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Special Libraries, March 1958

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SPECIAL LIBRARIES

MARCH 1958, VOL. 49, NO. 3

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CONTENTS

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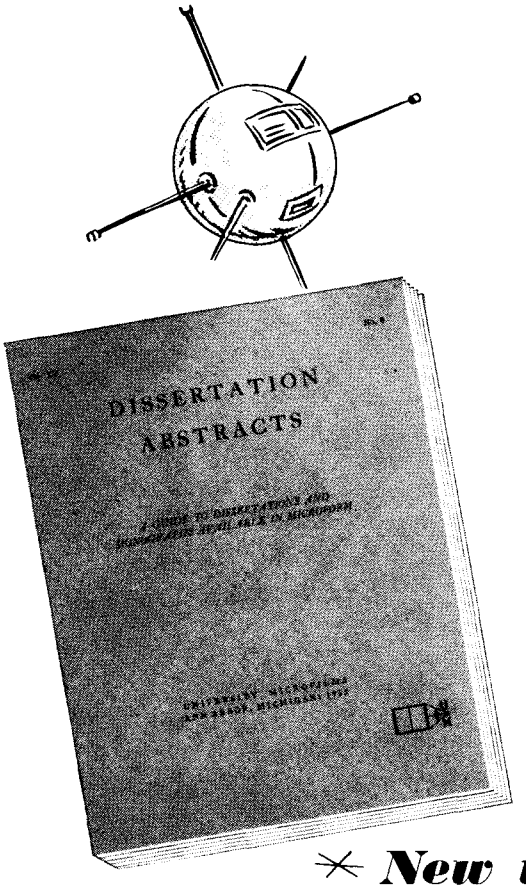

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The Bibliography of Agriculture As Seen By Those Who Make It And By Those Who Use It

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U. S. Department of Agriculture Library, Washington, D.C.

THE *Bibliography of Agriculture*, an index to the world literature of agriculture and the related sciences, has been published by the library of the United States Department of Agriculture since July 1942. It began as a consolidation of several current literature lists previously issued by the libraries of the constituent bureaus of the Department and reflected the consolidation of the libraries themselves a year earlier. In the course of the next 18 months subjects were added which had not been covered by any of the earlier lists, a new classification was devised that integrated the lists more closely, the format was changed, and author and subject indexes were prepared. By January 1944, the *Bibliography of Agriculture* had assumed substantially the form in which it now appears.

Need For Continual Changes

This is not to say that the *Bibliography* has not changed in the intervening 14 years. Many changes have been made, some of them important. They have been planned as improvements or they have been forced on us by circumstances, particularly the necessity of staying within the budget while the output of writers on agriculture soared.

As originally conceived, the *Bibliography of Agriculture* was to be an index to the total literature of agriculture and the related sciences, or at least to as much of it as was presented in signed articles, books or monographs, in all publications of the United States Department of Agriculture and the state experiment stations or extension services, signed or unsigned, or in annual reports. Indexing was to be based on publications received in the library. No attempt was to be made to discriminate between the important and the trivial, the ephemeral and the enduring.

From the beginning, however, practical considerations reduced the scope. As the national library of agriculture, the USDA library tries to collect everything in the field of agriculture published anywhere, but, of course, such an ideal can never be completely realized. Furthermore, indexing has to be limited to material written in a language that someone on the staff can read—that is, one of the languages of western Europe or Russian. Publications written in other languages are indexed from abstracts or titles in one of the foregoing languages if any such are included in the publication.

Established during World War II, when hostilities had reduced the flow of enemy publications to a trickle and restrictions on the use of paper had cut the output of literature in the countries from which we were receiving publications, the *Bibliography of Agriculture* nevertheless indexed 54,400 references in 1944. The trend has been steadily upward. By 1949 the total had reached 89,000 and in 1953 was pushing close to 100,000. Inasmuch as the staff had never kept pace with the increasing literature, further restrictions obviously had to be adopted. Value judgments on the importance of the material to be

indexed were forced upon us whether we liked it or not.

Through the years, we had had many comments on the *Bibliography*—an assortment of bouquets and brickbats. Specific suggestions, when considered together, were often contradictory and sometimes confusing. We needed a general opinion against which to judge individual opinions. We had been criticized for duplicating unnecessarily the *Agricultural Index* of the H. W. Wilson Company, and wondered if many users thought the same. We knew that we would have to make some changes, if only because of the increasing number of publications to be indexed.

Users Of The Bibliography

For these reasons we decided to send an inquiry to our users and to ask their opinions on some of the problems that were troubling us. Forms were mailed in the summer of 1955 to domestic subscribers and to Department personnel to whom the *Bibliography* was being routed regularly from the library in Washington or from one of the branches. Returns were received from 791—something over 60 percent.

We asked first for some information about the person filling out the inquiry, his employer, the kind of work he was doing and his general field of interest. We found that our typical respondent was an employee of the United States Department of Agriculture, engaged in research in the field of plant science. He was three times as likely to work for the Department of Agriculture as for an agricultural college or experiment station and six times as likely to work for one of those as for private industry.

We had expected a preponderance of employees of the USDA. The chief justification for the publication of the *Bibliography of Agriculture* with public funds is its service to Department personnel. Any USDA office requesting it will be put on the free mailing list, whereas free subscriptions for other public institutions are limited, and individuals and non-public institutions must pay for it. Although we had expected that research workers would be the largest single group of users, we had not expected that the proportion would be so large as 53 percent. If engineers, technical workers, librarians and documentalists are added to the research people, 80 percent of those who replied are covered. Clearly the *Bibliography of Agriculture* is used chiefly by research workers, and their interests should justly predominate in planning it.

Each respondent wrote in his chief field of interest in his own words. For tabulating, these interests were assigned, whenever possible, to one of the main subject sections of the *Bibliography of Agriculture*: plant science, soils and fertilizers, forestry, animal husbandry including veterinary medicine, entomology, agricultural engineering, agricultural economics and rural sociology, food and human nutrition. We found that plant scientists outnumbered soil scientists, the next largest group, by almost two to one.

Value To Users

We can only guess why so many more plant scientists than animal scientists appear to be using the *Bibliography*. There is no reason why the availability of other services should have discriminated between them. *Biological Abstracts* and *Chemical Abstracts* serve both about equally, as do the services of the Commonwealth Agricultural Bureaux. Perhaps workers in animal biology find the *Bibliography of Agriculture* less useful because in that field we index only what is directly related to domestic animals or veterinary medicine, whereas in botany we index basic research also. However, in answer to a later question on the comparative usefulness of the *Bibliography of Agriculture* and other indexes in the field of agriculture, the *Bibliography* was rated

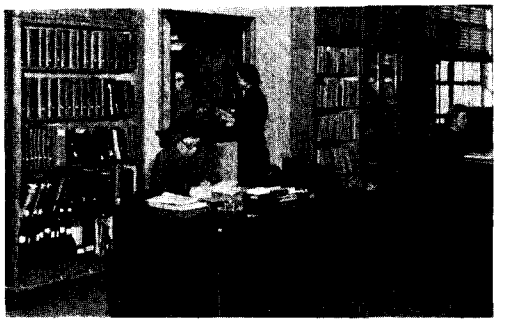
most useful by more entomologists, animal scientists and engineers than plant scientists. Maybe botanists are just more conscientious about answering questionnaires.

We asked our readers to rate the usefulness of the *Bibliography* as compared with that of other indexes because we wanted to know whether it had a real place in agricultural documentation. "For your purpose," we asked, "how does the *Bibliography of Agriculture* compare with other indexes in the agricultural field?" Possible responses were "Most useful," "About as useful as others," "Less useful." We were gratified to find that 58 percent of the group found the *Bibliography* most useful, although we knew that we must discount that by several percentage points. People are kind, and furthermore we had no assurance that all who answered this question ever used any other index. Of the librarians, who might be expected to be more discriminating in rating a service, 45 percent considered the *Bibliography of Agriculture* most useful. Thirty percent of the librarians and 28 percent of the whole group called it about as useful as others.

Although we did not ask for an explanation of the answers, a number did comment. The most useful feature of the *Bibliography of Agriculture,* in the opinion of its users, is its prompt and full coverage. Its greatest drawbacks are its lack of abstracts and of precision in classification and indexing. "Most useful but most laborious to use" was one comment. Those who mentioned *Agricultural Index* were agreed that it is easier to use but less comprehensive. Some said that they would try *Agricultural Index* first and turn to the *Bibliography of Agriculture* only if that proved insufficient.

Reducing Coverage And Changing Format

Our most pressing problem was how to curtail coverage so as to keep the



A bound set of the *Bibliography of Agriculture* occupies the top shelves of the bookcase behind a reference desk in the reading room of the U. S. Department of Agriculture Library.

Bibliography of Agriculture to a manageable size. Decisions on what to stop indexing can be made on the basis of subject matter, treatment and intended audience, or language. The library preferred to reduce the coverage of popular material first and then to consider dropping some peripheral subject areas. We did not want to reduce the language coverage and, in fact, would increase it if we could.

The responses to the two questions related to this problem showed that users would support the first part of our proposed solution but that they would prefer reducing language coverage to cutting off some subject areas completely. The majority were willing—nay eager —to have us leave out popular material in foreign languages, and a somewhat smaller but still substantial number wanted us to drop popular publications in English also. This was expressed not only in answer to direct questions but also in various other places where users had a chance to write in. Only a few defended the popular article.

Sixty-nine would have us drop all material in certain languages, with Oriental and Slavic languages as the most popular candidates for the axe, and 14 isolationists would have us index nothing except publications written in the English language. It must be re-

membered that this inquiry antedated Sputnik by more than two years; today enthusiasm for indexing literature from the Soviet Union might be greater.

Problems of foreign language references came up in connection with other questions also and were mentioned in the free comments. A number suggested that we translate titles of all foreign articles, including those in French, German and Spanish, which we now give in the vernacular only, or that we put out two separate but parallel publications, one for references in English and one for those in other languages.

Suggestions of subject areas that might be omitted were not very numerous and reflected usually the particular interests of individual respondents. Instead there were a good many suggestions for areas into which to expand.

Format was another aspect of our product that worried us. In composition and printing, the *Bibliography of Agriculture* is an economy job. The original typing is done on IBM proportional spacing typewriters with boldface type, and, except in the subject index, pages are made by mounting the original slips. Reproduction is by photo-offset at a reduction of 40 percent. The result, while legible, is definitely not for tired eyes. Because we wanted to know whether this distressed users, we asked: "Does the format of the *Bibliography of Agriculture* present any reading difficulties to you?" "No!" said a resounding 83 percent of the respondents. "No," echoed 62 percent of the librarians a bit more weakly. We were dumbfounded — the librarians at least must have known what we were talking about! Those who do object to our format, however, are pretty emphatic about it. Cleaner, better or larger print was suggested 15 times as the greatest single improvement we could make.

Classification And Indexing Alterations

References in the *Bibliography of Agriculture* are arranged according to a classification scheme of rather large subject groups. No reference is entered in more than one place in this classified section. Alternative subjects and specific subjects are taken care of in the subject index where multiple entries are frequent. Breakdowns within the large subjects were worked out in cooperation with subject specialists in the Department and differ considerably, both in the system followed and in the number of divisions and subdivisions.

No classification will satisfy all users, and ours has been no exception. A few years ago several entomologists wanted the classification of their section revised because the chief divisions are the various orders of insects. At that time we worked out a revised classification, but when we failed to get agreement on it among Department entomologists, the matter was dropped. In asking the question: "Does the classified arrangement as outlined in the table of contents in the monthly issues usually meet your needs?" we wanted to find out, among other things, whether similar dissatisfaction was common among entomologists or other groups of scientists.

To our surprise, a cross tabulation of the answers to this question with the special field of interest showed that entomologists are apparently among the best satisfied in a very well satisfied group. Only the foresters had a high percentage of "No" answers. Eighty percent of the whole group found the classification satisfactory.

Of those who did not find it satisfactory some would prefer an alphabetical subject arrangement without indexes, similar to that of the Wilson indexes. Others wanted closer classification with smaller subjects. Specific changes in individual sections were suggested by a few persons.

In connection with the arrangement of references, we asked another rather minor question. At present references are arranged alphabetically by author within each subject group. We had considered saving a little filing time by

adopting a random arrangement instead and asked our users whether this would handicap them. Because some of our library staff had been quite shocked by this suggestion, we expected that the librarians, at least, would object strenuously. Nothing could be farther from the truth. Only 30 percent of the librarians would have any objections, and the nonlibrarians would probably never even notice the change.

