medical and nursing staff library but she "unfortunately" had no training in library work. She therefore requested that I send her some information that would be helpful in setting up a library. This situation is entirely too common in the hospital medical library field. (Since this person is a nurse, I was tempted to ask her if she could send me information so that I could become a nurse.) In contrast to professions such as nursing, teaching, or engineering, it seems that the only qualification needed to call oneself "librarian" is to be hired as one.

While I realize that many people not professionally trained in librarianship have become fine librarians through long experience on the job, the fact that untrained people are hired and immediately given the title of "librarian" downgrades the profession by implying that no special training is necessary. Or is it that we librarians have deluded ourselves by thinking that a master's degree is necessary?

The situation might be improved by the honest discussion of these problems and the introduction of courses in management into the library school curriculum. Management skills are required even in a one or two-person library and are essential if librarians are to interact as equals with other management professionals.

Ruth Rosensweig
Medical Library
St. Joseph's Hospital
Paterson, N.J. 07503

Environmental Info

Marta Dosa's article in the April 1974 [65 (no.4): 189–193] *Special Libraries* "An Integrating Approach to Environmental Information," discussed "disciplines and professional approaches" to environmental data.

A notable omission is professional approaches in fish and wildlife management. Animals have long been considered prime biological indicators of environmental quality, ever since canaries were used in mines. Today they constitute man's early warning system, forecasting environmental crises.

Fish and wildlife literature is covered by abstracting services such as *Sport Fishery Abstracts* and *Wildlife Review;* by libraries such as the National Library of Natural Resources, and the research libraries of the U.S. Fish and Wildlife Service; and by data bases such as that of the Denver Public Library's Fish and Wildlife Reference Service.

The Reference Service may be an example of the "hidden collections" referred to by Ms. Dosa. Although it has been a computer-based information retrieval system for eight years, it is not yet well-known outside the community of "cooperators" using the service. The data base covers, selectively, that portion of the fish and wildlife literature produced under two multi-million-dollar state-level research programs: the Anadro-

mous Sport Fish Conservation Program, and the Federal Aid in Sport Fish and Wildlife Restoration Program.

As Project Leader of the Fish and Wildlife Reference Service, I welcome all attempts to develop models for cross-disciplinary information seeking, to follow non-conventional channels for finding information, and to bring environmental information under bibliographic control as well as to facilitate access to this information.

The Special Libraries Association has taken an active role in these activities, from publications to workshops, to development of the Natural Resources Division, and to cooperation among all environmentally oriented SLA Divisions. With this type of activity going on, the future looks good for environmental information services.

Barbara L. Wagner
Library Reference Service
Federal Aid in Fish and Wildlife
Denver Public Library
Denver, Colo. 80223

Frustrated

I am highly disturbed about the last paragraph in your April, 1974 editorial.

We hear, over and over again, that we must *sell, sell, sell.* We *try, try and try,* again. Does it ever occur to you, that most of us do this every day of our working lives, and that, eventually, one becomes extremely fatigued, overwhelmed and discouraged by the constant mental block of male dominated managements in industry. The old image of the librarian, I am convinced, is bred into children of yesterday and today; thus no matter how understanding and receptive managers may be, they can never really overcome the view of the "little old lady" librarian.

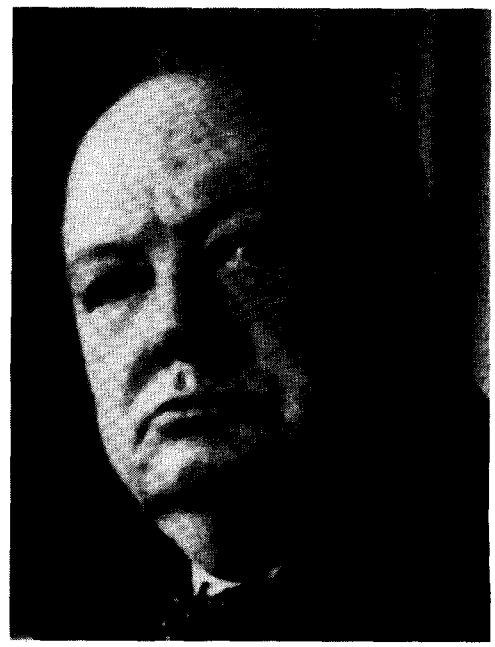
I am sure that the progress and use of the library in an organization depend solely upon the manager directly in charge of a library. If he is enlightened about libraries, and uses them, the librarian benefits immensely. If, on the other hand, the librarian, in transferring to another division, is placed in the computer for salary payments as a clerical by that manager, doesn't this indicate the idea of the place of the library in the organization in that man's mind? Only salary surveys whose results show what the management wishes to see are accepted for use. When one is not permitted to attend SLA Conferences, even though budget money is allowed, although the top department manager never enters the library, never converses with the librarian to find out the quality of the work done, he thinks it not necessary to allow the librarian a continuing education, it's despair making.

It has been quoted to me that "I don't want my men sitting in the library, reading" in spite of notice after notice explaining that all one needs do, to get library help, is to pick up the phone. One then needs to go about attaining the ends of the library in devious ways, which is no end disturbing.

You know, dear Editor, a few years of this, beats one down. Don't say, "change your job," you can get locked in with pensions and age; and one does have the few bright spots, when a devoted user says, "that's exactly what I wanted! Thanks so much."

Anonymous*

* Although *Special Libraries* does not normally print anonymous letters to the editor, in view of the nature of this letter we have agreed to the author's request for anonymity. Ed.



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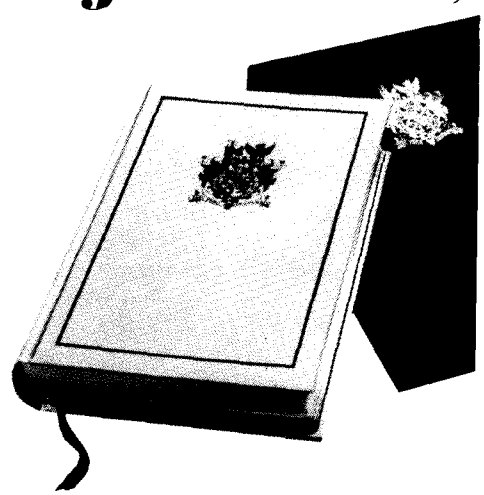

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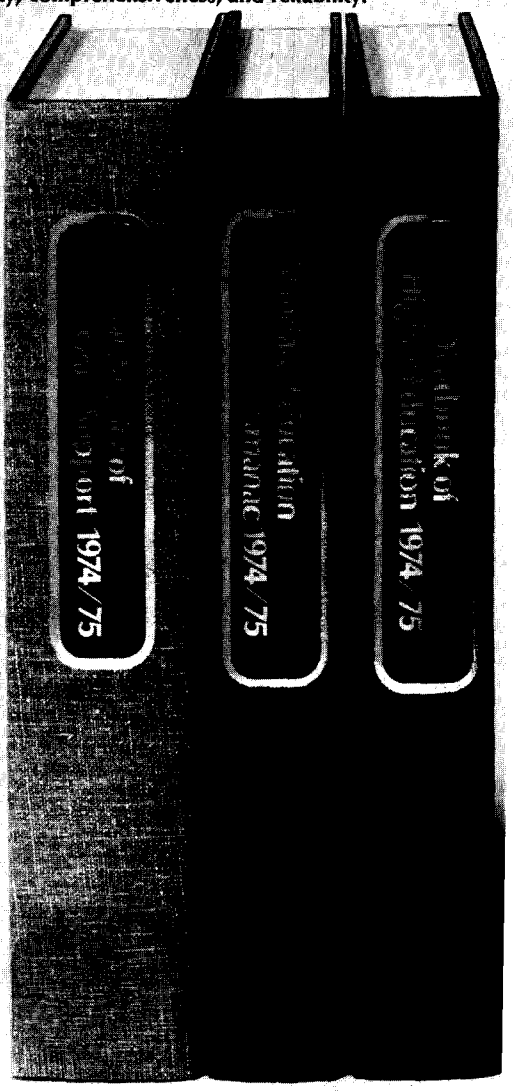

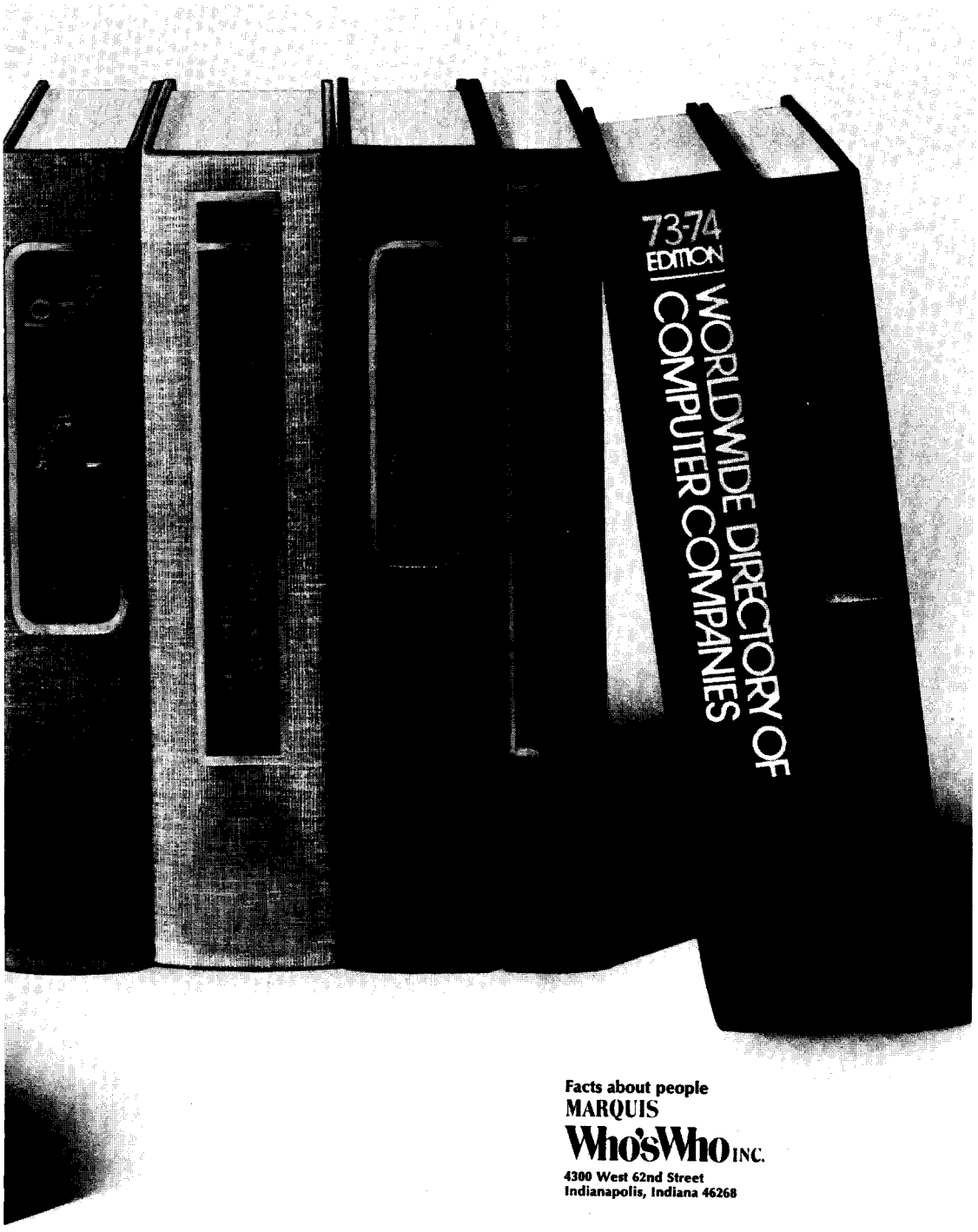

Libraries Are Businesses, Too!

Shirley Echelman

Chemical Bank Research Library, New York, N.Y. 10015

■ The working environment of the special library is discussed, along with the library's relationship to the larger institutional environment of which it is an integral part. The framework for this discussion is the corporate business library, because that is the type with which the author is most familiar; but most of the points made here can be applied to many other kinds of libraries as well.

TO BE successful the business librarian must learn to speak and understand the language of business. He must do this not only to be able to serve his constituents, but also to function as an accepted member of the professional and managerial staff of a modern corporation. In other words, if the librarian wants his boss to understand and support the company library, he had better be prepared to discuss his own work in his boss's terms.

Organizational Policy and Goals

The purpose of a corporate library is to provide information that supports the company's work and furthers its goals. In order to do this, the library must have a close identification with, and knowledge of, the parent organization—its structure, personnel, products, policies, plans, and the political interaction of people and departments. For this reason, the library should be situated high enough in the corporation's organization chart so that it is perceived as a part of the "management support structure," especially in terms of receiving information about the company and its plans. For example, my library reports to the Vice-President for Economic Research, who reports to the Vice-Chairman of the Board of Directors. Dependence upon a "trickle down" process for keeping the library informed about company plans and policies will eventually result in information service which is irrelevant to the company's needs. I know of a number of cases in which haphazard information flows to the company library have resulted in cuts in staff, services, and budget; and eventually in situations in which the company's employees begin to bypass their own library completely in the urgent search for information. At that point, the library becomes a decorative flower in the corporate buttonhole—certain to wither and be discarded.

The Chief Librarian in Business

The primary responsibility of the corporate chief librarian is to establish and maintain liaison with other department and division managers, to ascertain needs and evaluate trends, and to direct the work of the library so that it meets current needs and is prepared for changes in direction before they occur.

The second responsibility of the chief librarian is to manage the operations of the library; and this responsibility includes personnel management, financial management, plant and product management and product marketing management. It is therefore clear that the chief librarian must have strong management skills and a personality which is suitable to a managerial role. Unfortunately, those skills most essential for success in running a corporate library are often not part of the curriculum of the graduate library school. In fact, they are usually taught in the business school; and it would seem to be enormously useful for the library science student who is considering a special library career to have credited access to business school courses such as the following: finance, accounting, personnel management and corporate planning.

While skills and techniques such as those mentioned above can be learned, certain personality qualities just as essential for the library manager are much harder to acquire. Psychologists think that these traits have normally been woven into the fabric of the personality by early adolescence, long before anyone thinks about applying to a library school. The following list results from my own observations of colleagues who are especially successful at their jobs. Another person, observing the same group, might add to or subtract from the list; but the differences would probably not be very great.

First—an analytical intelligence. This includes the capacity for walking a problem through your mind, step by step, examining each step as it is made, and arriving at a conclusion based on careful examination of all available possibilities. This is a very different way of approaching a problem from that employed by a person with a creative intelligence. Creative intelligence, that ability to make leaps of imagination and understanding, often produces a fine reference librarian, more often a painter or a mathematician but a strong dose of analytical intelligence is much more important for a library manager.

Second—self-confidence. This includes enough belief in one's own judgment to hire the best people one can find and then leave them free to do their jobs. Too many managers, and this includes all kinds of managers, do not know the difference between supervision and nagging. The fear of delegating responsibility and of being held accountable for mistakes is at the root of much undue managerial interference in staff work, and it is also at the root of a lot of staff dissatisfaction. Self-confidence, of course, is considerably buoyed by a good grasp of management skills and these *can* be learned.

Third—flexibility. I refer here to that quality which allows one to be persuaded by fact and reason, but not too easily. The flexibility of shoe leather rather than that of the cooked noodle. The manager may enter a situation in which he thinks he has an absolutely clear view of what is going to occur. However, a rigid adherence to that vision often means that adequate solutions are bypassed if they do not quite fit the original view.

Fourth—a highly developed sense of humor. Not much elaboration is necessary on this point. After you encounter your fifth corporate executive in as many days who asks sweetly when the library is going to buy the latest porno classic, you will know exactly what I mean.

The fifth and sixth qualities are complementary, but not quite the same. They are patience and high frustration threshold. Working through a problem, be it the year's budget or the floor plan of a new library, with colleagues whose interests may differ greatly from yours, whose job it may be to keep your budget down while you are convinced that it must rise, for example, can be an excruciating exercise in patience. And since the nature of the corporate experience is to balance departmental against overall goals, frustration is a frequent occurrence.

The secret of a successful manager is that he is able to employ intelligence, self-confidence, patience and good humor to minimize the frustrations of corporate

reality and to maximize the satisfactions of his job and those of his staff members.

The Management of Personnel

While the size and quality of the collection in relation to the number of users determines the excellence of an academic library, the mark of a first-rate special library is always an intelligent, well-trained, reference-oriented staff. All staff members must be versed in the vocabulary of business and of the specific areas of enterprise in which the corporation is involved. At Chemical Bank, we do not have to know how to make a Eurodollar loan, but we are all expected to understand what a Eurodollar is. In many special libraries, reference librarians and catalogers are the same people, since a majority of these libraries have less than ten employees, including clerks and professionals. Therefore, flexibility is an essential quality for staff members as well as for the library manager.

There are two schools of thought on how to get the best staff. The first is to hire the most experienced people you can find and do as little in-house training as possible. The second is to hire bright but relatively inexperienced people and do a great deal of in-house training. The first method costs the library more in salaries at the outset, and the second costs more in training expense and time but less in salaries. Actually, most libraries combine the two methods in various ways; although in my opinion, the smaller a library is, the less it can afford to rely on in-house training.

The chief librarian is responsible for supervision of the staff and for such personnel functions as salary administration and promotion reviews. A good manager, while remaining as objective as possible, must be prepared to do battle in support of his staff. As the 1973 SLA *Salary Survey* demonstrates, librarians are underpaid in relation to most other scientific and technical professions, and women librarians are still earning only about 75% of male librarians' salaries. A substantial number of special library managers as well as employees are women, and one is led to speculate about whether the women managers are fighting any harder for staff raises than their male counterparts.

It is very important to establish a relationship of trust among all members of the staff. The quality of each staff member's work impinges directly on the work of everyone in the library. The librarians must be able to trust the filing accuracy of the clerks; the clerks must have confidence that the filing system is an efficient container for their work; and that, if it is not, their recommendations for change will be considered with respect by the professional staff. The technical processing people must have the assurance that their output is useful and relevant and that they are getting sufficient feedback from the reference staff about new subjects and terminology and time-tables for ordering and processing. The reference staff must be convinced that the information available in the library is well-organized, adequately classified and cataloged, filed away in a timely fashion, and generally available for reference use whenever it is required.

The whole staff needs to have confidence that the chief librarian understands and relates to their day-to-day problems, and that he will support and advance the library's "cause" in the larger environment of the parent organization. Last but not least, the library manager must be able to trust that the work of the library is proceeding apace and that snags and snares will be brought to his office when and as they occur. Please do not think that all this "trust" just happens. On the contrary, it is planted in a soil fertilized with experience, training, intelligence, careful supervision and candor; and it grows slowly. But once grown, it is a sturdy and fruitful plant—rare, but a joy to see.

Financial Management

In most corporate libraries, the responsibility for budgeting and expense control is borne by the chief librarian. He may call upon various staff members

to supply information for the budgeting process, and the heads of various departments within the library may be responsible for their departmental expenditures; but the final responsibility is his. If the manager is not responsible for financial management, he is not truly in control of the library.

The budgeting process—one of the most painful tasks I know—usually begins with the gathering of information on the current year's expenditures for periodicals, standing orders, monographs, microforms, computer use, supplies, salaries, etc. To this is added all available information about expected price increases, new materials and services to be ordered, necessary additional equipment and furniture, and an estimate about what the inflation factor is likely to be.

The framework for the budget is set by the company's controller. Each department manager normally uses a similar set of forms in preparing his budget. Expenses are usually projected on a quarterly basis. Some companies, however, require only a single projection for the year; the author's company requires month-by-month projections.

Once the budget is prepared with justifying documentation for all projected increases, it is presented to the chief librarian's supervisor. In some companies, the budget may go through various levels of management up to and including a budget committee composed of the chairman of the board, the president, and the controller. At any of these levels, the chief librarian must be prepared to defend the budget as presented, or to provide additional documentation to the reviewers. To reiterate, it is a painful process. The reward is that, by the time the chief librarian has gotten two successive budgets approved, he knows just about everything there is to know about how his department operates.

The yearly budget should be presented in the context of a long-range plan for the library which is in line with corporate plans and goals. This may be formal or informal, depending on the company; but it is important for the library manager to have the plan firmly in mind when the budget is prepared.

Expense control flows naturally from a well-prepared budget. It is merely a matter of comparing actual expenditures with budgeted amounts in each budget category, and making adjustments in current expenditures so that the budget is adhered to. This can be a very delicate balancing act, but it is not unduly difficult if the groundwork (the budget) has been well-prepared.

Plant and Product Management

The final product of a special library is a specific answer to a specific question. All of the tools at the librarian's command—the catalog, the files, the reference collection, interlibrary connections, knowledge of published and unpublished sources of information (both inside and outside the company), the librarian's own training, experiences, and intelligence—are employed to one purpose, i.e., finding the answer.

The question may be long or short, specific or broad; it may be answerable by a single figure or name, or it may require a multi-page bibliography, or the translation of several articles from Japanese into English. The answer may even be that there is no available information on the subject.

In this respect more than any other, the special library differs substantially from the academic and public library. The academic or public librarian fulfills an instructive function by acquainting users with the organization of the catalog and the collection; and by helping them to cast off on voyages of discovery in the world of literature and thought. The special library client does not expect to be instructed; he expects to be informed. It is the special librarian's job to search the catalog and the collection for the needed information. Often, the librarian is asked to conduct a complete literature search on a particular topic; but the client might just as easily request that several "relevant" articles be found, the decision as to relevance being left to the librarian. In

fact, this is the more common case in my library.

Therefore, special libraries are often organized in nonorthodox ways, with information retrieval thesauri (otherwise known as subject authority files) bearing little resemblance to classic lists such as Sears or Library of Congress.

Great reliance is placed on informal connections with other librarians; and the mutual exchange of information and easy interlibrary loan arrangements are the hallmark of the special library.

Keeping all of the above in mind, how does the chief librarian manage the library's product efficiently? Since information service is an art and not a science, there is no single answer to this question. However, there are several aspects which I would like to explore briefly.

The size of the collection is minimally important to the quality of information service. No special library could ever hope to have all the resources it needs in-house. In certain situations, excellent reference service can be provided, temporarily at least, by librarians armed chiefly with a good working knowledge of nearby libraries in similar fields of endeavor, a small reference collection, and a telephone equipped with a leased long-distance (WATS) line. Of course, interlibrary reference and loan services are reciprocal; and such a library must be able to return these services at some time in the foreseeable future.

Although collection size *per se* is of minimal importance, it is of great importance that the library be housed in spacious and comfortable surroundings. To expect the staff to produce quality work when they are housed in badly lit, crowded, or otherwise inadequate quarters is unreasonable; and it is part of the chief librarian's responsibility to convince management of that fact and to plan for and oversee the establishment of an adequate physical plant in which the library can operate. Unfortunately, the library is often competing with other, more directly profitable departments for space; but that should not deter the library manager. After all, information is a tool in business just as surely as a lathe is.

Efficient management of information must be predicated on the primary importance of reference service. No matter how many other jobs there are to be done, the staff should understand and accept that answering clients' information needs comes first. Acquisition, cataloging, filing, indexing are all support functions for reference work. Both accuracy and speed are important, although experienced librarians often make a judgment about whether a request with a rush label need really be rush priority, based on previous experience with the same client.

Emphasis must be placed on exhaustive search techniques before the decision is made that no information is available. My first supervisor instructed me that the library must "never say that there is no answer." Of course, that's utopian, but it's not a bad idea to aim at such an attitude. The least the librarian can do is to direct the client to an expert in the field who might be able to come up with an answer.

In order to foster a professional attitude toward information service, the staff should be given ample opportunity for interaction with other professionals —both librarians and subject specialists. Attendance at meetings and conferences is to be encouraged, and should be financed by the company if at all possible. Information sources change constantly, and the librarian needs to be in touch with current improvements in order to provide top quality service.

Marketing the Information Service

Every resource and process in the business world has a monetary value; and businessmen are used to the idea that raw materials, accounting and legal services, money borrowed from banks, and advertising on television all cost money. It is therefore often a surprise to find a lack of understanding that information, also, is a scarce and expensive commodity. One of the most difficult jobs of the business librarian, it seems, is to con-

vince the company's management that good information service is worth the money. Many library managers try to circumvent this problem by making do with less than they really need in order to do the job.

In my opinion, the correct way to tackle the problem is to market the library's services aggressively. Some library marketing tools are awareness bulletins, guides to the collection, slide shows of the library to be used at meetings, etc. The library should keep statistics on reference questions, materials on loan, number of visitors daily, and any other statistics that might be useful. These need not be elaborate, they may be collected on a random-sample basis; but they should be collected and summarized regularly, because they can be a formidable tool in convincing management of the value of library service.

The senior staff members should discuss the library's service and its relation to the company as a whole at orientation seminars, divisional meetings and wherever else they can get time on the program.

Most important of all marketing tools at the library's command, however, is a reliable and respected reference service. A researcher or corporate officer for whom you have answered a difficult question is your best salesman. Each reference request answered quickly and correctly is a building block in the library's marketing campaign.

Conclusion

Although this discussion was intended to concern itself with the environment of the special library and its relationship to the institution in which it operates, it actually has focused on the librarian in a corporate environment. As librarians in the business world, therefore, we will be regarded as professionals and paid professional salaries in direct proportion to our ability to perform that function for which we are uniquely suited and trained; and that function is the management of information.

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The Energy Crisis and Information

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■ There is a great deal of interest in energy information and a great deal of federal money being poured into energy research and development. To aid the harried librarian seeking information on these subjects, proposed congressional legislation is reviewed along with available sources of information on energy.

"THERE is no fire without some smoke" —according to an old proverb. By the same logic, where there are ten billion dollars in federal funds to be spent for energy research and development there is a lot of action—and this is a twentieth century fact of life.

While still reeling from the onslaught of the Environmental Decade and its mountain of information, we have suddenly been dropped into the Energy Crisis. This latest crisis promises to outdo both the Space Program and the Environmental Decade in the aggregate of information produced. To survive as users of this information, as decision- and policy-makers at all levels of government, and as locaters of this information, we shall have to scramble to keep up. Predictions that the future is information *(1)* and that "information is the key to the wise management of our future" *(2)* have almost become a reality.

The Interest in Information

In comparing conditions today with the national and international commitments to environmental matters, we find this interesting fact: the Energy Crisis has precipitated an almost immediate concern for the "collection, analysis, and interpretation of information and data relating to energy resources" *(3)*.

Perhaps the stage was set for this interest in information when, during his message to Congress on Apr 18, 1973, on energy policy, President Nixon specifically stated that "the Department [of the Interior] was to develop a capacity for gathering and analysis of energy data" *(4)*. With this directive, Interior Secretary Morton created five new energy-related offices, one of which was the Office of Energy Data and Analysis. This office "will be the focal point within the federal government for energy data and information," and "its information system will be tailored to meet the needs of government decision makers and will develop the capability to make policy implication studies and forecasts of energy supply and demand" *(5)*.

In August 1973 Representative McCormack of Washington introduced bill H.R. 9974 into the House of Representatives *(3)*. While calling for the establishment of a Department of Energy, the bill provided for a "national program for dissemination of scientific and technical

information." This was followed in September by a bill, introduced by Representative Charles Vanik of Ohio, for the Solar Energy Development Act of 1973 *(6)*. Section Four of this bill called for the establishment of a Solar Energy Data Bank by the National Science Foundation "to serve as a technical and scientific library and evaluation center with respect to the development and use of solar energy" *(7)*. In introducing this bill, Representative Vanik recognized that a "formidable obstacle to the implementation of solar technologies is the lack of a central clearinghouse for studies, reports, case histories and evaluative information. The data bank will not only collect vital information from worldwide sources but will also facilitate its dissemination." Since its introduction, the proposals of the Vanik bill have been largely incorporated into the McCormack bill, which was reported as being "in conference" in July of 1974.

In October 1973 an Atomic Energy Commission draft proposal for an Energy Data Bank was informally presented to the AEC Librarians' Workshop at Oak Ridge, Tennessee *(8)*. The draft proposes "the establishment of an energy documentation data bank making full use of existing resources, including services available from the private sector," and it points out "an evident need for an energy literature data base of sufficient dimension to provide bibliographic support for a massive energy research and development effort." It concludes, rightfully, that "as far as is known no such comprehensive system exists." The plan was approved by the commission and is being implemented.

If Senators Nelson and Jackson are successful, we shall soon have a National Energy Information System. A bill, S. 2782, was introduced in December 1973 to provide for the establishment of the Bureau of Energy Information *(9)*. This agency, the "co-equal sister agency of the Bureau of the Census" will operate within the Department of Commerce and "will draw on the work of public and private energy information gatherers and analyzers without displacing any of them." In summary, it is stated that "the purpose of this bill is to provide for the improved collection, organization, coordination and dissemination of energy information by a National Energy Information System. The bureau will have the authority to collect and coordinate energy information from the public domain . . . information collected now by some 64 Federal agencies . . . and essential information available only from private industry and/or its trade association." Hearings on S. 2782 have been held, and in July 1974 it was undergoing an executive review by the congressional committee. Ultimately, it will go to the Senate floor for debate and, if passed, will go on to the House of Representatives.

Information Sources Available Now

The situation is not hopeless because a national energy data bank does not exist *now*. As is the case with the environmental literature, our information resources are "fragmented" with all the attendant problems of duplication among abstracting services, incompatibility of data bases, and the multidisciplinary explosion of published information *(10)*. On the brighter side, as was pointed out in the AEC's draft proposal, "it was found that a very high percentage of the energy-related literature . . . some 90% . . . is already being covered by existing abstracting and indexing services" *(8)*. If this is true, what are the 90% and what do they cover?

Abstracting Services

To begin with the obvious, there are the extensive indexing and abstracting services that exist to help us in the established branches of science and technology and that cover some aspects of the energy problem: *Chemical Abstracts, Nuclear Science Abstracts, Engineering Index, Electrical and Electronics Engineering Abstracts, Government Research Abstracts, NASA's Scientific and Technical Aerospace Abstracts,* and the *Geo-*

logical Society of America's Bibliography and Index of Geology. For congressional hearings and related information the *Monthly Catalog of U.S. Government Publications* and the *Congressional Information Service* can be consulted. Current awareness of the daily news is provided by the *New York Times Index;* and for energy information related to the environment, we can review *Air Pollution Abstracts, Environment Abstracts, Water Pollution Abstracts,* and the *Meteorological and Geoastrophysical Abstracts*. However, there are a number of abstracting services specifically oriented toward the energy literature, and a look at these in some detail is worthwhile.

