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Special Libraries, March 1960

Special Libraries Association

SPECIAL LIBRARIES

MARCH 1960, VOL. 51, NO. 3

Military Libraries and Librarianship

SLA Personnel Survey

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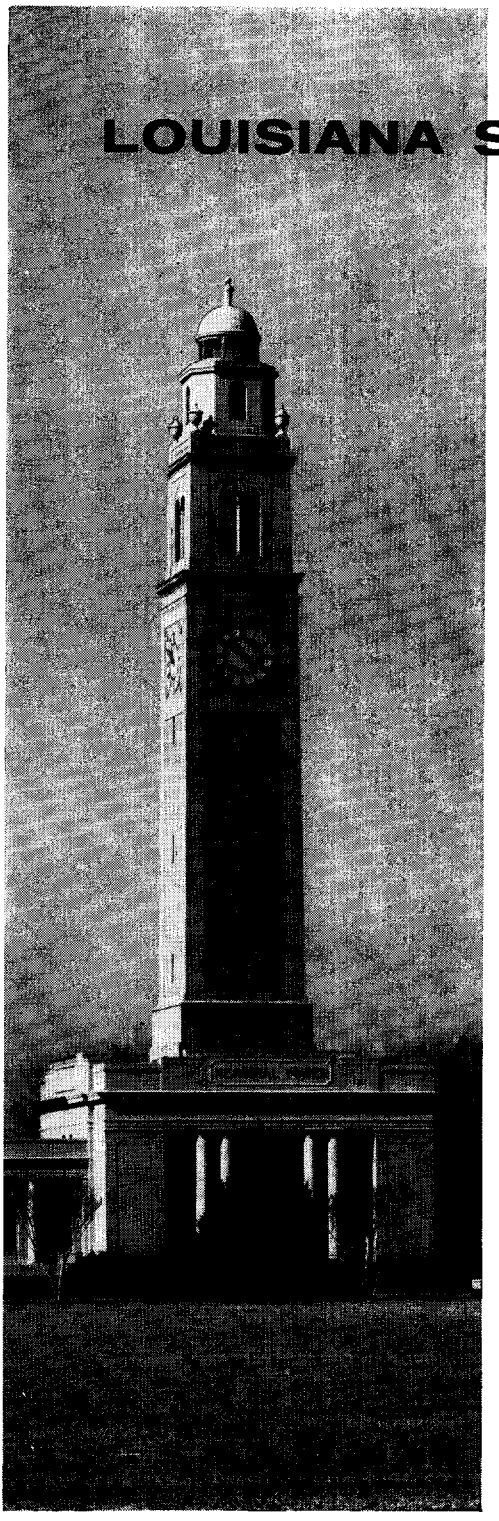

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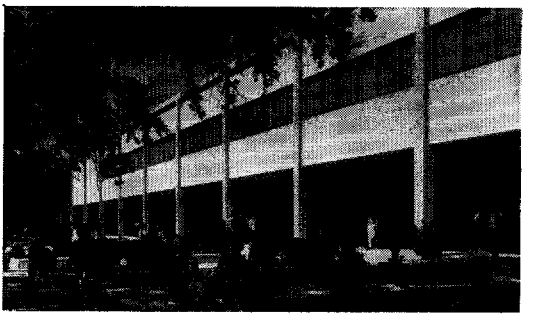

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SPECIAL LIBRARIES

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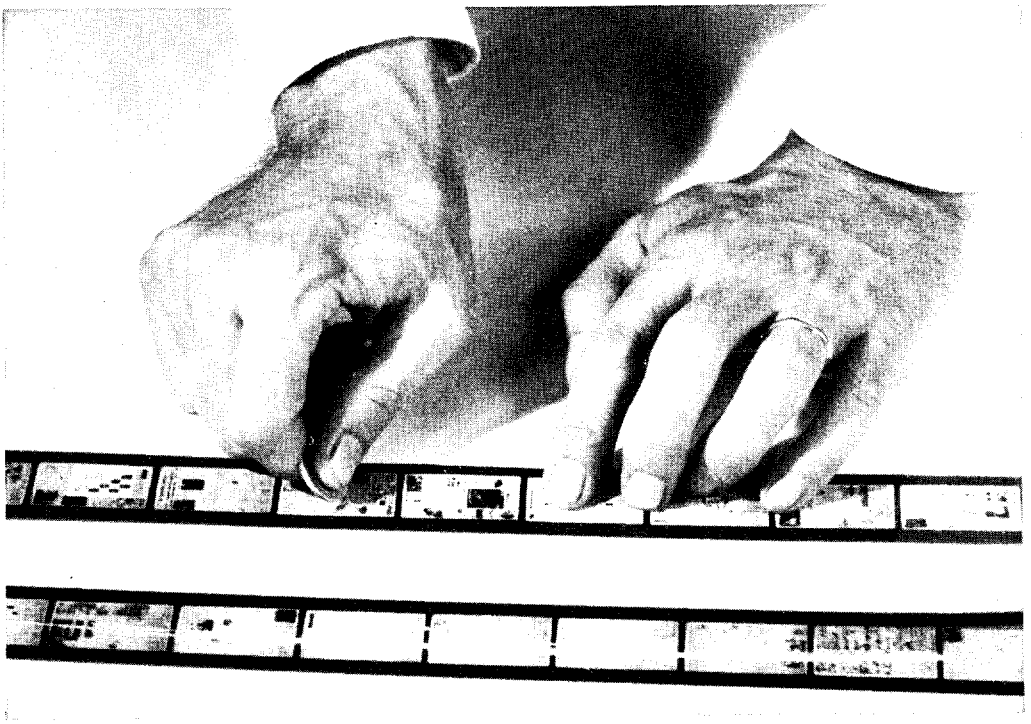

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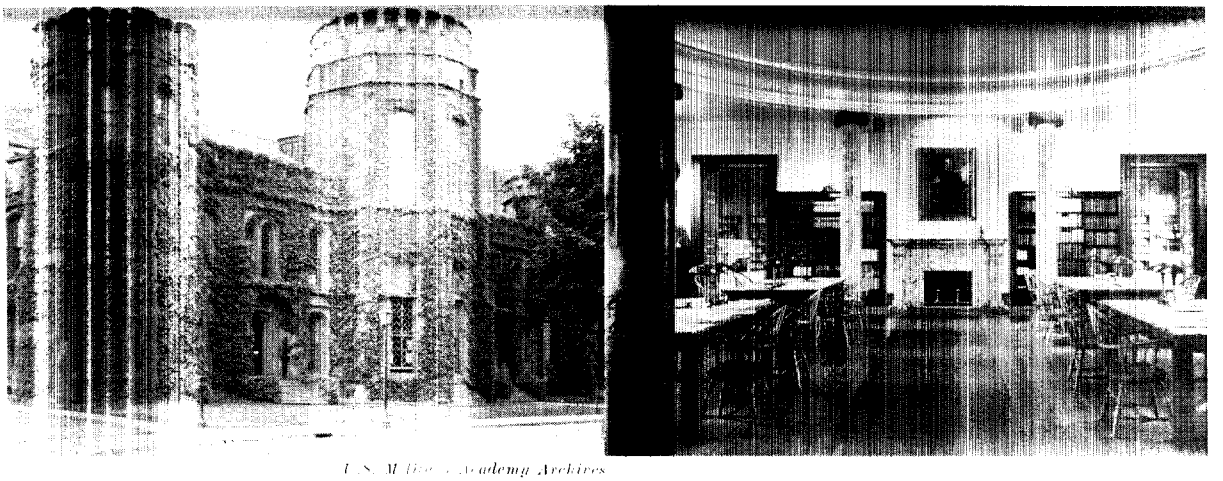