Two indexes are prepared for the *Bibliography*: an author index, which appears each month and is cumulated annually, and an annual subject index. References are represented in the indexes only by item numbers, making it necessary to turn back to the classified section for all information about them. The author index presents few problems except for the mechanics of putting it together. Apparently readers are not worried about it either.

The same cannot be said about the subject index. We know, because we use it ourselves, that the greatest problem is the long lists of numbers after some subject headings, with never a clue as to which of them might lead to the desired information. We know too that the indexing, which averages not more than two subjects per reference, often makes it necessary to search a good many subject headings for all references on a particular subject. Lack of time and paper limitations have confined us to our old pattern. We wanted to know whether our readers believe, as we do, that there are better patterns.

Accordingly we asked three questions: "Was the subject index generally adequate?" "Would more detailed indexing be helpful?" and "Would you like more specific subjects or further subdivision?" We did not get the overwhelming demand for change that we had anticipated, at least not from the group as a whole. More than three-fourths found the index generally adequate. They did not seem to know themselves whether they wanted more detailed or more specific indexing. Although the noes had it on both questions by a small margin, the difference between the number of noes, yeses and no opinions was not very large. There is no doubt that the librarians want as much indexing as possible. We had no question on frequency, but the comments give us reason to think that librarians would value more frequent indexes ahead of better indexes, much as they would like the indexes improved.

Conclusions

With all this information in hand, we were ready to try to improve our publication and to make it more useful to all the people who had generously taken their time to help us. We began by speeding up our program for dropping popular publications, the one point on which we had a clear mandate for a change. We have stopped indexing all foreign and most domestic farm papers, many trade papers and foreign "extension" publications (we have a special obligation to index domestic extension publications). We have also dropped many publications intended chiefly for amateurs in apiculture, aviculture and horticulture.

We have made other suggested changes too when they did not involve much expenditure of money or of time, such as changing our form of citation to include issue number as well as month of issue. Each year we try to break up a few of those long lists of numbers in the subject index. A thorough-going study of that index is our greatest need. We hope we will be able to make it in the not too far distant future.

Meanwhile when it seems as if we cannot even keep up with pushing things out of the "in" basket and into the "out," we like to remember the kind words that came in on some of the inquiry forms. I think our favorite was a comment from an entomologist, "I like it just the way it is."

Library Services Of The Robert A. Taft Sanitary Engineering Center

MRS. ESTHER E. NORTON, Librarian, Robert A. Taft Engineering Center
U. S. Public Health Service, Cincinnati, Ohio

Don Moran

THE ROBERT A. TAFT Sanitary Engineering Center of the Public Health Service, U. S. Department of Health, Education, and Welfare, is a national laboratory for research, technical services and training in biological, chemical, physical and engineering aspects of environmental health, including especially problems relating to air, water, radiation, wastes and food. Developed from the original Stream Pollution Investigations Station established in 1913 in Cincinnati, Ohio, the Center is housed today in a modern functional building, of which one distinctive feature is the technical library.

This constantly growing library is being developed around the needs of the five main research programs: water supply and water pollution control; milk and food research; radiological health; training and technical services; and community air pollution. With the aid of a library committee (composed of a representative from each program and the librarian), the collection is rapidly expanding. Back files of many scientific journals are available as well as some 400 current periodicals and reports which are received regularly. A large pamphlet file of reprints, reports of state and government organizations and scientific and research societies and institutions is maintained. Many Atomic Energy Commission reports are received either in full report form or on Microcards. Therefore, both Microcard and microfilm readers are available for the use of the research staff.

In addition to her personal contacts with the Center staff, the librarian, in her talks on the orientation programs sponsored at periodic intervals by the personnel department, has the opportunity of explaining to new staff members the many library services available to them. They are urged to visit the library, learn what reference tools are on the shelves and to request help in searching the literature when starting new projects. They also learn that the library staff will aid in preparing bibliographies on special subjects.

Special Services

Many times translations of specific reference material are needed by the scientists. Securing such translations is another library service. Since the Center's collection is still relatively small, some references must be obtained through interlibrary loans. Daily messenger service makes the valuable collections of other special libraries in the Cincinnati area available to the staff. A search for an obscure reference for the meteorologist or mycologist, however, may necessitate borrowing from libraries almost anywhere in the United States or even the buying of a microfilm from the University of London.

Another important library service is the distribution of reprints. Many of the staff publish articles about their re-

search work in scientific and technical journals. Requests for reprints as well as copies of papers read at scientific meetings and conferences are processed by the library. Visitors to the Center, whether representatives of local or foreign public health organizations, often desire reprint material to aid them in solving their own problems. Periodically a list of available reprints is compiled and distributed to those doing similar research work. Therefore, many requests are received daily through the mail for specific papers. Reprints related to the work of the training classes or pertaining to special seminars held at the Center are assembled as requested by the various programs. Since the dissemination of research material is a major function of the Center, it is also an important phase of the library work.

The Expanding Programs

The significance of the biological and related sciences in a library serving a research and engineering center is best understood by knowing about the work of the different programs and the fields in which the research is done. Therefore, a brief word about each of the programs at the Robert A. Taft Sanitary Engineering Center will explain indirectly many of the problems that confront the librarian and her staff.

The water supply and water pollution control program, the largest and oldest major research endeavor, has separate units in aquatic biology and microbiology. Here three scientists, all water bacteriologists working as a team under the chief of microbiology, recently developed a rapid and more accurate method for bacteriological examination of water by means of a membrane filter. The technique reduces by some 70 hours the time required for analysis and identification of bacteria by the former and more costly method. It also enables Public Health officials to take more effective measures in the event of contaminated water supplies or a biological warfare attack. This team has received the Kimble Methodology Award for its outstanding work.

Under the aquatic biology program, a simple yet highly precise microscope slide called the Palmer Nanoplankton Counting Slide was developed by a water biologist. The slide facilitates counting and identification of the myriads of minute plants found in lakes and reservoirs. These plants must be controlled or they clog filters and damage machinery used in the preparation of safe drinking water. Accurate counting permits determination of the amount of chemicals needed to kill harmful algae without damaging useful organisms. This slide is now being manufactured commercially.

The Center's milk and food research program seeks to prevent food-borne disease by improving sanitation of perishable foods such as milk, frozen desserts, shellfish and poultry products. Some current studies are detection and control of harmful contaminants, heat-treatment of food products and cleaning and sterilization of utensils, equipment and containers.

A young woman microbiologist on the Center staff has perfected a method for rapid identification of staphylococcus—a minute parasite responsible for 77 percent of all reported cases of food poisoning. As reported at the 57th annual meeting of the Society of American Bacteriologists in Detroit last May, the test developed by this scientist requires only 7 to 9 hours to complete. In serious outbreaks of food poisoning, the former tests, requiring 24 to 48 hours, could be dangerously time-consuming. This new test is a composite and modification of established methods which have been in use for a long time. In her searching of the literature and in the reading of the many references supplied by the library staff, this scientist was effectively assisted toward her goal. Similar experiences occur daily at the Center library.

The radiological health program is particularly concerned with radioactive fall-out of nuclear weapons and the disposal of radioactive wastes from nuclear reactors. The research also includes surveillance of radioactivity in food and water. During the past year the Center staff has done research on the development and improvement of methods for the quantitative assay of specific radioactive materials. Radioactive tracer methods are being applied to research in other programs such as experimental work in the pilot plant facilities of the water pollution unit.

Through its training and technical services program, the Center offers knowledge and techniques for direct application in the field. The courses vary from one to several weeks in length. State and local health officials, representatives from industry and universities and foreign technicians attend the many conferences and lectures held at the Center. From time to time technical seminars are sponsored by the various programs to bring together large groups of prominent consultants. Occasionally members of the staff are assigned to special surveys such as the evaluation made recently of a new procedure for testing aerosols of auto exhaust hydrocarbons to determine if these smog ingredients have a lethal effect on bacteria.

The community air pollution program, the newest at the Center, seeks to protect a vital resource—the air we breathe. The program was given new responsibilities in air sanitation with the passage of the Air Pollution Act of 1955. The literature in this field is widely scattered. Therefore, in an effort to locate all available information, the current periodicals received in the library are scanned daily for air pollution references. Reprints of articles are obtained whenever possible, and a separate index of this material is kept for ready reference.

Since the library at the Robert A. Taft Sanitary Engineering Center is maintained primarily for the Center staff, all of whom are specialists in their fields, it is recognized that many of them prefer to and necessarily must do much of their own literature searching. Therefore, indexing and cataloging must be minute and specific to aid the research worker in every way possible. Just as all of the programs determine the material needed daily in the library, so it follows that the many accomplishments of the Center staff could not have been attained without the aid of the library.

A Decimal Classification For Fisheries

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THE LIBRARY OF CONGRESS classification for the marine sciences was originally outlined some 50 years ago. Since this classification was first formulated, the marine sciences have taken a tremendous step forward, due in part to the impetus given to research by World War II. An even stronger driving force has been the problem of feeding the ever-increasing populations of the earth. People are awakening to the fact that there is a practically unknown world lying along the shores of many countries.

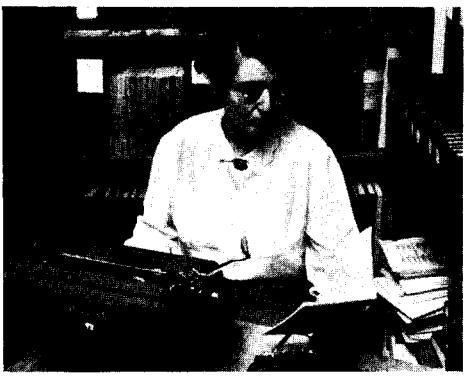
Every deep-sea expedition, the work for the International Geophysical Year, each cruise made by a fisheries research vessel—all add to our knowledge of the sea and its inhabitants. Fisheries librarians must have a classification scheme

that can easily cope with the ever-expanding knowledge of the sea and the increasing number of disciplines involved in the study of the sea. The Food and Agriculture Organization classification is one answer to this troubling problem.

The Food and Agriculture Organization of the United Nations, according to Article I.1 of its charter, "shall collect, analyze, interpret, and disseminate information relating to . . . food and agriculture . . . fisheries (and) marine products." In its task of scrutinizing literature, gathering, sorting, and eventually retrieving information, the Fisheries Division, FAO, had three major problems to consider: 1) terminology and definitions; 2) classification, codification and documentation techniques; and 3) bibliographic services. This paper will be confined to classification.

FAO considered many schemes, including the Universal Decimal Classification, and found them deficient for its purposes. It then considered another special classification used in forestry, which had been prepared by the International Union of Forest Research Organizations, FAO, and other bodies, and an attempt was made to devise a parallel classification for the marine sciences. This classification and corollary problems were discussed at a December 1954 meeting in Paris, called by FAO. The United States Government was represented by Dr. George Myers of the Fish and Wildlife Service. The consensus of the meeting was that it would be desirable to continue with the preparation of a classification which would follow the pattern of the Oxford Classification for Forestry (Doc. FAO/54/12/7289).

Following the Paris meeting, a fourth revision of this scheme (Doc. FAO/56/2/915) was prepared and was presented and discussed at a consultants' meeting on "Documentation and Related Services for Fisheries Biology" (Report of FAO meeting of consultants to consider documentation and related services for fish biology, Biarritz, France, February 25-29, 1956). Representatives of FAO, International Commission for the Northwest Atlantic Fisheries (ICNAF), International Council for the Exploration of the Sea (ICES) and the General Fisheries Council for the Mediterranean (GFCM), were present at this meeting in which the United States Government was represented by Dr. Lionel A. Walford, Dr. Herbert W. Graham and Mr. Clyde C. Taylor of the Fish and Wildlife Service. Many suggestions were made toward the improvement and clarification of the classification as presented by FAO.



Bob Brigham

The author, Elizabeth B. Leonard, at work in the Woods Hole Laboratory Library.

As space does not permit a complete transcript of this revised scheme, the main subject headings are listed without any breakdown, and then the subsections, which are intended for the classification of books, are discussed:

0. Living aquatic resources, fisheries and aquatic problems generally. (This number would be used, in general, for such subjects as fisheries terminology, fisheries encyclopedias and general reference material.)

1. Physical environment. Biology.

2. Fishable stocks. Identification, survey, populations, dynamics of exploited populations.

3. Effects of natural environmental changes. Damage to and protection of the resource.

4. Harvesting of aquatic products. Fishing technology. Handling and transport.
5. Aquiculture.
6. Stock management. Economics of primary operations. Administering and organizing fishing enterprises.
7. Marketing. Storage, transport and processing of aquatic products.
8. Aquatic products and their utilization.
9. Fisheries policy. Regional, national and international studies. Socio-economics of fisheries.