▲ *API Abstracts of Refining Literature*
American Petroleum Institute, 1271 Avenue of the Americas, New York, N.Y. 10020

This service, covering world-wide literature, supplies four publications on a subscription basis:

Petroleum Refining and Petrochemical Abstracts (weekly)
Abstracts of Air and Water Conservation Literature and Patents (weekly)
Abstracts of Transportation and Storage Literature and Patents (monthly)
Abstracts of Petroleum Substitutes Literature (monthly)

▲ *Chemical Abstracts. Energy Abstracts in Chemical Abstracts*
Chemical Abstracts Service, The Ohio State University, Columbus, Ohio 43210

Beginning in July 1974 the contents of *Chemical Abstracts* will be rearranged for better access to the energy-related abstracts. A new Section 52 entitled Electrochemical, Radiational, and Thermal Energy, will include all chemical and chemical engineering aspects of nonfossil energy sources other than nuclear fuels, propellants, and explosives. The present Section 52 (Coal and Coal Derivatives) will be combined with the present Section 51 (Petroleum, Petroleum Derivatives and Related Products) into a new Section 51 entitled Fossil Fuels Derivatives, and Related Products. The present Section 76, Nuclear Technology, will continue to include abstracts on nuclear fusion, radiation, and reactors.

▲ *Energy Abstracts*
Engineering Index, Inc., 345 East 47th Street, New York, N.Y. 10017

Initiated in April 1974 these abstracts will be available in a complete set or in any one of five designated subsets: Energy Conversion; Energy Utilization; Energy Sources; Energy Conservation; and Energy Production, Transmission, and Distribution. The complete set costs $187.50 for nine issues (April-December 1974), while the costs of the individual categories vary.

▲ *The Energy Index*
Environment Information Center, Inc., 134 East 39th Street, New York, N.Y. 10016

Published in December 1973, this service indexes information on the energy issue that has appeared in the past three years. Plans have been made to update this service annually with a new volume to be published in December each year. The prepublication price of the initial volume was listed as $37.50.

▲ *Energy Review*
Energy Research Corporation, 6 East Valerio, Santa Barbara, Calif. 93101

This bimonthly digest/review service was published for the first time early in 1974 and will cover books, conference proceedings, and nonbook materials, as well as articles from a wide number of periodicals. The subscription rate is $35/year for charter subscribers.

▲ *Fuel Abstracts and Current Titles*
The Institute of Fuel, 18 Devonshire Street, Portland Place, London, W.N. 2AU, England

These abstracts, published monthly, include information in twenty-two subject categories: natural solid fuels; solid fuels; derived solid fuels; natural liquid

fuels; liquid fuels; derived liquid fuels; natural gaseous fuels; gaseous fuels; derived gaseous fuels; by-products derivable from fuels; lubricants; nuclear fuels and power; electric power generation; steam raising; engines (including steam engines); combustion; industrial furnaces/kilns, incinerators, and driers; refractories and their utilization; space heating and cooling; pollution; fundamental science relating to fuel technology; analysis, testing, measurement and instruments. The subscription rate is £30/year, including indexes and postage.

▲ *Gas Abstracts*
Institute of Gas Technology, 3424 South State Street, Chicago, Ill. 60616

These abstracts include information in nine subject categories: management techniques; supply, production, and processing; transmission; storage and peakshaving; distribution; utilization; appliances and equipment; instrumentation and analytical methods; L-P gas operation. Published monthly at a subscription rate of $35/year, including the cumulative index.

▲ *International Petroleum Abstracts*
Applied Science Publishers, Ltd., Ripple Road, Barking, Essex, England

Formerly entitled *Abstracts of the Institute of Petroleum,* this quarterly service is available at an annual fee of £8.00. Principal subjects include: oil field exploration; transport and storage; refinery operations; corrosion; products; engines and automotive equipment; safety precautions; economics and marketing; pollution; education and training; miscellaneous subjects.

▲ *National Coal Board Abstracts*
National Coal Board, Research and Development Department, Coal House, Lyon Road, Harrow, Middlesex, England

Abstracts A: Technical Coal Press (monthly)
Abstracts B: Coal and Mining Geology (bi-monthly)
Abstracts D: Fluid Mechanics (bi-monthly)
Information Bulletin: Coal Processing and Combustion (10 per year)

These series of abstracts are prepared principally for use within the National Coal Board. However, they are also sent to other organizations with similar interests at their discretion. (Private communication from the National Coal Board.)

▲ *NSF-RANN Energy Abstracts*
Oak Ridge National Laboratory, Oak Ridge, Tenn., Miriam P. Guthrie, Editor

The National Science Foundation, Research Applied to National Needs Program sponsors this monthly abstract journal of energy research. The objective of the publication is "to disseminate as rapidly as possible the published results of work performed under the Energy Research and Analysis category of RANN. Other energy research results will be covered as far as possible." The abstracts include research on such topics as: energy resources; electric power generation; supply and demand; transmission; unconventional energy sources; environmental effects caused by the production of energy; and energy use in relation to transportation. Individual issues are available from the National Technical Information Service, Springfield, Va. 22151.

▲ *Petroleum Abstracts*
The University of Tulsa, Department of Information Services, Tulsa, Okla. 74110

Petroleum Abstracts review, on a weekly basis, the global literature of interest to the petroleum industry. A machine-readable data base of the abstracts exists for retrospective searching. The subscription rate must be established on an individual basis.

▲ *Weekly Government Abstracts: Energy*
National Technical Information Service, Springfield, Va. 22151

This weekly announcement contains reports on energy sources; energy use; supply and demand; power and heat

generation; energy conversion and storage; energy transmission; fuel conversion processes; and energy policies, regulations and studies. An annual subscription costs $22.50.

▲ *Weekly Government Abstracts: Natural Resources*
National Technical Information Service, Springfield, Va. 22151

This abstracting service includes report literature in the following subject categories: mineral industries, natural resources management, natural resource reviews, geology and geophysics, and hydrology and limnology. A subscription costs $22.50/year.

Newsletter/Digest Services

While abstracting and indexing sources are helpful for retrospective aspects of the energy literature, the newsletter/digest services are our most valuable sources of up-to-date information. While they ordinarily provide little in-depth coverage, they are extremely worth while for up-to-the-minute reporting of new legislation, appointments of personnel, and similar information. The following is not to be considered as a comprehensive list, but as a list of services available at the time of this writing.

■ *Energy Digest*

Previously entitled *Energy Conversion Digest,* it is published twice monthly by Scope Publications, Inc., 1120 National Press Building, Washington, D.C. 20004 and is available by subscription at $125/year.

■ *Energy Management*

Issued in a loose-leaf format on a weekly basis, this is a publication of the Commerce Clearing House, Inc., 4025 W. Peterson Avenue, Chicago, Ill. 60646. A subscription can be obtained at a cost of $160/year, or $144/year for two years.

■ *Energy Resources Report*

A weekly newsletter published by Business Publishers, Inc., P.O. Box 1067 Blair Station, Silver Spring, Md., at a subscription rate of $120/year.

■ *Energy Today*

Published by Trends Publishing, Inc., National Press Building, Washington, D.C. 20004, on a bimonthly basis. The subscription rate is $90/year first class surface mail and $95/year for domestic air mail.

■ *Energy Users Report*

This is a weekly publication of the Bureau of National Affairs, Inc., 1231 25th Street, N.W., Washington, D.C. 20037. The cost of a subscription is $184/year.

■ *PUR Energy and Environment Emergency Control Service*

Inaugurated in January 1974, this service issues bulletins at least every two weeks and more often if necessary. It is published by Public Utilities Reports, Inc., 1828 L Street, N.W., Suite 502, Washington, D.C. 20036 at a cost of $30/month.

■ *Weekly Energy Report*

Published by Weekly Energy Report, 1238 National Press Building, Washington, D.C. 20004. An annual subscription costs $250.

Energy Information in Conclusion

As can be seen, we are not destitute when it comes to sources of information on the Energy Crisis. A number of the abstracting services have their bibliographic information available both on machine-readable tapes and in a conventional format. However, it cannot be denied that these diverse elements can be better coordinated for more efficient use. Whether a National Energy Information System will evolve remains to be seen; it may meet the same fate as the National Environmental Data System, which died of a presidential veto. In the meantime, we can use the sources available to us and hope for a better day.

Acknowledgment

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Literature Cited

1. Henry, Nicholas / The Future as Information. *Futures* 5 (no.4): 392–400 (Aug 1973).
2. "Information for a Changing Society," Paris, Organization for Economic Cooperation and Development, 1971.
3. Congress, 93rd. First Session, House of Representatives / "Energy Reorganization Act of 1973." *H.R. 9974.* (A bill to establish a Department of Energy, August 3, 1973.)
4. Nixon, Richard M. / "Energy Policy." (The President's message to Congress announcing Executive actions and proposing enactment of bills to provide for energy needs, April 18, 1973.) *Weekly Compilation of Presidential Documents* 9 (no.16) (Apr 23, 1973).
5. "Interior streamlines energy organization." *Public Utilities Fortnightly* p.30 (Jun 7, 1973).
6. Vanik, Charles / "Introduction of the Solar Energy Development Act of 1973." *Congressional Record* E6002–E6004 (Sep 24, 1973).
7. Congress, 93rd. First Session, House of Representatives / *H.R. 10479.* (A bill to authorize and direct the Secretary of Commerce to study applications of solar energy, to establish a system of grants for solar energy research, and to establish the Solar Energy Data Bank.) Sep 24, 1973.
8. "OIS Plan for Indexing Energy Literature." Atomic Energy Commission, Office of Information Services, Draft proposal, Jul 5, 1973. Unpublished.
9. *Congressional Record* S22002–S22014 (Dec 6, 1973). (U.S. Senate, S. 2782, a bill to establish a National Energy Information System.)
10. Caswell, Virginia D. / "Environmental Information—Can We Get There?" Lawrence Livermore Laboratory, UCRL-75126, Oct 4, 1973.

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Picture Professionalism. Part I

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■ Picture professionalism is a new concept among specialists in this field. Picture librarianship is described in its many facets to clarify the present state of the profession and to form a basis for a set of standards.

HERMAN GRIMM, the German art historian, was the first university professor to use slides of works of art in his lectures at the University of Berlin in 1892. This daring innovation caused a stir in the scholarly world. The professor was criticized for using lantern slides to teach a serious subject!

This anecdote is retold because it vividly illustrates a still currently encountered point of view. Even today in certain circles there is something not quite "serious" about the use of visual documentation in research. Any scholarly text will be backed by supportive footnotes; however, the pictures used by the same author may lack proper identification and documentary accuracy.

Picture librarianship as a special field of library science encourages a professional approach toward visual documents and considers these research materials of equal importance with manuscripts, maps, music, or any other primary sources of scholarship.

Visual documentation has branched into several new professional fields in the twentieth century because the whole world of communications has undergone a process of technical and social change. In the late 19th century newspapers started cautiously using direct photographic illustrations in their pages instead of having to rely on wood engravings based on photographs. In the beginning of the new process it was considered unartistic and it therefore met with resistance from newspaper editors. But with time the ease and speed of the photographic process emerged victorious.

Journalistic photography was then in its infancy. Newspapers acquired their pictures from independent photographers or agencies which in turn pur-

Figure 1.

Newspaper photographers at Vanderbilt-Széchenyi wedding, New York City, January 1908. Photograph by Bain News Service. Prints and Photographs Division, Library of Congress, Washington, D.C.

chased their photographs from any available source. Documentary pictures were of necessity static, utilitarian, and, in most cases, unimaginative.

The demand for news pictures and the improvement of photographic and printing technology developed side by side during the first decades of the twentieth century.

During World War I photojournalism gained greatly in importance. Although cameras were still cumbersome to transport and rapid movement could not be caught on film, people were able to follow the war through photographs published in daily papers and particularly in weekly journals. Governments used pictures for patriotic propaganda, for information and for gathering intelligence. Weeklies such as the *Illustrated London News* covered the war in photographs as well as on the spot journalistic sketches. Aerial photography of battle scenes gave the people at home a bird's-eye view of troop movements which enabled them to follow the advance of their armies.

Newspaper editors treated individual photographs mainly as isolated illustrations of specific moments. Portraits of prominent men killed in the war were printed in rows upon rows of similar poses. Action photographs were also unimaginatively lined up without any thought to page layout to dramatize the most significant events.

At the turn of the century color illustrations appeared on the cover of Christmas issues or special commemorative magazines prepared for historic occasions. Routine use of color in weekly magazines came much later. Only after the Second World War, when color film and printing technology again could focus on commercial magazines did these start using color routinely in illustrations as well as pictorial advertisements.

The 1925 invention of a lightweight, small and fast camera changed the character of the photographic image. A roll film containing 36 exposures made it possible for the professional, and soon also the amateur, to take photographs fairly unobtrusively. This made photographs more natural and caused people to be caught off guard in casual unposed situations.

Figure 2.

Your Red Cross needs you! Poster by James Montgomery Flagg. Prints and Photographs Division, Library of Congress, Washington, D.C.

The picture press became firmly established in the Western countries in the 1920's. German picture magazines were the first ones to fully exploit the new invention of quick photography. The *Berliner Illustrierte* and the *Münchner Illustrierte Presse* delighted their readers with informal photographs of the activities of the great of the day. The French magazine *Vu* presented in-depth coverage of events in picture essays. This new format was continued in England by the *Picture Post* and in the United States by *Life* founded in 1936.

Magazines derived their income from advertisers who used commercial art to convince readers of the excellence of their products. Pictorial advertisements vied for the attention of the reader with other illustrations because these were cleverly interspersed among the regular

magazine features. Advertising agencies created pictorial identities for their clients so that an image was automatically associated with a product. The often repeated picture re-enforced the message of the advertiser.

Photography and commercial art have almost imperceptively changed the visual world of twentieth century man. Without fully analyzing the implications of the picture explosion every field of human endeavor has been subtly changed by the visual approach.

Wherever we look around us today pictures play a vital role in society. Their language has now become so diversified that individual collections have been forced to create organizational schemes and retrieval systems adapted specifically to the visual approach to knowledge.

We have today a professional group of picture specialists working in libraries, historical societies, government agencies, international organizations, and publishing houses. Some of these professionals have received part of their training in library schools but most of their knowledge is based on an on-the-job experience because the schools of library science have largely ignored the field of picture librarianship.

Picture Librarianship

The duties of the picture librarian may include picture acquisition, selection, processing, reference work, preservation, and administration of the collections.

Although some duties parallel those in book collections, there are many special problems directly related to the picture format. We will discuss the different aspects of picture professionalism starting with picture acquisition.

Many picture collections owe their existence so clearly to an agency whose mission they must document and support that their acquisitions work consists of serving directly the promotional goals of the agency. The picture librarian absorbs the culture of his agency and acquires pictures which help to get the message across. Examples of this type of agency in the Federal Government are the U.S. Army Photographic Agency, the Department of Housing and Urban Development Photograph Collection, the Bureau of Sport Fisheries and Wildlife Photographic Collection, or the Photo File of the Agency for International Development.

Private, commercial, as well as educational organizations also have picture

Figure 3.

Picture Research in the Prints and Photographs Reading Room, Library of Congress, April 1972. Photograph by the Information Office, Library of Congress, Washington, D.C.

Figure 4.

Whooping Cranes. Aransas National Wildlife Refuge, Texas. Photograph by Luther C. Goldman, Bureau of Sport Fisheries and Wildlife Photographic Collection, Washington, D.C.

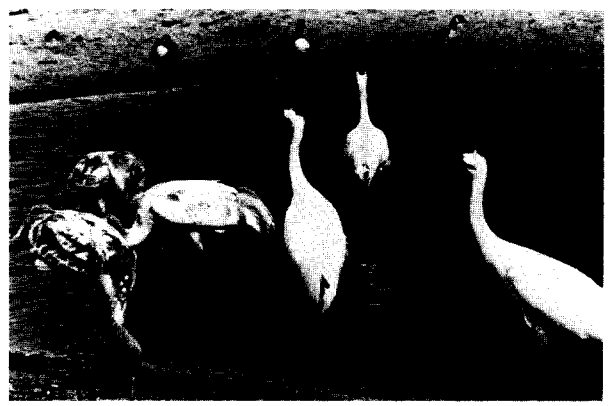
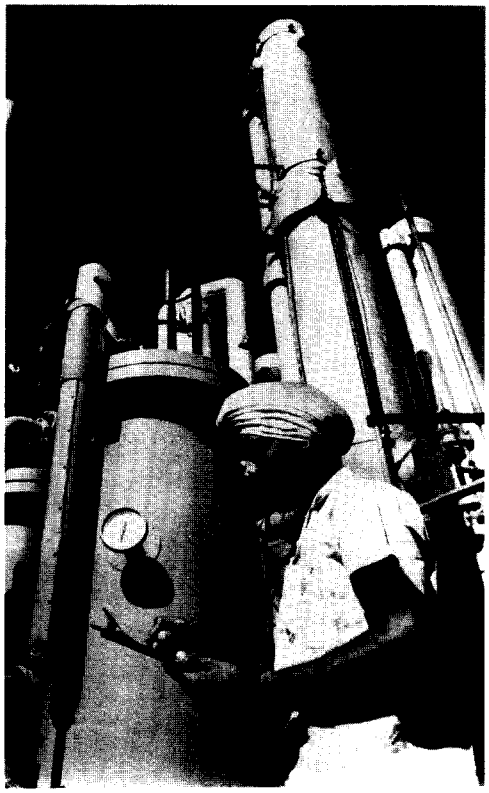


Figure 5.

Products of the Bombay Plant of Union Carbide India, Ltd. include such basic chemicals and plastics as acetic acid and polyethylene, 1974. Photograph by Union Carbide Corporation, New York, N.Y.



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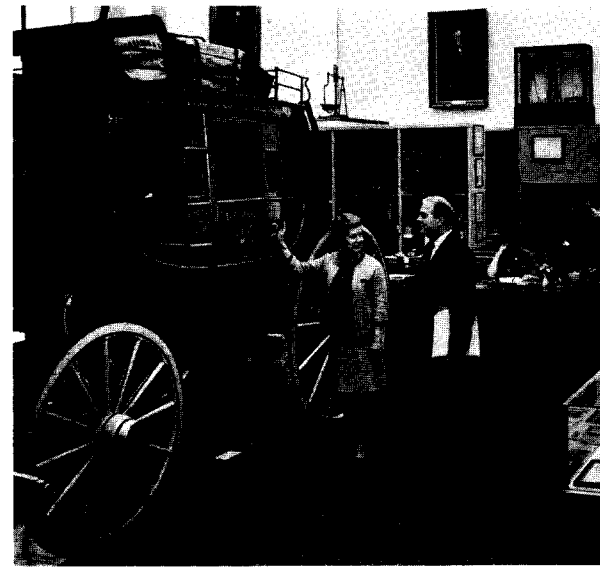
collections, and these are often also arranged to serve the needs of their clients very specifically. Their acquisitions are very closely dependent on the goals of the organization. Examples of these picture collections are those of the Union Carbide Corporation, Wells Fargo Bank, and the National Audubon Society.

When the relationship between the picture collection and the agency it serves is one of mutual re-enforcement of identical goals, the picture specialist is necessarily also a subject specialist in a field such as military history, natural resources, technology, communications, art history, or almost any other discipline which lends itself to visual interpretation.

Acquisitions are thus based on a knowledge of a subject field in addition

Figure 6.

Overland Mail Coach in the Wells Fargo Bank History Room, 1970. Photograph by Cal-Pictures. Wells Fargo Bank History Room, San Francisco, Calif.



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to a background in the history of visual communication and a knowledge of available sources for pictures outside one's own organization.

Pictures are acquired by purchase, exchange, gift, or solicitation. Organizations employing staff artists or photographers can have their pictures made to order on professional assignment and should thus be in the position to choose their pictures to meet their specific needs.

It is a more complicated task to judge the contents and research value of a collection offered for sale. The purchaser must make a thorough study of the pictures offered to him because he must judge not only the subject matter but also the technical quality of the items. If the collection consists of photographs, the original negatives often form part of the collection. If these are nitrate negatives, the purchaser has to be prepared to store these in air conditioned vaults. He will also eventually want to convert the whole collection to safety film. If all of these additional costs incurred by the purchaser make the whole

Figure 7.

Bollman Suspension and Trussed Bridge, Baltimore and Ohio Railroad, Savage, Md., 1970. Photograph by Wm. Edmund Barrett. Historic American Engineering Record, National Park Service, Department of the Interior, Washington, D.C.

collection too expensive for him to maintain, he should decide against the purchase of the collection.

Gifts and exchange agreements can also lead the acquisitions librarian into unforeseen problems. Pictures which are "free" because they are offered as gifts or on an exchange basis may need expensive remounting, re-jacketing, or captioning before they can be integrated into the existing picture collections. This processing work may be quite beyond the capacity of the limited size of the staff of the picture collection. Therefore, care has to be taken to study the gift or exchange offer thoroughly in advance.

The donor of the gift will also invariably return to visit "his collection." It is most embarrassing for the recipient of the pictures if the donor discovers that his gift has been neglected and remains in unopened boxes somewhere in a storage area! The donor may also show his displeasure if the collection has been dispersed against his will. Therefore, it is important to discuss the arrangement of the collection at the time it changes hands. If the conditions imposed by the donor do not suit the library, the pictures should not be accepted.

A picture librarian should make solicitation for pictures an integral part of his work. There are many sad stories told about picture collections contained in newspaper morgues, individual photographer's personal files and in the hands of gifted amateurs lost to posterity because nobody was aware of the value of these materials to the modern picture researcher. The general public should be educated to judge the significance of visual documents in order to realize that

Figure 8.

Picture Specialist Looking at Slides Selected for Active Files, 1974. Copyright, National Geographic Magazine, Washington, D.C.

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there may be a library, historical society, or other agency in their own community vitally interested in old drawings, prints, and photographs.

In this age of historic preservation of individual buildings and whole neighborhoods, much useful information is gleaned from the study of old photographs in local picture files.

Picture Selection

Before accepting a collection from any source, the picture librarian should always insist upon the right to make a selection of the best pictures in the collection. Otherwise he may get stuck with duplicates, technically inferior photographs, or innumerable stock pictures of sweet babies, darling kittens, and bathing beauties.

Intelligent picture selection implies a clear understanding of one's own collection and its gaps and a firm determination to exclude irrelevant or unsuitable pictures. Even a "universal" picture collection should only include a manageable assortment of pictures in any one category.

Figure 9.

"X-Rays" Etching and Aquatint by John Sloan, 1926. National Library of Medicine, Bethesda, Md.

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Scientific picture collections serving the general public, such as those of the National Air and Space Agency in Washington, D.C., consist of photographs carefully selected to make space exploration exciting and intelligible to the layman. It would be an impossible task for the average user to make sense of the complete collection in Houston where he would have to consult files containing every picture ever taken during America's space flights.

The National Geographic Society also practices photograph selection based on the judgment of picture professionals. The best pictures from any one assignment are kept in special files. The rejected ones are arranged in back-up files for possible future use. However, these do not receive the same cataloging as those pictures kept in the active files.

Picture collections may be primarily scientific (American Chemical Society), technical (Naval Historical Center), edu-

Figure 10.

Mount Vernon in 1792. Oil Painting, Anonymous. Mount Vernon Ladies Association Research and Reference Library, Mount Vernon, Va.

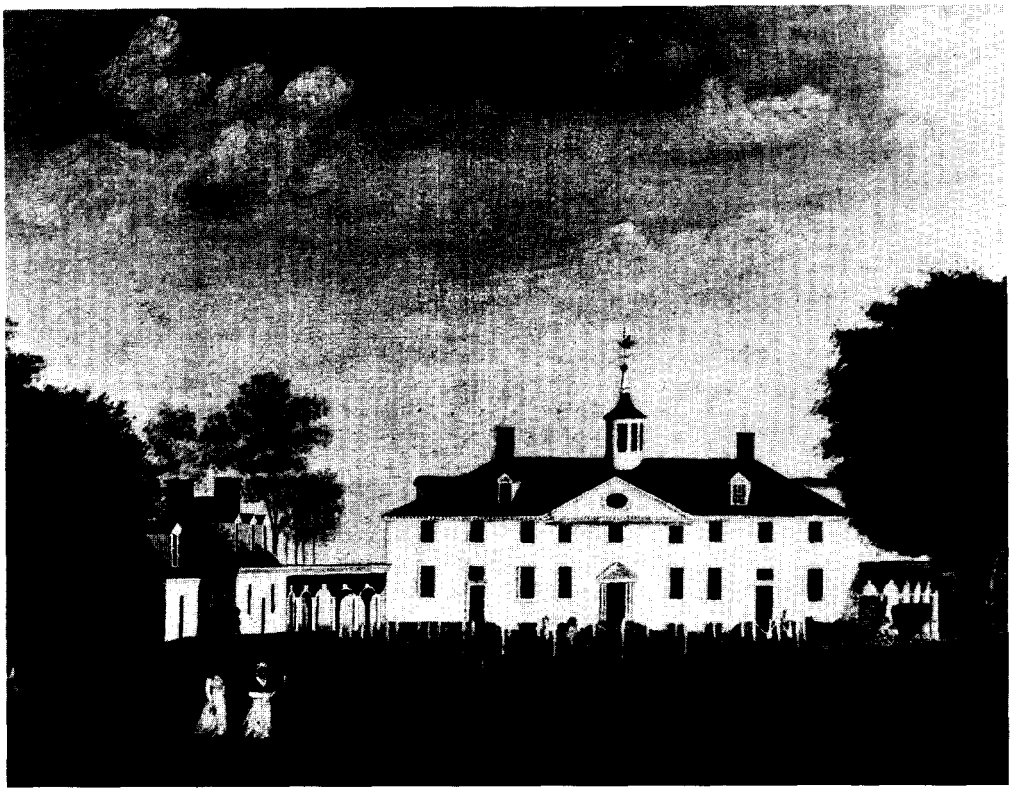

Figure 11.

Saguaro Cactus. Saguaro National Monument, Arizona. Photograph by Fred Mang, Jr. National Park Service, Washington, D.C.

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cational (National Library of Medicine), cultural (Mount Vernon Ladies Association Research and Reference Library), recreational (National Park Service) or artistic (National Collection of Fine Arts). Most collections consist of pictures where more than one of these functions overlap. In selecting pictures the librarian has to remember constantly the criteria of selection for his particular specialization and exclude unsuitable materials.

Technical excellence is also an important selection tool. There are, nevertheless, cases where a less than perfect picture will document a person, a locality or an event not otherwise covered by the collection. In such instances a poor picture is preferable to no picture at all.

Occasionally potential donors put restrictions on their picture collections.

This adds the inconvenience of ascertaining rights and permissions questions every time a picture is used. It also frequently entails charging a special permissions fee for every image reproduced from the collection. If the fee goes into a revolving fund to maintain the collection, the added work in writing out special orders can be justified. But if the fee is simply channeled back to the donor, the collection administrator should weigh the pros and cons of accepting the collection in the first place.

Another important aspect of selection is the potential space needed for the collection. If the pictures consist of large recruiting posters, map drawers will be needed for their storage. Only a collection with considerable room and a chance for expansion should accept collections of pictures in oversize formats. If the posters are truly huge, they will have to be photographed so that users can work with small easily handled photographs rather than the unwieldy originals.

Color slides also demand special storage drawers and air-conditioned stacks. A selections librarian should not start a slide collection without studying the special demands made on the staff by color slides which demand more attention in daily usage than black and white photographs.

Figure 12.

Subject Heading Card, Prints and Photographs Division, Library of Congress.

WEST
see also
COWBOYS
DANCE HALLS
EXECUTIONS AND HANGINGS
BISON HUNTING BY WHITE MEN
CONESTOGA WAGONS
MASSACRES
PACK TRAINS
TRADING POSTS
WELLS FARGO

Figure 13.

Projected Paper Mill in Finland Showing Site for Which *Loan Is Being Sought from the World Bank, 1961.* Photograph by Pietinen. World Bank Group Photo Library, Washington, D.C.

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Picture Processing

The author will not devote much space to the subject of picture processing since this was discussed in her two articles on "Picture Organization" published in *Special Libraries* in October and November of 1972. Yet it should be realized that pictures can be arranged in self-indexing files, they can be given individual cataloging, or they can be divided into batches and then cataloged in groups.

The most important thing is to maintain an authority file for subject headings and their breakdowns so that an orderly process of continuous development can take place regardless of staff changes and a continuously expanding subject heading list.

Another important feature is consistency and accuracy in captions. Nothing is more frustrating to a reader than a picture which lacks proper identification or only has a partial caption.

An ideal system for the organization of photographs, prints, or other visual materials cannot be created on a national basis because the emphasis of every picture collection is different.

The collections of the National Archives and of the Library of Congress are universal in scope and thus encompass nearly every subject and medium used for visual information. It is hard to create suitable subject headings for these

enormous visual collections because the original information received with the pictures varies so greatly in emphasis and specificity.

Small, specialized collections can approach their cataloging problems from a more flexible, individualistic and subject centered viewpoint. The World Bank Group Photo Library documents the activities of three international banks for reconstruction and development. A typical documentary photograph is devoted to the "loan signing" ceremony between the officials of the bank and the representative of a country receiving the loan. Next to this picture are filed photographs showing the realization of the project for which the loan was granted. This type of highly individualistic subject arrangement is feasible in a photograph collection closely tied in with information in daily press releases and ample documentation from official reports of the agency.

The American Chemical Society picture collection uses the *Chemical Engineering Thesaurus* as a basis for their subject headings. Frequent updating of headings is typical of this collection because new nomenclature enters the chemical field continuously.

Picture work demands from the cataloging staff a true understanding of the special nature of visual media. The staff should be encouraged to supplement and refine any existing lists of subject headings created for books and design their own headings based on the needs of their own special clientele.

If all catalogers were encouraged to spend some part of their working time helping researchers in a picture collection, they would gain insight into the problems created for reference staff by inadequate and incomplete cataloging. First-hand experience with picture researchers and their problems will improve the present state of picture processing.