U. S. Military Academy Archives

The ivy-covered library at the U.S. Military Academy in West Point, New York, was built in 1841. On the right is the periodical room in the Mahan Library of the Naval War College in Newport, Rhode Island.

Military Libraries

THE ARTICLES in this March issue of *Special Libraries* give an indication of the extent and complexities of the specialized library programs in the military establishments of the United States and Canada. The idea for such an issue came from Florine A. Oltman, Chairman of the Military Librarians Division and author of the article, "Tools for the Military Librarian." Implementation of the idea was assigned to the Public Relations Committee of the Military Librarians Division.

Military libraries may be divided into three general categories. These include: *1)* academic, *2)* research and technical and *3)* the general libraries comprising the post and base library systems of the Army, Navy and Air Force.

The two articles on "The Libraries of Educational Institutions in the United States" and "Canadian Military Libraries" outline the locations, missions and responsibilities of the major military school libraries. The articles on "Technical Literature Sources for Military Libraries Supporting Research and Development" and "Tools for the Military Librarian" as well as the article on "Project MARS" give some insight into the capabilities, problems and programs of the technical and research libraries. It is interesting to note in "Recruiting for the 3000 Librarian Positions of the Federal Government" that a considerable proportion are located in military libraries in the United States and overseas.

While not covered in this issue, a glance at the general military library is important because of the number involved and the extent of the service given. In most cases these libraries serve all the population of an activity including military, civilian and dependents. In many instances these libraries have extension programs designed to serve personnel at remote and isolated locations and include in some cases airdrops and bookmobiles. These libraries have professionally operated programs to meet specific requirements, including the provision of technical library books and publications related to the mission and functions of the activity being served. In addition, their collections include library materials that provide opportunities for the constructive use of leisure time.

It is clear that library service, which provides essential books, periodicals, documents, technical reports and all the other media used in the communication and dissemination of ideas, is required by present day military establishments. There is no substitute for the printed word, and military libraries like other special libraries are engaged in the task of putting knowledge to work.

HARRY F. COOK, Air Force, *Chairman*
DOROTHY F. DEININGER, Navy; CAROLINE H. STANLEY, Army
PUBLIC RELATIONS COMMITTEE, MILITARY LIBRARIANS DIVISION

The Libraries of Military Educational Institutions in the United States

GEORGE J. STANSFIELD, Chief, Reference Branch
National War College Library, Washington, D. C.

THERE ARE SIX major colleges in the highest echelon of military education. The National War College, the Industrial College of the Armed Forces and the Armed Forces Staff College are under the direction of the Joint Chiefs of Staff; the Army War College, the Naval War College and the Air War College are the top service colleges. In addition, there are the three service academies that provide college level education to cadets; a middle group of institutions provide a level of education between these academies and the senior school levels. Other schools exist at the level of junior officers in the services for education and orientation for specific objectives. Taken all together, these various schools and their libraries constitute an important force for providing trained manpower for military purposes.

Today's extensive educational system had its roots in the leadership of the military men of the American Revolution as well as with such a man as Colonel Winfield Scott, Adjutant General of the Northern Army, who brought along his famous "portable library" in the baggage wagon in the spring campaign of 1813.[1] Such education through use of military books was necessary in the absence of educational institutions.

Although military educational institutions developed slowly during the nineteenth and early twentieth centuries, it was not until after the lessons of World War II were applied to military education that today's system took final form. Masland and Radway's *Soldiers and Scholars, Military Education and National Policy*[2] permits a detailed examination of this development. The *Directory of Military Libraries* will provide additional data. The description here will be limited to the libraries of the Joint Colleges and the major educational libraries of the Army, Navy and the Air Force.

Libraries under the Department of Defense

The National War College is the senior military educational institution. It was founded in 1946 with the mission "to conduct a course of study of those agencies of government and those military, economic, scientific, political, psychological and social factors of power potential which are essential parts of national security in order to enhance the preparation of selected personnel of the Armed Forces and State Department for the exercise of joint and combined high-level policy, command and staff functions, and for planning of national strategy."

The National War College Library is located at Fort Lesley J. McNair in Washington, D. C., on one of the oldest Army posts. It acquired by transfer the collections of the Army War College Library. (For purposes of clarification, the present Army Library in the Pentagon Building was established in 1944 by merging existing libraries of the staff and technical services of the then War Department to provide centralized service to headquarters offices located in the Pentagon. The Army War College itself was suspended in 1940 but was later re-established in 1950 and is now located at Carlisle Barracks, Pennsylvania, with a new library.) The Library of the National War College consists of a collection of 300,000 volumes and 60,000 classified documents. Its staff performs an active role in the academic work of the college. Its members assist in the selection of assigned reading material, prepare course bibliographies, handle requests for research or reading from the 133 members of the

class and secure reference material to support the over-all college curriculum.[2, 3, 4]

The Industrial College of the Armed Forces is also located at Fort Lesley J. McNair. It is the lineal sucessor to the Army Industrial College, which was founded in 1924. Its mission is to prepare selected military and civilian personnel for important policy-making, command and staff assignments within the national and international security structure. Its library provides reference and bibliographic services for the development of national security in such phases as the national economy and its relationships with political, military and psychological factors, joint logistic and strategic planning and with government organization and control. The library has some 80,000 books and journals and 18,000 classified documents. In the summer of 1960 this library will move to a new academic building now being completed. A central stack unit of three floors will serve as reading and study rooms on one floor of the main building, while technical processing activities will be located on the second floor. Approximately 8,000 square feet have been allotted for library use, and the staff will be enlarged to provide expanded services.

The Armed Forces Staff College, located in Norfolk, Virginia, was established in 1946 as a joint service school under the Joint Chiefs of Staff. Since February 3, 1947, when the first class met, two classes a year have been graduated in January and June.[5] The mission of the college is to prepare selected officers in joint and combined organization, planning and operations and in related aspects of national and international security for duty in all echelons of joint and combined operations commands. Its library has a collection of 75,000 volumes specializing in joint and combined operations.