The sections intended for book classification come under Section 1—Biology and include Subsections 12 to 18. A brief outline of these subsections is:

12. General Biology.
- **120.** Biological techniques.
  - **.2** Biometry.
  - **.4** Microscopy.
- **121.** Collateral biological sciences.
- **122.** Taxonomy. Evolution. Heredity and genetics.
- **123.** Embryology and development.
- **124.** Morphology.
- **125.** Histology and cytology.
- **126.** Biochemistry. Biophysics.
- **127.** Physiology.
- **128.** Microbiology. Bacteriology. Parasitology.

13. General Zoology.
- **130.2** Chemical composition.
- **131.** Physiology (Subdivided as UDC 591.1, except .5 and .9).
- **132.** Pathology.
- **133.** Embryology.
- **134.** Anatomy.
- **135.** Phylogeny. Evolution. Heredity. Genetics. Variation.
- **136.** Economic zoology.
- **137.** Histology.

14. Systematic Zoology.
(Subdivided by taxonomic codes)
- **140.** General. All divisions.
- **140.1** Scientific and common names.
- **141.** Fishes.
- **142.** Crustaceans.
- **143.** Molluscs.
- **144.** Mammals.
- **145.** Other chordates.
- **146.** Other invertebrates.
- **148.** Systematic works dealing with 2 or more of above divisions.
- **149.** Miscellaneous.

16. General Botany.

17. Systematic Botany.

18. Ecology.

Supplementary to this classification is a taxonomic classification (M.D.P. App. V(i) 16 February 1956) which is to be used with Subsection 14—Systematic Zoology. The taxonomic code for fishes (Subsection 141) is based on *Classification of Fishes Both Recent and Fossil*, by L. S. Berg, (Ann Arbor, 1947, English and Russian). There are also taxonomic codes for the other subdivisions of Subsection 14.

In addition to the taxonomic codes, there is a geographical breakdown, not only by individual countries but by regions as well. The regional breakdown is quite important, as much of fisheries research is done on that basis. The Library of Congress system does not supply such a breakdown, and I have had to work one out for areas covered by international organizations such as ICNAF, ICES and the Inter-American Tropical Tuna Commission, to name a few. The fishery biologist is not interested in international conventions *per se*.

When evaluating this classification scheme, it is important to remember that it was, in the main, worked out by fisheries biologists for fisheries biologists, and from that point of view is both a logical and an exhaustive system. As fishery biology libraries are, as a rule, oriented toward the biologist, it is reasonable to use a classification that is also oriented in that direction and is capable of infinite expansion. FAO is using this classification in its library in Rome and it is encouraging libraries limited to the marine sciences to use it for their collections.

Planning The New Library:

The Upjohn Company Library

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The difficult task is to formulate sound plans, and by crusading zeal to put them into effect. Noble aspirations and altruistic zeal have dotted this land with colleges, libraries, and other cultural institutions. They are its glory; its grandeur is in the stone and steel of its towering factories. F. R. MOULTON

INSOFAR as the success of The Upjohn Company is dependent upon scientific research, its "grandeur" is nurtured by its "glory," because The Upjohn Company Library is the fountainhead of Upjohn research. The Upjohn Company was founded in 1886 by two Upjohn brothers, both of whom were physicians. At that time the company occupied a two-story brick structure 36 feet square where "six or seven hands were kept constantly employed packing the finished product." (*Overflow* 22: 310-12, 1943) At the present time the company employs approximately 5000 people for its domestic operations; the present manufacturing plant covers 33 acres of floor space and a growing research staff now numbers 500.

The library was first organized as a service to the research divisions and though it is still administered as a unit of Scientific Administration (formerly called the Research Division), it now serves the entire company. The first professional librarian was hired in 1941, and since that time the staff has grown from one to 13, eight of whom are professional librarians. The collection has grown from less than 5000 volumes to nearly 30,000 today. This growth in staff and the development in library service, due to the over-all growth of the company, necessarily created a need for an expanded library.

Location And Space

The present building, finished in 1936 and designed by the late Albert Kahn of Detroit, is an excellent example of industrial architecture. Originally planned to accommodate the entire company, both manufacturing and research, it will ultimately house only personnel in Scientific Administration, or research.

Before: The Reading Room in 1942

After: The Reading Room in 1958

These early planners were foresighted enough to include space for a library in this building, though its professional operation did not begin for five years.

After the war, when company building plans were well underway, ways and means of expanding the library, which was bursting at the seams, were sought. The first problem was location. In 1936 all of the research divisions were located in what is known as the Research Tower, i.e., floors seven to 13 of the building. The library was located on the first floor of the Tower. Personnel in research were asked to consider the best spot for the library if the choice was open. Since Scientific Administration now occupies the entire building of 13 floors it was decided, after considerable discussion, to leave the library in its present location. This means that it now occupies the middle floor and is in the center of research activity.

Being assigned to the seventh floor hardly solved the library's space problems since it was located in the Tower and there was very little additional space to use. A lecture room on the floor, if removed, was the one chance for growth. We first thought the only way to improve the situation was by consolidating and replanning present areas. We consulted with the company engineers, however, and found that it would be possible to build up two additional floors above the sixth floor. This would reduce the Tower to five floors but would increase the size of the seventh and eighth floors considerably. After hallways, space for air conditioning units, etc. were taken out of the new area and the lecture room was relocated at the far end of the new floor, we found the library had a book stack room 40 x 68 feet and a searching or study area 24 x 48 feet. In addition, the space formerly occupied by the lecture room, approximately 24 x 48 feet, was added to the reading room. With the location settled and space requirements adequately taken care of, we were now ready to draw plans for the new library.

Planning Considerations

Planning the modern industrial library differs in some respects from planning a public or university library. Generally the industrial librarian is not concerned with an entirely new building; rather the problem is to utilize space assigned to the library. Consequently we had no problems to face about heating, lighting or ventilating, since these were a part of the general building plan and conformed to them.

At this point we called in Library Bureau, Division of Remington Rand, for consultation. It would be impossible to estimate the value of the expert help we received not only in the planning stage but throughout the whole operation until completion. Blank floor plans were supplied to us in quantity, and we went to work laying them out. We felt there were several important areas to be considered:

1. Sufficient and convenient space to enable us to serve our clientele and equally adequate for the researcher to work in.
2. Adequate working space for the staff. We felt this should include private offices for each professional member of the staff, the arrangement of which would facilitate efficiency in work flow between staff members; those who perform bibliographic services used by the public need to be available to those services.
3. Last but not least, the book collection should be conveniently and adequately housed with room for at least ten years' growth.

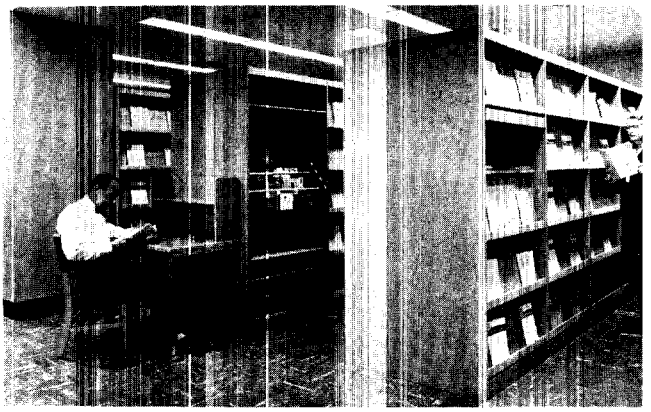
With these things in mind, we met with department heads for discussion. From these discussions we gathered a number of ideas about things the researcher would like to find in the library for his convenience and we took these into consideration in drawing plans.

As was mentioned earlier, the building was an excellent example of industrial architecture. Consequently it was possible to remove all partitions from the original library, including those from the old lecture room, which gave a large free area, 68 x 88 feet, with which to work. Ultimately this became the reading room which is equipped also for circulation and reference work. One side of this area was blocked off into offices for the library staff by the use of Hauserman partitions. In line with our theory that librarians, like chemists, need suitable working quarters in order to accomplish the professional work required of them, small but adequate offices for each member of the professional staff and a convenient workroom for the clerical staff were planned. The partitions on the reading room side are solid and soundproof, but on the office side they are glass so that though the offices are small, they give one a feeling of space. Several of them have direct access to the reading room, in order to give the librarians there the opportunity to work directly with the public.

At this point management appointed a library committee to work with us in making plans. This committee was made up of a representative from each major department in Scientific Administration, and we met weekly until plans were firm. This committee was invaluable in helping us to get the point of view of the "user" and it was responsible for suggesting a number of important innovations.

After locating the staff offices, we began the work of laying out the library proper. Our space allotment naturally fell into the main divisions we needed, such as stack area, searching or study room and reading room. The literature search is probably one of the most important pieces of work done in the library, and we planned the search room to meet this particular need. It is located away from the busy reading room yet adjacent to the periodical shelves.

Lorena Keyl and Mary Wendelschafer help clients at the charge-out desk.



Beneath the slanting shelves displaying current periodicals is space for storing one year's accumulation of journals.

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Chemical indexes and study carrels are located in the searching room.

Small offices for the library staff made more spacious by use of glass and green Hauserman partitions.

In it we have housed our chief searching tools in the chemistry field.

The reading room was planned to facilitate study, with easy access to the book stacks, the circulation desk and the reference collection. The card catalogs, indexes and bibliographic tools prepared by the library staff have been located here for easy use both by the public and the reference librarian.

In addition to the reading room and adjacent to it, there are three small rooms created with Hauserman partitions. One contains a Cormac machine for duplicating purposes; the second is a conference room for use by researchers and equipped with a telephone, thus reducing talking noise in the reading room. Both of these rooms were suggested by the library committee and have proved very useful. The third room houses the microfilm and microcard readers.

One of the most important features in the library planning was to locate the current and unbound periodicals conveniently. Since we do not circulate current journals, it was important to have them easily available. Like the card catalogs, they are accessible to the public and the reference librarian.

Furniture And Layout

The budget allowed for new furnishings and equipment throughout. We did not buy new desks for the staff offices, with two exceptions, since most of the desks were less than five years old. However, in order to cut down the noise in the workroom we substituted electric typewriters for older machines. One wall in the workroom was filled with standard library wood shelving, and each office was equipped with one section of wood shelving.

The shelving for the stack area was, of course, the largest single item purchased. Each range is equipped with a standing height sliding shelf for quick reference use. Carrels are installed at each end of the stack room for more concerted study. From the point of view of use, the most important items are the shelves housing the current periodicals which are located in the reading room. This type of shelving, which displays the current issue on a sloping shelf that lifts up and allows for storage underneath, is a space consumer, but if one has the room for it the loss of space is well worth while. We have found that the unbound current year can be kept underneath the shelf.

Our tables and carrels were all built to a special size, 4 x 3 feet. This was also a suggestion of the library committee which has added to the usefulness of our facilities. The tables are large enough to allow a man to spread out his work conveniently without crowding, but not large enough to be used by more than one person. For ease in use, there are tables without aprons and chairs without arms which can be brought up as close as desired for work.

The standing height charging desk, though standard in many ways, has some special features for our convenience. The telephone is recessed in order to keep down the noise but stands on a sliding shelf for easy use. There are drawers for special files frequently used by the reference librarian, and when the work is heavy several persons can work here at one time without congestion.

Furnishing the search room depended on a number of things. We had to decide just which indexes we were going to shelve in it and which we were going to leave in the reading room. In the matter of *Chemical Abstracts* and Beilstein there was no problem since we have two sets, one for each area. However, some of the indexes were used frequently by the reference librarian, particularly *Quarterly Cumulative Index Medicus, Current List of Medical Literature* and *Biological Abstracts.* These, along with the duplicate sets of *Chemical Abstracts* and Beilstein, were all shelved in the reading room. We decided to make the search room purely

chemical and added Chemische Zentralblatt, Friedlander and Stelzner to those mentioned above. For *Chemical Abstracts* we purchased what has become known as a Chemical Abstracts bar and for the remainder, standing height double faced shelving with sloping top shelves. Eight carrels for study complete the furnishings.

All of the furniture is birch. The floor is covered in a terra cotta rubber tile, and the chairs are upholstered in green, red and blue leather. The woodwork was done over to match the birch in the furniture, and the walls of the Hauserman partitions are a contrasting green. The color scheme, including the tile floor, was suggested by an interior decorator consulted by the representative from Library Bureau.

Moving The Library

Planning the new library is far from being the whole story. The problem of giving as near continuous service as possible while transferring from one location to another creates a series of problems all their own. We remained in the old library while the addition adjacent to and located above the floor below was being built. The shelving was on order and was ready to be installed when the stack room was finished.