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Productive Journal Titles in the Pharmaceutical Industry

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■ A major responsibility of an industrial pharmaceutical information service is the compilation of drug product bibliographies. Fifteen libraries in the pharmaceutical industry submitted counts of journal titles cited on their own product bibliographies. These data were used to identify and rank the 572 journal titles which account for 90% of the citations on drug product bibliographies.

THE PHARMACEUTICAL industry has traditionally spent a great deal of effort in finding, recording, indexing, and retrieving published literature on drug products. Each company maintains comprehensive bibliographies on its own products. These bibliographies used in all company departments (marketing, research, professional services, etc.) are available to the practicing physician and other members of the health care profession for the ultimate benefit of the patient. In the case of new drugs, product bibliographies are also required by regulations of the U.S. Food and Drug Administration. No other industry group, at least in the United States, has the obligation to report to a regulatory agency on current literature as does the pharmaceutical industry.

What journal titles are likely to yield items for these product bibliographies? It is to this question that the present study addresses itself. The idea for the study survey originated with the Pharmaceutical Division, Special Libraries Association.

Methods

All Pharmaceutical Division members representing 65 industrial libraries were invited to participate and a group of 15 libraries cooperated in providing actual counts of the journal titles appearing on product bibliographies for a three-year period 1969–71 as shown in Table 1. From these data it was hoped to provide lists of those journals most productive of such literature.

Table 1.

Library	Number of Titles	Number of Entries
A	395	1,558
B	230	874
C	176	570
D	254	1,402
E	453	2,763
F	311	1,034
G	15	1,884
H	289	1,660
I	35	72
J	225	638
K	405	2,289
L	1,031	5,985
M	129	5,670
N	586	2,300
O	996	4,420
		33,119

The original list of journals compiled from the reports of the cooperating libraries contained 2,230 journal titles; journal name changes, mergers of titles, etc., produced a total of 2,017 for analysis. These 2,017 journal titles accounted for 33,119 product related papers.

For deep analysis, a list of the top ranking 200 journals was constructed and appears as List 1 and accounted for

Table 2.

% of Items from Product Bibliographies	Number of Journal Titles	Cumulated Number of Journal Titles
0–10%	3	3
11–20%	7	10
21–30%	13	23
31–40%	19	42
41–50%	27	69
51–60%	42	111
61–70%	63	174
72.6% (List 1)	26	200
72.7–80%	74	274
81–90% (Lists 1 & 2)	298	572
91–100%	1,445	2,017

List 1 = the top ranking 200 journal titles of this study.

List 2 = 372 additional journal titles which combined with List 1 provided 90% of bibliographic items cited.

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24,036 (72.6%) of the 33,119 product papers submitted. Each journal title on List 1 had 33 or more entries. List 2 gives, in alphabetical order, an additional 372 journal titles which produced large numbers of entries but the journal titles are not ranked. Each journal title on List 2 accounted for 7–33 entries. Lists 1 and 2 account for 29,807 papers or 90% of 33,119 papers. Table 2 breaks down the number of journal titles which account for varying percentages of items from the product bibliographies.

Comparisons of rank or coverage by several indexing/abstracting services available to pharmaceutical information groups were made. To determine rank, the number of entries for each journal title was arranged in descending order. If, as happened frequently, two or more journals produced the same number of entries, rank was determined by use of *Journal Citation Reports (1),* referred to hereafter as *JCR*. One way of evaluating the importance of a specific periodical is to use Garfield's Impact Factor *(2)*. This factor is a ratio of the number of citations divided by the total number of articles. For example, *Psychopharmacologia* and *Diseases of the Nervous System* produced the same number of entries (217) in our listing but use of *JCR* indicated that *Psychopharmacologia* published far fewer papers than *Diseases of the Nervous System* and each entry from the former journal carries greater weight than an entry from the latter journal. In some cases we determined rank by manual count of a year's issues of a journal title when it was not part of the *JCR* record.

Results

List 1 contains the following additional information: *JCR* rank (revised, see below); coverage by indexing/abstracting services including *International Pharmaceutical Abstracts, Index Medicus,* Excerpta Medica, and listing in Brandon *(3);* and Food and Drug Administration Designated Journals *(4)*.

JCR ranks the importance of 1,000 scientific journal titles based on frequency of citation. These journals range from *Journal of the American Chemical Society,* rank 1 down to the 1,000th title *Genetica*. After we ranked each of the journal titles in List 1, a comparison of the *JCR* rank number for the journal was made (a total of 143 journal titles appeared on both lists); this comparison showed that there was a rank varying from 3 on the *JCR* list to 962. Because of this spread, the *JCR* rankings were renumbered from 1 *(Journal of Biological Chemistry)* to 143 *(Minnesota Medicine)* for ease in comparing the two lists. The closest rank correspondence between the two lists was *Journal of the American Pharmaceutical Association* which ranked 116 on both lists; the widest rank variation was *Biochemical Biophysical Research Communications* ranked 191 on our list vs. 18 on the revised *JCR* list.

Brandon *(3)* biennially lists books and journals to be used as a selection aid by the small medical library. The 1973 revision contains 136 journal titles. Sixty-nine of his journals can be found on our top 200 list (34.5%). Our list shows heavy coverage in the pharmaceutical sciences, an area we would not expect to find covered completely in Brandon.

Coverage by *International Pharmaceutical Abstracts* included 87.5% of the journal titles on List 1 and 46% of titles

on List 2 for an overall percentage of 60.3% from both Lists 1 and 2. *Index Medicus* covers 91.5% of the journal titles on List 1 and 77.1% of List 2 titles, with a combined percentage of 82.2%. The highest percentage coverage appears to be that by Excerpta Medica services which was 95% in the case of List 1 journals and 86% for List 2 with a combined coverage of 89%. The FDA List of Designated Journals *(4)* covers 71% of the titles reported in List 1; titles in List 2 were not checked against the FDA list.

Although 57 of our top journal titles do not appear on the *JCR* list of 1,000 titles, the *JCR* list covers a full range of scientific disciplines, not a specialized journal title list such as ours. If we look at the first 200 titles on the *JCR* list, 128 of the journal titles there do not appear on our complete list of 2,017. It should be emphasized that while *JCR* listed 71.5% of our List 1 and 32.3% from List 2, the Institute for Scientific Information, with *Current Contents Life Sciences* and *Current Contents Clinical Practice,* today covers 91.5% of the journals on List 1 and 66.6% of List 2 journal titles.

One of the libraries cooperating in providing data for this survey submitted entries from 996 different journal titles of the original list of 2,017; this library's list of subscriptions was available for study. Of the top 200 journals this library actually subscribed to 163 of List 1 journal titles (82.5%) and in the case of List 2, the library received 149 of the 372 journal titles (40%). Combining both lists, the library received 312 of 572 journals (54.5%).

Discussion

It is apparent that secondary services including *Current Contents, Index Medicus,* Excerpta Medica, and *International Pharmaceutical Abstracts* or outside scanning services are necessary to provide more complete coverage of the product literature than is obtainable with one's own resources. The goal of 90% "completeness," to which many of us aspire, can be traced to Bourne's *(5)* 90% library which has been further refined by Basile and Smith *(6)* to produce the 90% pharmaceutical library. One of the interesting observations made in this study is the relatively large number (572) of journal titles required to account for 90% of citations reported. Sengupta *(7)* analyzed the literature of biochemistry reporting only 80 journal titles that accounted for 90% of citations in a three-year run of *Annual Review of Biochemistry.* Clearly the pharmaceutical industry library cannot exist with a ". . . handful of journals (say at the most 50–100) which contain 90% or more of the significant literature. . . ."

Results of studies by Whittle *(8)* at Edinburgh University's Central Medical Library and by Fleming and Kilgour *(9)* at Columbia and Yale Medical Libraries more closely match our findings. The Edinburgh study was based on the journal requirements necessary for a medical school library; the medical school staff identified 523 journals that met 90% of their needs. The Columbia-Yale list was based upon recorded usage (a count of charge slips) of more than 1,900 titles available at Columbia and 1,551 titles available at Yale. It was found that 262 journals supplied 80% of usage and 423 titles supplied 90%. Thus the 90% figure of 523 journals from the Whittle study and Columbia-Yale's figure of 423 titles compare with 572 titles identified in the present study as the 90% most productive of product papers recorded by the pharmaceutical industry. At the 50% level of usage, Fleming and Kilgour identified 67 most heavily used journal titles and our figures list 69 journals. Comparing the two lists of journal titles, 25 titles are common to both.

An analysis of journal titles in a study such as this can show the relative importance of a grouping of journals such as foreign language titles (*Arzneimittel-Forschung,* rank 8 and *Deutsch Medizinische Wochenschrift* rank 10, for example) or the state medical journals. Twenty-eight state medical journals on List 1 or 2 produced 795 bibliographic items; 4 journal titles were on the top 200 journal list—*California Medicine,*

Minnesota Medicine, New York State Journal of Medicine, and *Northwest Medicine.*

One unanswered question is whether several libraries submitted the same article as a bibliographic item; i.e., did a paper dealing with both Ledermycin (Lederle) and Darvon (Lilly) skew results in our study? We have found on our own company's bibliographies that 15% of references appear on two or more product bibliographies. Would it have changed the results if actual citations were matched with duplicates and then counted once against a journal title?

The value of a study such as this is not so much its use as a purchasing or storage guide but to be sure the important journals are being covered—whether or not this is by internal scanning, use of a scanning service, or the fruitful secondary services including *Index Medicus, International Pharmaceutical Abstracts,* and the publications of Excerpta Medica and Institute for Scientific Information.

Acknowledgments

We gratefully acknowledge the assistance given by the staffs of the library and information groups from the following companies who supplied counts from their product bibliographies: Bristol-Myers Products, CIBA-Geigy, Knoll Pharmaceutical Co., Eli Lilly and Company, McNeil Laboratories, Inc., Miles Laboratories, Inc., Parke-Davis & Co., Pennwalt Corporation, Riker Laboratories, Inc., A. H. Robins Company, Inc., Schering Corp., G. D. Searle & Co., Upjohn Co., Vitamins Inc., and Warner-Lambert Company.

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List 1.

	Rank Present Study	JCR™ Rank (rev.) Ref. (1)	FDA List Ref. (4)	Excerpta Medica	Brandon Ref. (3)	International Pharmaceutical Abstracts	Index Medicus
BRIT MED J	1	14	x	x	x	x	x
J AMER MED ASS	2	13	x	x	x	x	x
LANCET	3	7	x	x	x	x	x
N ENGL J MED	4	12	x	x	x	x	x
MED J AUST	5	82	x	x	–	x	x
AMER J OBSTET GYNECOL	6	30	x	x	x	x	x
CURR THER RES	7	–	x	x	–	x	x
ARZNEIM FORSCH	8	69	x	–	–	x	x
ARCH INT PHARMACODYN THER	9	–	x	x	–	x	x
DEUT MED WOCHENSCHR	10	57	x	x	–	x	x
J PHARM SCI	11	75	x	x	–	x	x
BRIT J PHARMACOL	12	39	x	x	–	x	x
J PHARM PHARMACOL	13	80	x	x	–	x	x
J PHARMACOL EXP THER	14	20	x	x	x	x	x
FED PROC	15	19	x	x	–	x	x
ARCH INTERN MED	16	34	x	x	x	x	x
CLIN PHARMACOL THER	17	115	x	x	x	x	x
PRACTITIONER	18	136	x	x	–	x	x
ANN INTERN MED	19	26	x	x	x	x	x
ARCH DERMATOL	20	58	x	x	x	x	x
PROC SOC EXP BIOL MED	21	9	x	x	–	x	x
PSYCHOPHARMACOLOGIA	22	111	x	x	–	x	x
DIS NERV SYST	23	134	x	x	–	x	x
NATURE	24	2	x	x	–	x	x
CLIN RES	25	92	x	x	–	x	–
EUR J PHARMACOL	26	124	–	x	–	–	x
MED KLIN (MUNICH)	27	117	x	x	–	x	x
J CLIN ENDOCRINOL	28	27	x	x	x	x	x
TOXICOL APPL PHARMACOL	29	121	x	x	–	x	x
ANESTH ANALG (CLEVELAND)	30	119	x	x	–	x	x

	Rank Present Study	JCR™ Rank (rev.) Ref. (1)	FDA List Ref. (4)	Excerpta Medica	Brandon Ref. (3)	International Pharmaceutical Abstracts	Index Medicus
BIOCHEM PHARMACOL	31	52	–	x	–	x	x
ACTA MED SCAND	32	51	x	x	x	x	x
PHARMACOLOGIST	33	139	x	x	–	x	–
GASTROENTEROLOGY	34	41	x	x	x	x	x
J CLIN PHARMACOL J NEW DRUG	35	–	x	x	–	x	x
J INFEC DIS	36	86	x	x	x	x	x
J PEDIAT	37	44	x	x	x	x	x
CAN MED ASS J	38	70	x	x	x	x	x
N Y STATE J MED	39	113	x	x	–	x	x
OBSTET GYNECOL	40	88	x	x	x	x	x
S MED J	41	122	x	x	–	x	x
ACTA ENDOCRINOL (COPENHAGEN)	42	62	x	x	–	x	x
CLIN MED	43	–	x	x	–	x	–
APPL MICROBIOL	44	81	x	x	–	x	x
FERT STERIL	45	107	x	x	x	x	x
MUENCHEN MED WOCHENSCHR	46	106	x	x	–	x	x
J LAB CLIN MED	47	25	x	x	x	x	x
DIABETES	48	68	x	x	x	x	x
LIFE SCI	49	67	–	x	–	x	x
J CLIN INVEST	50	11	x	x	x	x	x
AMER J PSYCHIAT	51	87	x	x	x	x	x
AMER J CLIN PATHOL	52	55	x	x	x	x	x
BRIT J DERMATOL	53	108	x	x	–	x	x
ANN N Y ACAD SCI	54	17	x	x	–	x	x
POSTGRAD MED	55	135	x	x	x	x	x
J AMER VET MED ASS	56	93	–	x	–	–	x
CONTRACEPTION	57	–	–	x	–	x	–
SCHWEIZ MED WOCHENSCHR	58	84	x	x	–	x	x
NAUNYN-SCHMIEDEBERGS ARCH PHARMAKOL	59	66	x	x	–	x	x
CANCER	60	36	x	x	x	x	x
MED WELT	61	114	–	x	–	x	x
PEDIATRICS	62	37	x	x	x	x	x
AMER HEART J	63	35	x	x	x	x	x
J AMER GERIAT SOC	64	142	x	x	x	x	x
BRIT J ANAESTH	65	102	x	x	–	x	x
ACTA PHYSIOL SCAND	66	28	–	x	–	x	x
MINERVA MED	67	–	x	x	–	x	x
MED CLIN N AMER	68	–	x	x	x	x	x
AMER J MED SCI	69	64	x	x	x	x	x
AMER J PHYSIOL	70	8	x	x	x	x	x
PRESSE MED	71	85	x	x	–	x	x
AMER J MED	72	24	x	x	x	x	x
EUR J CLIN PHARMACOL	73	–	–	x	–	–	x
CLIN CHEM	74	104	–	x	–	x	x
J UROL	75	47	x	x	x	x	x
ENDOCRINOLOGY	76	22	x	x	x	x	x
ANN ALLERGY	77	127	x	x	x	x	x
AMER J DIG DIS	78	110	x	x	x	x	x
ARCH GEN PSYCHIAT	79	65	x	x	x	x	x
ARCH SURG	80	49	x	x	x	x	x
ANESTHESIOLOGY	81	73	x	x	x	x	x
NEUROPHARMACOLOGY	82	130	–	x	–	x	x
CIRCULATION	83	21	x	x	x	x	x
AMER J OPHTHALMOL	84	61	x	x	x	x	x
J REPROD FERT	85	90	x	x	–	x	x
AMER J CLIN NUTR	86	94	x	x	x	x	x
ARCH OPHTHALMOL	87	59	x	x	x	x	x
RADIOLOGY	88	45	x	x	x	x	x
GAZ MED FR	89	–	–	x	–	–	–
BIOCHIM BIOPHYS ACTA	90	4	–	x	–	x	x
CLIN TRIALS J	91	–	–	x	–	x	–
ANTIBIOTIKI (MOSCOW)	92	–	–	x	–	x	x
J NUCL MED	93	112	x	x	–	x	x
NED TIJDSCHR GENEESK	94	–	–	x	–	x	x
J BACTERIOL	95	15	–	x	x	x	x
EXPERIENTIA	96	40	x	x	–	x	x
ACTA PHARMACOL TOXICOL	97	120	x	x	–	x	x

	Rank Present Study	JCR™ Rank (rev.) Ref. (1)	FDA List Ref. (4)	Excerpta Medica	Brandon Ref. (3)	International Pharmaceutical Abstracts	Index Medicus
BRIT J CLIN PRACT	98	–	x	x	–	x	x
HOSPITAL (RIO DE JANEIRO)	99	–	–	x	–	–	x
POSTGRAD MED J	100	125	x	x	–	x	x
BLOOD	101	33	x	x	x	x	x
NEUROLOGY	102	74	x	x	x	x	x
ANAESTHESIST	103	–	–	x	–	x	x
MINN MED	104	143	x	x	–	–	x
J ENDOCRINOL	105	56	x	x	–	x	x
AMER J DIS CHILD	106	50	x	x	x	x	x
THERAPIE	107	–	x	x	–	x	x
DRUG INTEL CLIN PHARM	108	–	–	x	–	x	–
BRIT J PSYCHIAT	109	97	x	x	–	x	x
AMER REV RESPIRAT DIS	110	60	x	x	x	x	x
PSYCHOSOMATICS	111	–	–	x	–	–	x
J PHYSIOL	112	10	–	x	–	–	x
SCIENCE	113	3	x	x	x	x	x
JAP J PHARMACOL	114	138	x	x	–	x	x
CANCER RES	115	23	x	x	–	x	x
J AMER PHARM ASS	116	116	x	x	–	x	x
CALIF MED	117	140	x	x	–	x	x
PROC NAT ACAD SCI USA	118	5	–	x	–	–	x
BRIT J VENER DIS	119	132	x	x	–	x	x
J ALLERGY	120	–	x	x	x	x	x
PRAXIS	121	–	x	x	–	–	x
GUT	122	105	x	x	x	x	x
J MED CHEM	123	98	–	x	–	x	x
ANN SURG	124	31	x	x	x	x	x
BIOCHEM J	125	6	–	x	–	x	x
ARS MED (NIVELLES)	126	–	–	–	–	x	–
TIDSSKR NOR LAEGEFOREN	127	–	–	x	–	x	x
J CHROMATOGR	128	46	–	x	–	x	x
GERIATRICS	129	137	x	x	x	x	x
KLIN WOCHENSCHR	130	53	x	x	–	x	x
ANTIMICROB AG CHEMOTHER	131	–	–	–	–	–	x
WIEN MED WOCHENSCHR	132	–	x	x	–	x	x
AMER J CARDIOL	133	43	x	x	x	x	x
HORM METAB RES	134	–	–	x	–	–	x
MED TIMES	135	–	x	x	–	–	x
METAB CLIN EXP	136	89	x	x	–	x	x
FARMAKOL TOKSIKOL	137	–	x	x	–	x	x
J INVEST DERMATOL	138	76	x	x	x	x	x
THERAPIEWOCHE	139	–	–	x	–	x	–
INT ARCH ALLERGY APPL IMMUNOL	140	96	x	x	–	x	x
ARCH NEUROL	141	83	x	x	x	x	x
C R SOC BIOL	142	54	–	x	–	–	x
PROC ROY SOC MED	143	77	x	x	–	x	x
HOSP FORMULARY MANAGE	144	–	–	–	–	x	–
MOD TREAT	145	–	–	x	–	–	x
CHEST	146	100	–	x	x	x	x
SURGERY	147	42	x	x	x	x	x
MED LETT	148	–	x	x	x	x	x
SURG GYNECOL OBSTET	149	38	x	x	x	x	x
AMER J SURG	150	63	x	x	x	x	x
ACTA DERMATOL-VENEREOL	151	129	–	x	–	x	x
CAN ANESTH SOC J	152	131	x	x	–	x	x
J CLIN PATHOL	153	78	x	x	x	x	x
BOLL SOC ITAL BIOL SPER	154	118	–	x	–	x	x
AMER FAM PHYS	155	–	–	x	–	–	x
CLIN TER	156	–	–	x	–	x	x
DRUG THER BULL	157	–	x	x	–	x	x
CIRC RES	158	29	x	x	–	x	x
ORAL SURG ORAL MED ORAL PATHOL	159	91	x	x	x	x	x
SCAND J CLIN LAB INVEST	160	72	x	x	–	x	x
J BIOL CHEM	161	1	–	x	x	x	x
J EXP MED	162	16	x	x	x	x	x
S AFR MED J	163	–	x	x	–	x	x

	Rank Present Study	JCR™ Rank (rev.) Ref. (1)	FDA List Ref. (4)	Excerpta Medica	Brandon Ref. (3)	International Pharmaceutical Abstracts	Index Medicus
CLIN SCI	164	71	x	–	–	x	x
ARCH OTOLARYNGOL	165	99	x	x	x	x	x
CLIN PEDIAT	166	–	x	x	x	x	x
INT J CLIN PHARMACOL THER	167	–	–	–	–	x	x
PHARM J	168	–	x	x	–	x	–
EYE EAR NOSE THROAT MONTHLY	169	–	x	x	–	x	x
CAN J PHYSIOL PHARMACOL	170	123	–	x	–	x	x
PHARMACOLOGY	171	–	–	x	–	–	x
JAP J ANTIBIOT	172	133	x	x	–	x	x
ENDOKRINOLOGIE	173	–	–	x	–	–	x
GER MED MON	174	–	x	–	–	x	x
PATIENT CARE	175	–	–	–	–	–	–
MYKOSEN	176	–	–	x	–	x	x
BRIT MED BULL	177	101	x	x	–	x	x
CUTIS	178	–	–	x	–	–	–
PFLUEGERS ARCH	179	48	–	x	–	–	x
THROMB DIATH HAEMORRH	180	79	x	x	–	–	x
STEROIDS	181	95	–	x	–	x	x
JAP J ANESTHESIOL	182	–	–	x	–	–	x
LAEKARTIDNINGEN	183	–	–	x	–	x	x
LILLE MED	184	–	–	x	–	x	x
ARCH PHARM (WEINHEIM)	185	109	–	x	–	x	x
FORTSCHR MED	186	–	–	–	–	–	–
MED WORLD NEWS	187	–	x	x	–	x	–
Z ALLGEMEINMED	188	–	–	x	–	–	x
NORD MED ARK	189	128	x	–	–	x	–
ARTHRITIS RHEUM	190	103	x	–	x	x	x
BIOCHEM BIOPHYS RES COMMUN	191	18	–	x	–	–	x
ANESTH ANALG REANIM	192	–	–	x	–	x	x
CHEMOTHERAPY (BASEL)	193	–	x	x	–	x	x
NORTHWEST MED	194	–	x	x	–	–	x
SEM HOP	195	–	x	x	–	x	x
ACTA ANAESTHESIOL	196	–	–	x	–	–	x
INT J FERT	197	141	x	x	–	x	x
DERMATOLOGICA	198	126	–	x	–	x	x
EUR J BIOCHEM	199	32	–	x	–	–	x
ACTIV NERV SUPER	200	–	–	x	–	–	x

List 2.

ACTA ALLERGOL
ACTA ANAESTHESIOL SCAND
ACTA BIOL MED GER
ACTA CHEM SCAND
ACTA NEUROL SCAND
ACTA OBSTET GYNAECOL JAP
ACTA OBSTET GYNECOL SCAND
ACTA PAEDIAT SCAND
ACTA PATHOL MICROBIOL SCAND
ACTA PEDIAT ESPAN
ACTA PHARM HUNG
ACTA PHARM SUECICA
ACTA PHYSIOL ACAD SCI HUNG
ACTA PHYSIOL PHARMACOL NEER
ACTA PSYCHIAT SCAND
ACTA UROL BELG
ADV AGE
AERZTL PRAX
AGR BIOL CHEM
AGRESSOLOGIE
AKUSH GINEKOL (MOSCOW)
AMER DRUGGIST
AMER J GASTROENTEROL
AMER J HOSP PHARM
AMER J MED TECHNOL
AMER J NURSING
AMER J PATHOL
AMER J PHARM
AMER J ROENTGENOL
AMER J TROP MED HYG
AMER J VET RES
AMER SURG
ANAESTHESIA
ANAL BIOCHEM
ANAL CHEM
ANAL CHIM ACTA
ANGIOLOGY
ANN ANESTH FR
ANN BIOL CLIN (PARIS)
ANN CLIN BIOCHEM
ANN ENDOCRINOL
ANN INST PASTEUR PARIS
ANN MED EXP BIOL FENN
ANN MED PHYS
ANN MED-PSYCHOL
ANN PEDIAT
ANN PHARM FR
ANN REV MED

ANN RHEUM DIS
ANTISEPTIC
APPL THER
ARCH BIOCHEM BIOPHYS
ARCH DERMATOL SYPHILOL
ARCH DIS CHILDHOOD
ARCH ENVIRON HEALTH
ARCH IMMUNOL THER EXP
ARCH INVEST MED
ARCH KINDERHEILK
ARCH KLIN EXP DERMATOL
ARCH KLIN EXP OHREN NASEN KEHLKOPFHEILK
ARCH PATHOL
ARCH TOXIKOL (MOSCOW)
ARIZ MED
ARQ BRASIL CARDIOL
ATHEROSCLEROSIS
AUSTRALAS ANN MED
AUSTRALAS J PHARM
BACTERIOL PROC
BIOCHEMISTRY
BIOL PSYCHIAT
BIOL REPROD
BIOPOLYMERS
BIULL EKSP BIOL MED
BOLL CHIM FARM
BORDEAUX MED
BRAIN RES
BRIT HEART J
BRIT J EXP PATHOL
BRIT J HAEMATOL
BRIT J OPHTHALMOL
BRIT J SURG
BRUXELLES MED
BULL NY ACAD MED
BULL SOC FR DERMATOL SYPHILIGR
BULL WHO
CA
CAH ANESTHESIOL
CAH MED LYON
CAN J BIOCHEM
CAN J PHARM SCI
CAN PHARM J
CAN PSYCHIAT ASS J
CARDIOVASC RES
CAS LEK CESK
CESK EPIDEMIOL MIKROBIOL IMUNOL
CESK PEDIAT
CHEM COMMUN
CHEM DRUG
CHEM ENG NEWS
CHEM PHARM BULL
CHICAGO TRIB
CHIM THER
CHIRURG
CLEVELAND CLIN QUART
CLIN BIOCHEM
CLIN CHIM ACTA
CLIN ENDOCRINOL
CLIN EXP IMMUNOL
CLIN OBSTET GYNECOL
CLIN PEDIAT (BOLOGNA)
CLIN TOXICOL
COMP BIOCHEM PHYSIOL
COMPR PSYCHIAT
CONCOURS MED
CONN MED
CONSUM REP
C R H ACAD SCI SER D
DEL MED J
DERMATOL WOCHENSCHR
DERMATO-VENEROLOGICA
DEUT APOTH ZTG
DEUT GESUNDHEITSW
DEUT MED J
DIABETOLOGIA
DIA MED
DIGESTION
DIS ABSTR B
DISS PHARM PHARMACOL
D O
DRUG COSMET IND
DRUGS
DRUG THER
DRUG TRADE NEWS
DUODECIM (HELSINKI)
EKSP KHIR ANESTEZIOL
ELECTROENCEPHALOGR CLIN NEUROPHYSIOL
EMERGENCY MED
ENCEPHALE
ENDOKRYNOL POL
EPILEPSIA
EUR J TOXICOL
EXP CELL RES
EXP NEUROL
FARMACIA (BUCHAREST)
FARMACO ED PRAT
FARMACO ED SCI
FARM POL
FARM ZH (KIEV)
FDA (FOOD DRUG ADMIN) PAP
FOLIA ENDOCRINOL
FOLIA PHARMACOL JAP
FOOD COSMET TOXICOL
GEBURTSH FRAUENHEILK
GINECOL OBSTET MEX
HAREFUAH
HAUTARZT
HEADACHE
HELV MED ACTA
HELV PHYSIOL PHARMACOL ACTA
HNO (HALS-NASEN-OHRENAERZTE)
HOPPE-SEYLER'S Z PHYSIOL CHEM
HORM BEHAV
HOSP MANAGE
HOSP MED
HOSP PHARM
HOSP PRACT
HSMHA HEALTH REP
ILL MED J
IMMUNOLOGY
INDIAN J EXP BIOL
INDIAN J MED RES
INDIAN J MED SCI
INDIAN PRACT
INFECT IMMUN
INT ANESTH CLIN
INT DRUG THER NEWSLETT
INTERNIST
INT J APPL RADIATION ISOTOPES
INT J DERMATOL
INT J NEUROPSYCHIAT
INT PHARMACOPSYCHIAT (BASEL)
INT SURG
INT Z VITAMINFORSCH
IS J MED SCI
J AMER ASS NURSE ANESTH
J AMER CHEM SOC
J AMER DENT ASS
J AMER DIET ASS