Army Libraries

The Army War College, now at Carlisle Barracks, was founded in 1901, in Washington, D. C., and moved to what is now Fort Lesley J. McNair in 1907. It is the senior Army educational institution, and its mission is to prepare selected officers for the highest command and general staff positions in the Army, in joint allied and combined commands and for such high-level positions within the Department of Defense and other governmental agencies at the national level as the Army may be called upon to fill. The College also has three non-curricular missions involving doctrinal and study responsibilities. Its library collection numbers some 185,000 items.

The Army Command and General Staff College is located at Fort Leavenworth, Kansas. The post was established in 1827, and the present college was founded on May 7, 1881, as the "School of Application for Infantry and Cavalry." The mission as expressed in the purpose of the regular course is to prepare officers for duty as commanders and general staff officers for divisions, corps and field armies, including their logistical systems, the communications zone and its subordinate elements and the theater Army replacement system.[6] Its library is housed in part of the J. Franklin Bell Hall and comprises a collection of approximately 90,000 items, principally in the fields of military arts and sciences, history, social sciences and technology. The archives collection numbers over 200,000 documents.

The United States Military Academy was founded in 1802 and is located at West Point, New York, a post which has been in continuous use since 1778. The mission of the Academy is to prepare cadets for commissions in the Regular Army during a four-year course, which includes scientific, engineering, social and military subjects. The nucleus of its library was based upon the Library of the Revolutionary Corps of Invalids, established in 1778. The library, housed in its own building since 1841, may in the future occupy a proposed new library building. The library collection containing over 147,000 volumes, exclusive of the 13 departmental libraries, is similar to that of a liberal arts college. It also has an important manuscript and archival collection.

Navy Libraries

The Naval War College, established in 1884 at Newport, Rhode Island, held its

first class in 1885. The present mission is to further an understanding of the fundamentals of warfare, international relations and interservice operations, with emphasis on their applications to future naval warfare, in order to prepare officers for higher commands. The books requisitioned in August 1885 for use of the first officers assigned to the War College are considered the origin of the library. In 1904 a building was erected to house the library, and in 1905 the first librarian of the Naval War College was appointed. The library was later named Mahan Library. It now consists of approximately 114,000 volumes. Over the years the Mahan Library has acquired a small but fine collection of rare volumes in naval and military science and its related fields. In order to provide library service for officers at Sims Hall, which is some distance from the other Naval War College buildings, Sims Library is maintained. This collection consists of approximately 7,000 volumes including general reference works and materials supporting curriculum studies.

The U. S. Naval Postgraduate School and its library were established in 1909 at the Naval Academy in Annapolis, Maryland. The library was reorganized in 1947, and the present school was transferred during various changes from 1948 to 1950 and is now located at Monterey, California. Its mission is to conduct and direct the instruction of commissioned officers by advanced education, to broaden the professional knowledge of general line officers and to provide such other indoctrination and technical and professional instructions as may be prescribed. Its Reference and Research Library consists of some 230,000 books, periodicals and research reports.

The Naval Academy and its library were established in 1845 in Annapolis, Maryland. The mission of the Academy is through study and practical instruction to provide the midshipmen with a basic education and knowledge of the naval profession, in order to provide capable junior officers in the Navy and Marine Corps. Its library collection numbers some 160,000 volumes. It is planned to open a new branch library in Bancroft Hall sometime in 1961.

Air Force Libraries

The Air University was established as a major air command in 1946, with headquarters at Maxwell Air Force Base, Montgomery, Alabama. It provides within one integrated school system a coordinated program of professional education for officers of the United States Air Force. This program is planned to equip officers with the knowledge and skills necessary for assuming progressively more important assignments in command and staff positions throughout the Air Force. Within the Air University system are the Air War College, Air Command and Staff College, Air Force Institute of Technology, Air ROTC, Squadron Officer School, Warfare Systems and Academic Instructor Schools, Extension Course Institute, Research Studies Institute and Air University Library.

The Air University Library provides bibliographic, documentary and circulating reference services to support the Air University and the Department of the Air Force as required. The mission also includes the provision of audio-visual services requiring graphic, cartographic, instructional films, photographic materials and other types of representations auxiliary to library materials. These services are also provided other Air Force personnel in appropriate areas.

Since 1956 the library has been housed in a new library building. Designated the Fairchild Library in honor of General Muir S. Fairchild, Air University's organizer and first commander, the building is strategically located in the center of the new Air University Command and Staff College campus. The completed first half of the building contains under one roof a library system previously located in nine widely scattered buildings. Planned construction of a second half (the basic plan is that of an "H") of the building will provide space for audio-visual activities, additional stack room, study facilities for research agencies in the library and a nearby location for the Air Force Archives.

The present building has a capacity of 70,000 square feet and provision for the future addition will double this size. The entire forward part of the building is designed for the best accommodation of users, with the rear portion being devoted to tech-

Air Force cadets receiving instruction on the use of the Air Force Academy Library facilities from one of the staff of 12 trained librarians. This is part of the nine-week basic cadet summer training program.

Air Force Photo

nical processes and other services. The vault, attached to the classified reading area, is designed to accommodate the entire collection of classified documents held by the Library. The second floor is organized to provide a storage area for books and periodicals and the audio-visual headquarters with preview rooms for space for Command Cartographic Services. The Library's resources include a collection now numbering over 200,000 books and periodicals, 500,000 classified documents, approximately 275,000 maps and charts and over 3,000 motion picture films.

The Air Force Academy was established April 1, 1954, and is thus the youngest of the service academies. It provides a basic four year course preparing cadets for future service as officers in the Regular Air Force. It is located 10 miles north of Colorado Springs, Colorado, in one of the most beautiful settings in America. The Library was organized in 1955, and the collection contains some 100,000 volumes in the Academy Library and over 5,000 volumes in a community library. The mission of the Library includes provision of service to the cadets, faculty and other authorized patrons; development of a collection of unique and rare items pertinent to the growth and development of the Air Force and the Academy; and creation of a reference and basic research collection in the fields of air power and aeronautical history. The Academy Library is one of the most rapidly expanding libraries in the world and plans an ultimate general collection of some 250,000 books.

Conclusion

The academic military libraries described represent a readily identifiable category of libraries in the over-all military establishment. Each exists because of the educational mission of its parent organization. The specialized collections of these libraries reflect the complexities of the knowledge required by military personnel in this aerospace age. Academic military libraries are recognized, just as are their civilian counterparts, as the heart of the educational institutions which they serve. From these descriptions it is apparent that military educational activities are library oriented and that librarians play an important part in the officer education programs of the national defense establishment.