During this time the entire book collection was measured. Each run of journals was carefully measured, taking the circulation into consideration, and, on the basis of the past ten years, the amount of space needed for the next ten years was estimated. This information was entered on cards, arranged in shelf list order and later put in list form. The Maintenance Division furnished men for the actual moving, and when M-day came we were able to move the collection to its permanent location with very little interruption in the service by using our previously prepared lists.

During the period when the old library was being remodeled, office space was borrowed on another floor for six members of the staff who could carry on their work outside the library. The reference desk was installed in one corner of the stack room, and the remainder of the staff worked in what is now the search or study room. When this remodeling was finished, we moved into our offices and shifted the reference collection and indexes back into the reading room while continuing service.

Conclusion

We have allowed for a normal ten year growth which is about average for an industrial library. However, since we estimated rather generously, we probably have more space for growth than ten years. The company plans to relocate the conference room now at one end of the floor. This space has been allotted to the library and will give an additional 24 x 48 feet for growth.

We have now been in the new library for about nine months, and so far no changes have seemed desirable. We attribute this to several factors. For the most part the librarians planned the library with very able help from Library Bureau. We were fortunate in having complete cooperation from management and much valuable help from the library committee. Since this was largely a rebuilding rather than a new building project, we were not hampered with an architect. Consequently we have been saved having either the neo-Gothic or the strictly modern type of library.

We did not set out to plan a "pretty" library but rather a useful one. It was not our intention to have a showplace to display to the occasional important visitor. Our plans, equipment and furnishings have all been carried out with only one idea in mind, i.e., to create a library which will best serve Scientific Administration. Because of this singleness of purpose, we have a library that is truly beautiful and utilitarian as well.

Library Facilities At Boyce Thompson Institute for Plant Research, Inc.

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THE LIBRARY SERVICES at the Boyce Thompson Institute differ sharply from many research institutions since they are tailored to a highly specialized function. The Institute is primarily concerned with basic research in biology, although its scientists do utilize the tools and ideas of chemistry and physics. Here, as expressed in an editorial by Edmund Sinnott, Dean of the Graduate School at Yale University, "Life is the greatest problem,"[1] and other sciences are oriented accordingly.

Development Of The Institute

The research programs serviced by the library do change as new concepts are developed and new techniques are brought to bear on problems. This calls for some changes in the library acquisition program. Currently the major areas of research are: plant growth and its regulation; plant diseases and their control; insects and their destruction; and the effect of air pollutants on plants. Many of the projects are deeply concerned with biochemistry and areas of organic and inorganic chemistry since much of the research is concerned with the mechanism of action or the search for better pesticides (insecticides, fungicides, bactericides, herbicides) and plant growth regulants.

A statement of the concepts guiding the Institute, the research progress, and current objectives in research was recently stated by the director, Dr. George L. McNew.[2] The scientific staff, which is organized on a project basis, breaks down into the following categories: plant physiologists, 20; plant pathologists, 16; chemists (biochemical, physical and organic), 15; physicist, 1; entomologists, 10; morphologists and geneticists, 4. About 37 of these serve as senior scientists on one or more of the projects. A picture of the research work at the Institute and the future of basic research in the botanical-agricultural sciences was presented by Dr. McNew a little over a year ago.[3]

Adjustments in the research program to utilize new knowledge and techniques are reflected in the library collection, the basis of which was made in 1921 with a few complete sets of the classical periodicals in agriculture, chemistry, plant physiology and botany and a private collection of agricultural experiment station publications. Dr. William Crocker, the Institute's first director, spent 1921-1922 visiting Europe, during which time he purchased many well-known botanical monographs and complete sets of German, English and French periodicals in botany, biology and chemistry, together with several thousand doctoral dissertations from European universities. This nucleus has been expanded, and an examination of the present library is a true indication of the interests and investigations of the scientific staff. As the biologist has incorporated into his research the tools of the chemist—radioisotopes, ultracentrafuges, electrophoretic and chromatographic equipment, X-ray diffraction and infra-red analysis instruments—the library has included the journals pertinent to these new techniques as well as those for new fields of investigations.

The number and nature of the interlibrary loans requested proves that the library apparently is keeping pace with the growth and changes of research at the Institute. The average number of requests for the past three years has been less than three each month, and the date of the material requested is usually more than five years past. For speed in receiving the material it is our policy to order photostats from the New York Public Library if the article is not so long as to make the cost prohibitive. These photostats added to our loans bring the total to approximately 45 each year. A deposit account with the New York Public Library photographic service, judiciously used, enhances the value of our collection far in excess of the same amount spent to collect material in fringe areas of interest. The service is excellent since it is accurate and economical and at the same time fast. Research libraries should also investigate the interlibrary loan policy of the National Library of Medicine. Its loan and photoduplication service in the fields of medicine and biochemistry is an excellent supplement to the New York collection

Selection of new material is made with the advice of a library committee whose membership is representative of the fields of investigation at the Institute. Standard requisition and order forms are used in securing material, and a fixed clerical procedure is followed.

The library is housed in the north wing of the Institute. Simplicity and usability were two prime considerations in the design of the unit, which occupies two floors divided into four stack levels. The first floor is completely given over to stack areas and the second floor has a small stack area with mezzanine, general reading room, offices and conference room. There is a continuous table along the north wall of each level; these provide work space close to the shelf areas. There is also a bank of vertical files along the entire east wall of each tier. Floor plans for the wing are included in an article by the Institute's first librarian.[4] The only basic change desirable in the design and equipment would be a book lift into which the truck could be rolled to eliminate loading and unloading. Ninety thousand volumes was the estimated capacity when the library was designed but as volumes have increased in size, that appears to be several thousand more than can be contained as a working collection.

Collections And Services

Currently the library has 24,000 bound volumes, 10,000 pamphlets and a periodical-document serial list of over 700 titles. Seed and nursery catalogs and college bulletins are also maintained. Texts, monographs and reference works are classified according to the Library of Congress classification scheme and are given complete descriptive cataloging. The pamphlets are filed by accession number but are cataloged as completely as the book collection. Microfilms are handled in the same manner, and all cards are filed into the dictionary catalog. Government documents, domestic and foreign, are assigned document numbers for shelving but are cataloged descriptively, as are the periodicals. Simplicity of arrangement is the keynote as this is an open stack collection 24 hours a day, with a librarian on duty but seven and one-half hours. The rules are few: sign out the books, make no interlaboratory loans and don't reshelve anything.

Binding of periodicals and documents is done on a regular time schedule. Approximately 100 volumes each month, between September and May, are sent to the bindery on a four-week return basis. The preparation of material for the bindery and processing upon return are done by a non-professional without supervision except for spot checking. Reliance upon a bindery that is a member of the Library Binding Institute has removed the hazards from this practice. A positive statement of what is

expected and detailing of any special requirements have reduced the possibilities for dissatisfaction in our working arrangements, and corrections are made quickly and at no expense to B. T. I.

Services to the readers are prescribed by the research director's theory of library utilization. Long-range or complete searches are handled by members of the research projects. This is in almost complete agreement with the wishes of the individual scientists, several of whom have expressed such thoughts as "I don't want anyone directing my thoughts or the development of my ideas by those references that are included or by those omitted." The decision as to which bypaths to follow is zealously [almost jealously] guarded by the scientist in basic research. When an isolated fact is wanted, there may be an appeal to the librarian—sometimes after all the resources of the library have been exhausted.

The main functions of the B.T.I. librarian are to provide materials, guide in the location of material not included in the collection and to correct bibliographical citations in all papers published by staff members. The absence of literature searchers on the library staff is a reflection of the basic policy of the managing director. The concept of this scientist seems to coincide with that of a librarian, Samuel Sass,[5] whose views on the functions of a library and librarians and those he quotes as being held by Herman Henkle are in accord with the B.T.I. policy. Subject specialists are not librarians, and at B.T.I. they are assigned to research projects.

All material can be located by the card catalog regardless of its physical form—book, journal, film or catalog. Periodicals or documents that are indexed or abstracted in any of the services to which we subscribe are not analyzed. The avid interest in the materials received daily obviates the need for indexing prior to the appearance of published indexes. As it is a one-librarian operation, all that is done is the scanning of each journal for pertinent articles of general interest that may be called for, but not taken for individual citation, by the scientists.

The present system is an outgrowth of a citation service offered in earlier years. When this was cancelled by the research director, each project started the practice of indexing and abstracting for itself according to standards set up by project leaders. A daily list of new materials received in the library is circulated. New books are held in the reading room on reserve shelves for one week, and all other new materials are on display for one and one-half working days before being shelved. The more important periodicals do not leave the reading room shelves until the next issue is received.

The currently most useful bibliographical tools in our collection are: *Chemical Abstracts, Biological Abstracts, Current List of Medical Literature, Review of Applied Mycology* and *Agricultural Index*. All of these except the *Current List of Medical Literature* are shelved permanently in the main reading room. Other indexing journals which are available but not so widely used are *Review of Applied Entomology, Index Kewensis* and *Bibliography of Agriculture*. The latter title is the only item that has an automatic circulation list, and because of the length of time before it was formerly available in the library (6 months to one year), we now receive a second copy that is retained in the office. Library working tools such as *Cumulative Book Index* and the Union List are also available in the office.

This research library is practically machineless. We do have typewriters, including one that is available for patrons. We have a portable microfilm reader (used in the laboratories or offices more than within the library) and a highly useful little hand scanner. Currently a Verifax Copier is on trial and being very favorably considered. Because of

the small library staff, arrangements are being made so that the stenographic staffs may use the machine to copy material requested by scientists. It is also proving valuable in filling interlibrary loan requests. Long articles are still sent via the bound volume. Machines have a limited use in libraries of this nature because of the practices of the scientists and the size of the library staff administering the collection.

The balance of the services provided at B.T.I. are those found wherever the library has a staff either with extensive experience and/or adequate training in those services basic to any library—knowledge of the collection, patrons, neighboring collections and other librarians in the geographical area. All these elements except the knowledge of the collection, in the case of this writer, have benefited from membership in SLA and attendance at local meetings and annual conventions.

Abstracting And Indexing Tools

An analysis of the tools most used has shown that *Chemical Abstracts* must very often be supplemented by another of the reference journals. This is probably more often necessary in a biological science library than in libraries with more of a straight chemical orientation. The table shows instances where the other indexing and/or abstracting works have proved more useful in this library. It is often necessary for the library to keep the scientists aware of the usefulness of such titles as the *Cumulative List of Medical Literature* because of the very excellent reputation of *Chemical Abstracts*. By their very nature, the indexing journals with a more limited field and no abstracts are more timely, and often their coverage is more complete in the biological and agricultural chemical fields. The hours saved by CLML in hunting down incomplete references are many. This journal and the *Agricultural Index* are used by the library staff as pointers to *Chemical Abstracts* whose usefulness as a bibliographic tool is limited by its delayed index and incomplete coverage of some of the journals listed as abstracted. This can be seen more easily by the material presented in the table.

The survey reported by Bentley Glass[6] would indicate that scientists outside of medical research do not fully appreciate the value of the *Current List of Medical Literature* to them. Currency is a prime objective of this index, and there is no limitation placed upon the number of subject headings which may be utilized in indexing a single article. The three-way approach to each issue also enhances its value. The journal title approach supplies references when only that fact is remembered about a recently seen article. This same survey of biological abstracting showed that biologists use the abstracting journals as a reference service rather than to keep up with the literature or in substitution for the original articles. This lends support to the personal opinion of the writer that until we reach the millennium of machine storage and retrieval on an economically sound basis, a compromise of less abstracting and more timely and complete indexing of the literature would better serve scientists in basic research.