J AMER OSTEOPATH ASS
J AMER PODIAT ASS
J ANIM SCI
JAP CIRC J
JAP J FERT STERIL
JAP J UROL
J APPL PHYSIOL
J ASS OFFIC ANAL CHEM
J BONE JOINT SURG AMER VOL
J CHEM SOC
J CHRONIC DIS
J COMP PHYSIOL PSYCHOL
J DAIRY SCI
J DENT RES
J FLA MED ASS
J FORENSIC SCI
J HETEROCYCL CHEM
J IMMUNOL
J INDIANA MED ASS
J INDIAN MED ASS
J IOWA MED SOC
J IR MED ASS
J KANS MED SOC
J KY MED ASS
J LABEL COMPOUNDS
J LA MED SOC
J LIPID RES
J MAINE MED ASS
J MED ASS GA
J MED LYON
J MED SOC N J
J MISS STATE MED ASS
J MOL BIOL
J NAT CANCER INST
J NERV MENT DIS
J NEUROCHEM
J NEUROL NEUROSURG PSYCHIAT
J NUTR J OBSTET GYNAECOL BRIT COMMONW
J OCCUP MED
JOHNS HOPKINS MED J
J ORAL SURG
J ORG CHEM
J PATHOL BACTERIOL
J PERIODONTOL
J PHARM SOC JAP
J PSYCHIAT RES
J REPROD MED
J SOC COSMET CHEM
J VIROL
KARDIOLOGIIA
KHIRURGIIA (MOSCOW)
KLIN MED
LAB ANIM CARE
LAB INVEST
LIPIDS
LYON MED
MAROC MED
MARSEILLE MED
MAYO CLIN PROC
MED ANN D C
MED COUNTERPOINT
MED HYG
MED INTERNA
MED MONATSSCHR
MED PROC
MED SCI
MED TODAY
MED TRIB
MED TROP (MARSEILLE)
MED WET
MFG CHEM
MICH MED
MICROBIOL PARAZITOL EPIDEMIOL
MIL MED
MINERVA ANESTHESIOL
MINERVA CARDIOANGIOL
MINERVA DERMATOL
MINERVA PEDIAT
MOD MED
MOD VET PRACT
MOL PHARMACOL
MO MED
MONATSSCHR KINDERHEILK
MT SINAI J MED
NATURWISSENSCHAFTEN
NERVENARZT
NEUROENDOCRINOLOGY
NORD PSYKIAT T
NUTR REV
N Z MED J
OBSTET GINECOL
OHIO STATE MED J
OPUSC MED
ORV HETIL
PA MED
PATHOL BIOL
PEDIAT CLIN N AMER
PHARMACOL PHYSICIANS
PHARMACOL RES COMMUN
PHARMACOL REV
PHARMAKOPSYCHIAT NEUROPSYCHOPHARMAKOL
PHARMAZIE
PHARM IND
PHARM PRAX
PHARM TIMES
PHARM WEEKBL
PHARM ZTG
POLICLIN SEZ PRAT
POL TYG LEK
PRAKT TIERARZT
PRENSA MED ARGENT
PRENSA MED MEX
PRESCRIBER'S J
PROC AMER ASS CANCER RES
PROC ANN CONF US PUB HEALTH SERV COOP STUDY
PROC ROY SOC SER B
PROC WEST PHARMACOL SOC
PROGR BRAIN RES
PROGR MED
PSYCHOL REP
PSYCHOPHARMACOL BULL
PURE APPL CHEM
QUART J MED
RES COMMUN CHEM PATHOL PHARMACOL
REV ALLERGY
REV BRASIL ANESTH
REV BRASIL MED
REV CLIN ESPAN
REV EUR ETUDES CLIN BIOL
REV NEUROL
REV PRAT
RN
ROCKY MT MED J
SCAND J GASTROENTEROL
SCAND J INFECT DIS
SCHWEIZ APOTH ZTG
SCOT MED J
S DAK J MED
SEMINA MED
SEM THER

SOUTHWEST MED
SOV MED
SURG BUS
SURG CLIN N AMER
SURG FORUM
TAEGLICHE PRAX
TER ARKH
TERATOLOGY
TETRAHEDRON LETT
TEX MED
THERAPEUTICS
THERAPEUTIQUE
THER GEGENW
THER UMSCH
TOHOKU J EXP MED
TRANS AMER ACAD OPHTHALMOL
TRIB MED
UGESKR LAEGER
UNION MED CAN
UROLOGE
VA MED MON
VERH DEUT GES KRIESLAUFFORSCH
VESTN DERMATOL VENEROL
VESTN KHIR
VET MED
VET REC
VIATA MED
VIE MED
WEST AFR MED J
WIAD PARAZYTOL
WIEN KLIN WOCHENSCHR
WIEN Z INN MED IHRE GRENZGEB
WIS MED J
Z AERZTL FORTBILD (JENA)
ZENTRALBL BAKTERIOL (ORIG)
ZENTRALBL GYNAEKOL
Z GEBURTSH GYNAEKOL
Z GESAMTE EXP MED
Z GESAMTE INN MED IHRE GRENZGEB
Z HAUT GESCHLECHTS KR
ZH NEVROPATOL PSIKHIAT IM S S KORSAKOVA
Z KRIESLAUFFORSCH

Literature Cited

1. *JCR* is a product of the Institute for Scientific Information; it is a "collection of statistical tables (for 1,000 journals) that make it possible to examine a number of important characteristics of individual journals that can be considered indicators of their usefulness to the scientific community."
2. Garfield, E. / Citations To Divided-by-Items-Published Gives Journal Impact Factor; ISI Lists the Top Fifty High-Impact Journals of Science. *Current Contents* 15 (no.8): 6–9 (Feb 23, 1972).
3. Brandon, Alfred N. / Selected List of Books and Journals for the Small Medical Library. *Bulletin of the Medical Library Association* 61 (no.2): 179–200 (Apr 1973).
4. CFR Title 21:Pt. 130.38; 32 F.R. 8087 (Jun 6, 1967).
5. Bourne, Charles P. / Some User Requirements Stated Quantitatively in Terms of the 90% Library. In Kent, A., ed. / *Electronic Information Handling.* Washington, Spartan Books, 1965, p.90–100.
6. Basile, Victor A. and R. W. Smith / Evolving the 90% Pharmaceutical Library. *Special Libraries* 61 (no.2): 81–86 (Feb 1970).
7. Sengupta, I. N. / Recent Growth of the Literature of Biochemistry and Changes in Ranking of Periodicals. *Journal of Documentation* 29 (no.2): 192–211 (Jun 1973).
8. Whittle, Elizabeth D. / Requirements for the Journal Holdings of a Medical School Library; Edinburgh Survey. *British Journal of Medical Education* 6 (no.4): 306–310 (Dec 1972).
9. Fleming, Thomas P. and F. C. Kilgour / Moderately and Heavily Used Biomedical Journals. *Bulletin of the Medical Library Association* 52 (no.1): 234–241 (Jan 1964).

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Microfilm Equipment and Retrieval Systems for Library Picture Collections

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■ Microfilm is a viable medium for the storage, preservation, retrieval and reproduction of materials in library picture collections. Good, inexpensive cameras enable picture librarians to film their collections, and reader/printers can provide quick paper copy reproductions for picture searchers. Microfilmed picture collections can be retrieved via several techniques. Unitized microforms, especially film jackets and aperture cards lend themselves especially well to picture collection applications, and, for libraries with large budgets, random access retrieval systems can satisfy even the most complex search requirements.

PHOTOGRAPHS, drawings and other graphic materials can be a valuable information resource, but librarians responsible for the maintenance of picture collections face special problems. Proper storage conditions, especially where large collections are involved, require a considerable amount of dedicated space, expensive filing equipment, and specially designed environmental controls. Pictures frequently require restorative treatment, and even those in good shape can deteriorate quickly under constant handling. Requests made by picture searchers must be filled quickly, but many electrostatic copiers cannot make recognizable copies of halftone or continuous-tone illustrations, while the cost and slowness of conventional photographic reproduction can prove prohibitive.

Microfilm is increasingly mentioned as an alternative to conventional ways of handling these problems *(1)* and with good reason. Microfilm can drastically reduce storage space requirements. It remains the medium of choice for the long-term preservation of library materials, and microforms are compatible with a wide variety of retrieval systems and techniques. Moreover, reader/printers can make high quality, inexpensive reproductions of halftone and continuous-tone illustrations in response to picture searchers' requests. Yet, despite the promise of such substantial advantages, the microfilming of picture collections has seldom received extensive consideration in library literature. *Special Libraries* last printed a full-scale discussion of the subject in 1956 *(2)* and since that time the state of the micrographics art has changed dramatically. This article discusses currently available microfilm equipment and retrieval systems suitable for use in library picture collection applications.

Microfilm Cameras

Although some libraries may prefer to set up a contract with a microfilm service company like University Microfilms, librarians who want to film their own picture collections will find that the micrographics industry offers them a choice of several very good cameras. Because of the need to reproduce fine details with a minimum loss of resolution, librarians considering the microfilming of a picture collection should choose a planetary rather than a rotary camera. Planetary cameras photograph stationary objects positioned on a flat bed, while rotary or flow-type cameras film documents reflected from mirrors as they move through a transport mechanism *(3)*. There are three basic types of planetary cameras: those that produce 16 mm roll film, those that produce 35 mm roll film, and those that produce 105 mm microfiche. Special planetary cameras, like the 3M Model 2000 and the GAF Model MBK, produce 35 mm aperture cards. In evaluating and selecting a microfilm camera, librarians should give careful attention to ease of operation, suitability of the equipment for a library environment, interchangeability of reduction ratios, and the availability of special features, like automatic exposure control, that decrease operator responsibility.

Sixteen millimeter planetary cameras combine high resolution with ease of operation in a size well-suited to an office environment. The Bell and Howell Filemaster, for example, features four standard reduction ratios (21 to 1, 25 to 1, 27 to 1, and 29 to 1), a large photographic surface capable of accommodating originals up to twelve by seventeen inches in size, a high quality optical system made by Minolta of Japan, and an automatic exposure control that compensates for variations in originals. Bell and Howell claims minimum resolution of 120 lines per millimeter at all reduction ratios, making the Filemaster the qualitative equivalent of considerably more expensive cameras. Retail purchase price is under two thousand dollars, with rental and lease terms available. As is generally the case with sixteen millimeter planetary cameras, the Filemaster requires a conscientious rather than a technically skilled operator.

For picture collections with smaller budgets but similar needs, both Eastman Kodak and the 3M Company offer inexpensive 16 mm planetary cameras. The Recordak Starfile Model RV-2 features standard automatic exposure control and a choice of two pre-set reduction ratios (22 to 1 and 27 to 1). The 3M DRC uses cartridge film for increased operator convenience and is compatible with interchangeable camera lenses in several reduction ratios. Both products retail for around $1,000, again with rental and lease terms available, and, like the Bell and Howell Filemaster, both will make high-quality microreproductions of halftone and continuous-tone illustrations.

Turning to 35 mm planetary cameras, librarians can expect to pay more for larger equipment. The Recordak Microfile Model MRD-2, the most popular camera in library applications involving newspapers, bound volumes, and large documents, features standard automatic exposure control, reduction ratios ranging from 5 to 1 through 27 to 1, and a photographic surface approximately twenty-six by thirty-seven inches in size. The MRD-2 sells for around $5,000. Itek makes two planetary cameras, Models 1400 and 1410, that expose 35 mm film at reduction ratios from 12 to 1 through 20 to 1 and accommodate documents up to 25 in. by 32 in. in size. Automatic exposure control is standard and the retail price is around $4,000. Like the MRD-2, it is a high quality piece of equipment capable of making excellent microreproductions of the materials found in library picture collections. Yet, except where lower reduction ratios or a larger photographic surface are essential, it is difficult to see the advantage of 35 mm planetary cameras over the less expensive 16 mm models in most picture collection applications. Moreover, and this will be noted again further on, 35 mm microfilm is not compatible with a wide range of retrieval techniques.

Step and repeat cameras expose 105 mm microfilm that can be cut to produce microfiche. The high price of step and repeat equipment—almost invariably in excess of $10,000—puts it well outside of serious consideration by all but the most affluent libraries. Since microfiche can be created from 16 mm roll film produced on the less expensive equipment already described, it is again difficult to see the advantage of step and repeat cameras for most picture collections.

Regardless of the camera selected, best resolution can usually be obtained through the use of low contrast film that facilitates the capture of the gray scale in photographs. Librarians considering the microfilming of photograph collections should consult with film specialists on the staffs of various vendors to determine which products best meet their requirements.

Reader/Printers

Most readers suitable for use with microfilmed books and documents will adequately display microfilmed pictures. More detailed consideration needs to be given, however, to the selection of equipment for making hard copy reproductions from the film itself. Classified according to the printing process employed, there are four basic types of reader/printers currently available for library use: stabilized silver, dry silver, xerographic, and electrofax *(4)*.

Stabilized silver reader/printers, like the Itek Model 18–24RF, employ a variant of the conventional silver halide photographic process that shortens the time required for the development of an image by rendering silver grains inert rather than removing them from the finished print. Stabilized silver prints of microfilmed photographs are especially sharp and clear, with a minimum loss of detail. Although the process is considerably less expensive and much faster than conventional photographic reproduction, stabilized silver equipment and print costs are higher than those of other processes. The 3M 500 Series dry silver reader/printers, which use heat to develop an image on specially sensitized paper, will do a good job of reproducing microfilmed halftone and continuous-tone illustrations and are generally less expensive than stabilized silver equipment. The 3M Company recently introduced a matted finish dry silver paper that librarians should find especially satisfactory for the reproduction of photographs. Xerographic and electrofax reader/printers employ variants of the electrostatic process used in office copiers. A charged photoreceptive surface is exposed to light reflected from the document to be copied, in this case a microimage of a picture. Charges are dissipated in areas of the photoreceptor corresponding to light areas of the original, leaving a latent image that is made visible through the application of powdered or liquid toner. In the xerographic or indirect electrostatic process, the latent image is first developed on an intermediate surface, usually a selenium drum, and then transferred to an ordinary sheet of paper. In the electrofax or direct electrostatic process, the photoreceptor, consisting of paper coated with zinc oxide in a resin binder, is the copy. The Xerox Microprinter, the only reader/printer currently using the xerographic process, is essentially a Xerox 720 Copier with a microfilm viewing module. It has the same limitations as the 720 in reproducing halftone and continuous-tone illustrations and is, therefore, unsuitable for the reproduction of microfilmed picture collections. Electrofax reader/printers, like their copier counterparts, generally do a little better than xerographic equipment in reproducing photographs and solid areas, but they rarely approach the quality of reproduction obtained from dry silver reader/printers.

A word needs to be said here about the relationship between film polarity and reader/printer output. The stabilized silver and dry silver processes are sign-reversing, that is they will make a positive appearing paper print from negative appearing microfilm and a negative appearing paper print from positive appearing microfilm. Because pic-

ture searchers understandably prefer to view positive appearing microimages of photographs and drawings, librarians using stabilized silver or dry silver reader/printers will require negative microforms for printing and duplicate positive microforms for viewing. Xerographic and electrofax reader/printers will make positive appearing prints from both negative and positive appearing microfilm.

Retrieval Systems

Design of a retrieval system begins with the selection of an appropriate microform. Each of the microforms has advantages and disadvantages that hold as true for applications involving pictures as those involving textual records. Of the roll formats, 16 mm microfilm, loaded onto open spools or into cartridges or cassettes, is compatible with a variety of retrieval techniques ranging from simple odometer indexing to sophisticated computer-based systems. Thirty-five millimeter roll microfilm is much less versatile and limits the user to flash target or odometer indexing retrieval. Thirty-five millimeter cartridges help to minimize some of the inconvenience of open spool film, but suitable viewers are not readily available.

Difficulties involved in the updating of microfilm files are a general drawback of roll formats. This problem can be alleviated by stripping and inserting roll film into microfilm jackets. One or more jackets can be established for each file in the picture collection and new images can be added as they are filmed. With a little planning, pictures that might be filed in more than one place can be filmed as often as necessary and inserted into several jackets. The jacket format is especially well-suited to picture collections with an existing satisfactory filing system. In such applications, jackets offer space-saving miniaturization with a minimal reorientation of work procedures. Although jackets are more expensive to produce than roll microfilm, jacket reader/printers are generally less expensive than their roll film counterparts.

Aperture cards, the only microform that combines the advantages of human-eye readable information on tab-sized cards with the space savings of microimages on 35 mm film chips, can be an extremely attractive medium for microfilmed picture collections. The face of the card can be designed to allow space for all of the meaningful information needed to identify the microimages in the aperture, and the cards themselves can be either filed manually or keypunched and machine sorted. For librarians who want to combine the updating capability of microfilm jackets with the aperture card format, the Microseal Corporation makes a jacket card that will accept stripped 16 mm roll microfilm.

Turning to more sophisticated and more expensive retrieval systems, Eastman Kodak's Miracode, the subject of considerable interest among librarians *(5)*, uses photo-optical binary codes on film to allow random access to microimages stored on 16 mm microfilm cartridges. Originals, filmed on a 16 mm planetary camera modified with a special encoding attachment, can be retrieved from a microfilm file in a matter of seconds, even when fairly complex search criteria are employed. The Miracode retrieval terminal is equipped with an electrofax printer for reproduction of displayed microimages. Miracode equipment is presently being used to randomly access microfilmed picture collections at the Army Photographic Agency, the Broadcast Pioneers Library, and the NBC News Film Library.

One of the potential disadvantages of Miracode is the necessity of grouping related items together within cartridges to lessen the size of the store that must be searched in response to a request. Newly filmed images must be spliced onto appropriate cartridges. The 3M Company's Microdisc System eliminates this grouping and splicing requirement by separating the filmed images from the retrieval codes. Microdisc combines a special-program minicomputer, an input/output terminal with cathode ray tube display, and a 3M Page Search dry silver reader/printer in an integrated configuration

that allows random access to a 16 mm microfilm cartridge file. Like Miracode, Microdisc enables the user to employ complex descriptors and search criteria. Unlike Miracode, index information is stored on magnetic disc rather than film. In response to searchers' requests, the cathode ray tube will display the precise cartridge and frame location of any microimage. Opaque document marks, or blips, under each filmed image guide the Page Search retrieval unit to the appropriate frame. Originals can be microfilmed on any of the 16 mm cameras already described.

Both Miracode and Microdisc involve a considerable capital investment. A Miracode installation will cost about $35,000, including camera and printing retrieval terminal. A Microdisc configuration, including camera and reader/printer, could run as high as $70,000.

Conclusion

It should be noted that, while microfilm offers library picture collections prospects of significant reductions in required storage space, improved retrieval techniques, and more convenient paper copy reproduction capability, it is not without limitations. An effective microfilm system, even those employing manual retrieval techniques, can necessitate conversion expenses beyond the budget of many libraries. In addition, microfilm cannot help picture collections whose patrons have an interest in the pictures themselves rather than their subjects. Microfilmed photographs reveal nothing about the paper on which the print was made. Microfilmed paintings reveal nothing about brush strokes and artistic texture. Picture librarians for whom these limitations are unimportant can, however, choose from several good, relatively inexpensive microfilm cameras, and can experience definite advantages from reader/printer reproduction of microfilm pictures. Depending on available funds, impressive improvements can also be made in the retrieval of specific items from the collection.

Literature Cited

1. Shaw, Renata V. / Picture Searching: 1. Techniques. *Special Libraries* 62 (no.12): 524–528 (Dec 1971).
2. Henebry, Agnes / Preservation of Photographs on Microfilm: An Experiment. *Special Libraries* 46 (no.10): 451–454 (Dec 1956).
3. On the technical operation of microfilm cameras, see Brunner, Alexander / Basic Technology. In *Compact Efficiency: Proceedings of the Twenty-Second Annual Conference and Exposition of the National Microfilm Association,* Silver Spring, Md., National Microfilm Association, 1973.
4. On the processes used in reader/printers, see Hawken, William R. / *Copying Methods Manual.* Chicago, Library Technology Program and the American Library Association, 1966.
5. Williams, Bernard J. S. / *Miniaturized Communications.* London, The Library Association, 1970. 190p.

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Maps, Globes, and the "Cold War"

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■ A revolution occurred during the 1940s in the way Americans visually imagined and graphically represented the world. Their new outlook, "Air-Age Globalism," fundamentally affected subsequent American-Soviet relations. The role of the geographers and cartographers in shaping this altered view is emphasized.

HOW IT HAPPENED that the Second World War, an ostensible victory for international peace and cooperation, was followed almost immediately by a "Cold War" between the major victorious Allies—the United States and the Soviet Union—remains one of the great historical puzzles of our time. Since the recent proclamation of an era of "détente" its interest has, if anything, increased. Curiously, in the many attempts that have been made to solve it, relatively little attention has been paid to what was to many contemporaries, particularly Americans, the most remarkable feature of the great international struggle of the 1940s: its vast geographical scope. In countering the aggressions of Germany, Italy, and Japan and, subsequently, in "containing" the expansive tendencies of Soviet Russia, the United States sent its forces to the far corners of the earth. For the first time in history the scope of U.S. military and political activity was literally world-wide.

Paradoxically, rather than confirming Americans' sense of the immensity of the earth, these extended operations had in the last analysis a foreshortening effect: the world was made to seem smaller and more compact. What had formerly seemed to them an "open-space" system became, despite hopeful glimpses of a new unlimited global horizon, a "closed-space" system. This new awareness of the proximity of states had a profound impact, not only upon military strategy and diplomacy but upon the very conceptual context of statecraft. How this change in geographical psychology came about and how it was related to the frequently noted "revolution" in American foreign policy during the Second World War and early Cold War years will be explored below, with special attention to the distinctive and insufficiently appreciated role played in this overall conceptual transformation by the work of geographers and cartographers.

From Continentalism to Globalism

The "primal event" in this development of a new world view was the Dec 7, 1941, Japanese attack on Pearl Harbor, a traumatic shock that momentarily disoriented Americans and permitted the formation of a wholly new geographical outlook. In mentally adjusting to this overwhelming blow, Americans did something far more profound than simply adopt a new moral–political attitude, a new policy, forsaking "isolationism" for "international-

ism." They re-imagined the very physical context within which this policy would be conducted. One may better characterize their change of outlook as an abandonment of "continentalism" for "globalism," words with much more vivid spatial connotations.

The key factor in giving this altered picture of the world coherence and definition was the development of a new way of representing the earth's geostrategic pattern graphically—a new cartography to complement the so-called "new geography" that came into fashion during the war years.

To create such a restructured world-image was not the conscious purpose of most World War II cartographers. Many were concerned only with trying to produce maps that would be scientifically more accurate or operationally more useful. There was for some, however, a more general goal. Their aim, as the noted cartographer, Richard Edes Harrison, phrased it, was to impart a "geographical sense." Harrison, who through his celebrated maps in *Fortune* and later in *Life,* the sales of his maps to the U.S. armed forces, and his technical advice to the Geographer of the State Department and to the Office of Strategic Services became perhaps the most influential of the wartime cartographic innovators, taught much geographical wisdom himself. It was not his intention to convert people to a particular substantive view of the world. Reacting against the excessive use of certain standard map projections whose distortions had become so familiar as to assume the likeness of geographic "truth," he did not want to create an alternative orthodoxy. He sought instead to enable and to encourage people to look at the world "flexibly," from many different points of view and on a variety of map grids. He seemed to want them to be able to see it completely without preconceptions—an impossible aim, it could be argued, for without some fixed point of reference a viewer would be completely disoriented and thus unable properly to "see" anything at all.

Despite all of their emphasis on agility of the visual imagination, the need for a multi-map perspective, and avoidance of a fixed outlook, Harrison and the other new geographers and cartographers of World War II shared at bottom a definite substantive conception of the world. They were in fact, if not admittedly, holders of a special vision, a view of the earth and its surrounding space that might conveniently be termed "Air-Age Globalism." What, exactly, were the specific characteristics of this new world image?

The Spherical World

First and foremost, the earth was recognized as being "round." The word "recognized" is used here deliberately, for Air-Age Globalists sometimes implied that they were simply acknowledging the full implications of a truth that had once been known but had been effectively forgotten. "If you look through a good collection of old maps," wrote the famous scientist and explorer, Dr. Vilhjalmur Stefansson,

> you learn it is only during the last hundred years, approximately since 1850, that Europeans, and their intellectual cousins, the Americans, have been thinking of the earth as if it were flat, from which have come such strange ideas as that the nearest way to China from the United States is west, that it is logical to fly the Pacific on your way to China, and that places like the Hawaiian Islands lie on a nearly direct road between the two countries.

The source of these misapprehensions, it was commonly asserted during the war years, was the Mercator projection, the venerable map that had dominated geographical education and strategic thinking since the eighteenth century. In February 1943 the *New York Times* went so far as to declare editorially: "the time has come to discard it for something that represents continents and directions less deceptively." The rejection could not be complete, however. Because compass directions and true shapes can be discerned on a Mercator chart, the *Times* admitted, it would always be use-

ful for short-range navigation. A cylindrical projection, with its line of tangency conventionally at the Equator, is most useful in the zones normally used by intercontinental shipping. "Mercator's world," commented Harrison in an article written in collaboration with the political scientist, Robert Strausz-Hupé, "is the world of sea power." It is no accident that Mercator maps were the ones used by the high priest of the sea-power faith, the American naval strategist and scholar, Alfred Thayer Mahan. This in part explains why the main U.S. naval base in the Pacific Ocean was located at Pearl Harbor in Hawaii instead of, say, at Dutch Harbor in the Aleutians in accord with the prophetic geostrategic visions of Secretary of State William H. Seward or General William E. ("Billy") Mitchell. Mahan, with his Mercator-conditioned focus on the sea lanes, considered the Hawaiian Islands vital to the security of America's west coast, even though they lie entirely south of the United States on about the same latitude as Mexico City.

In order to avoid the strategic fallacies of the flat-earth "Mercator mind," Americans were sometimes advised to give up looking at deceitful maps altogether and instead to contemplate their household globes, using pieces of string rather than rulers for measurement and direction finding. The globe was characterized, misleadingly, as the only "true" representation of the world. Although globes do give a more or less correct impression of the earth's basic shape—oblate spheroid—they do not necessarily give a more satisfactory picture of the earth's surface than properly selected maps do. Because of practical and economic limitations on their size, most globes are far too small to show meaningful detail.

Nonetheless, globes rather than maps were increasingly regarded as the proper conceptual and physical base on which to trace the movements of the war and to delineate the contours of the peace. Among the few planners who had access to a globe large enough to plot strategy and draw boundaries with any precision was President Roosevelt. As Commander-in-Chief of the American armed forces, he was given as a Christmas present in 1942 a huge 50-inch globe, the largest detailed military globe ever made. Not mounted in the standard way on a fixed or swiveled axis, the President's globe was cradled so as to be capable of "universal" movement at the flip of a hand—ideal for achieving a Harrisonian "flexible" world view. Prime Minister Churchill, who might otherwise have felt deprived, got one of these marvelous instruments too.

The Unified World

As Americans extended their ken around the spherical earth, they gradually came to a new awareness of the world's continuity and unity, a second characteristic feature of Air-Age Globalism. There were preexisting intellectual foundations for this quasi-visual perception: the old liberal economic doctrine of international interdependence, which had been reinforced by the experience of involvement in the First World War and the Great Depression, and the newer doctrine of the "indivisibility of peace," which had been popularized by the collective-security speeches of Woodrow Wilson and Maxim Litvinov. These notions were mixed together, with an Air-Age twist, by Wendell L. Willkie, the defeated Republican Presidential candidate who was invited by President Roosevelt to make a round-the-world trip in 1942 in the interest of United Nations solidarity. The trip, a 49-day, 31,000-mile journey aboard an aircraft named *The Gulliver,* persuaded Willkie of the need for truly global postwar planning for peace. "When I say that peace must be planned on a world basis," he explained in his widely read report, *One World* (1943),

> I mean quite literally that it must embrace the earth. Continents and oceans are plainly only parts of a whole, seen, as I have seen them, from the air. England and America are parts. Russia and China, Egypt, Syria and Turkey, Iraq and Iran are also parts.

And it is inescapable that there can be no peace for any part of the world unless the foundations of peace are made secure throughout all parts of the world.

Willkie's world-image was actually a transitional one, halfway between the older land-sea dualism and the newer air monism. To pure Air-Age Globalists the world had no "parts" at all. They pictured it as a smooth, seamless ball, a monosphere, no longer divided into continents and oceans or into Eastern and Western "Hemispheres." This monistic concept was startlingly illustrated by "air maps" on which all topographical features and political boundaries were erased, leaving only points representing major cities with airports. Even an "air globe" appeared: from the design of an air map used by American Airlines in its newspaper advertisements, Rand McNally and Company created a 12-inch globe with land and sea undifferentiated on a dotted surface of uniform blue.

The Four-Dimensional World

One of the causes of the fading of geographical features and boundary lines was the attainment of a new angle of vision upon the world. It was increasingly seen "from above," through the subtle lens of the air. This adoption of an aerial perspective was a third distinctive feature of Air-Age Globalism, one that had far-reaching implications for geography and cartography as well as for global strategy and diplomacy. Surveying the earth from the sky did not simply make it appear more holistic and uniform. The experience (real or imagined) converted a two-dimensional surface, as represented on conventional maps and even globes, into a three-dimensional environment. A new geographical element now had to be considered: the atmosphere. As N. L. Engelhardt, Jr., a geographer at Columbia University's Teachers College, wrote: "Around this earth is a great ocean—an ocean of air." This medium, which greatly facilitated wartime communication and transportation, was henceforward deemed essential to the study of geography.