CITATIONS

1. ELLIOTT, C. W. *Winfield Scott, the Soldier and the Man.* New York: Macmillan Company, 1937. xviii, 817 p. (p. 90).

2. MASLAND, J. W. and RADWAY, L. I. *Soldiers and Scholars. Military Education and National Policy.* Princeton: Princeton University Press, 1957. 530 p. (p. 339-40).

3. National War College Meets Test of Missiles and Space; Almost 13, It Scores High as Star-Rank "Prep School." *Army-Navy-Air Force Journal,* vol. xcvi, February 7, 1959, p. 1, 28-9.

4. FITZGERALD, F. E. The National War College Library. *D. C. Libraries,* vol. 26, July 1955, p 10-12.

5. Armed Forces Staff College at Norfolk Opens Its 25th Course 4 February. *Army-Navy-Air Force Journal,* vol. xcvi, February 7, 1959, p. 28.

6. DAYTON, E. A. and HEADLEY, A. D. Arsenal of Knowledge—the USA CGSC Archives and Library. *Military Review,* vol. xxxix, October 1959, p. 70-6.

Tools for the Military Librarian

FLORINE A. OLTMAN, Chief, Bibliographic Assistance Branch
Air University Library, Maxwell Air Force Base, Alabama
Chairman, SLA Military Librarians Division

Paul Robertson

THE MILITARY technical librarian cannot depend entirely on the guidance provided by established library tools in the areas of book selection, classification schemes, subject heading authorities and periodical indexes. Therefore, knowing the principles basic to good librarianship is essential in military library operations. The military librarian must exercise initiative and ingenuity and at the same time adhere to the professional principles of organization upon which any useful collection must be based.

The appended list of tools pertains to libraries whose collections consist not only of books and periodicals related to military arts and science but also contain, as a major portion of their collections, military staff studies, technical reports, intelligence reports and security classified reports from a wide variety of military organizations as well as civilian organizations under contract to the government. In many instances, the materials will range from early military historical studies to the latest in scientific developments. The specialized character and highly secret nature of much of this material pose various problems, including housing and dissemination of the material to avoid compromising its use while at the same time assuring that it is made available to those with "a need to know."

The above problems exist when the librarian assumes responsibility for an established collection. The problem of determining what is currently available, what should be added and how to obtain it from a myriad of sources is even more difficult to solve. Unfortunately, there is no cumulative military index to provide bibliographical information on specialized military literature, although this material may be the most vital part of the collection.

In working toward a solution of the problems of a military library, one of the first steps should be an examination of the mission of the organization served. This is usually succinctly stated for military organizations. From this statement a determination should be made as to the functions and services to be provided by the library. This determination should then be carefully coordinated at the highest possible military level. Interest and support of the staff of the organization served is essential if a library is to provide maximum service.

Next, a survey should be made of materials at hand, types of materials needed, possible methods of organization and how best to make these materials accessible. At this stage, visits to libraries with similar missions and problems are in order. *The Directory of Military Libraries* provides a useful listing.

With respect to the classification or filing system to be used for special types of materials, the librarian may have little choice because of a previously established system. However, revisions, adaptations or expansions may be made in a system—but this is a point where hasty decisions can cause havoc. Some libraries use the Library of Congress classification system; some file by accession numbers with numbered or dated materials falling under one accession number; others use a system based on the issuing agencies. The extent of the collection, the physical characteristics of the material and the physical facilities available for housing the materials are all factors to be considered.

The problem of determining what materials are being issued may be approached by several methods. Normally a library will be on the distribution list for publications

of its own military agency. Consulting users and military staff members will also provide sources. These people often learn of pertinent papers and studies while visiting other installations and talking to their contemporaries. Requesting them to obtain copies for the library and securing such publications before they become lost in office files often requires considerable diplomacy.

The accession lists and bibliographies of similar libraries provide the basis for an exchange of publications. Materials listed may be classified, but with an established "need to know," acquisition can be effected. These sources, along with the indexes to reports prepared by individual organizations such as ASTIA, Rand Corporation and Johns Hopkins' Operations Research Office, will provide data on most materials available.

Book selection is one function in military libraries that makes use of the conventional library tools. However, it is also necessary to check reviews and recommended reading lists in military journals. Additional listings may be found under "Book Reviews" in issues of the *Air University Periodical Index,* which indexes journals of interest to the military. This publication also is a means of locating appropriate journals for purchase. The *Union List of Foreign Military Journals* may also be useful for this purpose as well as for interlibrary loan. It is currently being revised to include domestic military journals.

The special terminology of the military, as well as that related to new scientific developments of interest to the military, makes the establishment of a subject heading authority a difficult problem. These special terms must be utilized, however, before the card catalog can become a truly useful tool. Here the requirements for consistency and discipline in subject headings must be carefully observed.

As military libraries continue to grow, so will the tools in this field. The following list is not exhaustive but it is included to suggest types of guidance available. Titles useful in military libraries will also be found in "Significant Military Literature," *Special Libraries,* February 1959, p. 53-60. Military libraries also publish accessions lists of classified documents received, which may be available upon request and "need to know."

TOOLS

Military Libraries

JOHNSON, Robert K. *Study of Libraries in Selected Military Educational Institutions.* Maxwell Air Force Base, Ala.: Air University Library, 1956.

Series includes: Armed Forces Information School; Armed Forces Staff College; Army General School; Army War College; Artillery School; Command and General Staff School; Industrial College of the Armed Forces; Infantry School; National War College; USAF Institute of Technology; USAF School of Aviation Medicine; U. S. Military Academy; U. S. Naval Academy; U. S. Naval Intelligence School; U. S. Naval Postgraduate School; U. S. Naval School of Aviation Medicine; U. S. Naval War College; Air University Library.

SPECIAL LIBRARIES ASSOCIATION. Military Librarians Division. *Directory of Military Libraries.* Edited by Robert L. Martin. Natick, Mass., 1959. 106 p.

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SPECIAL LIBRARIES ASSOCIATION. Military Librarians Division. *Special Bibliography* no. 1-. Maxwell Air Force Base, Ala., 195-.

For a list of titles published to date see *Special Libraries,* January 1960, p. 36.

U. S. AIR FORCE. Academy. *Special Bibliography* no. 1-. Colorado Springs, 1958-.

U. S. AIR UNIVERSITY. Library. *Special Bibliographies,* no. 1-. Maxwell Air Force Base, Ala., 1953-.

U. S. ARMY. Army Library. *Special Bibliography,* no. 1-. Washington, D. C., 1956-.

U. S. ARTILLERY AND GUIDED MISSILE SCHOOL. Library. *Special Bibliography,* no. 1-. Fort Sill, Okla., 195-.

Recent Bibliographies

RAND CORPORATION. Library. *The Russian Reference Shelf;* A Guide to Selected Textbooks, Dictionaries and Other Reference Aids (Rand Paper 1837). Compiled by Rosemary Nieswender. Santa Monica, Calif., Nov. 9, 1959. 45 p.