The comparison of the different abstracting and indexing services in the Glass survey[7] stated "No worker in such borderline areas as chemotherapy and antibiotics could find references to more than some 40 per cent of the papers on his subject unless he consulted both of the two abstracting services" [*Chemical Abstracts* and *Biological Abstracts*]. A rather general comparison of the abstracting and indexing services available in 1955 is also presented in this report which states that "neither *Biological Abstracts* nor any other abstracting nor indexing service is very complete in regard to those topics selected as a basis of evaluation." Completeness of coverage is also discussed by Baer[8] and the conclusion drawn is that in compiling

Thoroughness of Abstracting and Indexing of Five Journals for Four Recent Articles on Biology

ARTICLE	LOCATION BY INDEX OR ABSTRACT JOURNAL				
	Current List of Med. Literature	*Agricultural Index*	*Bibliography of Agriculture*	*Chemical Abstracts*	*Biological Abstracts*
LAVOREL, J. Photoinhibition de la Catalase des chloroplastes. *Biochim. et Biophys. Acta* 22(2):226-237. Nov. 1956.	April 1957. Rec'd. Apr. 22, 1957 Journal approach Author approach Subject approach CHLOROPHYLL CATALASE Cumulative author/subject indexes June 1957 issue Rec'd Aug. 20, 1957	Journal not indexed	Feb. 1957. Rec'd Mar. 4, 1957 Author approach Subject arrangement PLANT SCIENCE PHYSIOLOGY Each division arranged alphabetically by author.	Feb. 25, 1957. Rec'd Mar. 7, 1957 Author approach. In January 1958 still no cumulative author index. No one system for the order of appearance of abstracts in the subject arrangement. Some abstracts are arranged in alphabetical order by name of abstractor.	Dec. 1957. Rec'd Dec. 11, 1957 Cumulative author index Subject arrangement PLANT PHYSIOLOGY PHOTOSYNTHESIS, PIGMENTS No subject index in Jan., 1958. Each subject division arranged alphabetically by author.
ASCHER, K. R. S. Prevention of oviposition in the housefly through tarsal contact agents. *Science* 125:938. May 10, 1957.	Aug. 1957. Rec'd Aug. 20, 1957 Journal approach Author approach Subject approach FLIES	Aug. 1957. Rec'd Sept. 9, 1957 Subject approach INSECTICIDES	July 1957. Rec'd Aug. 7, 1957 Author approach Subject arrangement ENTOMOLOGY DIPTERA	Not abstracted Jan. 22, 1958. Searched 14 issues in author index; journal listed as abstracted.	Nov. 1957. Rec'd Nov. 6, 1957 Cumulative author index, Dec. 1957 Subject arrangement ECONOMIC ENTOMOLOGY INSECTICIDES
DAVID, W. A. L., and W. N. ALDRIDGE. Insecticidal material in leaves of plants growing in soil treated with parathion. *Ann. Appl. Biol.* 45:332-346. June 1957.	Journal not indexed	Aug. 1957. Rec'd Sept. 9, 1957 Subject approach PARATHION INSECTICIDES, SYSTEMIC	Oct. 1957. Rec'd Nov. 7, 1957 Author approach Subject arrangement PLANT SCIENCE PHYSIOLOGY	Not abstracted Jan. 22, 1958. Searched 13 issues in author index; journal listed as abstracted.	Not abstracted through Dec. issue. Cumulative author index
HAYNES, HARRY *L., et al.* Insecticidal properties and characteristics of 1-naphthyl-N-methylcarbamate. *Contribs. Boyce Thompson Institute* 18(11):507-513. Sept. 1957.	Journal not indexed	Aug. 1957. Rec'd Sept. 4, 1957 Reference to particular insecticide from general heading. Only issue to search because of cumulative feature.	Sept. 1957. Rec'd Oct. 7, 1957 Author approach Subject arrangement ENTOMOLOGY INSECTICIDES	Not abstracted Jan. 22, 1958. Searched 13 issues in author index; journal listed as abstracted.	Nov. 1957 Rec'd Nov. 14, 1957 Cumulative author index Subject arrangement ECONOMIC ENTOMOLOGY INSECTICIDES

bibliographies, indexing and abstracting tools are only pointers.

Future Tools And Methods

The work of surveying the literature field and the decisions affecting the needs of scientists must not bemade without the cooperation of librarians working in this area because there is a use viewpoint that must be considered. Much of the work so far has been motivated by scientists, but librarians and SLA certainly have much to offer and should be more vocal. The 1956 ACRL monograph written with the purpose of making the use of libraries by scientists more effective[9] is a fine example of a study on scientific serials that is primarily for the librarian.

The workers at Western University's School of Library Science are active, and their proposal, at a special meeting of the Council on Documentation Research, February 3-4, for the establishment of a national center to coordinate scientific information is a concrete move to fill a void.[10] The extension of their work on metals literature to all scientific fields for as little as 36 million dollars for the first ten years of operation (if the machinery is ready) is a fantastically low estimate. If the personnel to man such a center is comparable to the staff size of the Institute of Scientific and Technical Information at Moscow (2,300 workers), such a center will be an answer to the acute shortage of such staff members in the special libraries of the United States. This new plan, if adopted, would seem to make the following suggestions a real possibility in the not too distant future.

One approach to the present problems would be for the various national (or international) scientific societies to undertake the abstracting and coding of the literature in their fields as the American Chemical Society does the chemical literature. This coded material could be stored and processed for retrieval in such large centers as New York Public Library and the Library of Congress. The details for financial support could be worked out on several bases. The H. W. Wilson Company's method for assessing charges on the basis of a library's periodical collection and use is a good example of how it could be financed. The time-cost factor for retrieval of information could be calculated for the occasional user on the receiving end. Subsidies by industry, again based on library budget and use, could support the cost of input, and the subsidizing companies could all save money by eliminating the necessity of extensive abstracting in their individual libraries. The saving on trained literature scientists is obvious for, with the existing shortage of personnel, duplication of effort and waste of trained people can not be justified far into the future.

The cost of maintaining a machine unit and the personnel to staff it would be prohibitive for most libraries in the size range of the Boyce Thompson Institute. Small hand-sorted punch card files should be sufficient to bridge the gap in individual libraries until the master files are received in each geographic area. Knowledge of immediate interests and cooperation between libraries and research staffs should suffice to attain the depth of indexing necessary for the interim period in even the small libraries, or perhaps particularly in them. For adequate abstracting and indexing of published data the B.T.I. library would require, for example, a trained plant pathologist, physiologist, geneticist, entomologist, biochemist, organic chemist and physical chemist—or a paragon having two or more of these specialties. This requirement, plus the clerical help needed to process the material, would be duplicated or exceeded by almost all research libraries. Where are these people to be found even when the machines are available?

Before a centralized system is perfected and there is practical, electronic storage and retrieval of information, a

change in *Chemical Abstracts* and *Biological Abstracts* would be advantageous. It would [from the writer's viewpoint] be desirable if *Chemical Abstracts* became *Chemical Index and Abstracts* and if all chemical publications possible were indexed deeply according to the ACS code and abstracts were printed only for material that is hard to obtain or in languages not readily translated, i.e., Slavic or Oriental. Clearly the speed with which material would be indexed would increase and would offset the inconvenience of going to the original from the index entry. The survey reported by Glass[11] indicates that for the biologist the loss of the abstract would not be a deterrent.

Over 35 years ago Neil E. Stevens wrote on the dependence of investigators upon institution libraries.[12] He called their dependence almost absolute; today both the librarian and the scientist are increasingly dependent upon the engineer and electronic expert who will furnish the solutions to the problems of using machines to make scientific literature the means of communication it is intended to be. It is hoped that the International Conference on Scentific Information to be held in Washington, D.C., in November of 1958, will provide some practical solutions to our current problems or at the very least produce a definite statement on the current status of the retrieval of scientific information.

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Coming Events

A four-day INSTITUTE OF CATALOG CODE REVISION will be held immediately preceding the Annual Conference of the American Library Association in San Francisco. The Institute will meet July 9-12 at Stanford University. The fee with room and board is $50; without room and board, $15. Registration must be made before May 15, 1958 with the Director of Residences, Stanford University, Stanford, California.

Immediately following the ALA San Francisco Conference, July 21-23, there will be a three-day CONFERENCE ON WRITTEN AND ORAL LIBRARY REPORTING, "Mean What You Say," which will meet at the University of California. This conference is planned for librarians who frequently prepare reports or who contribute to library journals. The fee for the conference is $50, which includes meals and housing, and registration is limited to 125. Complete information and an application blank may be secured from the Department of Conferences and Special Activities, University Extension, University of California, Los Angeles 24, California.

The NATIONAL MICROFILM ASSOCIATION has chosen New Orleans' Hotel Monteleone for its annual meeting this year, April 21-23. Membership in the Association is not required to attend. For further information and reservations, contact the executive secretary of the National Microfilm Association, P. O. Box 386, Annapolis, Maryland.

The Role of Exhibits In A Medical School Library

ROBERT F. LEWIS, Head, Reference-Circulation Division
Biomedical Library, University of California at Los Angeles

IN A MEDICAL SCHOOL the library, with its clinical and scientific literature of the past and present, can be a center for vital, instructive exhibits. When medical and biological collections are combined, the subjects that can be developed into exhibitions are endless. The problem is to narrow the choice to the number that can be handled during a year. The following descriptions and discussions are based on three years' work with exhibit preparations at the UCLA Biomedical Library.

Value Of Library Exhibits

Mindful that our principal audience is an academic one comprising students and teachers of medicine and the life sciences, we plan exhibits that first of all have educational value related, directly or indirectly, to some phase of the school's teaching program. Every exhibit should be, for the serious student, a learning experience, and it is often possible to schedule exhibits to coincide with seminars or special lectures so that library material on a topic is presented at the same time the subject is emphasized in the school.

Harmonious relations with patrons and supporters are important to the successful operation of any library, and enhanced public relations, we feel, are a beneficial by-product, if not a specific aim of an exhibit program. Displays that instruct and fascinate the viewer are an extra dividend of library service and serve to promote a friendly feeling toward the library. Showing something which has been lent or given to the library indicates appreciation and makes friends. The lending of exhibits to other institutions and for use in connection with lectures or meetings further promotes favorable public relations.

The resources of a library are only partly analyzed by catalogs and indexes. One function of an exhibit is to reveal to the public significant literature and illustrations which might otherwise be overlooked.

The Biomedical Library is always alert to any forthcoming event which may serve as the theme of an exhibit: an anniversary of someone of renown in medicine or biology, the anniversary of some epochal discovery, the receipt of an important gift or the occasion of a special lecture if the speaker is well known as a physician or scientist.

In short, the library aims to make exhibits reveal the library's resources, support the teaching program, serve as an added acknowledgment of gifts and as a positive factor in relations with the public.

Essentials Of Good Exhibits

To carry out their role, exhibits must be planned to catch and hold the attention of viewers. Effective displays are dramatic, accurate and arranged in accordance with aesthetic principles. Books supplemented by other objects are more effective than books alone. Prints, maps, manuscripts and facsimiles are excellent supplementary materials. Often it is possible to borrow objects such as models, slides, anatomical or pathological specimens, or instruments which are closely related to the theme of an exhibit. Illuminated objects or scientific equipment with moving parts focus attention on the exhibit and catch

the eyes of passers-by. For an exhibition on atomic medicine, for example, we showed a radiation counter in action with a moving source of radioactivity. This attracted a curious group of viewers for almost the duration of the exhibition. There was also keen interest in another exhibit featuring a model of a nuclear reactor.

In planning, some background reading is generally required for orientation in the particular subject of an exhibit, and bibliographies are reviewed to find the significant literature. Painstaking reference work assures the accuracy of the captions and commentaries which accompany an exhibit. Whenever practical, an expert from the faculty is requested to serve as exhibit consultant. In this capacity he reviews the completed show for accuracy as well as meets with us a time or two in its initial stages. He often is glad to lend material of his own, or he may know of other sources.

Arranging the exhibit in an attractive, logical way is of prime importance. Generally, for any major theme an abundance of material is unearthed by the time the background study is finished. The real task is to be highly selective—developing the theme, including the basic literature, but being careful not to overcrowd the available space. Neatness in signs, captions and mountings and careful thought regarding color harmony and the composition of books and objects being displayed are also basic to success.

In a school or medical center where viewers are more or less the same, exhibits should be changed at fairly frequent and regular intervals to keep interest in the program at a high point, but because of the time involved in preparing even the simplest show, we usually schedule them for two months.

Biomedical Library Exhibits

In the Biomedical Library there is a variety of exhibit space. The corridors along which the library is approached are flanked with well-lighted, recessed wall cabinets provided with removable glass shelves. These cases are 4½ feet in height and 16 inches in depth. In the same corridors, opposite the cabinets, there is unobstructed wall space which is fitted at eye level with grooved wooden strips capable of supporting exhibits in poster form. These hall facilities are among the library's best assets, for they bring readers within the library even before the entrance is reached. Just inside the entrance are two table-height, glass-topped exhibition cases where objects of special interest can be shown to best advantage. Two more wall cabinets are located inside the library facing the reading room. Bulletin boards in the reading rooms and on stairway landings provide space for posting announcements, clippings and book jackets and for illustrating with expendable materials subjects of current interest such as recent Nobel Prize winners and their work.

In making up tentative exhibition schedules, we plan as far in advance as possible in the hope that in the course of each year the program as a whole will fulfill the aims previously explained. While nearly all exhibits have a historical element, we expect to present annually at least one or two displays on clinical medicine that emphasize current therapy and research. Biological literature is represented once a year by displays which draw attention to our collection of early and modern illustrated books on natural history. Eighteenth and nineteenth century books on animal life, many of them folios or elephant folios containing illustrations in color, yield exceptionally good exhibit material. A recent display of ornithological books gave us an opportunity to show outstanding illustrations, supplemented by bird skins loaned by the Zoology Department, as a basis of comparison between the artist's conception and the real birds.