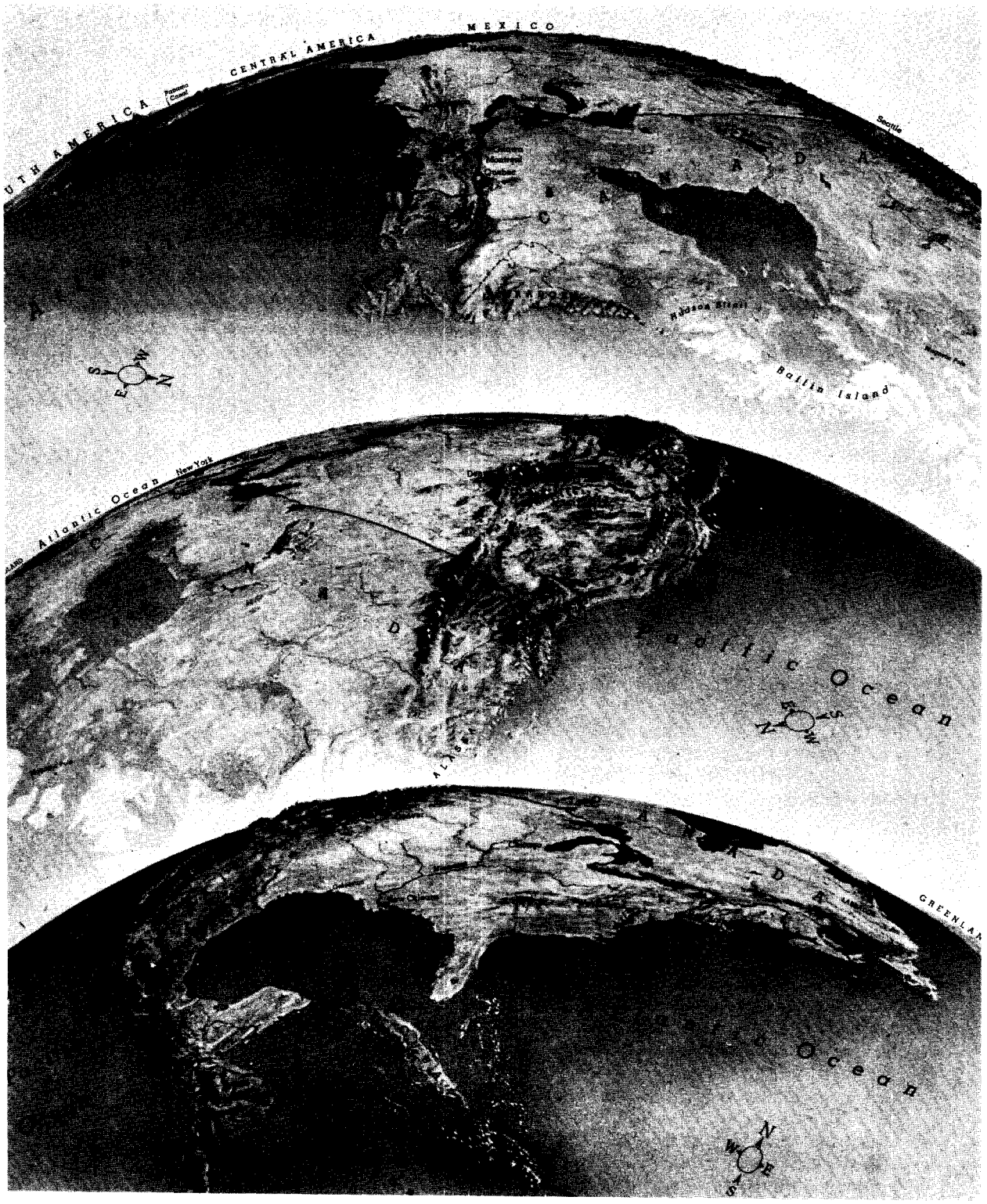
The aerial outlook was also important to cartographers. One of the first map designers to exploit the new vantage point was Harrison, on whose striking panoramic perspective maps the earth is seen at oblique angles from points hundreds of miles up—as if photographed from a satellite (Figure 1).

Not surprisingly, Harrison's stratospheric point-of-view maps were found useful by the American military in training reconnaissance and bomber pilots. His maps have helped air students, right up to the Sputnik era, achieve the facility which a postwar U.S. Air Force manual terms "automatic visualization." This ability mentally to "picture" geographical relationships was particularly valuable during the early World War II years, when American airmen had to fly over regions of the earth that had never been aerially photographed.

The ascension to a new physical angle of vision upon the globe was just one consequence of the "air-conditioning" Americans underwent during the Second World War. An equally significant effect was the habit, copied from aviators by many in the public at large, especially young people, of translating space into time, of measuring geographical distance not in land-miles but in flying-hours. Thinking in ordinary mileage terms was "all right in a two-dimensional world of length and breadth," allowed Professor Engelhardt, "but in a Global World that has shrunk so much under the impact of the Air Age, we must think in terms of the third dimension of height and the fourth dimension of time." According to Congresswoman Clare Boothe Luce, a leading celebrant of American air power, almost everyone in the country under the age of thirty already thought in those terms. Young people know about flying-time distances, she told her senior Congressional colleagues in February 1943, because they "keep up on these things." They knew, for instance, that General Henry H. ("Hap") Arnold had recently flown from Australia to San Francisco in 35 hours 53 minutes.

Because less time was required to traverse the world, Air-Age logic ran, the

Figure 1. The Earth from a New Vantage Point—the Air. Courtesy of Richard Edes Harrison and *Fortune*



world itself was smaller. "In the proportion that travel time by airplane has been reduced," argued the authors of a high-school geography textbook, *Our Air-Age World,* "continental stretches have been compressed, ocean expanses have shrunk to the dimensions of straits, and islands dotting the ocean have become stepping stones." This miniaturization of the globe was often expressed pictorially in maps and thematic cartograms. One of Engelhardt's illustrations, a typical if extreme case of time-factor compression, was a drawing showing the earth resting in the palm of a hand.

The North Polar World

This brings us to a fourth distinctive feature of the Air-Age Globalist's outlook, one closely related to his aerial perspective: "polar centrism." The Northern Hemisphere, the convex arena encompassing most of the globe-sweeping spectacle that was the Second World War, could best be viewed not from low along the line of the Equator but from the lofty vantage of the North Pole. Thus it became increasingly the fashion in the years after Pearl Harbor to center world maps at that point. In no other way could the war so readily be seen as a unified whole.

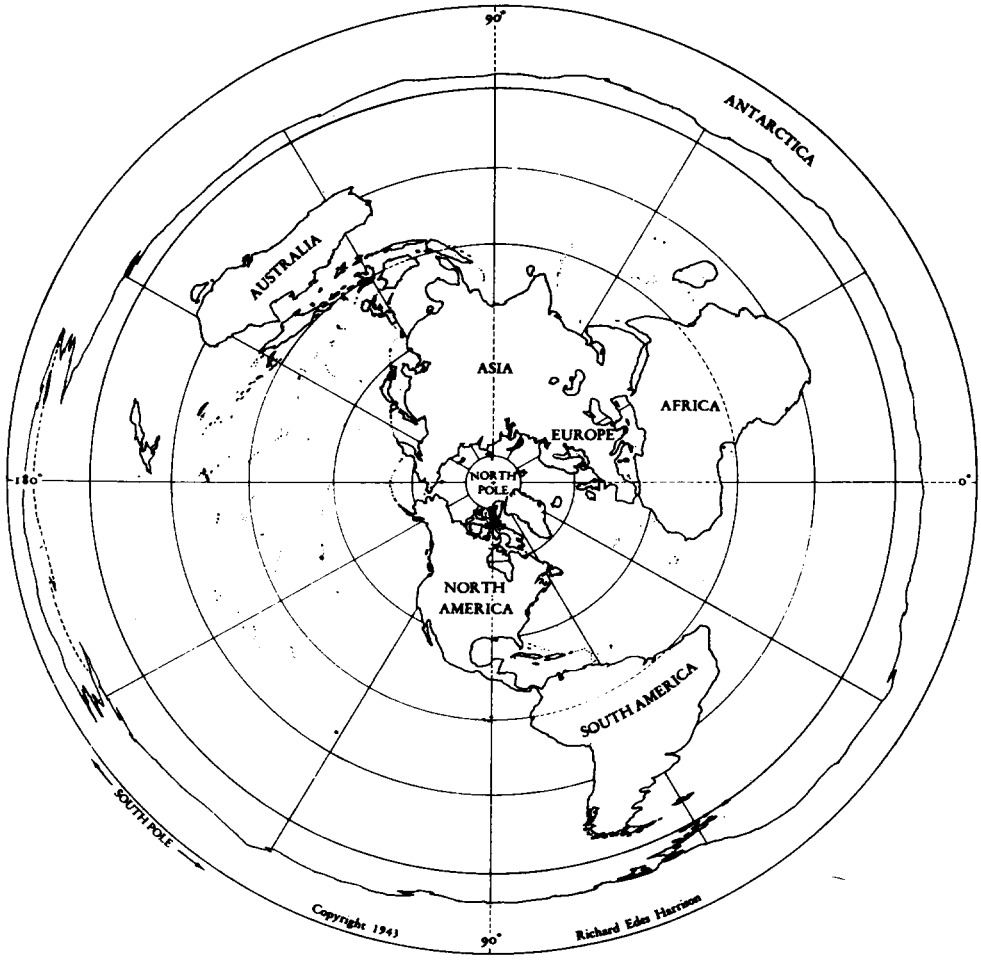
The type of map changed as well as its center of focus. For obtaining a global view, it was judged, the most suitable kind of map was not the cylindrical but the azimuthal, or zenithal, in which the surface features of the earth are projected from a selected point onto a plane.

The attraction of azimuthal maps, particularly for "air-minded" globalists, lay mainly in the fact that straight lines drawn through the center represent true directions and shortest distance (great-circle) routes. On a cylindrical map such as one on an Equator-based Mercator's projection, by comparison, all great-circle routes except the Equator itself and the due north-south routes appear as curves. To the Air-Age Globalist the most generally satisfactory map of the azimuthal group was the equidistant projection, not only because it can portray the whole world continuously but because from the center it alone gives both true direction and accurate (as well as shortest) distance (Figure 2). The center, though usually placed at the North Pole, can be located at any point. From it the radiating azimuths are great-circle routes. Circles can be drawn around central points to represent the operating ranges of aircraft and radio stations.

A defect of the azimuthal equidistant projection, to uncritical Air-Age enthusiasts one of its virtues, was that its scaling system enlarged the periphery and made the central portion, e.g., the Arctic Circle, appear misleadingly small. "This property is made to order for the Mercatorphobes," pointed out Richard Harrison in a letter replying to the *New York Times'* criticism, "because in a comparison of routes involving different latitudes the northerly route is always favored by the distortion of this projection, much as the lower latitude is favored on Mercator."

As more and more Americans were persuaded that they ought to look at the world only from the prospect of the North Pole, they became susceptible to the view, which had some isolated advocates, e.g., Billy Mitchell, even before the war, that the northern cap of the globe would be the world's next critical zone. Through using their polar azimuthal equidistant maps, people became newly and acutely aware of the proximity of North America to northern Eurasia, the vital "Heartland" in the well-known terminology and theory of the British political geographer, Sir Halford Mackinder. Control of this region, it was understood, gave command of the "World Island," which in turn assured rule of the entire world. It seemed to George T. Renner, a futuristic geographical theoretician at Columbia University Teachers College, that the Heartland concept ought to be expanded and shifted upward to include "the interior parts of all the land masses which form a ring around this Arctic Mediterranean—Europe, Asia, and North America."

Figure 2. Azimuthal Projection from the North Pole



To military air strategists the northern solitudes held great fascination. Their concern to justify a large and independent peacetime air force made them susceptible to such extreme polarist notions as those of the Russian-born air specialist, Major Alexander P. de Seversky. An avowed disciple of Mitchell, to whom he had dedicated his book, *Victory Through Air Power* (1942), Seversky militantly advanced the view that the polar region was the world's "area of decision." With the recession of the German and Japanese threats in the east and the west, his strategic attention abruptly shifted to the north. Henceforth the most salient and far-reaching of his projected offensive radii were those pointing toward the Arctic—and the Soviet Union.

Another influential U.S. military air strategist who appreciated the significance of the transpolar axis was General Arnold, the head of the Army Air Forces. In a February 1946 article in *National Geographic* he emphasized the polar air route's implications for air-base maintenance and national defense. Raising the specter of an Air-Age atomic Pearl Harbor, he warned: "A surprise attack could readily come from across the roof of the world unless we were in possession of adequate airbases outflanking such a route of approach." The geographical

relationship of the United States to those countries from which such an attack could emanate—identified only as lying "north of the 30th parallel"—could be seen, the General told his readers, on the National Geographic Society's new north polar map.

Although American military planners seemed at first to use such maps mainly for symbolic and propagandistic purposes, they soon came to understand their practical value for locating bases and conducting operations. Their cartographic technique eventually caught up with their cartographic ideology. The creation of the North American Air Defense Command (NORAD) and the placement of Distant Early Warning (DEW) Line radar stations across the northern reaches testify that polar centrism was in time thoroughly assimilated by them.

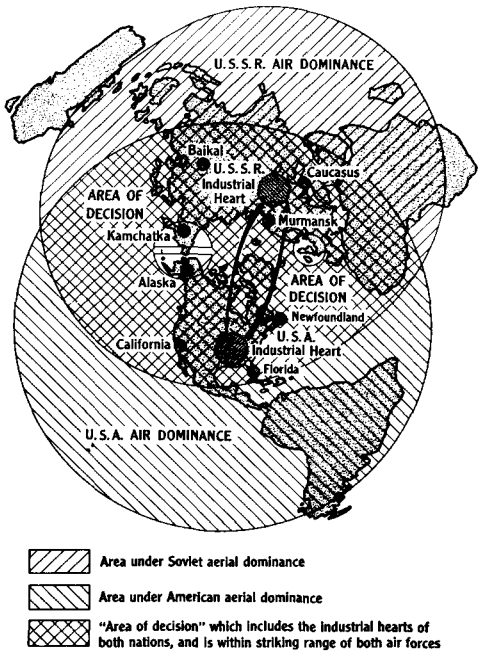
Civilian America, except for that segment involved in commercial aviation and communication, did not similarly perfect its understanding of North Pole-centered global geography and cartography. In the minds of most Americans the imagery of Air-Age Globalism never came to a lasting definite focus, though it long retained a vague appeal. The Globalist image was conjoined by them less with futuristic conceptions of military strategy than with the traditional principles of political economy, specifically the "Open Door" policy. They expected no door to be closed to American goods and ideas, especially once the door of opportunity had been opened. This applied mainly to the war-weakened British Empire. It also applied to the wartime gateways to Russia, including to some extent the one in the Arctic sky.

Shrunken Earth, Overlapping Spheres

Despite the competitive interest of several American airline firms, the trans-Arctic route to Russia was not developed. Some of the reasons for this were economic: the lack of sufficient population in the north to sustain an autonomous transportation system and the reopening of the transportation lanes of

Figure 3. Spheres of Air Dominance

From *The Impact of Air Power* by Eugene M. Emme © 1959. Reprinted by permission of D. Van Nostrand Company



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the Atlantic and Pacific Oceans. There were political reasons as well. The commerce that the United States had conducted with the Soviet Union had for the most part been Lend-Lease aid, a one-way flow of matériel justified by war against a common enemy. When the war ended, this aid was abruptly cut off in a way that gave the Russians, who were hopeful of postwar reconstruction assistance, considerable offense. The Russians, perhaps partly as a result, grew even more resistant to American use of their air space than they had been earlier. As adumbrated by their refusal to participate in the 1944 Chicago Conference on Civil Aviation, they preferred, at least for themselves, a system of "closed air."

The effect of these American and Russian acts of noncooperation was to perpetuate the existence of political spheres of influence, contrary to the transcending universalist aspirations of Air-Age Globalism. The spheres of influence of the United States and the Soviet Union

Figure 4. The Realization of the Shrinking World

From *The Washington Post* © 1947 by Herblock

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were, as a result of the war, considerably expanded. Each nation, grown absolutely and relatively more powerful, cast a longer shadow. For the first time in their history these shadows seemed to fall across one another. They did so in part because, as Seversky had prophesied, the range of aircraft had been extended. Between the spheres of "air dominance" of the U.S. and the U.S.S.R. there was a vast area of overlap, an "aerial no-man's land" (Figure 3). They did so for a more profound reason as well. As a contemporary cartoon by "Herblock" in *The Washington Post* (Figure 4) reveals, "Uncle Sam" and "Uncle Joe" were mutually hostile not just because they had grown to the stature of giants or because they chose to confront one another, but because they both now stood on a world that had been reduced to the size of a ball. The caption—Uncle Sam's warning remark to Stalin, "I'm here to stay, too"—reflects an uneasy consciousness of a contracted territorial base.

Because of the virtual elimination of other empires on this shrunken footing, the U.S. and the U.S.S.R. were in direct as well as close contact with one another. No longer, as the influential commentator, Walter Lippmann, pointed out, would American-Russian relations be controlled by "the historic fact that each is for the other a potential friend in the rear of its potential enemies." The German, Japanese, and British "buffer zones" were to a large extent included within the orbit of the United States. Other intermediate areas became Soviet satellites. The American frontier widened until it met the widening frontier of Russia. There it stopped. The Air-Age Global horizon, which had given rise to such expansiveness even as the globe itself seemed to diminish, was blocked. Once again, as at earlier points in American history, space seemed "closed" for Americans. Only this time it was closed not on a continental or hemispheric scale but on a global scale. The chance of there being another frontier beyond seemed unlikely.

This mental shrinkage of the earth during World War II was, I have come to believe, a major cause of the "Cold War," a factor of no less significance than the well-known military, political, economic, and ideological causes. Both sides continued to obey more or less the same national imperatives they had always obeyed, but in a radically altered real and imaginary spatiotemporal context. Of the great influence of this new geographical condition Americans, and probably the Russians too, were imperfectly aware. Their maps, globes, and even their cartoons, however, vividly manifested it.

References

Harrison, Richard Edes / *Look at the World: The FORTUNE Atlas for World Strategy*. New York, Alfred A. Knopf, 1944.

Weigert, Hans W. and Vilhjalmur Stefansson, eds. / *Compass of the World: A*

Symposium on Political Geography. New York, Macmillan, 1947.
Sprout, Harold and Margaret Sprout, eds. / *Foundations of National Power.* Princeton, N.J., Princeton University Press, 1945.
Willkie, Wendell L. / *One World.* New York, Simon and Schuster, 1943.
Engelhardt, N. L., Jr. / *Toward New Frontiers of Our Global World.* New York, Noble and Noble, 1943.
U.S. Air Force, Reserve Officers' Training Corps / *Military Aspects of World Political Geography.* Montgomery, Ala., Air University, 1954.
Packard, Leonard O., Bruce Overton, and Ben D. Wood / *Our Air-Age World: A Textbook in Global Geography.* New York, Macmillan, 1944.
Renner, George T. / Peace by the Map. *Collier's* 113 (no.23): 44, 47 (Jun 3, 1944).
De Seversky, Alexander P. / *Victory Through Air Power.* New York, Simon and Schuster, 1942.
De Seversky, Alexander P. / *Air Power: Key to Survival.* New York, Simon and Schuster, 1950.
Lippmann, Walter / *U.S. Foreign Policy: Shield of the Republic.* Boston, Little, Brown, 1943.

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Publications of Selected Information Analysis Centers

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■ There are hundreds of information analysis centers specializing in specific fields of science and technology which act as clearinghouses for available information on subjects of their responsibility. They provide technical advice and evaluated data to the scientific and industrial community. A variety of publications like data compilations, bibliographies, technical reports, etc. are prepared by these centers. Some sources of information on these data centers are mentioned and a list of recent publications of a few federally supported data centers in physical sciences is included.

WITH the enormous growth of the primary scientific literature, the individual scientist or engineer is faced with the difficult problem of its retrieval and evaluation. Turning to abstract journals, especially if it is to collect all the relevant information on a given subject, is time consuming and may not be efficient. The time lag between the primary publications and abstract journals adds to the problem. If the scientist or engineer wishes to compile the reported numerical data or prepare a critical review of the work done in his field, he will have to spend a considerable amount of time, which he may not afford, "to search the literature, obtain the papers, and organize and tabulate the data therefrom, before undertaking the truly scientific task of evaluation and critical review" *(1)*.

Even in a day-to-day working situation, the need for the reliable numerical values for physical properties continually arises. Since it is difficult for most libraries and individuals to maintain documentation files with complete coverage on a given subject, scientists usually have to rely upon these incomplete files which contain information of varying quality and reliability. Not all the people who use the data have the time or expertise to make value judgments about its reliability. Occasionally the lack of complete knowledge about the quality of the available information necessitates the repetition of the work or the use of obsolete or invalid data. Information Analysis Centers came into existence to relieve scientists and engineers from the burden of finding, collecting, and codifying the material and to make it available to competent scientists for critical evaluation and review. According to the definition offered by the COSATI Panel on Information Analysis and Data Centers:

> An information analysis center is a formally structured organizational unit specifically (but not necessarily exclusively) established for the purpose of acquiring, selecting, storing, retrieving, evaluating, analyzing, and synthesizing a body of information and/or data in a clearly defined specialized field or pertaining to a specific mission with the intent of compiling, digesting, repackaging, or otherwise organizing and presenting pertinent information and/or data in a form most authoritative, timely, and useful to a society of peers and management *(2)*.

There are hundreds of information analysis centers in the United States

alone carrying out the information analysis activities in a number of subject fields—especially in physical sciences and engineering. More than a hundred centers operate either wholly or in part by federal funds or operate within a federal government agency. Hundreds of others are supported by private organizations such as universities, professional associations, industries, etc.

The Functions of IACs

Information analysis centers perform a number of functions in connection with their data analysis activities. Thermophysical Properties Research Center (Purdue University, West Lafayette, Ind.) declares that it

> locates, obtains, catalogs, codes, and evaluates research documents; makes literature searches; stores, retrieves, and makes available technical papers (on microfiche); performs data analyses, syntheses, estimations, and recommendations; generates reference data tables; performs theoretical and experimental research; and provides technical advisory and consulting services *(3)*.

Since each information analysis center is responsible for a narrow subject area, they can identify the gaps in their subject fields and make recommendations for research, data compilation, or critical review activity in those areas. Similarly by the experience gained in evaluating the numerical data in physical sciences and engineering, the centers can provide a feedback to the scientists and engineers and help "to advance the level of experimental techniques and improve the reliability of physical measurements" *(4)*.

These centers maintain a variety of files on a number of media. Research Materials Information Center (Oak Ridge National Laboratory, Oak Ridge, Tenn.) maintains a "visible file" which provides a "rough and ready listing of the known availability, quality, and properties of high-purity research specimens" *(5)*. In addition, the center's collection "consists of data sheets, abstracts, reports, and papers contained in 100-ft. reels of coded 16-mm microfilm in a Recordak Miracode storage and retrieval system" *(5)*. The data sheets document the properties of research specimens and are mailed to the center by the individuals or commercial producers of the materials. Radiation Chemistry Data Center (University of Notre Dame, Notre Dame, Ind.) collects "journal articles (and preprints), technical reports from the AEC and its counterparts in other countries, theses, proceedings of conferences and symposia, and reports of radiation research from other sources" *(6)*. More than five hundred data centers have computerized storage and retrieval systems.

Administering technical advice and assistance to industries and research laboratories, answering technical enquiries by letter or telephone, acting as clearing houses for information exchange, on-site use of resources, and providing on-line computer access are among the services available from these data centers. In addition, they publish data compilations, bibliographies, critical reviews, technical reports, handbooks, state-of-the-art reviews, treatises, current-awareness bulletins, etc. Those centers supported by National Standard Reference Data System *(4,* p.57–64) publish their data compilations through the NSRDS-NBS series, which are available from the Superintendent of Documents, Government Printing Office, Washington, D.C. They also publish through *Journal of Physical and Chemical Reference Data, Atomic Data,* and *Nuclear Data,* among others.

Some data centers have their own serial publications and newsletters like *Review of Metals Technology, Newsletter: Analysis of molecular spectra, Rare-Earth Information Center News, TRC Current Data News,* etc. Many of the newsletters are freely distributed to interested parties. University-based data centers like Molten Salts Data Center (Rensselaer Polytechnic Institute, Troy, N.Y. 12181) provide valuable educational experience to undergraduates by allowing them to "mesh with evaluators more experienced in advanced methods of information storage and retrieval" *(7)*.

Sources

There is no comprehensive source which lists information analysis centers and their publications. *Continuing Numerical Data Projects: A Survey and Analysis.* 2d ed. (Washington, D.C., National Academy of Sciences, 1966), and its updated version, *International Compendium of Numerical Data Projects: A Survey and Analysis* (New York, Springer-Verlag, 1969), describe the data centers and their publications. But the coverage is limited mainly to physical sciences. Furthermore, since their publication, literally hundreds of new publications have come out. *Encyclopedia of Information Systems and Services* describes the data centers and lists their serial and nonserial publications without annotation or evaluation; but the listing is not complete. *Annotated Accession List of Data Compilations of Office of Standard Reference Data* (Washington, D.C., GPO, 1970) arranges the data compilations according to the subject; but the access cannot be gained through author, data center, or title. Publications of National Bureau of Standards (NBS-Special Publication 305, Suppls. 1, 2, and 3, Washington, D.C., GPO) has a coverage limited to the NBS-related data centers.

Other sources described in the following bibliography are not helpful in finding the publications of the information analysis centers. The best way to keep up with the information available from these centers is by writing to them directly for publication lists and brochures. Brochures give up-to-date services available from the centers. Publication lists, usually, give the complete listing of the publications of the centers. Occasionally they also include the list of publications in planning stage. Office of Standard Reference Data supplies the publication lists of data centers associated with the National Standard Reference Data System. Individuals or institutions can be placed on the mailing list of the Office of Standard Reference Data (National Bureau of Standards, Washington, D.C. 20234) to receive publication lists and its monthly *NSRDS News.* Similarly, one can be placed on the mailing lists of other data centers to receive their newsletters and publications announcements, etc. Queries for information are answered quickly and conscientiously by the centers. By collecting their brochures and publication lists and circulating them among the potential users of their services, libraries can help place the scientific community in direct contact with the centers and their services.

Listed below are a few of the data centers and their publications which will be of interest to university and special libraries. Most of the centers listed here are federally supported and are responsible for data compilation activities in physical sciences. Many of the publications reported here are later than 1969. Publications followed by (*) are available from the Superintendent of Documents, Government Printing Office, Washington, D.C.; and the publications followed by (**) are available from the corresponding data center. For complete addresses of the centers and names of their directors, the reference sources listed in the following bibliography can be consulted.

Acknowledgment

The authors wish to express their appreciation to the directors and staff of the data centers for sending us their brochures and publication lists as well as bringing to our attention a number of directories and related information. Thanks are also extended to the authors' colleagues in the Reference Department, Gene Eppley Library, University of Nebraska at Omaha for their criticisms.

Literature Cited

1. Ross, Alberta B. / The Radiation Chemistry Data Center. *Journal of Chemical Documentation* 7 (no.1) 34–36 (1967).
2. Committee on Scientific and Technical Information. Panel 6, Information Analysis Centers / *Directory of Federally Supported Information Analysis Centers.* Washington, D.C., Government Printing Office, 1970. p.iii.
3. *Thermophysical Properties Research Center: Policies on Availability of Informa-*

tion and Consulting Services. (Information leaflet available from TPRC, Purdue University, 2595 Yeager Rd., West Lafayette, Ind. 47906.)

4. Rossmassler, Stephen A., ed. / *Critical Evaluation of Data in the Physical Sciences—A Status Report on the National Standard Reference Data System June 1972.*
5. *Research Materials Information Center.* (Pamphlet available from RMIC, Oak Ridge National Laboratory, P.O. Box X, Oak Ridge, Tenn. 37830.)
6. *Radiation Chemistry Data Center: Sponsors, Activities, Location.* (Brochure obtained from RCDC, University of Notre Dame, Notre Dame, Ind. 46556.)
7. The Rensselaer Molten Salts Data Center / *National Bureau of Standards: Technical News Bulletin* 56 (no.6): 146–147 (1972).

For Further Information

1. *Continuing Numerical Data Projects; Survey and Analysis.* 2d ed. Washington, D.C., National Academy of Sciences, 1966.
2. Gavert, R. B., et al. / *A Critical Survey of Data Compilations on the Mechanical Properties of Metals.* Unpublished. (For further information write to: Dr. J. H. Westbrook, EMPIS, General Electric, Schenectady, N.Y. 12345.)
3. *Defense Documentation Center Referral Data Bank Directory.* Report DDC-TR-72-3 (AD 750 400). Alexandria, Va., Defense Documentation Center, 1972.
4. Cohen, Leonard / *Directory of Computerized Information in Science and Technology.* New York, Science Associates, 1969.
5. *Directory of Information Resources in the United States: Physical Sciences, Engineering.* Washington, D.C., GPO, 1971. (Other directories in the same series are: *Biological Sciences,* 1972; *Federal Government,* 1974; *General Toxicology,* 1969; and *Water,* 1966.)
6. Kruzas, Anthony T. / *Directory of Special Libraries and Information Centers.* 2d ed. Detroit, Gale, 1968.
7. *Directory of USAEC Information Analysis Centers.* Oak Ridge, Tenn., USAEC Technical Information Center, 1972.
8. *Encyclopedia of Information Systems and Services.* 1st ed. Ann Arbor, Mich., Edwards Brothers, 1971.
9. *Guide to Locating U.S. Government Technical Information, Technology and Patents.* San Mateo, Calif., Technology Transfer Associates, 1972.
10. *International Compendium of Numerical Data Projects: A Survey and Analysis.* New York, Springer-Verlag, 1969.
11. *Materials Information Analysis Centers.* Watertown, Mass., Army Materials and Mechanics Research Center, 1973.
12. *The NBS Alloy Data Center: Function, Bibliographic System, Related Data Centers and Reference Books.* NBS-TN 464. Washington, D.C., GPO, 1968.
13. *Publications and Services of the National Bureau of Standards: Cryogenics Division: Institute for Basic Standards, Boulder, Colorado 80302, 1953–1972.* NBS-TN 639. Washington, D.C., GPO, 1973.
14. See also Refs 2 and 4, Literature Cited Section. Other directories can be located in *Library Literature* under "Information Services—Directories"; and "Information Services, Scientific and Technical—Directories."

Publications of Information Analysis Centers

Atomic Transition Probabilities Data Center

1. Fuhr, J. R. and W. L. Wiese / *Bibliography on Atomic Transition Probabilities, July 1969 through June 1971.* NBS Special Publication 320, Suppl. 1. Sep 1971. *

Berkeley Particle Data Center

(Available from National Technical Information Service, Springfield, Va. 22151)

1. A Compilation of YN Reactions. NSRDS-UCRL-20000 YN. Jan 1970.
2. πN Partial-Wave Amplitudes. NSRDS-UCRL-20030-πN. Feb 1970.
3. NN and ND Interactions [above 0.5 Gev/c]—A Compilation. NSRDS-UCRL-20000 NN. Aug 1970.
4. K_L^0N Interactions—A Compilation. NSRDS-LBL-55. Mar 1972.
5. $\bar{N}$N and $\bar{N}$D Interactions—A Compilation. NSRDS-LBL-58. May 1972.
6. Review of Particle Properties. NSRDS-LBL-100. Apr 1972.
7. Review of Particle Properties. UCRL-8030. Aug 1970.

Charged-Particle Cross-Section Data Center

1. Reaction List for Charged-Particle-Induced Nuclear Reactions:

a) Part I: Z = 1 to Z = 98 (H to Cf), Jul 1970–Jun 1971; Part II: Coulomb Excitation 1956–Jun 1971. F. K. McGowan, and W. T. Milner, *Nuclear Data* A9, 469–626, 1971.
b) Z = 1 to Z = 99 (H to Es), Jul 1971–Jun 1972. F. K. McGowan, and W. T. Milner. *Nuclear Data* A11, 1–126, 1972.
c) Z = 1 to 98 (H to Cf), Jul 1972–Jun 1973. F. K. McGowan, and W. T. Milner. *Atomic and Nuclear Data Tables* 12 (no.6) (1973).