U. S. AIR UNIVERSITY. Research Studies Institute. Documentary Research Division. *A Space Bibliography.* Compiled by Dr. Raymond Estep. Maxwell Air Force Base, Ala., 1959. 109 p.

Indexes

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Project MARS

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The Armed Services Technical Information Agency (ASTIA) is the scientific information center of the Department of Defense. Project MARS was the name given to the task of creating a system of scientific machine retrieval terms for the automation of ASTIA.

SOMEONE RECENTLY philosophized that it is always safe to be against a new idea because a new idea is seldom a good idea—and if it's a good idea, it seldom works—and if it's a good idea and if it works, it takes a long time to prove itself so you have plenty of opportunity to figure out a good alibi.

Certainly automation is not a new idea, but the application of automated methods to the storage and retrieval of large collections of scientific information is an adventure into, at best, semi-darkness. But the Armed Services Technical Information Agency (ASTIA) feels that the best way to become adjusted to the semi-darkness is to move into it. Hence, it has undertaken the automation of its major functions. Schedules and programs have been set up, and are being met, which will gradually eliminate the use of all catalog cards in ASTIA. The very thought is frightening indeed because it marks a decided turn from the long-practiced manual techniques of librarianship. Confidence within the staff has been inspired by a realization that progress in the techniques of bibliographic control of scientific information must keep pace with the progress of science itself.

There are two principal programs of automation in ASTIA. One is called the "business" end of the operation and means that requests will be received, validated and filled, stock inventories and levels maintained and the elements of descriptive cataloging programed for quick identification purposes. The second is the information storage and retrieval program. Here, the results of subject analysis, made by the analytical staff, are stored for retrieval purposes in preparing bibliographies and answering reference inquiries.

It is the second of these programs that is the subject of this paper. Of course, there is a definite relationship and overlapping of the two but the principles involved in each program may be explained separately. Even more specifically, I will be concerned here with the logical pattern of subject-matter storage and the development of that pattern. Also, I will not attempt to go into details of the equipment to be employed. All this is to be explained elsewhere. Suffice here to say that ASTIA has installed the Remington Rand UNIVAC Solid State Automatic Data Processing System (USS90). This recently developed transistorized system is capable of reading, computing and printing simultaneously. Full explanation of the programing steps are related in a recently released ASTIA document, *Automation of ASTIA: A Preliminary Report.* This report is available upon request from ASTIA by its document number, AD 227 000.

Former Methods of Subject Control

As ASTIA began its plans for automation and started making decisions about procedures and equipment, the most subtle of all problems was the development of a scheme for automatic subject control of its vast store of scientific information. How could a librarian, in subject-analyzing a scientific paper today, be sure he would assign the term a scientist would use to call for the

Paper presented at the Fourth Meeting of the Council of Librarians, East Coast Naval Laboratories, October 29, 1959, Dahlgren, Virginia.

information, say, five or ten years hence? Of course, as long as the human element is involved at the input and the output ends, selection of the same term carries an element of chance. But perhaps this element could be reduced some degree at least. Certainly many keen minds had been devoted to this problem. Logicians, librarians, mathematicians and the scientific community in general have been concerned. Numerous mechanical or even automatic schemes have been devised and a number of them actually put into operation, but none long enough to be considered safely proven. More important, none had ever been attempted in connection with a collection of the size and scope held by ASTIA. In any case then, new ground would be broken.

Most challenging was the fact that the manual system of subject-heading control that ASTIA had built over the years had a proven degree of success. The answer to this challenge must await many months of trial and experience and must be based not only on quality, thoroughness and accuracy of retrieval but also in terms of timeliness, cost and personnel requirements. These factors will not be easy to weigh, since the final yardstick will be in terms of value to scientific research and development.

For a number of years ASTIA and its predecessor elements in Dayton and at the Library of Congress employed the previously mentioned "subject heading" scheme to provide subject-matter access points to its report literature. These headings developed and the list grew as the literature entered the collection and was analyzed by the staff. It thus became an authoritative list, meaning that for each heading, information existed in the system.

By early 1959, the list of subject headings numbered over 70,000. These were published in the *ASTIA Subject Headings,* fourth edition. Also, in 1953 ASTIA began assigning Uniterms (single word headings) to each report, and these along with the subject headings were printed on the catalog cards. Actually, it was with automation in mind that the Uniterm program was pursued. There was an apparent ease with which Uniterms could be manipulated into machine language and their retrieval accomplished by coordination or collation of related terms. Also, it was felt that Uniterms permitted much more liberal use than subject headings. The manual subject heading operation dictated a degree of conservative usage to keep it within both manageable and logical bounds.

As the realities of automation were eventually faced, it became obvious that neither the subject headings nor the Uniterms answered the requirements. Both had much to offer, but there was something yet to be desired. It was decided that the "something" lacking was a thesaurus-like arrangement of scientific and technical terms. This could provide a common guide to both the storage and the retrieval processes.

Actually the list of subject headings was somewhat thesaurus-like in structure. Because of this and because they were authoritative, subject headings demanded consideration in the transition to any new system. But the rather complex arrangement with subdivisions and cross references, strong for a manual operation, did not permit the full versatility of automatic data processing techniques. Also, the subject headings had a tendency to grow continually to accommodate the literature. There could be very little leveling off. Obsolete or unneeded terms were never dropped. As for the Uniterms, they lacked definition; no over-all list had been maintained and very little consistency had been used in their assignment. Nevertheless, they were valuable in that they gave description and definition to the report to which they were assigned.

Based on these thoughts and the experience gained by actually using these schemes, the decision was made to establish an entirely new subject analysis concept for the ASTIA MAchine Retrieval System. Hence, Project MARS was born.

Project MARS has two primary objectives: *1)* to prepare a thesaurus of scientific descriptors, and *2)* to assign these descriptors to all AD-numbered reports in the ASTIA collection.

The Document Processing Division of ASTIA was assigned the responsibility for the Project, and a group of leaders in the

The ASTIA Document Processing Division team responsible for Project MARS (left to right): J. Heston Heald, Gloria J. Kephart, Martin F. Brooks, Paul M. Klinefelter, Mrs. Jane Virginia Philbrick, Paul H. Klingbiel, John S. Moats, Herbert Rehbock, Mrs. Doretha A. Bebbs.

Division were named to work as a team. The group was composed of people with both scientific and library training and experience. Most important was the fact that each had been in the ASTIA program for a number of years and was quite familiar with the collections and the bibliographic problems. In addition to the writer, the members of the group include: Herbert Rehbock, Chief, Scientific Analysis Branch; Paul Klingbiel, Editor, *Technical Abstract Bulletin* (TAB); Mrs. Jane Virginia Philbrick, Assistant Editor, TAB; Martin Brooks, Chief, Engineering Section; Paul Klinefelter, Chief, Bio-Sciences Section; John Moats, Chief, Material Sciences Section; Mrs. Doretha Bebbs, Chief, Physical Sciences Section. This team represented a total of almost 100 years experience in the bibliographic organization of scientific and technical information.