A forthcoming herpetology exhibition will utilize the University of California

Press's demonstration of the production of Dr. Laurence Klauber's two-volume treatise on rattlesnakes. Books from the library will be exhibited along with a series of sixteenth century serpent illustrations and such objects as fangs, snake skins, rattles and a venom milking kit. The whole show will be animated by putting in one of the cases three live rattlesnakes of various species borrowed from the University Vivarium.

Probably two exhibitions each year can be devoted profitably to biographical themes. The components which go into a biographical exhibit are varied and generally abundant: biographies, portraits, correspondence, honors, photographs, the subject's published writings and possibly a demonstration of one of his discoveries or experiments.

The William Harvey Tercentenary Exhibition, biographical in its central idea, was developed and extended to portray a general picture of medicine in Harvey's time. This particular exhibit was unusual in that it was undertaken by a rather large group. The selection of Harvey and his discovery of the circulation of the blood as a subject for exhibit was suggested by a history of medicine seminar which elected a study of Harvey and his period as appropriate on the 300th anniversary of his death. Participants in the seminar, including a representative of the library, planned the scope of the exhibit.

Individuals were assigned topics according to their special interests. One participant took responsibility for assembling portraits and writing captions to accompany them; another reviewed the pre-Harveian concepts of circulation; previous commemorative events were investigated by another, and so on. The library member agreed to coordinate the separate studies and to supervise the art work and the installation of the displays. Portraits, maps, books and prints were used to depict the practice of medicine and surgery in 17th century England, Harvey as an embryologist and commentaries of Harvey's supporters and detractors. Illustrations of the Universities of Cambridge and Padua in the 17th century were included because of their place in Harvey's education.

A wall display cabinet containing part of an exhibit honoring William Harvey. Note use of books, prints and descriptive materials.

Two or three of our exhibitions each year are chiefly historical in nature. The historical exhibits generally demonstrate how knowledge of human anatomy and physiology have grown from primitive concepts or how the understanding of disease has evolved. Early ideas as to the nature of disease and early attempts at treatment are contrasted with modern pathology, treatment and prevention.

This, then, is the pattern taken by our exhibit program: historical, biographical, biological and clinical, with the schedule planned well in advance.

How-to-do-it Suggestions

The work of finally putting up the exhibits, piecing the various parts together and installing them in cabinets or in wall brackets has been made easier by a variety of aids: ceramic letters or ready-cut letters for signs, a mechanical lettering set, a typewriter with

oversized type, a hot-plate for mounting illustrations, portable lighting fixtures and a set of simple hand tools. Photography is a wonderful help in gathering material. When a book is opened for display, obviously only a page or two can be shown to good advantage, but photographs can bring the hidden text or illustrations to light. Photoreproductions are invaluable in obtaining copies in lieu of out-of-print publications which are not owned by the library and cannot be borrowed.

The practical matter of insuring valuable books or objects borrowed from individuals or institutions should not be overlooked. We routinely inquire whether loaned material is already insured and if it is not, we ask for a statement of value and arrange for full insurance coverage before it is publicly displayed.

Loans from individuals, museums or other libraries frequently are just the thing to give a color and completeness which the exhibit would lack if the library's holdings alone were employed. A book in its first edition has greater exhibit interest than a later reprint, and the owner takes pride in seeing it placed before the public. Museums are rich sources for objects which can be incorporated with books in exhibitions. The Cleveland Health Museum, for example, makes its visual aids on health subjects available through loans of exhibits, models, slides and films. The museum's illustrated catalog describes the loan services.

The American Medical Association publishes useful catalogs[1] of the exhibits shown at its scientific sessions. These exhibits are not generally intended for loan to libraries, but from the catalogs one can learn something of the technique of exhibit work. Through the generosity of local physicians, the Biomedical Library has been privileged to show several exhibits presented earlier at A.M.A. meetings.

1. A.M.A. *Scientific Exhibits*, 2 volumes. New York, 1955-56.

An exhibit program as extensive as the one described here involves a quite large investment in facilities, staff time and library resources, but exhibitions on a smaller scale can be effective if carried out imaginatively and with regard for some of the basic principles and practical points discussed. Whether the exhibit be elaborate or simple, the first consideration is that it contribute in some way to the program of the institution of which the library is a part.

The following exhibits (mounted on panels whose dimensions are 40 by 26 inches) may be borrowed directly from the Biomedical Library: *William Harvey, M.D.* (35 panels); *Founders of Anatomy* (30 panels); *Gout in History* (6 panels); *Medieval Anatomy in Manuscript Illustration* (11 panels); *Growth of Knowledge of the Brain* (32 panels); *Serpents in Early Natural History* (10 panels). Inquiries concerning these exhibitions should be addressed to the Reference Division, Biomedical Library, University of California Medical Center, Los Angeles, California.

Drama In A Biological Science Library

It isn't often that special librarians are requested to contribute directly and immediately to the public welfare, but the library staff at the New York State Agricultural Experimental Station in Geneva had such an opportunity when they received a frantic telephone call from a nurseryman in Newark, New Jersey. It seems that the nursery had sold a Golden Rain Tree to a family in Ohio, and that a young son had eaten the seeds of the tree and become unconscious. "What," the nurseryman inquired anxiously," is the poisonous substance in the seeds?" Head librarian Helen Pauline Jennings and her associates went to work and, utilizing all their research skills and knowledge, they located the name of the poison in 20 minutes. The information was relayed to the Ohio physician, and the library was gratified to hear later that the little boy had recovered completely.

Our Biological Sciences Authors

Mrs. Margaret Schindler Bryant received her B.A. at Beloit College, Beloit, Wisconsin, undertook the study of librarianship at the University of Wisconsin and earned her M.L.S. at Columbia University. She has been employed in the libraries of Beloit, the Foreign Language Libraries at the State University of Iowa, and at Goucher College. In 1943 she joined the U. S. Department of Agriculture Library as head of the Reference Section and in 1947 was promoted to her present position of Chief of the Division of Bibliography. A member of many library associations, she also contributes to library and other periodicals.

Alberta L. Brown needs no introduction to SLA members as she is currently President of the Association and has spent a busy fall and winter visiting Chapters in the Midwest and South. She has been head of the Upjohn Company Library in Kalamazoo, Michigan, since its establishment in 1941 and has guided its growth in size and services as well as its reorganization. As a footnote to the detailed biography that appeared in the 1957 July-August SPECIAL LIBRARIES, page 232, it should be added that Miss Brown has recently undertaken a new responsibility — a large tabby cat named Sergeant Bilko.

Mrs. Esther E. Norton earned her B.S. at Purdue University and received her Library Science degree at the University of Illinois. She served on the library staffs at both the University of Illinois and the University of Cincinnati as well as the Public Library of Cincinnati before joining the U. S. Public Health Service, where she has been in charge of the library at the Robert A. Taft Sanitary Engineering Center since 1951. An active member of SLA, Mrs. Norton was secretary of the Cincinnati Chapter in 1953-54 and president in 1956-57.

Elizabeth B. Leonard, librarian at the Bureau of Commercial Fisheries in Woods Hole, Massachusetts, for the past three and one-half years, has long been familiar with scientific efforts to probe the mysteries of the sea for she formerly served in the documents library at the Navy's Underwater Sound Laboratory in New London, Connecticut. She is also a veteran of 16 years in public libraries, 12 of which were spent at the City Library in Springfield, Massachusetts, and in addition has worked in college, university and church libraries. Miss Leonard enjoys walking with her dog, Peggy, gardening and singing in a local choir.

Mary Ruth Batemen, currently vice-chairman of the New York Chapter of the Biological Sciences Division of SLA, served two years as a Woman Reserve in the United States Marine Corps and worked with Navy and Army Ordnance as a civilian. She received her A.B. and M.L.S. from Syracuse University and began her library career in 1950 at the Cleveland Public Library. A year later she became librarian at Boyce Thompson Institute for Plant Research, the position she now holds. An inveterate collector of books, bells and stamps, Miss Bateman also enjoys rooting for the New York Yankees.

Robert F. Lewis earned his master's degree in Library Science at the University of Southern California and immediately thereafter joined the staff of his alma mater's library as a cataloger. About a year later he became a cataloger in the Biomedical Library at the University of California at Los Angeles and in 1952 was appointed head of the Reference-Circulation Division, a position he still holds. Mr. Lewis has been active in building up the outstanding exhibits program at the Biomedical Library, a subject treated in this issue.

SLA PUBLICATIONS

Cumulative Statement on Publications in Print as of December 31, 1958

Date	Name of Publication	Cost	Number Printed	Inst. & Review Copies Given	Copies Sold	Total Receipts To Date
1949	*Aviation Subject Headings*	$ 539.33	1,000	251	395	$ 672.49
1949	*Brief for Corporation Libraries*	754.55	1,500	408	950	1,587.88
1949	*Creation and Development of an Insurance Library*	388.98	1,000	251	500	929.20
1949	*Subject Headings for Aeronautical Engineering Libraries*	1,350.58	1,000	217	508	1,943.87
1950	*Contributions Toward a Special Library Glossary*	337.06	1,000	402	403	470.69
1951	*Technical Libraries, Their Organization and Management*	8,768.43	5,077	514	3,711	21,274.92
1951	*Nicknames of American Cities*	841.78	1,500	18	1,277	2,222.34
1953	*Source List of Selected Labor Statistics*	994.41	1,000	32	693	1,086.06
1953	*Correlation Index Document Series and PB Reports*	4,142.44	1,000	12	707	5,747.50
1953	*Directory of Special Libraries*	7,413.76	2,090	15	1,515	11,469.89
1954	*Map Collections in the U. S. and Canada*	998.71	1,000	19	687	1,771.74
1954	*Subject Headings for Financial Libraries*	1,298.56	1,000	20	417	1,650.00
1955	*Libraries for Research and Industry, SLA Monograph No. 1*	3,085.09	2,060	21	1,763	4,450.95
1955	*Indexing—With Emphasis on Its Technique*	326.79	1,330	17	1,275	515.50
1955	*Bibliography of Engineering Abstracting Services*	762.77	1,000	16	910	1,050.15
1956	*Handbook of Scientific and Technical Awards in the U. S. and Canada, 1900-1952*	8,293.86	2,000	40	824	6,916.30
1956	*Handbook of Commercial, Financial and Information Services*	3,386.61	2,000	46	1,444	6,020.00
1957	*Bibliography of New Guides and Aids to Public Documents Use, 1953-1956*	837.01	800	24	677	747.75

Chicago Libraries Invite You . . .

ONE OF THE MAJOR activities taking place during any Special Library Association Convention is that of visiting libraries in the host city. These visits can be very valuable, both to the visitor and to the staff of the libraries visited. Exchanges of experience and of solutions to problems while you are attending the 1958 SLA Convention this June can perhaps be of great help in finding ways to "Work Smarter" in your own organizations.

As a part of the Convention Program, several tours are being arranged that will include visits to libraries in the Chicago area. There will be more about these when the program is published next month in the April SPECIAL LIBRARIES, but you are also invited to come on an individual, somewhat more informal basis to see some of the Chicago libraries to which no formal tours are planned. Details as to location, visiting times and so forth, will be provided in the kit you will receive when you register for the Convention. As a preview, however, here are some of the Chicago libraries that invite you to "drop in" next June.

Science-Technology

There probably isn't a librarian in the country, regardless of his own special interests, who is not at least partially familiar with the John Crerar Library and its outstanding collections in science, technology and medicine. This privately endowed, public library is just four blocks east on Randolph Street from the Sherman Hotel (Convention headquarters), directly across the street from the Chicago Public Library. There are several unique things to see here — the classified catalogs, Research Information Service where extensive library research projects are performed on a cost reimbursable basis and the Translation Center operated for SLA by the library.

The library of the Commonwealth Edison Company serves as a clearinghouse for information about the company's business, not only for the immediate staff but also for all members of its group of companies. The range of subjects relating to the public utility industry is a remarkably broad one, covering such items as voltages used in foreign countries, thermal properties of metal cooking vessels and United States loans to Great Britain.

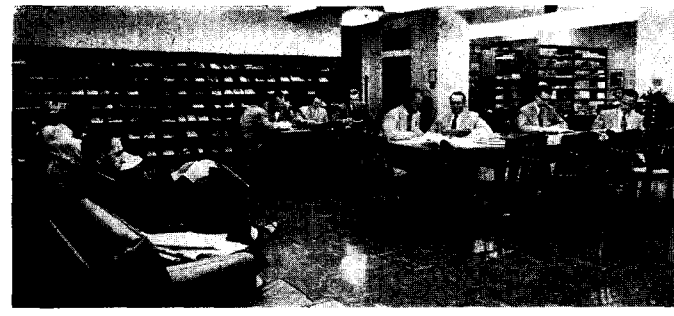
Carl Ullrich, Inc.