2. McGowan, F. K. and W. T. Milner / Charged-Particle Reaction List 1948–1971. Atomic and Nuclear Data Reprints v.2. New York, Academic Press, 1973.

Chemical Kinetics Information Center

1. Benson, S. W. and H. E. O'Neal / *Kinetics Data on Gas Phase Unimolecular Reactions.* NBS-NSRDS 21. 1970. *
2. Darwent, B. de B. / *Bond Dissociation Energies in Simple Molecules.* NBS-NSRDS 31. 1970. *
3. Bortner, M. H. / *A Review of Rate Constants of Selected Reactions of Interest in Re-Entry Flow Fields in the Atmosphere.* NBS-TN 484. 1969. *
4. McDaniel, E. W., et al. / *Ion-Molecule Reactions.* New York, Wiley, 1970.
5. Wilson, W. E., Jr. / A Critical Review of the Gas-Phase Reaction Kinetics of the Hydroxy Radical. *Journal of Physical and Chemical Reference Data* 1: 535 (1972).
6. *Chemical Kinetics of Reactions of Chlorine, Nitrogen and Oxygen Fluorides in Gas Phase: A Bibliography;* 1934 through June 1972. NBS LP 69. Jul 1972. **
7. Westley, Francis / *Bibliography of Kinetic Data on Gas Phase Reactions of* N_2, O_2, *and Nitrogen Oxides.* COM-71-00841. 1971. *
8. *Reactions of Electronically Excited Molecular Oxygen (with Organic and Inorganic Molecules) in Liquid Phase.* NBS LP 70. Jul 1972. **
9. Reference Works for the Chemical Kineticist. *National Bureau of Standards Technical News Bulletin* 55 (no.6) (Jun 1971).
10. Lloyd, Alan C. / Evaluated and Estimated Kinetic Data for the Gas Phase Reactions of the Hydroperoxyl Radical. NBS Report 10447. *International Journal of Chemical Kinetics* 6 (no.2) (1974).
11. Lloyd, A. C. / A Critical Review of the Kinetics of the Dissociation-Recombination Reactions of Fluorine, and Chlorine. *International Journal of Chemical Kinetics* 3: 39 (1971).
12. Hampson, R. F., ed. / Photochemical and Rate Data for Twenty-Eight Gas Phase Reactions: A Survey of the Data. *Journal of Physical and Chemical Reference Data* 2 (no.2) (1973).
13. Westley, Francis / Chemical Kinetics in the C-O-S and H-N-O-S System: A Bibliography 1899 Through June 1971. NBS Special Publication 362. 1972. *
14. Johnston, H. and D. Garvin / Working Papers for a Survey of Rate Data for Chemical Reactions in the Stratosphere. NBS Report 10931. Oct 1972. **
15. Westley, Francis / A Supplementary Bibliography of Kinetic Data on Gas Phase Reactions of Nitrogen, Oxygen, and Nitrogen Oxides. NBS Special Publication 371. 1973. *
16. Hampson, R. F., ed. / Chemical Kinetics Data Survey I. Rate Data for Twelve Reactions of Interest for Stratospheric Chemistry. NBS Report 10692. 1972. **
17. Hampson, R. F., ed. / Chemical Kinetics Data Survey II. Photochemical and Rate Data for Fifteen Gas Phase Reactions of Interest for Stratospheric Chemistry. NBS Report 10828. 1972. **
18. Garvin, D. and L. H. Gevantman / Chemical Kinetics Data Survey III. Selected Rate Constants for Chemical Reactions of Interest in Atmospheric Chemistry. NBS Report 10867. 1972. **
19. Chemical Kinetics Data Survey IV. Preliminary Tables of Chemical Data for Modelling of the Stratosphere. NBSIR 73-203. 1973. **
20. Garvin, D., ed. / Chemical Kinetics Data Survey V. Sixty-Six Contributed Rate Photochemical Data Evaluations of Ninety-Four Reactions. NBS Report NBSIR 73-206. 1973. **
21. Hampson, R. F., ed. / Chemical Kinetics Data Survey VI. Photochemical and Rate Data for Twelve Gas Phase Reactions of Interest for Stratospheric Chemistry. NBS Report NBSIR 73-207. 1973. **
22. Gevatman, L. H. and D. Garvin / The Compilation and Evaluation of Chemical Kinetics Data; A Descriptive Survey of Current Efforts. *International Journal of Chemical Kinetics* 5: 213 (1973).

For related publications on chemical kinetics brought out by other organizations, see the publications list provided by the Chemical Kinetics Information Center.

Data Center on Spectral Line Shapes and Shifts

1. Fuhr, J. R., et al. / Bibliography on Atomic Line Shapes and Shifts. NBS Special Publication 366. 1973. *

Electronic Properties Information Center

1. *Electronic Properties of Materials; a Guide to the Literature.* v.2 (parts 1&2). New York, Plenum, 1967.
2. *Electronic Properties of Materials; a Guide to the Literature.* v.3 (parts 1&2). New York, Plenum, 1971.
3. *Handbook of Electronic Materials.* New York, Plenum, 1971– . 6v.

In addition, EPIC produced a total of 109 publications in the form of technical reports, interim reports, and special publications. They are listed under "Hughes Aircraft Co., Culver City, Calif. Electronic Properties Information Center" in the *U.S. Government Research and Development Reports Index.*

Fused Salts Information Center

No longer in existence. Similar work is carried out by Molten Salts Data Center.

Information Center on High Temperature Behaviour of Inorganic Salts

No longer in existence.

1. High Temperature Properties and Thermal Decomposition of Inorganic Salts:
   Part 2. Carbonates, NSRDS-NBS 30. K. H. Stern, and E. L. Wiese. 1969. *
   Part 3. Nitrates and Nitrites. K. H. Stern. *Journal of Physical and Chemical Reference Data* 1: 747 (1972).
   Part 4. Oxysalts of the Halogens. *Journal of Physical and Chemical Reference Data.* (To be published)

Molten Salts Data Center

1. Janz, G. J., et al. / *Molten Salts.* v.2, Section 1: Electrochemistry of Molten Salts: Gibbs Free Energies and Excess Free Energies from Equilibrium Type Cells; Section 2: Surface Tension Data. NSRDS-NBS 28. Aug 1969. *
2. Janz, G. J., et al. / Molten Salts. v.3: Electrical Conductance, Density, Viscosity, and Surface Tension Data for Nitrates as Binary Mixtures. *Journal of Physical and Chemical Reference Data* 1: 581 (1972).

Mossbauer Effect Data Center

1. Muir, A. H., Jr., et al. / *Mossbauer Effect Data Index, 1958–1965.* New York, Interscience Publications, 1966.
2. Muir, A. H., Jr., and John G. Stevens / *Mossbauer Effect Data Index, 1966–68.* (in prep.).
3. Stevens, John G. and Virginia Stevens / *Mossbauer Effect Data Index, 1969.* New York, Plenum, 1970.
4. Stevens, John G. and Virginia Stevens / *Mossbauer Effect Data Index, 1970.* New York, IFI/Plenum, 1972.
5. Stevens, John G. and Virginia Stevens / *Mossbauer Effect Data Index, 1971.* New York, IFI/Plenum, 1972.

Radiation Chemistry Data Center

1. Watson, E., Jr. and S. Roy / Selected Specific Rates of Reactions of the Solvated Electrons in Alcohols. NSRDS-NBS 42. 1972. •
2. Anbar, M., et al. / Selected Specific Rates of Reactions of Transients from Water in Aqueous Solution. I: Hydrated Electron. NSRDS-NBS 43. 1972. *
3. Peterson, D. B. / Radiation Chemistry of Gaseous Ammonia. NSRDS-NBS 44. 1974. *
4. Johnson, G. R. A. / Radiation Chemistry of Nitrous Oxide Gas. Preliminary Processes, Elementary Reactions and Yields. NSRDS-NBS 45. 1973. *
5. Freeman, G. R. / Radiation Chemistry of Ethanol: A Review of Data on Yields, Reaction Rate Parameters and Spectral Properties of Transients. NSRDS-NBS 48. (To be published) *
6. Farhataziz and A. B. Ross / Selected Specific Rates of Reactions of Transients from Water in Aqueous Solution. III: Hydroxyl Radical and Perhydroxyl Radical and Their Radical Ions. NSRDS-NBS xx. 1974. *
7. Anbar, M., et al. / Selected Specific Rates of Reactions of Transients from Water in Aqueous Solution. II: Hydrogen Atom. NSRDS-NBS xx. (To be (published) *

   Items 8–14 are available from National Technical Information Service, Springfield, Va. 22151.

8. Bibliography on Electron Spin Resonance of Radiation Produced Radicals. COO-38-595. Nov 1967.
9. Bibliography on the Radiation Chemistry of Aqueous Solutions. I: Amino Acids. COO-38-641. Nov 1968.

10. Bibliography on the Radiation Chemistry of Aqueous Solutions. II: Carbohydrates. COO-38-642. Dec 1968.
11. Bibliography on Radiation Chemistry of Alcohols and Phenols. COO-38-643. Nov 1968.
12. Thesaurus for Radiation Chemistry. COO-38-621. May 1968 (rev. Aug 1972).
13. Bibliography of Radiation Chemistry of Alkanes. COO-38-661. May 1969.
14. Weekly list of Papers on Radiation Chemistry, Index and Cumulation:
    v.IV Nos. 1–26, Jan-Jun 1971. COM-71-01103. Aug 1971.
    v.IV. Nos. 27–52, Jul-Dec 1971. COM-72-10266. Jan 1972.
    v.V. Nos. 1–26, Jan-Jun 1972. COM-72-10621. Aug 1972.
    v.V. Nos. 27–52, Jul-Dec 1972. COM-73-10281. Jan 1973.
    v.VI. Nos. 1–26, Jan-Jun 1973. COM-73- In press.

Rare-Earth Information Center

1. Gschneidner, Karl A., Jr., and Nancy Kippenhan / Thermochemistry of the Rare Earth Carbides, Nitrides, and Sulphides for Steelmaking. IS-RIC-5. Aug 1971. (Available free.) **
2. *Thermochemistry of Rare Earths.* IS-RIC-6. **
   Part I: Rare Earth Oxides.
   Part II: Rare Earth Oxysulfides.
   Part III: Rare Earth Compounds with B, Sn, Pb, P, As, Sb, Bi, Cu, and Ag. (To be published)
3. *RIC News.* (Quarterly) (Available free) **

Research Materials Information Center

1. Connolly, T. F., ed. / Solid State Physics Literature Guides. New York, IFI/Plenum, 1970.
   v.1: Ferroelectric Materials and Ferroelectricity.
   v.2: Semiconductors: Preparation, Crystal Growth, and Selected Properties.
   v.3: Groups IV, V, and VI Transition Metals and Compounds: Preparation and Properties.
   v.4: Electrical Properties of Solids: Surface Preparation and Methods of Measurement.
   v.5: Bibliography of Magnetic Materials and Tabulation of Magnetic Transition Temperatures.

Superconductive Materials Data Center

1. Roberts, B. W. / Superconductive Materials and Some of Their Properties. NBS-TN 724. 1972. *

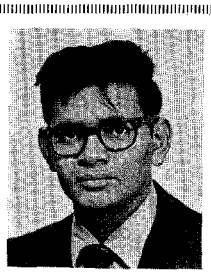
Thermophysical Properties Research Center

1. Touloukian, Y. S., ed. / *Thermophysical Properties Research Literature Retrieval Guide.* Supplement 1 (covering the years 1964–1970). New York, Plenum, Aug 1973. 6v.

U.S. Bureau of Mines: Contributions to the Data on Theoretical Metallurgy

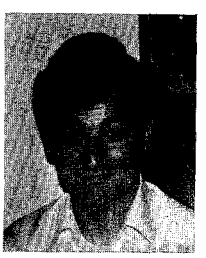
1. King, E. G., et al. / *Thermodynamic Properties of Copper and Its Inorganic Compounds.* New York, International Copper Research Association, 1973.
2. Wicks, C. E. and F. E. Block / Thermodynamic Properties of 65 Elements—Their Oxides, Halides, Carbides, and Nitrides. Bureau of Mines Bulletin 605. 1963. *

Received for review Nov 12, 1973. Revised manuscript accepted for publication Apr 2, 1974.



ALURI

Rao Aluri and Philip Yannarella are with the Gene Eppley Library, University of Nebraska, Omaha.



YANNARELLA

Publishing Industry Libraries in the New York Metropolitan Area

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■ To determine which publishing houses in the New York Metropolitan area provide library service to users and how those with no libraries gather and verify information, a survey was conducted by the New York Chapter Publishing Group of SLA. While responses to questions regarding services, users, collections, book selection, policy statements, librarians, and budget varied widely and were somewhat inconclusive, the high response rate is indicative of serious interest in the topic surveyed. The questionnaire forms devised might prove useful to other Divisions who seek similar information.

IN THE SPRING of 1972, members of the New York Chapter Publishing Group (NYCPG) of the Special Libraries Association agreed on the need to learn more about libraries in publishing companies. Do publishers other than those represented in the group's membership offer library service to employees? Who are their librarians? What is the nature and extent of their library collections and services? These and more questions sparked the creation of a research committee to seek answers and, at the same time, to increase publishers' and librarians' awareness of the potential value of library service to the publishing industry.

The NYCPG has approximately one hundred members, mostly librarians who now work or have worked for publishing firms. Because the larger publishing houses often are represented by several members, a simple count of the NYCPG membership does not equal the number of firms that maintain professionally staffed libraries.

The research committee met in May 1972 for the first of a series of discussions to define the purposes of the survey, to determine the research methodology, and to select the "population" of publishers to be surveyed. For practical reasons, the project's scope was limited

to book publishing industry libraries in the New York metropolitan area. Those who conducted the survey are: Linda Amster (The New York Times), Donna Anderson (McGraw-Hill, Inc.), Ron Coplen (Harcourt Brace Jovanovich, Inc.), Olga Melbardis (McGraw-Hill, Inc.), Connie McArdle (Grolier, Inc.), Jean Peters (R. R. Bowker Company), Sandra Scott (Macmillan, Inc.), Ted Slate (Newsweek, Inc.), and Carol Nemeyer (Association of American Publishers), Chairman. In addition, Eleanor Steiner-Prag (formerly with the R. R. Bowker Company) and Mary Ann O'Brian Malkin (AB Bookman's Weekly) reviewed the tabulated findings and prepared a provisional draft for the final report. (Affiliations are those at survey time.)

NYCPG is grateful to the New York Chapter of the Special Libraries Association for a grant of $200 to help offset the expense of conducting the survey and to several member firms who picked up the tab for duplicating and mailing materials. The volunteers obviously worked without remuneration but with tremendous zeal.

Aims

The purposes of the survey were: 1) to describe in general terms the nature and extent of library services publishers provide their personnel; 2) to learn more about the background and experience of publishing industry librarians; 3) to discover administrative and managerial attitudes among publishers toward the library function; 4) to identify publishing houses that maintain libraries but do not hold membership in SLA's Publishing Division; and 5) to find out how personnel in publishing firms that have no special library get the materials and information they need to manage their programs, edit, produce and market their books.

It was hoped that the information gathered would make it possible to develop a profile of special libraries in the publishing industry. By conducting the survey, the NYCPG also hoped: 1) to call publishers' attention to the Special Libraries Association and to increase their awareness of library services; 2) to involve actively at least some members of the NYCPG in a project that would make their professional membership experience more meaningful and enjoyable; 3) to identify potential SLA members; and 4) to offer other SLA Divisions some suggested procedures should they want to conduct surveys of the libraries in their respective subject fields.

Initial Assumptions: The survey was structured in the belief that: 1) Some publishers support outstanding libraries but the majority of publishing houses do not maintain their own special library; 2) Companies with a large number of employees and an active publishing program are more likely to support a company library than smaller firms; 3) The types of special library services offered to publishing personnel are varied; 4) The quality of library service is primarily influenced by the professionalism and experience of the chief librarian; 5) Librarians are not generally considered "top management" people as defined by their place in the company organizational hierarchy; 6) Not all publishing company librarians are members of SLA; and 7) Personnel in publishing houses with no special libraries frequently use public and university libraries to satisfy their need for information and source materials.

Reactions: The committee was gratified by the large number of responses but was disappointed that many publishing houses did not have libraries and that no publisher openly expressed interest in establishing one. Perhaps the survey increased publishers' attention to the need to initiate library services but this conclusion cannot be drawn from the survey's findings.

When the first analysis of responses was made, only 19 respondents of the 147 publishers surveyed were found to offer comprehensive library service or to maintain significant collections of materials. Although the number seemed small these 19 libraries do serve about 13,000 employees, a larger community than is

served by public libraries in towns the size of Huntington, Long Island, or Princeton, N.J., for example.

This report, as most survey reports, must be interpreted in context. While it is out of scope here to describe the structure and complexities of the publishing industry, it is useful to realize that publishing is a small industry compared to other manufacturing or service industries. In 1972, when the survey began, book publishers sold approximately $3 billion worth of books and operated at an average net profit of slightly more than 3%, after taxes.

The publishing industry, perhaps more than most industries, has a symbiotic relationship with librarians in every type of library. Librarians influence the publishing decision by transmitting information to publishers about their patron's needs; they review books and are themselves customers and users of the industry's products.

The research committee feels strongly that librarians need to communicate regularly with their publishing colleagues. Ideally, every publishing house that produces a large enough quantity of new titles each year to justify the expense of maintaining a library would employ professional librarians. Ideally, each librarian would be an active SLA member. Ideally, every publisher would recognize that good library service offers important benefits to staff members. But we are not an ideal society. We accept compromise and reality yet remain optimistic, for this survey proves again that publishers and librarians must continue to exchange information and opinions in order to ensure a healthy book community.

Methodology

After considering alternative methods to collect, analyze and report findings, the committee decided on a descriptive survey, using a questionnaire form to gather information and opinions, and to conduct follow-up telephone queries to publishers who had not returned the questionnaire. To make the best use of the limited time available, the volunteers divided the tasks. One subcommittee selected a structured sample of publishing houses to be surveyed; the other constructed the questions and drafted a questionnaire form. Each group reviewed the work of the other.

In addition to the mailed questionnaires the committee wanted to conduct personal interviews with publishers, but the idea was impractical because the committee members held full-time jobs. Months later, as the survey neared completion, the committee was approached by Dr. Pauline Vaillancourt, a faculty member of the library school of the State University of New York at Albany. She told us that Debbie Friedman, a student working on a seminar paper about publishing company libraries, would like to coordinate her study needs with our survey needs. Debbie readily agreed to review the tentative findings and, with guidance, conduct interviews which the committee had considered a "luxury." She conducted five personal interviews with publishers who had returned questionnaires and whose written responses whetted our appetite for further details. Some of her fresh insights are reported in this paper.

Selecting the Publishers: The 1972 *Literary Market Place* was used to identify the publishing houses to be surveyed. Approximately 600 were listed in the New York area. Based on their personal knowledge of the industry, several members suggested that soliciting information from each of the 600 firms would be unnecessarily costly, duplicative and unproductive. Firms that publish fewer than twenty new titles a year generally would not support a professional library. The committee did, however, want to learn whether small publishing companies with no libraries use "outside" libraries for information and for their editorial, management, and marketing decision-making, so a sample of these firms was included in the 147 houses selected for the study.

An index card file was prepared noting the names and addresses of the 147 publishing houses and the name of the person to whom the questionnaire form would be mailed. In a majority of cases the head of house was selected. In a conglomerate where the headquarters office is not in or near New York City, a local executive was selected. So that chief executives in each company would be informed of the survey, librarians were not queried directly.

However, as expected, questionnaires were forwarded by some presidents to their librarians for response.

Table 1. Companies with Libraries by Size of Company

No. of full-time company employees	No. of titles in print	No. of libraries within company
6,000	5,000	1
5,000	12,000	2
900	90	2
600	4,000	1
500	3,000	0
250	210	2
200	5,000	0
200	2,000	1
130	4,000	0
130	1,400	1
26	1,740	1
25	200	1
6	2,000	0
5	150	0

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Haves and Have Nots: Two different questionnaire forms were designed, one to be completed by firms that have libraries (Appendix A), and the other, a shorter form, by firms with no libraries (Appendix B). The questionnaires were pretested with members of the Association of American Publishers' School & Library Promotion & Marketing Committee. All questions were found "appropriate and answerable." The forms were mailed with a covering letter explaining the purposes of the survey and urging response.

Questionnaires rarely are 100% satisfactory. Budget questions are known to be "sensitive." The committee constructed questions concerning budget as carefully as possible in an effort to be fair and non-revealing of individual responses. Even so, the budget questions were answered by so few respondents that the results are invalid and are not reportable. Some words of caution about this problem and the need to recast the words in several other questions were shared with SLA's Boston Chapter which subsequently expressed interest in duplicating the survey in the New England area.

Responses from Companies with Libraries: Publisher cooperation was demonstrated by the high percentage of returns: 68.4%. Questionnaires were mailed to 147 publishing companies and 100 responded. Nineteen of the 100 firms maintain libraries, 81 do not. Archival collections, consisting solely of a firm's own titles, are also maintained by 5 of the 19 companies with libraries. Eleven firms that do not report having a library do have an archival collection. No response to mail or telephone inquiries was received from 47 firms.

No clear picture of a "typical" publishing company library emerges from the responses of the 19 companies with libraries. Each company appears to have designed some features of special library service to meet its particular needs. This finding reinforces the frequently made observation that publishers are individualistic, with each house following its own path to achieve its goals.

To investigate the relationship between the size of the firm and the maintenance of a library, publishers were queried about their number of full-time employees and the approximate number of their firm's book titles in print. No reliable correlation could be developed. An example of the range and variety of replies is displayed in Table 1.

From this tabulated sample of responses (drawn from the total number received), it is clear that the size of the firm as measured by employees or titles is not a determining factor in the publisher's decision to support a company library. It can only be reported that 11 houses with more than 1,000 titles in print *do* have a special library and that 15 houses with more than 1,000 titles in print do *not* have libraries.

The Library

Who uses the company library? What services are provided? What is the nature of the collections?

Users: More than 80% of the companies with libraries encourage all their personnel to use the library. One respondent noted that the library serves only specific departments; another permits a single division of the company to use the library. Fewer than half (42%) of the respondents permit the general public to use the library by appointment but almost half (47%) welcome SLA members by appointment.

Library users may be categorized as follows: editorial personnel in 11 of the 19 firms with libraries are the heaviest users of the library; in six of the 11 companies, editorial use ranges from 75%–100%; the remaining 5 firms stated that editorial use ranges from 50%–75%. Non-editorial uses (secretarial, accounting department, personnel department, art department) account for 25% of the users in a majority of the libraries; the remaining 25% of users are management personnel.

Obviously, the number of users tells little about volume or quality of service but does give some indication of the library's strengths or the firm's intended level of services.

Services: The most frequently cited services provided to users are: 1) fact-checking and 2) referring users to sources. While 7 libraries conduct "research in depth," the majority of respondents either refer users to information sources or do only basic fact-checking. A relatively small number (3) indicate that the librarian prepares bibliographies. Literature searches are provided by 9 of the libraries while 1 provides translations. In 9 libraries, relevant materials (i.e., periodicals, books, advertisements for new books, reports and general information) are regularly routed to employees in advance of request.

Interlibrary Loans: Only 3 libraries report that they "often" loan or borrow materials, 9 "seldom" loan or borrow and 7 "never" loan or borrow. Outside information sources (as distinct from borrowing or loaning materials) regularly utilized by the 19 libraries are: The New York Public Library (73%); university libraries (57%); other public libraries (47%); government agencies (37%); other company libraries (26%).

Collections: Publishing libraries are perhaps unique in their emphasis on books, although individual libraries reported special materials such as a collection of more than 5,000 college catalogs, various types of microforms, government documents files, and a collection of more than 2,000 biographical scrapbooks, used for reference by company personnel only. (At survey time, only one library reported having a microform reader/printer.)

Library Communications: How do employees learn about available library services? Respondents could check as many choices as were applicable. The results: orientation of new company personnel (68%); library acquisitions lists issued periodically (31%); company newsletter (15%); library exhibits (10%). "Other" means of informing staff about library services were selected by 21% of the respondents, including "staff memos," and "hit-and-miss methods."

Book Selection: Responses to the question about who is responsible for adding new books to the library collection were evenly divided between the librarian and "other departments." Almost 70% of the libraries indicated that review and/or complimentary copies comprised 25% of their collection. This finding might be interpreted as a special feature of the publishing industry where publishers, editors, and others receive copies of books for review and give them to the library, or where "exchange" arrangements have been made among librarians to share selected books from their firm's respective lists.

With regard to the purchase of books by the library, 60% buy books directly from the publisher; 15% buy from bookstores; and only one library reports using a jobber. Approximately 42% of the librarians are responsible for ordering books for other employees for office use; 47% do not make such purchases. When asked if the library would order books for the personal use of employees, over 80% stated that they do not, 15% said they would.

Written Policy: Is there a written policy statement defining the functions and goals of the library? Fourteen libraries (73%) report having no policy statement; 5 libraries (27%) do operate under a written policy directive. One company stated they have a library *and* a written policy statement but "hadn't had a librarian or a library staff in years. . . . Our library is a place, not a service," they added. "The librarian was one of those luxuries that disappeared a few years ago and at present, we would put a few more editors ahead of a librarian." This statement, from one of only five libraries having a written policy statement was, perhaps, the most challenging finding of the survey, not only for its negative inference about the priority of library service but for the possibility that someone thinks that "a" librarian's salary would be equal to that of "a few" editors!

Staff: Publishers were asked for the number of full-time library staff employees in order to discover if a relationship existed between that number and the total number of company employees. There was a wide range of responses with no discernible pattern. Five of the 19 companies that report having a library and a total number of employees ranging from 25 to 1,000 have no professional librarian or any clerical staff. Seven companies have a single professional librarian supported by a staff ranging from five persons to none. The ratio of professional to clerical staff in 4 companies with 1,000 to 6,000 employees is 1:0, 1:1, 1:3 and 6:6½.

Some small companies have a library staff, some large companies do not. Each publishing company apparently hires personnel on the basis of individual company needs and priorities.

Librarian: Questions regarding the librarian were asked to determine who administers the library, what is that person's professional background and what is the

relative hierarchical status of the librarian within the company.

Background of Librarian: Fourteen of the 19 companies with libraries (73%) employ professional librarians, 5 (27%) do not. Seven of the 14 librarians had been employed as librarians in their previous positions. Two others had been administrative assistants, one a student, one a library assistant and one person "had been with the company for over thirty years in various positions." Several companies that stated they have a library but no librarian qualified their answers: "We have had no librarian for the past few years." "Our library is maintained only for display of our titles . . . a receptionist logs in books . . . does shelving and checks on borrowing, for employees only."

It will be recalled that one aim of the survey was to identify publishing houses that have libraries but are not members of SLA. Publishers were asked to identify the professional organizations in which their librarian is a member. Only 7 of the 14 professional librarians (50%) belong to SLA. Other organizations in which the librarian is a member include the American Library Association, the New York Library Club, American Society for Information Science, Women's National Book Association, Beta Phi Mu, and the New York Technical Services Librarians.

The 7 librarians who were not listed as members of SLA were later sent: 1) a current issue of the Publishing Division *Bulletin;* 2) a membership invitation from the Publishing Division, and 3) an SLA résumé/application.

The Librarian's Place in the Hierarchy: Questions about the "title of person to whom librarian reports" and the "number of executives who link librarian to head of house" were asked to learn if there is any pattern to describe the librarian's role within the corporate structure. Does the librarian work closely enough with top management people to influence managerial decisions? Fourteen responses to the first question provided 13 different job titles, perhaps more a reflection of the lack of consistent job descriptions in the publishing industry than wide diversity. The librarian reports to: vice president/marketing, executive editor, assistant director/editor-in-chief, office manager, vice president/editor and assistant publisher, director of advertising services, director of central editorial services, director of reference services, vice president, corporate communications, corporate records supervisor, executive vice president (two similar responses), general advertising manager, president.

One cannot accurately distinguish hierarchy by these titles except in the obvious cases. Only one librarian reports directly to a president, 4 report to vice presidents, 3 to a senior editor and the remainder to "others." With regard to "number of executives linking librarian . . ." the response was: 12 librarians (63%) report to a person only once removed from the head of house; one librarian (0.05%) is separated from the head of house by 3 people, and 6 respondents (31%) did not answer this question. (Five of the 6 "no responses" are from firms with no libraries and one has an archival collection only.)

With regard to internal communications, two questions were asked: Does the librarian serve on company committees? Twelve companies with libraries (63%) stated that the librarian did not serve on any committee; 2 (11%) reported that the librarian does serve on committees; and there were 5 (26%) "no response." Does management regularly inform the librarian about forthcoming publications and new services? In response, 6 companies (32%) answered yes, 8 (42%) no, and 5 (26%) did not respond.

Since a majority of the librarians do not serve on any internal company committees and are not regularly informed about company publications, administrators of publishing companies might reconsider this policy in order to make more informed use of their librarians. Librarians should actively seek more internal information about the books their companies publish and request membership on appropriate company committees. From the responses, the committee assumes that a great deal of passivity exists on the part of both management and librarians in this regard.

Budget: As noted earlier, the survey committee spent more time structuring the questions relating to budget than on any other. In keeping with the goal of trying to determine where the library and librarian fit into the corporate structure, questions were asked which, if answered, could have provided data useful to those who might be considering the formation or improvement of a company library and for others seeking to measure existing library services.

The questions attempted to learn: 1) if the librarian originates the budget (an indication of additional corporate credibility and responsibility); 2) who approves the budget (over and above the librarian); 3)

what percentages of budgets are expended for salaries, books and periodicals, and other items; and 4) whether projected changes in the budgets point to a period of special library expansion, diminution or status quo. To develop a meaningful profile of the special library as a guide to firms that might consider establishing a library, it was felt that these questions were appropriate and necessary. The committee's sensitivity about such questions proved, unfortunately, to be accurate. Of the 19 companies with libraries, 14 (84%) did not respond constructively to the question. They either crossed through the complete question or wrote "confidential," "not applicable," "not available," or "does not apply." Only three companies (16%) did respond to all parts of the question. The committee is grateful to the three respondents who took considerable time to present their data, but withholds this information as unrepresentative of a pattern or trend.