Before a single move was made, the team spent several weeks reviewing essentially all known retrieval systems and exploring their possibilities with respect to the collections in ASTIA. American University arranged and gave a special course in this field. Several authorities were consulted, including Mrs. Lea Bohnert of RCA (leader of the course); Calvin Mooers, President, the Zator Company, who was employed at various intervals on a consultant basis; and Dr. John Mauchly, President, Mauchly Associates, who spent one three-day session with the group.

Decisions were reached through deliberations of the team, which met for short periods almost daily, often after the regular working day had ended. Each made contributions along the way, and numerous schemes were proposed and tried before decisions were reached. Finally it was decided to develop a thesaurus of scientific terms based primarily on the *ASTIA Subject Headings*.

Development of a Thesaurus

The first step, then, was an overhaul of the subject headings. The principal headings were divorced from their subdivisions and, in one move, the list was reduced from 70,000 to about 8,300 main headings. The subdivisions numbered another 850. Further steps in refinement eliminated about 150 of these subdivisions as being no longer useful. The subdivision "application" is an example. This word had been tacked to main headings hundreds of times. The retained subdivisions were either established as principal headings in their own right or included in other headings as synonymous or definitive terms. This first step, then, left us with a total of slightly more than 9,000 headings.

At this point, in order to differentiate from subject headings, the new headings were called "descriptors." In many cases they were not single words; combinations of two and three (or more) words often remained. An example is "radio frequency power." Hence,

descriptors became authentic "units of information," which could be used for analytical treatment of the documents. They were "authoritative" because they initially came from the literature in ASTIA, via the subject headings. The subject heading pattern of direct rather than inverse arrangement of terms was continued.

In order to define the descriptors, scope notes were developed showing what the descriptors included, what they were related to or what they were limited to. This was done by listing synonyms, other descriptors with which they were partially related and areas that were or were not to be included in the meaning. Synonyms and the related or inclusive terms appear in their alphabetic positions, referring the reader to the parent descriptor. This treatment permitted further reduction in the number of descriptors until the 9,000 became less than 7,000. A small section of descriptors from the thesaurus shows the order of arrangement:

ACARICIDES
(PEST CONTROL AND INHIBITING AGENTS)
INCL: MITICIDES
ALSO SEE: ANTIPEST IMPREGNANTS
PARATHION
PEST CONTROL

ACCELERATION
(MECHANICS)
ALSO SEE: DECELERATION

ACCELERATION INTEGRATORS USE ACCELEROMETERS

ACCELERATION TOLERANCE
(TOLERANCES)

ACCELERATORS
(PARTICLE ACCELERATORS)
ALSO SEE: BETATRONS
CYCLOTRONS
ELECTRON ACCELERATORS
ELECTROSTATIC ACCELERATORS
ION ACCELERATORS
LINEAR ACCELERATORS
PARTICLE ACCELERATORS
PROTON ACCELERATORS
SYNCHROTRONS

The terms on the far left margin are the main entries. The next indentation marks the beginning of scope notes for the entry. The parenthetic entry denotes the "schedule" of descriptors to which this main entry belongs. "Incl." means *includes;* for example, ACARICIDES *includes* MITICIDES. ACARICIDES is a descriptor, MITICIDES is not. However, MITICIDES will appear in the thesaurus in its alphabetical order on the left margin, but there the words USE ACARICIDES will appear. Note that ACCELERATION INTEGRATORS refers the reader to USE ACCELEROMETERS.

The see alsos are descriptors in their own right and will appear in their respective alphabetical order throughout the list. See alsos are closely related and help define the area of the principal heading.

It should be noted here that a feeling of gratification and accomplishment became evident among the staff as this effort progressed. Most of them had been architects of the subject headings and had grown to realize that renovation was long overdue. Such was almost impossible heretofore, because the list was a key to a manually maintained card catalog that would have to be changed if the key were changed. This was no easy job and it was seldom attempted. Hence, the only way the list could move was to get larger. When the opportunity to make a clean-up presented itself, the staff eagerly took advantage of it. They were encouraged with the thought that machine changes could take care of the future.

Although the building of the thesaurus started with the subject headings, refinement and scope notes were developed by consulting all bibliographic information (including Uniterms) dealing with the reports in the AD collection and by the actual assignment of descriptors to the respective documents. This building by practical application seemed essential. The staff was not concerned by changes that might be necessary on early-processed reports, since all information would be programed into the computer and corrections or updating could be a machine process. Hence, it was possible to develop the thesaurus and do a certain amount of assignment of descriptors at the same time; each process supported the growth of the other.

Display Schedules

I now come to the preparation of accompanying tools for use by both the subject analyst and the reference or retrieval operator. Although the thesaurus is the principal guide, it was soon realized that certain condensed guidelines and checkpoints were needed as companions for quick, easy and active consultation at both ends of the program of storage and retrieval. All this is aimed toward the goal of trying to bring together the person who put the information into the system and the person who goes to seek it out. The closer they can be brought together in their thinking and their approach, the more accurate the retrieval system will become.

In this regard it is necessary to say something about the ASTIA organizational arrangement, primarily on the input side. In the Scientific Analysis Branch, there are about 25 people with scientific backgrounds, so distributed that they represent most of the scientific disciplines. The normal workload is thus divided among these people in subject analysis; for example, a mathematician receives the mathematics reports, the physicist receives the light, sound, heat reports and so on. Because of this division of work, it was logical that the descriptors in the thesaurus be divided into a number of generic groups for display purposes. Hence the full scope of the subject coverage is divided into about 290 major categories. Descriptors in the thesaurus were placed in the categories in which they were considered most pertinent. *No descriptor* was repeated. Each was placed in a category by definition, thus distinctive display schedules were formed. Here is one of the display schedules. The schedule of TOLERANCES and the descriptors that are to be used under that schedule follows:

(268) TOLERANCES

ACCELERATION TOLERANCE
ATROPINE TOLERANCE
GLUCOSE TOLERANCE
HEAT TOLERANCE
POISON TOLERANCE
POTASSIUM TOLERANCE
RADIATION TOLERANCE

We now refer to the thesaurus example of the descriptor, ACCELERATION TOLERANCES and the parenthetic word below it, TOLERANCES. TOLERANCES is the group or the schedule into which it is associated. The pattern thus formed makes the schedule a part of the descriptor and the descriptor a part of the schedule. The number at the left, 268, is the number assigned to that particular schedule for location purposes as well as for easy reference. When a descriptor is assigned, the schedule number to which it belongs is shown if that descriptor is to be used for cumulative index purposes. This depends upon the closeness of the descriptor to the main subject of the report and is a matter of decision by the analyst.