The John Crerar Library

Just as wide a range of interests is handled by the staff of the Continental Can Company library, which must deal in problems connected with the production of many types of containers in addition to metal cans. Food technology is obviously of primary interest but so are all the products other than food that are sold in containers — cosmetics, lubricants, drugs, insecticides, paints and varnishes, liquid soaps and so on.

Only slightly more limited are the collections of the library of the American Meat Institute Foundation, a non-

Reading Room Of The Commonwealth Edison Company Library



profit corporation affiliated with the University of Chicago and located on the University campus. This is a library serving a research organization working in the field of meat, meat products and by-products, but one which must apply the techniques of many sciences.

Other sci-tech libraries to visit are those of the Institute of Gas Technology on the campus of the Illinois Institute of Technology, of the Bibliographic Service and of Northwestern University's Technological Institute located on the Evanston campus.

If, in coming to or leaving the Convention, you happen to pass through Elkhart, Indiana, be sure to stop by Miles Laboratories, Incorporated to visit the library there. Other outlying libraries to see, if it is at all possible, are those of the A. E. Staley Manufacturing Company in Decatur, Illinois and of the U. S. Agricultural Research Service in Peoria, Illinois.

Biological Sciences and Medicine

Chicago being the great medical educational and research center that it is, there are correspondingly many libraries in the various medical institutions: the American College of Surgeons; Northwestern University's Dental School Library (on the Chicago campus); Presbyterian-St. Luke's Hospital; Rush Medical College; the University of Illinois Library of Medical Sciences; the Veterans Administration Westside Hospital; and the biology library of the University of Chicago.

Social Sciences

Newberry Library is another of those great libraries that everybody has heard about. If you have never been there, this is your chance to visit Chicago's "Near North Side" to see its magnificent collections in the humanities and social sciences.

Probably the easiest visit the conventioneer can make is to go directly across the street from Convention headquarters to City Hall, where he will find the Chicago Municipal Reference Library. "City government" might be the term to describe what this library covers, but consider the range of topics this implies: accident prevention, city planning, crime and police administration, cost of living, garbage disposal, health problems, parks, zoning, public welfare, schools, housing and slum clearance and traffic regulation. Material on these and many other subjects are available to anyone concerned with the legislative and administrative problems of the city.

The law librarian will have a double goal in a visit to the library of Kirkland, Fleming, Green, Martin and Ellis. Not only can he observe the demands made on a library serving a very active law firm but he can also see a brand new library in a brand new building — the Prudential. (Be sure to go on up to the "Top of the Rock" for one of the best views of Chicago.)

Another library unique to Chicago is that of the United States Railroad Retirement Board. The Board itself is an independent agency in the executive branch of the United States government and hence it is not under the jurisdiction of any department of the government. The library is primarily a service supplying the personnel of the

Board and its seven regional offices with reference and current material necessary to their work. The fields covered include social insurance, workmen's compensation, vocational rehabilitation, the railroad industry in general, labor, economics, public and personnel administration and law. Librarians concerned with specialized services will be interested in the legislative reference service this library performs for Board personnel.

Other social science libraries to visit are: Chicago Park District; Industrial Relations Center Library (at the University of Chicago); Nertamid; Rosary College Library School; Joint Reference Library of Public Administration Service (also near the University of Chicago); and the Library of International Relations.

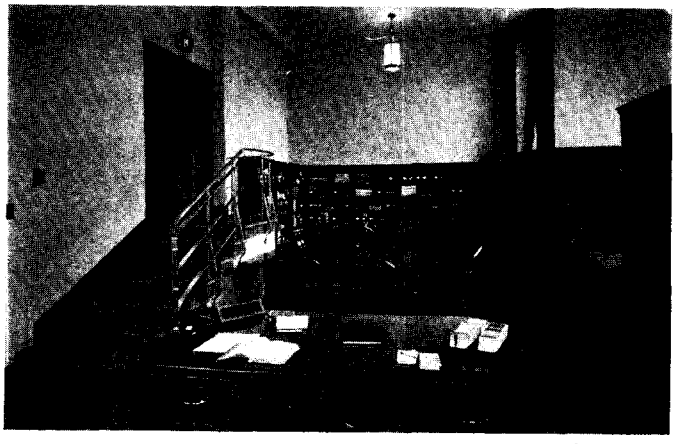
Museum and Map

Time should certainly be set aside for visits to museums, not only because of the fascinating exhibits that can be seen but also because of the remarkable library collections that are available in them. Among Chicago museums with associated libraries are the Chicago Natural History Museum, the Daprato Statuary Company with its Library of Ecclesiastical Art and, of course, the Art Institute of Chicago.

The Art Institute actually has two libraries, the Ryerson Library and the Burnham Library of Architecture. The Ryerson collections are composed primarily of material relating to the visual, graphic and decorative arts. Of special interest are the volumes, reports and other publications on nineteenth and twentieth century French and American painters and paintings, and on the arts of China and Japan. Another important part of the library is the Slide and Photograph Department containing many thousands of reproductions of works of art. The reproductions are in several forms—photographs, color prints, postcards, magazine clippings, and black and white Kodachrome and Ektachrome lantern slides. The Burnham Library of Architecture emphasizes the architecture and architectural history of the Chicago area but it also has the Fontaine Collection, the library of the French architect Pierre Fontaine. Another notable collection is that of the material relating to the great Chicago architect Louis H. Sullivan.

The Chicago Historical Society has an excellent collection of material on the Midwest. The emphasis is naturally the Chicago region, but many of the documents relate to the British in North America, to the "Old Northwest" and to the Confederacy and the Civil War. Its collection of newspapers and periodicals published in Chicago is an important one, and somewhat unknown since the various union lists either imperfectly record the holdings or do not mention the titles at all.

The bulk of the collections of the Rand McNally and Company library,



Joint Reference Library Of The Public Administration Service

Capes Photo

located in the plant in Skokie, Illinois, is made up of periodicals on geography, education, books and libraries, business and industry, and the social sciences. But the company's map collection is especially fine, containing all the Rand McNally atlases, of course, but also maps published by many other organizations, including the United States government. Coverage for the United States is particularly good, with complete sets of the Army Map Service sheets, Coast and Geodetic Survey charts, soil survey mays, Commerce Department Transportation series and others. Foreign maps are also well represented.

Financial, Business and Insurance

There are a number of libraries in these fields that will be open to visitors, including those of the Federal Reserve Bank of Chicago, Household Finance Company, Prudential Insurance Company, Lumbermen's Mutual Casualty Company, the Insurance Library of Chicago, Stein, Roe and Farnham, the National Safety Council and the Super Market Institute.

Transportation

Chicago is a principal terminal for 19 major railroads, the hub of a giant network of national and local highways, a shipping port for Great Lakes traffic (and soon to become an international port with completion of the St. Lawrence Seaway) and site of the busiest airport in the world. The headquarters of the Association of American Railroads is located here. It is not surprising, therefore, that opportunities exist for seeing major collections in the transportation field at the Chicago Area Transportation Study in Chicago proper and at the Northwestern University Transportation Center and the Traffic Institute (also at N. U.) in Evanston.

Publishing

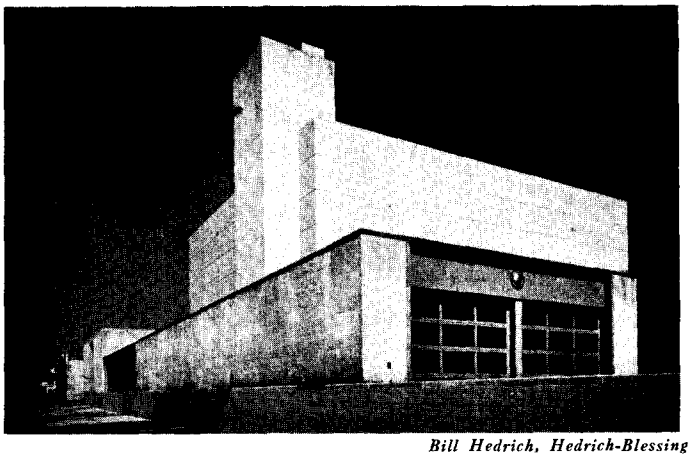
Chicago claims to be the greatest printing and publishing center in the world, and if you run down the lists of companies and organizations producing the materials with which librarians must deal, you can easily see why this claim is probably true. Among the publishers extending an invitation to visit their libraries are *American People's Encyclopedia, Together Magazine* and Johnson Publishing Company (publishers of *Negro Digest* and *Ebony,* among others). If you get a chance, you might also stop by the Peoria *Journal Star* in Peoria, Illinois, or the Meredith Publishing Company, in Des Moines, Iowa. As you have probably observed by now, the Illinois Chapter of SLA has members in surrounding states.

Advertising

The advertising and public relations fields are represented by Foote, Cone

Johnson Publishing Company Library

Mike Shea



Midwest Inter-Library Center

Bill Hedrich, Hedrich-Blessing

and Belding and by J. Walter Thompson. The work of any advertising agency library covers as varied a field as the interests of the clients of that agency. The library collections reflect this range of interests, and those of these two agencies are no exception. The library staff must also be able to handle requests for help in the agency's constant study of the person toward whom all its efforts are aimed—the consumer. This study involves not only his economic status but also his tastes and desires and the social milieu in which he lives. And it is sometimes almost unbelievable what the advertising agency man will consider a particularly desirable piece of information. Just ask anyone in the library of either of these two well-known companies!

Midwest Inter-Library Center

MILC might be called a library's library or a library of libraries. Whatever you call it, it is one of the great attractions Chicago has to offer the visiting librarian, regardless of the type of library in which he works or of his specific subject interests. Much of the material in the Center's collections has been deposited there by the 18 currently participating institutions forming the Midwest Inter-Library Corporation. In addition, the Center is also acquiring directly certain types of material, such as dissertations and government documents. One of the more interesting and important projects engaged in by the Center is the *Chemical Abstracts* project, in which the Center is subscribing to all periodicals indexed by CA that are not received by any member library. Most of the Center's subscriptions to these journals begin with the January 1957 issue. A similar project is being developed for *Biological Abstracts.*

Associations

Chicago's advantages in geographic location and transportation facilities make it ideal as a headquarters for a number of national associations: The American Bar Center, with another library to visit near the University of Chicago; the American Hospital Association; the American Dental Association; and the American Library Association, of course. At the American Dental Association Library you can see where the *Index of Dental Literature* is prepared as well as the collection of 2,000 package libraries on over 500 topics of interest to dentists.

There is something for everyone in Chicago. And there is a library similar to yours in Chicago, one with your interests, your problems. We hope you will accept our invitation to visit these libraries and to get acquainted with their staffs. We want your attendance at the 1958 SLA Convention to be both a pleasant and a rewarding one.

SLA CONVENTION
PUBLICITY COMMITTEE

The Significance Of Special Librarianship

THE RISE of a "specialist's specialist" is one inevitable result of the increasing specialization that marks our age. Brought into being by the vast accumulation of detailed information accompanying the spiraling growth of man's knowledge, he has finally come into his own as the "necessary assistant" to other specialists and researchers in practically every field of endeavor.

Known professionally by such labels as "research specialist," "information officer" and "documentalist," among others, he is most accurately called the "special librarian." His services, only recently recognized for what they are, have come now into great demand by government, industry, communications, and business, to name but a few of his employers.

According to Dr. Robert D. Leigh, dean of Columbia University's School of Library Service, the special librarian is the "reflection of advancing scholarship and technology" in "combining familiarity with a special subject, a wide knowledge of information and research materials within the field, and the librarian's techniques of organizing materials so that they are quickly and fully available to the user."

Dean Leigh asserts that "there is a chronic and increasing shortage of trained personnel who have both the professional skills of the librarian and a technical background in one of the sciences or any of a number of other fields." He notes that the chemical, engineering, and communications industries, as well as such businesses as insurance, advertising, and banking, are making increasing demands—with attractive salary offers—for the technical or special librarian.

"As individual units within the industries and corporations become larger and larger," the Columbia dean declares, "more and more specialized thinking and planning are required. Search of the existing literature — both of the rapid-fact-finding and the extensive survey varieties—becomes an essential of any planning operation and of research programs. Through his special knowledge and technical skills in locating particularized subject matter, the special librarian has become an integral part of the basic research team."