Responses from Companies with No Library: In addition to learning about companies with special libraries, basic information was sought from a sampling of companies that do not have libraries. We hoped to learn: 1) what regular in-house information sources are available to employees; 2) what outside information sources are used regularly; and 3) the publisher's stated reasons for not maintaining a library. As previously noted, the size of a company does not appear to be a decisive factor in identifying firms with a library.

Nor is size a determining factor among firms with no libraries. Responses from the firms with no libraries resulted in an extremely large scatter. For example, of two firms with 5,000 book titles each in print, one has 40 employees, the other 230. There are two firms with 2,000 titles in print: one employs 30 people, the other 200. These findings support the earlier statement about the lack of relationship between number of employees and number of titles in print as an influence on the decision to have or not to have a library.

In-House Information Sources: Companies with no libraries were asked to identify other kinds of systematic or formal in-house information sources for employees. Respondents could check as many choices as were applicable. Twenty-two companies (36%) have archival collections; 18 (31%) have research departments (unfortunately, the respondents were not asked to describe the function or services of this department); and 10 (17%) have photo libraries. Fifteen (26%) selected "other" and amplified it with remarks such as: "reference books on shelves of department managers"; "magazine and clipping files"; "staff editors do all research and related activities"; and "individual departments maintain collections of needed reference books." When the interviewer visited one of these firms with no library, she reported that the person in charge had to go from his office on one floor to another in order to get a book from the "library." To accomplish this it was necessary to get the key, go behind the mailroom to the library area, "a crowded, dusty storeroom with no place to sit."

In another instance, she learned that "one editor has been given some of the responsibilities for the library since the librarian resigned and was not replaced. The editor's regular work could not be accomplished with the additional task, so library services have been cut back. Standing order items are paid, although there is no complete list of what these items are. The service of routing magazines has been dropped since there is no one to do this detailed work. No materials are allowed to circulate since an entire set of encyclopedias disappeared."

Outside Information Sources: How do personnel in publishing firms with no libraries get the materials and information they need? These firms were asked to indicate sources regularly used outside the company. Forty-four firms with no library (77%) utilize the resources of the New York Public Library; 25 (45%), other public libraries; 20 (33.2%), government agencies; 19 (33.1%), university libraries; 8 (13%) secure information through membership in various organizations (e.g., Engineering Societies, The Conference Board); and 7 (12%) indicated "other," such as the American Booksellers Association, Association of American Publishers, New York Society Library, American Library Association, Modern Language Association, and 3 (5%) utilize other company libraries. This last figure is particularly interesting when compared to the 26% of companies *with* libraries who borrow from other company libraries. One might speculate that the network of special librarians is putting their knowledge to work.

Reasons for Not Maintaining a Library: From a multiple choice list, companies were asked why they do not maintain a library. The results: 43 (75%) "satisfy information needs in other ways"; 19 (33%) have "too few employees"; 8 (14%) feel they have "insufficient funds"; and 6 (10%) "didn't

know if they need one." (Respondents checked more than one reply.) The interviewer's observations included a comment that the committee feels sums up the attitude of librarians toward companies that do not provide library service: "Employees in companies without libraries are at a great loss since they have no current awareness service. People will obtain something they need one way or another, but they can't ask for something they don't know about. A librarian on the alert for materials or topics people need to know about . . . can help provide the information the staff needs in order to grow."

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APPENDIX A

Survey of Publishing Company Libraries in the New York Area
(Form A: to be completed by Companies that have a Library)

1. Name of Company _____

   Address _____ Tel. _____

2. Number of full-time Company employees _____

3. Approximate number of book titles in print _____

4. Does Company maintain more than one Library or Information Center? (If Yes, complete this form for the main Library only)
   Yes_____ No_____

5. Name of main Library _____

6. The Library is primarily intended to be: (a) General reference library _____

   (b) Archival collection _____

7. Name of Chief Librarian _____

   Previous position held _____

   Professional memberships _____

8. Title of person to whom Librarian reports _____

9. Title(s) of executive(s) who link Librarian to Head of House _____

   _____

10. Number on Library staff (in full-time equivalents):

    (a) Professional____ (b) Non-Professional____ (c) Total No.____

11. Is there a written policy statement defining the functions and goals of the Library? (If Yes, please attach)
    Yes_____ No_____

12. Budget:

    (a) Librarian originates budget: Yes_____ No_____

    (b) Title of person (or group) approving final Library budget _____

    _____

    (c) Total Library budget: $ _____

    (d) Percentage of 1972 Library budget allocated for salaries _____%

    (e) Percentage of 1972 Library budget allocated for books and periodicals _____%

APPENDIX A (continued)

(f) Percentage of 1972 Library budget allocated for other _____%

(g) The total 1973 budget is expected to be: (a) higher____ (b) same____ (c) lower____

13. The Library regularly serves: (Check all appropriate)

(a) Entire company _____ (f) General public_____

(b) Specific departments only _____ by appointment only_____

(c) Single division _____ (g) SLA members_____

(d) Branches in other cities _____ by appointment only_____

14. Hours per week the Library is open: _____

15. Library is used by (a) Editorial____% (b) Non-Editorial____% (c) Management____%

(d) Other____% (Please specify) _____

16. Library regularly provides these services: (Check all appropriate)

(a) Refers users to sources _____ (e) Literature searches _____

(b) Fact-checking _____ (f) Translating _____

(c) Research in depth _____ (g) Routes pertinent materials _____

(d) Prepares bibliographies _____

17. Library borrows materials from outside sources: Often____ Seldom____ Never____

18. Library lends materials to non-employees: Often____ Seldom____ Never____

19. Library provides photocopying services for: (a) Employees____ (b) Non-employees____

20. Major subject area(s) of collection (e.g., History, Science, Management): _____

_____

21. Library contains (Approximate number):

(a) Books _____ (i) Phonorecords _____

(b) Bound periodicals (titles) _____ (j) Audio tapes _____

(c) Periodical subscriptions _____ (k) Films, filmstrips _____

(d) Newspaper subscriptions _____ (l) Slides _____

(e) Vertical file drawers _____ (m) Pictures _____

(f) Microfilms (reels) _____ (n) Maps _____

(g) Microcards _____ (o) Microform readers and/or printers _____

(h) Microfiche _____ (p) Other _____

22. Library collection is classified by: (a) Dewey____ (b) LC____ (c) Other____

23. Subject headings used are: (a) Sears____ (b) LC____ (c) Other _____

24. Please describe briefly any automated Library services:

25. Most additions to collection are selected by: (a) Librarian____ (b) Other depts.____

26. Review and/or complimentary materials comprise what percentage of Library collection:

(a) 0–25%____ (b) 25–50%____ (c) 50–75%____ (d) 75–100%____

27. Books are generally purchased:

(a) through jobber____ (b) direct from publisher____ (c) bookstore____

28. Library is responsible for ordering office copies of books for employees: Yes_____ No_____

29. Library is responsible for ordering personal copies of books for employees: Yes_____ No_____

APPENDIX A (continued)

30. Library users find out about Library services through (Check all appropriate):
    (a) Periodic Library acquisitions lists _____
    (b) Other Library bulletins _____
    (c) Library exhibits _____
    (d) Company newsletter _____
    (e) Orientation of new personnel _____
    (f) Other _____

31. Internal communication:
    (a) Librarian serves on Company committees: Yes_____ No_____
    (b) Management regularly informs Librarian about forthcoming Company publications and new services: Yes_____ No_____

32. In-house information sources, other than main Library (Check all appropriate):
    (a) Research Dept.____ (b) Archives____ (c) Photo Library____
    (d) Other _____

33. Outside information sources regularly used by Company (Check all appropriate):
    (a) New York Public Library _____
    (b) Other public libraries _____
    (c) University libraries _____
    (d) Government agencies _____
    (e) Other company libraries _____
    (f) Membership in organizations (e.g., Engineering Societies, The Conference Board, etc.) _____
    (g) Other (Please specify): _____

We welcome your further comments and thank you for your cooperation.

Signed by:_____ Title_____ Date_____

Please return to:

Miss Connie McArdle
Editorial Librarian
Grolier Incorporated
575 Lexington Avenue
New York, N.Y. 10022

APPENDIX B

Survey of Publishing Company Libraries in the New York Area

(Form B: to be completed by Companies that do *not* have a Library)

1. Name of Company _____
   Address _____ Tel._____
2. Number of full-time employees _____
3. Approximate number of book titles in print _____
4. In-house information sources (Check all appropriate):
   (a) Research Department _____
   (b) Archives _____
   (c) Photo Library _____
   (d) Other (Please specify) _____

APPENDIX B (continued)

5. Outside information sources regularly used by Company:
   (a) New York Public Library _____
   (b) Other public libraries _____
   (c) University libraries _____
   (d) Government agencies _____
   (e) Other company libraries _____
   (f) Membership in organizations (e.g., Engineering Societies, The Conference Board, etc.) _____
   (g) Other (Please specify): _____

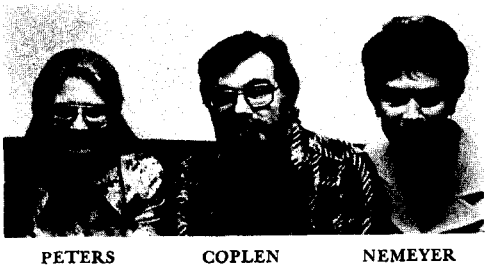
6. Company does not maintain a Library because:
   (a) Too few employees _____
   (b) Insufficient funds _____
   (c) Information needs satisfied in other ways _____
   (d) Never thought of it _____
   (e) Don't know how to begin to establish one _____
   (f) Don't know if we need one _____
   (g) Other (Please elaborate on your responses):

We welcome your further comments and thank you for your cooperation.

Signed by:_____ Title_____ Date_____

Please return to:

Miss Connie McArdle
Editorial Librarian
Grolier Incorporated
575 Lexington Avenue
New York, N.Y. 10022



PETERS COPLEN NEMEYER

Corth's Commandments

Annette Corth

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THE FOLLOWING "Commandments" were presented by the author at a session she taught of the Reference Technicians Course given in the spring of 1971 by the New Jersey Chapter of the Special Libraries Association.

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I. Thou shalt interview thy customer mightily, asking of him or her a goodly many questions. "What, who, when, where, in which subject area?" Until the customer divulgeth what he or she seeketh, all is for naught.

II. Thou shalt write down the query made of thee so that thou canst gaze upon it whilst seeking the answer. Checkest thou the accuracy of spelling of names and of unusual or unfamiliar words.

III. Verily shalt thou take a moment to reflect upon the type of information thy customer wanteth and to decide which reference tools would be most appropriate to use.

IV. Rememberest thou to consult thine own card catalog and/or reference shelf to locate the type of tool needed to answer thy query. A perfect memory existeth not.

V. Thou shalt beware of variations in alphabetization and check for word-by-word vs. letter-by-letter arrangement as well as for the location of initials in the alphabet.

VI. Thou shalt advise thy customer to stay put and keep his or her cool whilst thou seekest the answer to his or her query. Tailgating, over-the-shoulder peering, earth-pawing customers are truly an abomination unto the entire library world.

VII. Thou shall never ignore the indexes to reference books for they are the portals through which their treasures are revealed unto you.

The term "customer" is used purposely instead of patron, user, client, reader, etc., in order to stress that service to its customers is the prime business of a library.

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VIII. Thou shalt not overlook addenda and supplements in thy reference books. Therein may dwell the object of thy seeking.

IX. Thou shall not interpret technical facts and figures for thy customer. Secure ye the book that containeth the answer and let him or her extract such information for him or herself.

X. Thou shalt not overlook non-library information sources in thine own company or community. All the world loveth a local expert.

XI. To make a reference book thy friend and ally, inspect thou the preface to see what is included therein and how it is best utilized.

XII. Blessed are they who know when they knoweth not and would utter unto the customer, saying: "Verily, I am unable to locate the answer to thy query, but gladly will I refer thee unto the reference librarian in whom abideth longer experience." Eternally damned are they who before checking with the reference librarian say: "Nay, we have it not."

XIII. Now that thou hast heard my words, harken thereunto and go thou forth and be thou helpful!

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Science–Technology Libraries in Pakistan

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■ The conditions of Science-Technology libraries and of library education in Pakistan are outlined. The main Pakistani libraries and their services are discussed. And, finally, recommendations for the future are suggested.

THE ROLE of science-technology in solving the national problems of vital interest, like food, shelter, clothing, health, and education is being increasingly recognized in Pakistan. The successive developmental plans, launched by the government, have laid more and more emphasis on scientific and technological research by allocating increased finances for the promotion and establishment of scientific and technological research organizations. According to a survey conducted by PANSDOC in 1968, there were 130 *(1)* research establishments, owned by the departments of central and provincial governments, autonomous research councils, research institutions, and universities in the country. Although existing establishments cover many fields of science and technology, the major emphasis is on agricultural, industrial, and medical research.

Library Planning

The first step to establish libraries and library service was taken in 1955, when L. C. Key of Australia was invited by the government of Pakistan under the auspices of Colombo Plan to survey the library conditions and to chalk out a comprehensive program of library service for the country. The report, submitted by Key in 1956, included the need for strengthening scientific libraries with particular emphasis on those attached to the chain of laboratories of Pakistan Council of Scientific and Industrial Research *(2)*.

The need for providing better libraries for scientific and technological research has been recognized in several documents of the government, and in the reports of various national commissions. According to the Second Five-Year Plan, "Development of special libraries is essential to support research" *(3)*. Furthermore, the plan suggested, "This service should be accompanied by the pooling of reference materials through interlibrary loans, union lists, and catalogs and comprehensive bibliographical works" *(3)*.

A new force was experienced with the appearance of the Report of the Scientific Commission in 1960 *(4,* p. 102). The report emphasized the need for "maintenance of up-to-date libraries through a regular flow of scientific literature in a country like Pakistan, where personal contact with international scientists is rather limited" *(4,* p.62). To be more specific, the commission described the existing library facilities in these words: "We have noticed a woeful lack

of up-to-date scientific books and technical journals in the libraries of the universities and other scientific establishments" *(4)*. About library education and status of librarians it noted, "Courses for librarianship have been organized in the universities but the pay-scale of librarians and assistant librarians is so low that these careers do not attract good talents from the universities" *(4,* p.63). The recommendations, made by the commission, included: 1) granting of Individual General Licences (I.G.L.) to universities, selected scientific departments and research councils for import of scientific materials from abroad; 2) organization of a central service for such functions, like interlibrary loan, procurement and preparation of microfilms and photocopies of published paper and documents, preparation of bibliographies on specific subjects, translation of important scientific papers into English, and provision of contact lists; 3) expansion of Unesco coupon service, and 4) better pay scales and emoluments for trained librarians *(4)*.

The Third Five-Year Plan like other similar government documents asserted that the situation with regard to libraries supporting education and research was unsatisfactory. It recommended "Improvement of quality, expansion of facilities for study and research in scientific and technological disciplines and consolidation in general" *(5)* for the universities.

Realizing the poor condition of science-technology libraries, PANSDOC sponsored a symposium on the "Development of Scientific and Technical Libraries" from Mar 14–16, 1963, at Karachi. The symposium provided a platform to the scientists, educationists, librarians, and publishers for presenting their problems, complaints and appreciations based on their experience. Significant recommendations made by them were: establishment of two science libraries in Karachi and Dacca; preparation of a union catalog of periodicals; formulation of uniform policy for interlibrary loan; survey of existing scientific and technical library resources; introduction of a liberal import policy for the acquisition of books and periodicals from abroad; improvement of status of librarians working in scientific and technological libraries; and reproduction of rare monographs *(6)*.

Unesco made available the services of Dr. Herman H. Henkle from July to September 1966 to survey the existing conditions and analyze the needs of science-technology libraries in the country *(7)*. After one year, in August 1967, another Unesco team visited Pakistan under the leadership of John E. Sobs of Unesco which also discussed the possibility of assistance for setting up a National Science Library with the government and heads of various organizations *(8)*.

The 7th Annual Conference of the Pakistan Library Association, held at Karachi in January 1971, devoted a special session to the subject. A number of useful papers were presented by the participants. All these papers reiterated the need for the betterment of science and technology libraries in order to carry out scientific research in the country.

Present Position of Science-Technology Libraries

Information on Science-Technology libraries is obscure because no official census of resources available in the country has yet been made. The sources *(9, 10, 11)* are neither comprehensive in their coverage nor up-to-date in respect of information provided therein. According to a rough estimate there are 60 science-technology libraries in Pakistan attached to research establishments of central and provincial governments, research councils, scientific universities, science faculties of the universities, technical colleges, and research institutions. Observation shows that they are largely post independence products, organized to meet the needs of individual institutions and devoted to single subject fields or to a group of related subjects. To a large extent these libraries are located

in urban areas where industrial and commercial developments have been greatest. The libraries, with the exception of agricultural and technical universities, vary in size from 1,000 to 15,000 volumes. The annual budgets range from Rs.5000 to 50,000 (10 rupees : $1 U.S.), the staffs range from 3 to 12, including professional and janitorial. In the agricultural and technical universities, the book-stocks range from 25,000 to 60,000 volumes, and the budget provision used to be Rs.1,50,000 to 2,50,000. The staff numbers between 15 and 25. A large number of these libraries are headed by professionally trained librarians. The Dewey Decimal Classification is the most used system. The Library of Congress has been adopted by the Library of the Jinnah Post-Graduate Medical Centre, only. Similarly, U.D.C. is used just by the libraries attached to the Pakistan Atomic Energy Commission. The *Dictionary Catalogue* is popular. The concept of reference service is gaining ground. The common services offered in most of the existing libraries include: answering quick reference questions, performing literature searching, indexing journals of interest, preparing subject bibliographies, publishing lists of current acquisitions and giving guidance to library users. In some libraries translation and photocopying services are also offered.

Documentation Services

Pakistan National Scientific and Technical Documentation Centre (PANSDOC), under the administrative control of Pakistan Council of Scientific and Industrial Research, was established in 1957 with the technical and financial assistance of Unesco. Its purpose is to help Pakistani scientists keep abreast of current scientific literature through its document procurement, translation and bibliography compilation services. During 1957–1962, the centre has received requests for 5,295 microfilms, 5,004 photocopies, 1,075 translations, and 519 bibliographies *(12)*. PANSDOC issues *Pakistan Science Abstract,* and has published the *Union List of Scientific and Technical Periodicals in the Libraries of Pakistan.* The centre also assists various scientific and technical institutions in the organization of their libraries and information services by training their staff in addition to participating in teaching programs of the Department of Library Science, University of Karachi.

Some Important Libraries

Pakistan Council of Scientific and Industrial Research, popularly called P.C.S.I.R., formed in 1953, is the largest research organization devoted to the progress of science and aimed at the utilization of natural resources and their development. It has a central library at Karachi and branch libraries attached to regional laboratories. The library attached to the central laboratory at Karachi consists of more than 15,000 books and 10,000 bound periodicals, with nearly 200 titles received on current subscriptions. The branch libraries contain 5,000 to 8,000 books to meet their immediate needs. The most exhaustive holdings are in the fields of biology, biochemistry, chemical engineering, industrial chemistry, pharmacy, etc.

In the field of natural sciences, there are three outstanding libraries, i.e., those of the Geological Survey of Pakistan, the Zoological Survey Department, and the Forest Research Institute.

The Geological Survey of Pakistan at Quetta contains 20,000 volumes, including the back runs of periodicals, while excluding a large number of ephemeral material and maps relating to its own field and other allied sciences. The library maintains exchange relations with more than 100 geological surveys, scientific societies and universities, and thus receives all the geological publications from all over the world. The subjects covered are geology and other related subjects, such as paleontology, geo-chemistry, geo-physics, ground water geology, mining and metallurgy, etc.

The library attached to the Zoological Survey Department at Karachi, founded with the establishment of the depart-

ment in 1948, has a total collection of more than 15,000 volumes on zoology and allied subjects, particularly taxonomy, ecology, and geography.

The Forest Research Institute at Peshawar, established in 1947, owns a collection of 10,500 specialized volumes on forest botany, forest entomology, wood utilization, and soil chemistry.

Among the agricultural libraries the most important is the library of the West Pakistan Agriculture University at Lyallpur, established in 1961. It is the largest library on agriculture and allied subjects. It contains some 70,000 books, 7,000 bound periodicals and 400 current journals. The library acquires publications in all the branches of agriculture, i.e., agricultural agronomy, entomology, fibre technology, food technology, horticulture, nutrition, genetics, etc.

The University of Engineering and Technology at Lahore is the largest library on the subject. It contains 30,000 volumes, including bound periodicals on chemical engineering, mining, town planning, etc. The engineering colleges located at various places in the country maintain small libraries of 10 to 15,000 volumes to meet their immediate instructional needs.

The Pakistan Atomic Energy Commission, established in 1956, is the second largest organization devoted to peaceful use of atomic power in the country. With its headquarters in Karachi, there are regional centres in Tandojam, Lahore, and Rawalpindi for various research projects in the fields of agriculture and medicine. Each centre has been provided a library for the use of scientists and researchers. The largest library is at Lahore with 15,000 books, 70,000 scientific reports and audiovisual aids. About 200 journals are received by the library either through subscription or in exchange. It may be stated here that the library is a depository of the U.S. Atomic Energy Commission. The library provides bibliographic, reproduction, and document procurement services. The library of the commission's biggest establishment—the Institute of Nuclear Science and Technology, designed to be the country's leading centre for advanced study and research on the subject—has been the result of a project to house the largest collection on nuclear science.

For medical sciences, Pakistan's biggest library is that of Jinnah Post-Graduate Medical Centre, at Karachi, formerly known as the Basic Medical Science Institute. The library was founded in 1959 and is now the best medical library in the country—containing over 20,000 volumes and receiving more than 500 current periodicals. It is notable for its extensive collection of back issue periodicals, many of which are complete sets, which forms the largest part of the library. It maintains a dictionary catalog and books have been classified by Library of Congress classification. The library serves not only the students and research staff of the centre, but also members of the academic profession and medical practitioners. The staff compiles bibliographies and carries out literature searches as and when required. Microfilms and photocopies of articles are supplied free of cost to researchers on request.

Training Facilities for Library Workers

At present there are four universities which offer a one year post-graduate diploma in Library Science; they include the University of Karachi (1956), the University of Punjab (1959), the University of Peshawar (1962), and the University of Sind. The University of Karachi has also offered an MA course in Library Science since 1962. In 1968, the university instituted a PhD program. The masters' curriculum at Karachi includes several courses designed to meet the needs of science-technology libraries. These included: Special Libraries; Literature of Pure Science; Literature of Applied Science; and Introduction to Information Science and Communication *(13)*. These courses are taught in cooperation with PANSDOC.

There is an acute shortage of science graduates willing to enter library schools. This is due to the low prestige and status of librarians in the society.

However, the situation is improving with the appearance of a new educational policy, which promises better working conditions.

Problems and Prospects

The libraries in this category experience almost all the difficulties that are known to other types of libraries. The most pressing problems may be summarized as: insufficient national production of scientific literature; difficulties in procurement of scientific literature from abroad; inadequate bibliographical control of existing literature in the country; lack of cooperation; paucity of science graduates; and finally, absence of library surveys and library standards.

Despite all these limitations and difficulties, science-technology libraries have made great strides, particularly in the last few years. As a result this group of libraries now ranks next to university libraries. There is great promise for their development and expansion in the future because of growing emphasis on scientific and technical education and research.

Literature Cited

1. *Directory of Current Scientific Research Projects in Pakistan.* Karachi, National Science Council, 1968. p.157–162.
2. Key, L. C. / "Report and Proposals on the Establishment and Improvement of Libraries and Library Services in Pakistan." p.44 (Mimeographed)
3. Pakistan. Planning Commission / Second Five-Year Plan (1960–1965). Karachi, Manager of Publications, 1960. p.121.
4. "Report of the Scientific Commission of Pakistan." Karachi, Government of Pakistan Press. 1960.
5. Pakistan. Planning Commission / Third Five-Year Plan (1965–1970). Karachi, Manager of Publications, 1965. p.203–204.
6. Development of Scientific and Technical Libraries in Pakistan. In *Proceedings of the Symposium, March 14–16, 1963.* Karachi, Pakistan National Scientific and Technical Documentation Centre, 1965. p.ii–iii.
7. Henkle, Herman H. / "Report and Recommendations for Establishing National Science Libraries and Information Centres in Pakistan." Karachi, PANSDOC, August 1966.
8. *DAWN.* Aug 29, 1967, p.8, col.5.
9. *A Guide to Pakistan Libraries, Learned and Scientific Societies, Educational Institutions and Biographies of Librarians in Pakistan.* rev. ed. Karachi, PBWG, 1960. 160p.
10. *Libraries in Pakistan: A Guide.* Karachi, National Book Centre of Pakistan, 1968. 36p.
11. Mian, Tasnim Q. / *Principal Research Institutions in Pakistan.* Lahore, Social Science Research Centre, University of Punjab, 1964. 2 parts.
12. Siddiqui, Akthar H. / PANSDOC Services. In *Proceedings of the Symposium, March 14–16, 1963.* Karachi, Pakistan National Scientific and Technical Documentation Centre, 1965. p.164.
13. *Outline of the Courses.* Karachi, Department of Library Science, Karachi University, 1973. (Mimeographed)

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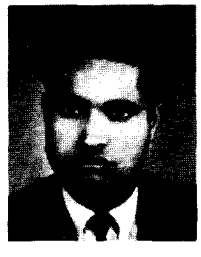

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sla news

SLA Bylaws Revision Adopted

On Aug 14, the SLA Tellers Committee met at the Association Office to count the returned ballots. The result of the Tellers Committee count is as follows:

Yes	2,506
No	57
Blank	9
Invalid	94
TOTAL BALLOTS RETURNED	2,666

The existing Bylaws specified that the bylaws may be amended by a two-thirds vote of the returned mail ballot sent to the entire voting membership. Therefore, the revised Bylaws became effective Aug 14, 1974. The revised Bylaws are printed in the *Directory* (Sep 1974 issue of *Special Libraries*).

The Tellers were Elizabeth K. Miller, Mary Anne Gojdics (for Sydney Keaveney) and Ronald E. Coplen, chairman.

Ballot-Counting Blues

SLA Bylaws ballots were not the only item to be received at the Association Office in the Bylaws ballot Tellers Committee envelopes. Some members took the opportunity to include other communications to the Association Office in these special purpose envelopes. The following unrelated items were received in addition to the expected Bylaws ballots: one death notice, three change of address notices, one check for 1974 membership renewal, three officer ballots, one New York Chapter Bylaws ballot, and one San Francisco Bay Region Chapter directory listing notice.

SLA Supports Integrated Information Unit in Unesco

A Draft Programme and Budget for 1975/76 has been prepared for Unesco which, if adopted, will result in the immediate transfer of all projects relating to scientific and technical libraries and documentation to UNISIST from the Unesco Department of Documentation, Libraries and Archives.

At its Jun 1974 meeting, the SLA Board of Directors authorized the Executive Director to prepare appropriate letters to both the U.S. and the Canadian National Delegations to Unesco to urge support of the position of the Unesco Director General in his concept of one integrated information unit within Unesco (which would include UNISIST, for example) at the Unesco General Conference in Oct/Nov 1974. In this position, SLA supports the position of IFLA (International Federation of Library Associations) of which SLA is a member.

In the letters to the National Delegations, SLA indicated that it "has very grave concerns that such artificial fractures between the different kinds of library functions will create both present and future damage. It could well impede attempts to reach an integrated information policy in the future. We are particularly concerned that the proposal is to separate one field of special libraries from special libraries in other fields, as well as to separate them from all other library-oriented functions."

The letters continued: "Information—that is, the accumulated knowledge of mankind—should not be bureaucratically compartmentalized. The sources of information, the storage of information and the availability of information—regardless of subject field—must be brought together for the ultimate benefit of all mankind."

SLA Grants-in-Aid for Research Established

The objective of the newly established SLA Research Grants-in-Aid Fund is to support small research projects, in whole or in part, in special librarianship and its related techniques. Insofar as resources permit, the Fund will provide modest support (for example, up to $500) for as many worthwhile research projects as possible.

The administration of the Fund will be handled jointly by the Research Committee and the Association Office. The "Policy and Procedures for Administration of the SLA Research Grants-in-Aid Fund" were approved by the Board of Directors in June 1974.

Proposals should be sent directly to the Association Office. No special proposal form or format is required. They will be acknowledged and forwarded to the Chairman of the Research Committee. The process of screening, selecting, and monitoring of grants will be conducted by the Research Committee.

The proposal should include a clear statement of the purpose of the proposed research project and the research design/plan to be followed; the anticipated completion date for the project; the name(s) of the researcher(s), including a brief résumé of their experience and qualifications; and a detailed budget. If the applicant is requesting support for *part* of an on-going (or future) project, the proposal must describe the entire project.

The Association Office will make grant payments and maintain the accounting records for the Fund.

The Research Committee will conduct a fair and impartial analysis of all completed proposals received. They will consider the nature of the research project and its potential for helping to achieve the objectives of SLA, the quality of the research design, and the experience and potential capability of the applicant in relation to the proposed project. All grantees will be selected without discrimination in regard to sex, age, race, creed, color, national origin, or any other form of discrimination included in the Association's policy statement on discrimination.

A majority action by the Research Committee will be required to approve, modify, or reject a proposal. Grant funds must be expended for the purposes and in the manner stated in the grant letter. Since resources are limited, grant funds may not be used for living expenses, institutional overhead, salary, or tuition support of researchers. Grant funds may be used to allow for the completion of a large project whose funds may be expended. Examples are: 1) payment for microforms or photocopies of materials difficult to obtain; 2) the construction of a piece of test equipment; 3) payment for services of a statistician or a draftsman. Each grantee will be expected to make a final report to the Research Committee including the results of the project and the expenditure of funds. Unexpended funds must be returned to the Association.