This arrangement has a notable feature of considerable importance. It gives a key for cumulative indexes. In other words, accumulations can now be made by use of the display schedules under automation. None will be overweighted since cumulative indexes are to be prepared quarterly, each covering six issues of the *Technical Abstract Bulletin.* Both ASTIA and ASTIA users have had a definite requirement for cumulative indexes to TAB.

On the output side of the operation, reference personnel preparing bibliographies and answering specific reference inquiries should be guided, by use of the thesaurus and these display schedules, into as near the same channels of reasoning as are the subject analysts on the input side.

Although few in number, changes will be necessary in both descriptors and schedules as time goes on and as information is programed into the system. Under computer control it is possible to readily up-date, by either adding or deleting descriptors, by combining descriptors with other schedules or by even creating new display schedules as they become apparent. Versatility here is much greater than manual operations could possibly afford.

Open-ended Terms and Checklist

I now come to what are called "open-ended" terms. These terms lack the analytical structure of descriptors. They include project names, code names, code numbers, names or

numbers of pieces of hardware or actual equipment designators and perhaps key or title-like words, which at the time of assignment would not be considered of sufficient analytical nature to be treated as a descriptor. These are called "open-ended" terms because they will not appear in the thesaurus or in any of the display schedules. Although a list of these terms will be maintained in ASTIA, it is not planned at this time to publish them. Classified terms may also be used in this manner. Some examples of types of open-ended terms are:

Project Michael
Saber jet (also F-86, F100, etc.)
Eureka 72
Special terroflex

Counting both descriptors and open-ended terms, it now appears that there will be an average assignment of about eight subject access points to each report in the AD numbered collection of ASTIA. For convenience, descriptors and open-ended terms together are referred to as "retrieval terms."

Still another tool to help keep both analyst and searcher on the same track is a checklist. As a document is processed, the analyst checks over the list to be sure he has covered the pertinent elements with retrieval term assignments. Has he covered the subject with one or perhaps more descriptors? Is it possible to assign a term or terms to show the trend of the research? Can terms be assigned that reflect something about the results? Was equipment used that should be picked up, perhaps as an open-ended term? This list may also be used by reference people as an additional guide. An analysis of a reference question in terms of these elements will surely assist in selecting the pertinent descriptors for retrieval purposes. The actual checklist used follows:

CHECKLIST FOR ASSIGNMENT OF RETRIEVAL TERMS

1. *Subject.* (What was studied, investigated, tested, compiled, researched?)
2. *How was the subject treated?* (analysis, tests, design, production, computations, theory, specifications, operations, processes)
3. *What are the physical factors?* (mechanical properties, physical properties, chemical effects, biological factors)
4. *What equipment or method was used to support the research or investigation?* (spectrum analyzers, oscilloscopes, Charpy v-notch test equipment)
5. *Where or under what environment was the research accomplished?* (upper atmosphere, arctic, sub-surface, location if geographic or foreign)
6. *Additional qualifying information (Open-ended Terms).* (project names, military symbols, trade names, Mark/Mod numbers, AN/numbers, etc.)

In order to avoid use of terms that might not have been used by the analyst on the input operation, the use of the thesaurus, the displays and the checklist are important.

Summary and Aims

This has only in a brief way described the development of ASTIA's transition from a manual system using subject headings, with its subdivisions and cross references, into a subject arrangement of the collections tailored for computer programing and retrieval. The Uniterms assigned in the past have been used primarily as aids in defining the descriptors, although in some cases they actually became descriptors themselves. The descriptors are arranged into two arrays: *1)* an alphabetical listing in the thesaurus, where each has its scope notes or definitions as appropriate and the major display field into which it has been categorized; and *2)* into the display groups.

As this is written, the program is well under way. By June 30, 1960, ASTIA will be operating under this retrieval system. The thesaurus is nearing completion and it may be expected to appear soon. It will be made available on a cost basis from the Office of Technical Services, Department of Commerce, Washington 25, D. C. Certified users of ASTIA services may receive the thesaurus by requesting from ASTIA.

A concentrated and time-consuming effort is being applied to the fundamental problem of adapting ASTIA's available scientific terminology to the specific needs of machine re-

trieval. Important phases of this reappraisal include: the elimination of redundancy in meaning of the terminology; minimization of foreseeable false correlations through combination and permutation of retrieval terms; proper breakdown of retrieval term groups to assure adequate depth of retrieval; and simplification and coordination of terms in the framework of the major scientific disciplines.

Our primary objectives for this information retrieval phase of our program are to:

1. Reduce the time required to prepare bibliographies and answer reference inquiries.
2. Improve the quality of ASTIA's information services.
3. Automatically prepare periodic cumulative indexes to TAB as well as cumulations in any given chronological period and subject area that may be desired.
4. Eliminate the need for the time-consuming and costly tasks of catalog maintenance. In ASTIA this amounts to almost $100,000 annually in personal services alone.
5. Provide desk-copy reference tools, in terms of TAB, the cumulative indexes and the thesaurus, to the librarians, scientists, engineers and project officers in the research and development program; such tools to eventually become tantamount to card catalogs as an approach to the ASTIA collections.

Canadian Military Libraries

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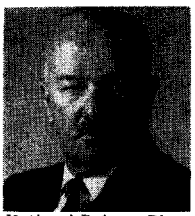
National Defence Photo

EVERY two years the seven main libraries in the Department of National Defence hold a conference at one of the participating establishments. The first conference was held at National Defence Headquarters in August 1953 at the request of the Deputy Minister of National Defence. The purpose of the conference was to formulate policy regarding special collections and cooperative projects and to discuss common problems. It was decided to meet annually, each year at a different library, to cooperate on a Union List of Periodicals and a central index of books of military interest, both of which would be coordinated by the Departmental Library at NDHQ in Ottawa.

The following year the conference was held at the College Militaire Royal (CMR) at St-John's, Quebec. CMR, the newest of the three Canadian service colleges, is situated on the historic Richelieu River, which in colonial times was known as the War Path of the Six Nations and was the scene of many conflicts up to 1815. Bernard Vinet, the librarian at CMR, was the host for this conference. The visiting librarians were very interested in the expanding collection, which is unique in that both French and English texts and periodicals are equally represented. The catalogue is bilingual as well as the staff, since the cadets here have either French or English as their mother tongue. CMR is administered by the Royal Canadian Air Force.

In 1955 the conference was held in June at the Canadian Service College at Royal Roads, on the outskirts of Victoria, B. C. on Vancouver Island. Mrs. Mary Campbell, the librarian, was hostess and with the assistance of the faculty members took us on a sightseeing trip through and around Victoria, the provincial capital. The College is located in the former Dunsmuir Estate overlooking the Straits of Juan de Fuca. The library, in common with the other service colleges, primarily covers the academic curriculum and also contains a fine collection on naval his-

tory and science as this College is administered by the Royal Canadian Navy. It was decided at this conference that, as the basic problems had been discussed with good results, future conferences would be held every two years.