The result, notes Dean Leigh, has been the growing profession of the special librarian. "More than the traditional 'cataloguer' and compiler of bibliographies, he must not only know the material which has been written in his field, but must identify its relevance to the work of a specialized clientele as well. He must know the scientists and the facts engulfing their work, must be able to provide them with information on previous work in the same area so that research is not needlessly duplicated, and must be able to abstract and bring to their desks such information for their use."

The Special Programs at the Columbia School of Library Service, explains Dean Leigh, were planned to prepare college graduates who have educational backgrounds and interest in special fields for such special librarianship.

A growing number of students in special fields, however, are becoming aware of special librarianship's possibilities for them, the dean asserts.

"Science and industry are increasingly recognizing their need for the man who can keep them informed and in touch with themselves. As a 'specialist's specialist' in a time when man's enterprises have been made increasingly detailed—and cumbersome—by virtue of the printed word, the special librarian is taking a new and necessary place in society—with a busy and rewarding future in store for him and his profession."

COLUMBIA UNIVERSITY PRESS RELEASE

Have You Heard . . .

Changes At Library Of Congress

To describe the activities of LC's Science Division more accurately, the name has recently been changed to Science and Technology Division. John Sherrod, Jr. will remain chief of the newly titled division. The reference staff will now be known as the Reference Section. The Division has administrative responsibility for the Bibliography Section of the Armed Forces Technical Information Agency's Reference Center, known in LC as the Technical Information Division. Most of ASTIA's Reference Center moved to new quarters in Arlington Hall Station on February 1, in accordance with the decision to consolidate in one place ASTIA's central offices in Dayton and at the Library of Congress. The Bibliography Section, however, is remaining at LC as part of the Science and Technology Division.

Better Services For Blind Urged

A recently completed survey, undertaken in 1955 by a committee of librarians headed by Francis R. St. John, director of the Brooklyn Public Library, reports on the present condition of library services for the blind. Such problems as a shortage of trained personnel, insufficient facilities and a lack of communication between libraries for the blind are revealed. The committee recommendations range from an increase in federal aid to a method of reducing the accumulation of obsolete records. The full report may be obtained from the American Foundation for the Blind, 15 West 16 Street, New York 11, N. Y.

National Information Center Discussed

The Council on Documentation Research called a meeting at Western Reserve University, February 3-4, 1958, to consider the establishment of a national center for the coordination of technical and scientific data. The participating group recommended that the Council present a summary of the meeting to the National Research Council of the Academy of Sciences and ask it to appoint an ad hoc committee to survey the possibilities of creating a national center. Not only the plan presented at this meeting but also other plans, such as that of Stanford Research Institute, and other approaches will be reviewed. The ad hoc committee is to report to the Council within six months.

Institute On Library Planning

On April 18 and 19, 1958 the New York Chapter will sponsor an Institute on Library Planning at the Downtown Athletic Club, 18 West Street, New York City. The two-day meeting, which will include panels and roundtable discussions with librarians and specialists in architecture, work flow, decor, lighting, air conditioning, acoustics, layout, equipment and other related matters, is open to members for $25, and to nonmembers for $30. For complete details and registration information contact Catharine Heinz, Library 10-36, Mutual of New York, 1740 Broadway, New York 19, before March 28.

Legal Indexing Study

The American Association of Law Libraries has received a grant of $12,000 from the Ford Foundation to study the practicability of preparing an index or digest of foreign legal periodicals. William B. Stern, foreign law librarian of the Los Angeles County Law Library, has been appointed director of the project. The final report, consisting of detailed recommendations for setting up the index and including sample listings from foreign language periodicals, will be submitted to the AALL Executive Board by September 1, 1958.

Management-Librarians Conference

On February 1, 1957, the Illinois Chapter of SLA and the Graduate Library School and University College of the

University of Chicago sponsored a most successful one-day conference for business and industrial management. The *Proceedings of the Executive Conference on Organizing and Managing Information* are now available in a 64 page booklet which may be purchased for $2.00 from University College, 19 South LaSalle Street, Chicago 3. Edited by Shirley Harper, the *Proceedings* contains papers on the activities of company research libraries, the future of business information handling and the place of the library in organization structures by Eugene B. Jackson, Allen Kent, Mrs. Irene M. Strieby and Herman H. Henkle. A second conference will be held March 14, 1958, at the Congress Hotel, Chicago.

Document Preservation Report

Some valuable findings about the preservation of documents by lamination have been reported by the Paper Section of the National Bureau of Standards. Three years of investigation have resulted in the development of complete specifications for cellulose acetate laminating film of maximum stability. Moreover, the project revealed that: tissue adds materially to most of the measurable strength properties of a laminated document; that lamination has little effect on paper if it is neutral or alkaline; that if a paper contains an appreciable amount of acids, deacidification is highly desirable; that satisfactory results can be obtained with either a flat bed or cylindrical press if proper techniques are followed; and that newer types of plastic film appear promising for lamination of documents.

Texas Scholarship Loan Fund

The Texas Chapter, SLA, has established the Jessie K. Brown Memorial Loan Fund at the Graduate School of Library Science, University of Texas. The gift is in memory of Mrs. Brown who was librarian at the Engineering Library of the American Oil Company of Texas City and former secretary of the Chapter. It will be used to assist students at the School, with preference given to applicants who are interested in entering the special library field. The establishment of this fund is a concrete effort by the Texas Chapter to aid in the recruitment and development of future special librarians to service the growing need for trained personnel.

Members In The News

MRS. ANNE CELLI BIZZANO has recently been promoted to the post of Manager of Reader Relations for *Look* Magazine.

NATELLE ISLEY, former librarian of the School of Architecture, Georgia Institute of Technology, has been appointed librarian for the School of Architecture of the Middle East Technical University in Ankara, Turkey. A joint venture of the Turkish government and Unesco, the new library is a part of the Unesco Technical Assistance Program. When Miss Isley left Georgia Tech, the library staff gave her an unusual going-away present—a membership in SLA.

Letter To The Editor

"This Works for Us . . ." (SPECIAL LIBRARIES 49:29, January 1958) presents the virtues of the Diebold Cardineer as an aid to serial record management. The author indicated that this device requires slotted cards, but she left the reader to surmise what costs would be involved in transferring existing records.

It is worth noting that the Revo-file, manufactured by the Mosler Safe Company and in use at the Midwest Inter-Library Center, has the same characteristics as the Cardineer with the added merit of accepting unslotted cards. Thus, most serial records can be transferred without expensive recopying. The only limitation is that guide or index tabs may be used only on either side of the top center inch of the card. Electric and manual models are available for every card size. The Herring-Hall-Marvin Rotary File, used by the University of California Library at Berkeley, has the same advantage.

A detailed statement of the application of rotary files to serials work appears in *Serial Publications* by Andrew D. Osborn (Chicago, American Library Association, 1955. p. 98-103). His analysis should be examined by anyone considering the installation of this kind of equipment.

JOHN CARSON RATHER, Assistant Director
University of Buffalo Library, Buffalo, N. Y.

Off The Press . . .

New Serials

William D. Chase, proprietor of Apple Tree Press, 2322 Mallery Street, Flint 4, Michigan, and Harrison V. Chase, have compiled *Chases' Calendar of Annual Events.* This pamphlet lists chronologically holidays, sports events and special occasions such as Fire Prevention Week, along with sponsors and purposes. There is also an alphabetical index and other specialized information. The price of this new annual publication is $1.

ERGONOMICS: HUMAN FACTORS IN WORK, MACHINE CONTROL AND EQUIPMENT DESIGN is devoted to the study of human limits and capacities in relation to industry and is the official publication of the Ergonomics Research Society. The journal, of interest to people in the fields of medicine, psychology and industrial management, publishes original research reports, review articles, letters to the editors and abstracts of articles in other journals. The general editor is Dr. A. T. Welford, Psychological Laboratory, University of Cambridge. The first volume, priced at $13.30, will consist of four issues, the first of which appeared in November 1957. Subscription orders for the United States and Canada should be sent to Academic Press, Inc., 111 Fifth Avenue, New York 3, New York.

A group of scientists from many countries have founded a new periodical, MOLECULAR PHYSICS, which is devoted to the structure and properties of the molecule. The first of four issues that will appear in 1958 has already been published. It is edited by Professor H. C. Longuet-Higgins of Cambridge, England. Subscriptions for the United States and Canada may be ordered from Academic Press Inc., 111 Fifth Avenue, New York 3, New York, for $13.30.

Machine-Made Catalog

The M.I.T. Libraries, in cooperation with the M.I.T. Computation Center, have produced a list of 3200 of their current serials and journals as of August 1957. The list was compiled by the IBM 407 printer from punched cards. A limited number of copies are available at cost ($30). Inquiries should be addressed to the Director of Libraries, Massachusetts Institute of Technology, Cambridge 39, Massachusetts.

New Bibliography Series

The University of North Carolina Library's new series, LIBRARY STUDIES, which replaces the library extension publications, will consist primarily of bibliographies related to the collection at the Chapel Hill Library. The first in the series is a 27 page pamphlet entitled *North Carolina County Histories, A Bibliography* and sells for 50¢. The second is *North Carolina Fiction 1734-1957,* cloth, $3.; paper, $1.50. The bibliographies may be ordered from the Bull's Head Bookshop, Chapel Hill, N. C.

Book Review

INFORMATION SYSTEMS IN DOCUMENTATION (Advances in Documentation and Library Service, volume II). *Jesse H. Shera, Allen Kent* and *James W. Perry,* editors. New York: Interscience, 1957, 660 p. $12.

This publication presents a compilation of papers presented at the Symposium on Systems for Information Retrieval, held in Cleveland, Ohio, April 15-17, 1957. As such it is a follow-up to the Proceedings of the Conference on the Practical Utilization of Recorded Knowledge, held in Cleveland in January 1956 and published under the title of *Documentation in Action.* (Interscience, 1956. *See* SPECIAL LIBRARIES, Sept. 1956, p. 341-2).

In contrast to the original publication which ". . . provided an integrated statement of the theoretical and philosophical groundwork for future progress in the field of documentation," the latest publication presents concepts and systems currently in use or being studied.

The book is divided into six parts: 1) Fundamentals in system design; 2) Documentation problems in specialized fields; 3) Semi-automatic systems; 4) Systems using accounting or statistical machines; 5) Systems using computers or computer-like devices; 6) Cooperative information processing.

Sections one, two and six primarily outline problems which demand further research by those capable of making contributions to the field of documentation. Section three reviews the use of techniques which are familiar to most librarians—edge-notched cards, Uniterm indexing and the National Bureau of Standards' "peek-a-boo" system. Section six deals with machine installations which, for a long time and perhaps forever, will be used solely by very large organizations.

Most of the special libraries, I suspect, fall into the categories of medium or small organizations. To them, section five will be of primary interest. It shows a number of relatively low-cost machine systems applicable to the average librarian's collection. These systems can be used in conjunction with the equipment already available in many organizations, and the systems can be operated without the need for a lot of specialists. These papers were to the reviewer especially worthy of careful reading.

Information Systems in Documentation constitutes a fine progress report on the field of documentation and as such is must reading for all personnel working in the information fields. The new series has gotten off to a flying start in providing research texts in a field which sorely needs them.

WALTER A. KEE, Chief Librarian
The Martin Company, Baltimore

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Includes all recent welfare legislation.

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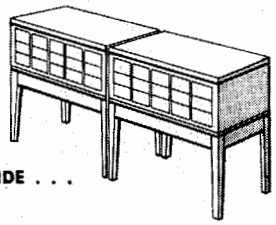

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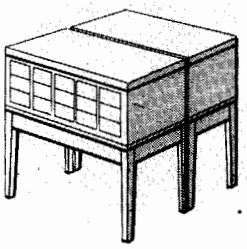

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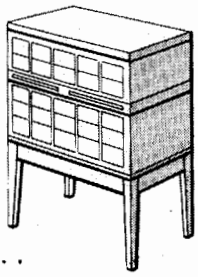

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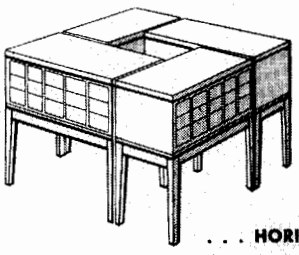

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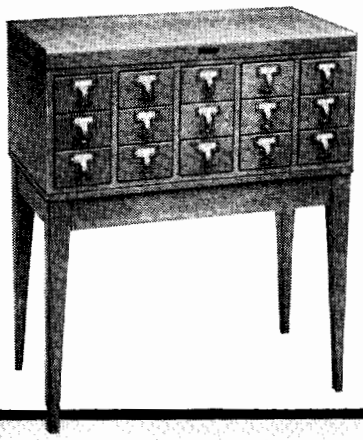

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