The Fund was established by the Board of Directors in June 1973, with a gift of $1,000 from Helen Maginnis, $3,228 received from AFIPS, and $792 from the General Fund. The Divisions of the Association have contributed additional funds to bring the present total to about $12,000. Additional support from the Association Chapters, Divisions, and members, as well as from private individuals and outside organizations interested in research in special librarianship, is both encouraged and solicited. All contributions are tax-deductible because SLA has been classified as an IRC Section 501(c)(3) organization.

To encourage the growth of the Fund, the Board has adopted a policy that no more than 50% of the Fund balance at the beginning of a fiscal year may be granted in the fiscal year; and, to encourage the broadest use of the Fund, no single grant shall exceed one-fourth of the amount available in any fiscal year.

In short, the SLA Grants-in-Aid Program is a way to give some support to as many worthy applicants as possible who submit unsolicited proposals to the Association in keeping with the "Policies and Procedures for Administration of SLA Research Grants-in-Aid." Even though the grants are small, they can be invaluable in getting an investigation going, in giving some needed freedom in the midst of a research project, or in allowing for the completion of a large project whose primary funds may have been expended. They represent investments in morale as well as money, and they can serve the "small researcher" in a useful way.

Beryl Anderson
Robert J. Havlik
Lucille Whalen
Robert V. Williams
Elizabeth W. Stone, Chairman
SLA Research Committee

CHAPTERS & DIVISIONS

Alabama—A seminar on new equipment and methods was held on Apr 3. Six manufacturers displayed their latest machines.

Baltimore—The Chapter met Feb 19. This was the first time the bicameral organization met jointly.

Boston—The February meeting provided an opportunity for members to visit Harvard University's Cabot Science Library. The Education Committee discussed the NASIC System now functioning at MIT.

Edythe Moore spoke to a group at Simmons College on Mar 28.

Cincinnati—The December meeting aimed at recruitment.

Four panelists discussed "Public Relations and the Special Library" at the Mar 8 meeting held in conjunction with the Dayton Chapter.

In April the Chapter visited the Miami University Scientific Libraries facilities.

Cleveland—A joint meeting was held with the ASIS Northern Ohio Chapter on Jan 15 at Cleveland State University. The OCLC terminals at CSU were demonstrated by Roy Collins. Following dinner Sgt. Clarence Branstein spoke about information retrieval in the Cleveland Police Department.

On Apr 19 the Second Betty Burrows Memorial Seminar was held. The topic was interpersonal communications.

Colorado—A joint meeting was held Mar 13 with the American Records Management Association, ASIS, and the National Microfilm Association. Microfilm was the topic of discussion.

On Apr 10 a tour of the Johns-Manville Research Center Library was given.

Connecticut Valley—The Chapter visited L. M. Stowe Library and the Connecticut Health Center in Farmington in February.

The April meeting was addressed by Edythe Moore.

Ruth R. McCullough presented the John Cotton Dana lecture, "Special Librarianship is Applied Science," at the May 2d meeting.

Dayton—The Apr 4 meeting celebrated the 10th Anniversary of the Dayton Chapter. A tour of the Dayton Art Institute was followed by a business meeting.

The Chapter cosponsored a federal documents workshop on May 4 with the Government Information Service Committee of SLA.

Heart of America Chapter—A Library Fair was held in Kansas City, Mo., on Mar 15. The one day fair was cosponsored by the Health Sciences Library Group of Greater Kansas City. Thirteen companies displayed their library equipment and publications.

Indiana—The student group joined the Indiana Chapter at a meeting Mar 23. A panel discussed "Special Library Work in a University Context" with Dr. David Kaser as moderator. A luncheon then followed which was addressed by Dr. F. E. McKenna.

Insurance Division—now has available the two most recent editions of *Insurance Periodicals Index* covering July 1971–June 1972 and July 1972–June 1973. Each is $15.00. Mail check payable to SLA Insurance Division, to Robert Enquist, The College of Insurance, 123 William St., New York, N.Y.

Kentucky Provisional—A meeting was held Oct 12 during the regular meeting of the Kentucky Library Association. In addition, a symposium was conducted at which six papers were presented.

The Kentucky Provisional Chapter met jointly with Special Libraries Section of the Kentucky Library Association in late April. The topic of the two-day seminar was management. Gilles Frappier was a guest speaker.

Long Island—Peter Draz, former head of the library at Time, Inc., discussed the daily workings of the library at a Jan 24 meeting.

On Mar 21 the student group played host to the Chapter at C. W. Post Library. Dr. Gerd Muehsam spoke about "Art Librarians and Librarianship."

Louisiana—A meeting was held in New Orleans on Apr 27th. The meeting was addressed by the Hon. John A. Dixon who explained the judicial process in Louisiana.

Minnesota—The future direction of information and communication sciences was the topic at the Mar 20 meeting.

The ASIS/SLA Chapter meeting for April was held in conjunction with a seminar

"Workshop on Information Exchange." The principal speaker was Janice Ladendorf. The two-day Symposium V also considered the unity of the information sciences in theory and practice and the role of experience in decision making.

Montreal—The Mar 14th meeting was a recruitment session. Students from the Schools of Library Science at McGill University and the University of Montreal attended. Gilles Frappier was the speaker.

A joint meeting with the Ottawa Chapter of the Canadian Association of Information Science was held in April. Pauline Atherton's topic was "A World View of Information Science."

New Jersey—An all-day workshop on federal documents was held Mar 14th at Rutgers University.

New York—The Annual Business Meeting was May 14. Russell Hold of Con Edison spoke on "Energy Conservation."

On May 23 a joint scholarship fund benefit concert was held at Lincoln Center for the Performing Arts. The cosponsor was the New York Regional Group/Medical Library Association.

The New York Chapter has published the second edition of *Serials—Advertising, Business, Finance, Marketing, Social Science—in the New York Area.* Order from Muriel Regan, Rockefeller Foundation Library, 111 West 50th Street, New York, N.Y. 10020. Price: $35.00 prepaid.

New York, Documentation Group—The Mar 22 meeting dealt with "INFO-5/An Inside Look at Five Operational Information Systems in New York City."

New York, Museums, Arts and Humanities Group—John R. Kinard, Director of the Anacostia Neighborhood Museum, Washington, D.C., outlined the community-oriented goals of his institution.

New York, Picture Group—An informal luncheon get-together on Mar 14 was a success. More meetings of this type are scheduled for the future.

New York, Social Sciences Group—Informal discussion of information gathering and dissemination marked the Jan 16th meeting at the Rockefeller Foundation.

A joint meeting was held Mar 26 with the Insurance Group at the Graduate Center, City University of New York. Short presentations of new, expensive, or unusual reference books, computerized data banks, etc., were made.

New York, Technical Sciences Group—A number of representatives from scholarly and trade journals were invited to a discussion of topics related to publishing journals and serials.

North Carolina—An all-day seminar was held in February, "Update '74." The two main topics were micrographics and government information services. The cosponsors were the Chapter, the Documents Librarians of North Carolina, and the University of North Carolina-Greensboro Extension Division.

Pacific Northwest—A business meeting was held Mar 8. It was decided to sponsor a directory of "Puget Sound" special libraries. A tour of Kent Technical Library, Boeing, followed the meeting.

Apr 19 meeting included a tour of the Seattle *Times* Library.

On Apr 25 the Chapter met for lunch and a visit to the Washington State Department of Ecology Library. Included in the afternoon was a film presentation of the library system.

A meeting was held May 11 at which James Ekendahl discussed establishing medical libraries.

The **Pittsburgh** Chapter has just compiled the 1974 edition of the *Directory of Special Libraries in Pittsburgh and Vicinity.* It contains information on the locations, staff, holdings, and publications of some 114 special, public, and academic libraries. The *Directory* is available from Michael S. Miller, Allegheny County Law Library, 921 City County Building, Pittsburgh, Pa. 15219. Price: $10.00

Princeton–Trenton—At the January meeting, councilman Powell explained the potential library use of cable TV which is obliged to provide one educational channel.

A workshop on federal documents was cosponsored by the Chapter and the Professional Development Program of Rutgers Graduate School of Library Service. The Mar 14 seminar included MARC, Census, and ERIC.

Apr 9, Susanne Stocking, Newark Division of Civil Rights Law Enforcement and NOW,

addressed the question of "Equal Employment Opportunity in Libraries and Law."

On Jun 7 the Lockheed Dialog Systems were demonstrated, new officers were installed, and Squibb facilities were explored.

Rio Grande—A joint meeting was held in Albuquerque with the New Mexico Library Association Annual meeting. The program centered on a panel discussion of "Museum Resources in New Mexico." It was followed by a business meeting and dinner.

San Francisco Bay Region—A two-day workshop for library assistants was held in cooperation with the Library Science Program of the University of San Francisco. The emphasis was on library operations—what they are and why they exist. It was hoped that the assistants would have a clearer understanding of their roles in these operations.

The Mar 19th assembly in Oakland heard a program devoted to "Library Insurance and Protection."

A scholarship benefit dinner was held Apr 5. The Chinese Historical Society provided a brief program.

On Apr 27 a statistics seminar was held at Bank of America Headquarters, San Francisco. Three sessions were held: the Citizen and Statistics, the Businessman and Statistics, and the Social Planner and Statistics.

South Atlantic—Marci Simpkins of the Metro Atlanta-Athens Area Union Catalog discussed the history and future possibilities of the catalog on Mar 13.

A series of luncheons geared to recruiting new members and making SLA more significant on a daily basis has been planned. For more information contact Jim Dodd, Georgia Tech. Library.

The Apr 23 meeting was organized by the Emory Student Chapter.

Southern California—A Western Regional Federal Documents Workshop was held Apr 24 in North Hollywood. The Chapter was one of its cosponsors. Among the areas of consideration: GPO, Special Depositories and Special Collections, Regional Publications of Federal Agencies, and Sources of Environmental and Energy Information.

Texas—Two continuing education workshops took place on Apr 13th and 20th at the University of Texas Graduate School of Library Science, Austin. The topics: Organizational Behavior and Human Relations, Transactional Analysis, Operations Research, and Systems Analysis.

Toronto—A first: A Flea Market took the place of the March meeting. This turned out to be a successful way to fill the coffer.

The April meeting at the *Toronto Star* Library was more business-like. Tom Curzon related the editorial philosophy of the newspaper and the news business.

The Annual Meeting was held May 16th at the Hyatt House Hotel. Barbara Shields, Education Officer for the Women's Bureau of the Ministry of Labour, spoke about promoting the status of women.

Upstate New York—The Chapter met Apr 6 at the State University College at Geneseo. After the business meeting, Wellington H. Lewis, assistant public printer, described some of the functions of the GPO.

Virginia—A special program took place Mar 21 at the Richmond Public Library. A panel of experts in the field of personnel discussed "Salary Surveys: Their Usefulness in Personnel Administration." This topic was specifically interesting in the light of the 1973 SLA Salary Survey.

Washington, D.C.—A joint spring workshop was cosponsored by the Chapter, the District of Columbia Library Association, the Potomac Valley ASIS, and the Society of Library and Information Science Technicians. Theme: The Librarian in Today's Market.

On May 16 the Annual Banquet was held. Dr. O. B. Hardison discussed the "Folger Library, Present and Future." The results of the election for new officers were announced.

Washington, D.C., Picture Group—In February the World Bank played host to the Group. Photodocumentation in developing nations was discussed.

In March the photographic collections serving five magazines in the fields of chemistry, environmental studies, and agriculture were the topics covered.

The May 24th meeting was held in the Still Photography Section, National Park Service.

Wisconsin—The Mar 23d meeting at the Milwaukee Public Library was well attended. The panel discussion centered on federal documents and was followed by a business meeting.

On Apr 22 an information retrieval system was demonstrated.

Nominations for 1975 SLA Awards

Nominations for 1975 SLA awards are due by Jan 3, 1975. Individuals, as well as Chapters and Divisions, may submit nominations. All nominations must be completely documented within the definitions of the purposes of the three awards. Forms and instructions for nominations have been distributed to all Chapters and Divisions. Additional forms are available from the Association's New York offices.

The SLA Professional Award. The highest recognition granted by this Association is awarded after consideration of all significant contributions made to librarianship and information science. The definition of the SLA Professional Award is:

> "The SLA Professional Award is given to an individual or group, who may or may not hold membership in the Association, in recognition of a specific major achievement in, or a specific contribution to, the field of librarianship or information science, which advances the stated objectives of the Special Libraries Association. The timing of the Award shall follow as soon as practicable the recognized fruition of the contribution."

The SLA Hall of Fame. In documenting nominations, the following criteria for eligibility to the SLA Hall of Fame should be remembered:

> "SLA Hall of Fame election is granted to a member or a former member of the Association following the close of an active professional career for an extended and sustained period of *distinguished service to the Association in all spheres of its activities (Chapter, Division, and Association levels).* However, prolonged distinguished service within a Chapter or Division, which has contributed to the Association as a whole, may receive special consideration."

The basic purpose of the SLA Hall of Fame is to recognize those individuals who have made outstanding contributions to the growth and development of Special Libraries Association—as a whole—over a period of years.

The SLA Special Citation. The definition of the SLA Special Citation is as follows:

> "The SLA Special Citation is an occasional recognition of a member or group of members or of an individual or group close to the Association in acknowledgment of outstanding service to or exceptional support and encouragement of special librarianship.

Mail completed forms to:

Edward G. Strable, Chairman
Awards Committee
J. Walter Thompson Co.
875 North Michigan Ave.
Chicago, Ill. 60611

SL Schedule Change

A change in scheduling has required that the Oct and Nov issues of *Special Libraries* be combined in one double issue—vol. 65 (nos.10/11). This Oct/Nov issue is the double issue. The next issue is the regularly scheduled Dec issue which is scheduled to be mailed in late Nov for receipt in early Dec. It is anticipated that this scheduling change will permit earlier mailing and thus earlier receipt of future issues of *Special Libraries.*

IFLA Journal to Debut

IFLA News will be replaced by *IFLA Journal,* a quarterly publication to include articles focusing on state-of-the-art, surveys, statements and opinions.

The first issue will be available at the IFLA Conference in Washington, D.C., in November 1974. It is understood that the issue will include notice of SLA's election to honorary membership of IFLA President Herman Liebaers.

Washington Letter
September 5, 1974

Library Partnership Act

Originally planned for introduction last spring, the Library Partnership Act (S.3644) was officially unveiled on August 22. Introduced by Senator Jacob Javits (R.-N.Y.) at the request of the Administration, the stated purpose of the bill is "to encourage and support innovation, to demonstrate improved methods in library and other information services, and to promote the development and demonstration of networks for the sharing of resources and services within communities and among local, State and regional jurisdictions, with special emphasis on improvements which benefit handicapped, institutionalized, or economically disadvantaged groups." The text of the draft bill and a copy of the letter from the Department of Health, Education and Welfare transmitting it to the Congress for consideration appears in the Congressional Record, August 22, 1974, p.S15590-S15591.

Commenting on the bill, Senator Javits stated, "while I am encouraged by the idea of a new initiative coming from the administration to assist our Nation's libraries . . . I have serious reservations about the proposed Library Partnership Act and particularly about the context in which President Nixon's fiscal year 1975 budget first presented it—to wit, as a replacement for the highly successful Library Services and Construction Act. It is inconceivable to me that anyone could ever seriously consider replacing the Library Services and Construction Act, a demonstrably successful State-based program for improved library development benefiting many millions of Americans, with a limited discretionary demonstration grant authority such as the Library Partnership Act." The Senator urged the library community to study the proposal with a view to considering it, in modified form, "as the basis for amendments next year to the Higher Education Act title II-B demonstration authority . . ."

White House Conference on Library and Information Services

As the House recessed for the Labor Day holiday, S.J.Res.40, authorizing a White House Conference on Library and Information Services, was awaiting Rules Committee action to bring it to the floor for debate. It is now anticipated that the measure will be brought up shortly after the House returns on September 11. Earlier prospects for speedy passage have been somewhat dimmed by growing opposition to the $10 million authorization provided for the conference. Responsive to the President's plea for budgetary restraint and for compromise, supporters of the conference are proposing the deletion of the specific $10 million authorization and the substitution of language calling for "such sums as necessary" to carry out the purposes of the conference.

Copyright Revision

The Senate approved the Copyright Revision Bill (S.1361) on September 9 by a vote of 70 to 1. The bill now goes to the House where prospects for passage this session are not clear. Action on the bill, originally reported out of Committee on July 3 (S.Rep. no.93–983) had been delayed to give the Commerce Committee an opportunity to review provisions dealing with telecommunications. The Commerce Committee reported its views on July 29 (S.Rep.no.93–1035) suggesting various amendments dealing with cable TV and royalty matters, but indicating that even with these amendments "it did not necessarily endorse the bill."

Librarians are chiefly concerned with the provisions on fair use (Section 107) and on the rights of reproduction and distribution by libraries and archives (Section 108). As passed by the Senate, these sections permit the making of a single copy by library users and for normal interlibrary loans; allow photocopying of archival materials and out-

of-print works, "with certain exceptions," and copying for replacement of damaged copies or for preservation. "Systematic copying" is not permitted. Recognizing that "neither a statute nor legislative history can specify precisely which . . . practices constitute . . . systematic reproduction," the Committee in reporting the bill recommended "that representatives of authors, book and periodical publishers and other owners of copyrighted material meet with the library community to formulate photocopying guidelines to assist library patrons and employees."

Education Amendments of 1974

The Elementary and Secondary Education Act Amendments of 1974 (HR69,P.L.93-380) was finally signed into law on August 21 at a special ceremony held in the HEW Auditorium. As the first major legislation to become law in his administration, President Ford said, "this bill symbolizes one of my greatest hopes for the future—the hope that a new spirit of cooperation and compromise will prevail between the legislative and executive branches."

In addition to extending a wide range of federal education programs through 1978, the law establishes a new National Center for Educational Statistics; gives statutory authority for an Office of Libraries and Learning Resources; provides for phasing-in the consolidation of school library programs with educational equipment, guidance and counseling programs, and authorizes a White House Conference on Education in 1977. To make the consolidation of categorical grants more palatable, it was agreed that consolidation could take effect only if forward funding is provided and if appropriations are maintained at prescribed levels.

In his signing statement, President Ford referred to the consolidation of categorical grants as an important step toward improved administration and expressed the hope that it "will become the trend of the future." The general euphoria attending the signing ceremony was tempered by the President's closing remarks urging Congress "to exercise restraint in appropriating funds" authorized by the bill in order to avoid "fanning the flames of inflation." It should be remembered that, although the new Budget Act does not permit impoundment, it gives the President authority to defer expenditures if Congress does not object, and permits him to request rescission of authorizations for "fiscal policy or other reasons."

Freedom of Information Act Amendment

Speedy enactment of HR12471, amending the Freedom of Information Act, seemed assured when the Senate on May 30 passed its version of the measure by a large majority sending it to conference. By August 13 conferees had reached agreement on all but one provision and hoped to complete action at a meeting scheduled for that date. Reluctantly they postponed final action after hearing from the Justice Department that President Ford wanted time to review the bill and make his recommendations.

As agreed to by the conferees, the bill would close loopholes in the 1966 Act and make it harder for government officials to deny government information and documents to the press and the public; places a 10 working-day limit on the time allowed for replies to requests for information; shifts the burden of proof to the government when it denies information in "investigatory files"; permits recovery of legal costs by successful litigants; gives courts power to overrule security classification of information; and requires federal agencies to provide indexes to publicly available information.

President Ford's comments were received on August 21 and, as of this date, conferees are continuing their effort to meet his objections without compromising the purposes of the legislation.

Ruth Fine
Washington, D.C.

COMING EVENTS

Nov 6. Fourth Annual Richard H. Shoemaker Lecture on Bibliography . . . at Rutgers University, Graduate School of Library Service, New Brunswick, N.J. Speaker: Daniel Melcher. Topic: Priorities in Bibliography.

Nov 10–12. Institute for Graphic Communication, Inc., Seminar . . . Boston. Topic: Rebirth of COM—Future Impact on Manufacturers and Users.

Nov 10–13. 20th Annual Allerton Library Institute . . . at Allerton House near Urbana, Ill. Sponsor: University of Illinois Graduate School of Library Science and the Illinois State Library. Topic: Collective Bargaining in Libraries. Write: Brandt W. Pryor, University of Illinois Office of Continuing Education and Public Service, 116 Illini Hall, Champaign, Ill. 61820.

Nov 11–15. Law Librarianship Course . . . at Library of Congress, Washington, D.C. Sponsor: International Association of Law Libraries. Theme: Research in American Law. For information: Dr. Ivan Sipkov, Law Library, Library of Congress, 10 First Street, S.E., Washington, D.C.

Nov 12. Deadline for completed papers for the 1975 National Computer Conference, May 19–23, 1975 . . . in Anaheim, Calif. For further information: Donal A. Meier, 2756 Mountain View Drive, Escondido, Calif. 92027.

Nov 12–13. National Microfilm Association, Seminar . . . New York. Orientation toward: financial, insurance, libraries, records management. For information: Training Coordinator, Rita Tatis, National Microfilm Association, 8728 Colesville Rd., Silver Spring, Md. 20910.

Nov 12–15. European Microfilm Convention . . . Cologne, Germany. Write: EMK-Kongressbüro, 171–169 Gutleutstrasse, D–6000, Frankfurt/Main 1, Germany.

Nov 14–16. Virginia Library Association Annual Conference . . . in Hot Springs, Va. Write: Sylvia E. Dawson, Charles Pinckney Jones Memorial Library, 406 W. Riverside St., Covington, Va. 24426.

Nov 19–22. Reprographics International Exhibition . . . in Basel, Switzerland. Contact: Brian Mack, Mack-Brooks Exhibitions, Ltd., 62–64 Victoria St., St. Albans, Herts. AL1 3XT, England.

Nov 25–28. The Interactive Library: Computerized Processes in Library and Information Networks, Seminar . . . in Stockholm. Write: Swedish Society for Technical Documentation, Box 5073, S–102 42 Stockholm, 5, Sweden.

Dec 2–11. Institute on Utilization of On-Line Bibliographic Retrieval Systems . . . at the University of Denver, Graduate School of Librarianship. Tuition free to successful applicants. Write: James K. Foyle, Assistant Dean, Graduate School of Librarianship, University of Denver, Denver, Colo. 80210.

Dec 5–6. Association for Library Automation Research Communications (LARC) Institute . . . Seattle, Wash. Topic: Evolving Standards in Library Automation. Mail Applications to: LARC Headquarters Office, P.O. Box 27235, Tempe, Ariz. 85282.

Dec 11–12. National Microfilm Association, Seminar . . . Chicago. Write: Training Coordinator, Rita Tatis, National Microfilm Association, 8728 Colesville Rd., Silver Spring, Md. 20910.

Dec 15–17. Institute for Graphic Communication, Inc., Seminar . . . Boston. Topic: Special Workshop on Product Opportunities in Graphic Communications.

Jan 15–17. National Microfilm Association . . . in Atlanta, Ga. Theme: Micrographics—Technology for Today and Tomorrow. For information: National Microfilm Association, 8728 Colesville Rd., Silver Spring, Md. 20910.

ANSI Standard Available

ANSI Standard Z39.18–1974, "Guidelines for Format and Production of Scientific and Technical Reports," is now available. The standard applies to reproduced and distributed reports on research, engineering, or other technical efforts, not including published journal articles or books. It may be purchased from American National Standards Institute, 1430 Broadway, New York 10018. A complete list of all standards may be requested from ANSI.

(74–068) **Scientific, Technical, and Engineering Societies Publications in Print, 1974–75.** Kyed, James M. and Matarazzo, James M. New York, Bowker, 1974. x,223p. $17.50 LC 74–5094 ISBN 0–8352–0727–7 CIP

Print and non-print materials from 151 American societies.

(74–069) **Bibliography of Publications Issued by Unesco or Under Its Auspices: The First Twenty-five Years, 1946 to 1971.** Paris, Unesco, 1973. xviii,385p. $9.90 ISBN 92–3–001037–5 (Order: Unipub, Box 433, N.Y. 10016)

Over 5,000 entries arranged by UDC with title and author indexes.

(74–070) **Directory of Data Bases in the Social and Behavioral Sciences.** Sessions, Vivian S., ed. New York, Science Associates/Intl., 1974. xvi, 300p. $35.00 LC 72–86759 ISBN 0–87837–004–8 CIP

Includes indexes of subjects, keywords, institutions, personnel and geographic locations.

(74–071) **Government and Related Library and Information Services in the United Kingdom, 3d rev. ed.** Burkett, Jack, ed. London, Library Assn., 1974. vi,217p. £4.50 ISBN 0–85365–127–2

Indicates the strengths of various collections while tracing the development of government libraries in the U.K.

(74–072) **Association for Population/Family Planning Libraries and Information Centers: 6th Ann. Conf. Proc., New Orleans, Apr 24–25, 1973.** Speert, Kathryn H., ed. Chapel Hill, N.C., APLIC, 1973. iv,180p. $5.00.

Reports on two panel discussions and ten workshops.

(74–073) **Environment U.S.A.:** A Guide to Agencies, People and Resources. Onyx Group, Inc., comp. and ed. New York, Bowker, 1974. xii, 451p. $15.95 LC 73–20122 ISBN 0–8352–0671–8 CIP

In addition to a directory of governmental and private organizations, includes environmental officers in U.S. corporations, labor executives and consultants in this field, a calendar of conferences and meetings, directory of educational programs, libraries, films, glossary of terms and listing of reporters and editors for various media.

(74–074) **Staff Development and Continuing Education Programs for Library Personnel: Guidelines and Criteria.** Conroy, Barbara. Boulder, Colo., Western Interstate Comm. for Higher Education, 1974. 29p. $1.00

A how-to-do-it approach. Free to libraries in Alaska, Ariz., Mont., Nev. and Wash.

(74–075) **Library Science Dissertations, 1925–1972; an Annotated Bibliography.** Schlachter, Gail A. and Thomison, Dennis. Littleton, Colo., Libraries Unlimited, 1974. (Research Studies in Library Science, No.12) 293p. $12.50 (U.S. & Canada) LC 73–90497 ISBN 0–87287–074–X

Arranged chronologically with author and subject indexes. Annotations include purpose, procedure, findings and conclusions. Where appropriate, order information is included.

(74–076) **The Librarian's Practical Dictionary in Twenty-two Languages, 6th ed.** Pipics, Zoltan, ed. Munich, Verlag Dokumentation, 1974. 385p. $35.00 ISBN 3–7940–4109–7 (Order: Bowker)

With English as the source language, 770 terms are listed with foreign language equivalents. Second part lists foreign language words with English equivalents.

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Washington State Librarian—Olympia, Washington. Qualifications: Graduation from ALA accredited library school program; eight years of increasingly responsible administrative functions; knowledge of regional library systems, consortia, and networks of information and media programs of all types of libraries; strong ability to lead, to manage, to command respect in profession, to establish effective relations with government, public, and staff; to be articulate in writing and speaking, to plan and evaluate needs in a broad spectrum, and to accept new ideas and change. Salary: Above $25,000 to be negotiated.
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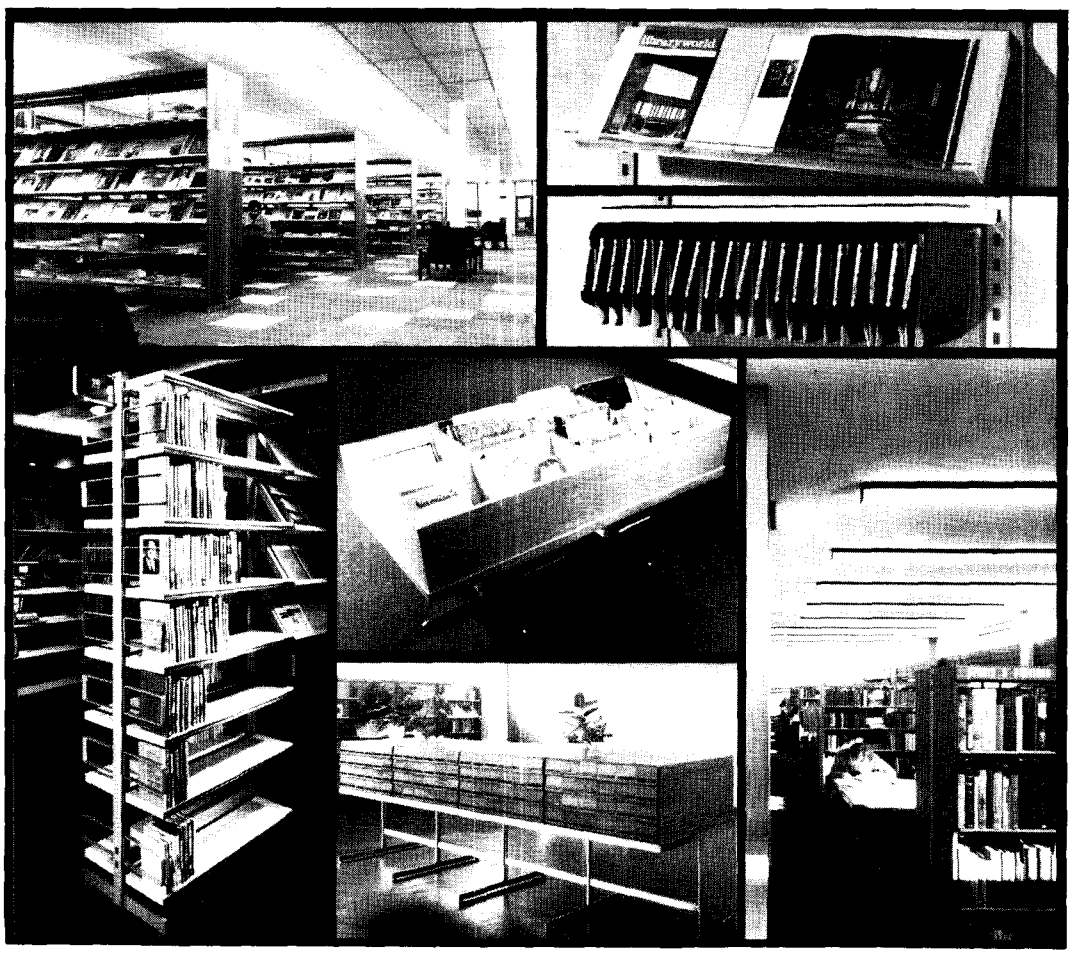

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