The next conference was held in Kingston, Ontario, both at the Royal Military College (RMC) Library and the Fort Frontenac Library.

The Royal Military College Library is the oldest and largest of the National Defence libraries and is the graduating unit of the three service colleges, having not only first and second year cadets as do the other two but also all cadets for their third and graduating years. John Spurr, the librarian and host for a part of our sessions, has an excellent academic library as well as a fine collection on military history and science. His collection was split up into several sections due to lack of accommodations, but a new library building is scheduled to be completed in 1960. RMC is located on the outskirts of Kingston, near Fort Henry, the city's main tourist attraction where college students in nineteenth century British uniforms perform gun and ceremonial drill of that period.

Mary O'Connor, librarian at the Fort Frontenac Library, which serves both the National Defence College and the Canadian Army Staff College, was hostess for the other sessions. Near to the entrance of this library is a small excavation showing a part of the original foundation of La Salle's seventeenth century Fort Frontenac. The library itself specializes in military science, military history and geography, international relations and political and economic sciences.

The next conference is to be held at National Defence Headquarters (NDHQ) in Ottawa, with Lachlan F. MacRae of the Defence Scientific Information Service (DSIS) and Charles H. Stewart of the Departmental Library as joint hosts. The library service at NDHQ was divided in 1947. DSIS of the Defence Research Board was made responsible for all information of the document and report type as well as classified information, while the Departmental Library was responsible for books, periodicals and other information available commercially.

The Defence Scientific Information Service is located in a security area within NDHQ and is mainly responsible for the receipt, cataloguing and distribution of foreign military reports in Canada as well as the publication and distribution of Canadian Defence Research reports—a smaller edition of ASTIA. One interesting feature is that the information officers, who are not librarians but officers who specialize in certain subject fields, act as reference librarians. They are interchangeable with the scientific staff of the other sections or laboratories of the Board; thus DSIS may recruit information officers from the scientific sections or the sections may recruit from the information officers subject to personal qualifications.

DSIS has a book and periodical library under Miss N. F. Steen, whose responsibilities are limited to the staff of the Defence Research Board, and who is responsible for the coordination of acquisitions of the laboratory libraries across Canada. Not to mention Earl Hope, head of translation services, who himself is adept in many languages, would be an oversight as his translations are well known to librarians on both sides of the border.

The Department of National Defence Library, or the Departmental Library, has probably the best collection on military science, covering all three services, in Canada. The other half of the collection consists of texts and periodicals covering administrative and technical fields of interest to NDHQ as well as a general reference section.

The Union List of Serials in National Defence Libraries is being brought up to date at present and will be issued in book form with new titles also on cards for holders of the first edition. The central index of books of military interest is being held on cards received from the cooperating libraries. The reproduction of cards has been shelved due to duplication in part by the National Library's Union Catalogue, which will soon cover the holdings of all libraries concerned.

There are other libraries at NDHQ covering specific fields and for the use of their own staffs—the DND Medical Library, under the Surgeon General, and the Judge Advocate General's legal library as well as

service technical libraries handling primarily publications of their own services.

The Royal Canadian Air Force Staff College at Armour Heights in Toronto, whose librarian Mary Ash will be hostess at a future conference, was established in 1943. The library resources cover such subjects as psychology, political science, economics, military strategy and air power, World War II, modern history and English.

There are many small libraries in service establishments across Canada which receive an annual grant for the purchase of books. These are contained in Commands, Areas, schools and camps. Many are reference libraries carrying texts, etc., to assist those taking promotional examinations and assisting them in the performance of their duties. The staff in these libraries are appointed from the services, and reading rooms are likewise maintained in isolated areas.

The only non-governmental military library of note is that of the Royal Canadian Military Institute on University Avenue in Toronto. The Institute and the library date back to 1889. The present librarian, Mr. W. Stewart, has an excellent collection of military Canadiana in the library as well as a military museum. The Institute issued from 1889 to 1946 "Selected Papers" based on talks given at the Institute by guest speakers.

The majority of Canadian military librarians have been active in the Military Librarians Division of the Special Libraries Association starting with the organizational meeting held at the Toronto Convention in 1953.

Canadian military librarians owe a great debt to Charles E. Dornbusch of the New York Public Library for his bibliographical efforts in the field of Canadian regimental histories, which culminated in the publishing of *Canada's Army 1855-1958; Regimental Histories and a Guide to the Regiments* (Cornwallville, New York: Hope Farm Press, 1959). Canadian libraries have shown their appreciation by purchasing, within a few months of publication, most of the copies published.

The cooperative projects of the Military Librarians Division of SLA are already international projects and each year will be of greater assistance to librarians in both the United States and Canada. The Union List of Military Periodicals, soon to be completed, will open the door to still greater cooperation between military libraries in both countries as well as being of extreme reference value to public and university libraries interested in this field. The three Military Librarians Workshops held in the past three years have shown the great potential in the workshop-type of get together, and it is hoped that future workshops will have fewer topics with everyone participating in the discussions and exchanges of opinions.

We Canadians have appreciated the cooperation received from military librarians in the United States which has made our association most enjoyable as well as fruitful. May the Military Librarians Division of SLA continue its energetic sponsorship of worthwhile projects and good fellowship as it has in the past.

Military Librarians Division's Bibliography on Standards

The most recent addition to the Military Librarians Division's bibliography series, number 21, should be of interest to all librarians. *The Literature on Library Standards: With Particular Reference to Their Application to Military Libraries* was compiled by James G. Hodgson, Chief, Library Branch, Quartermaster Food and Container Institute for the Armed Forces. It contains 173 annotated references and an author index to the articles cited.

The material is arranged in nine major areas of standards: basic articles, college and university, public library, special library, medical library, military library (including general, base, post, station, hospital, Air Force, Army and Navy), special features common to all types of libraries (collections, organization and administration, staff, budget, physical features and interlibrary cooperation), users of the library and their needs, and the philosophy of librarianship.

Single copies of this bibliography are available upon request from the Technical Assistant to the Director, Air University Library, Maxwell Air Force Base, Alabama.

Recruiting for the 3000 Librarian Positions of the Federal Government

ROBERT J. TRUDEL, Chief, Administrative and Financial Occupations Section
Standards Division, Bureau of Programs and Standards, U. S. Civil Service Commission

THREE THOUSAND librarians staff the hundreds of libraries operated by the agencies of the Federal Government. In addition, these libraries employ about 1600 library assistants and a large number of clerks, typists and other non-professional employees.

Many scores of librarians are needed each year to fill the vacancies which inevitably occur in a staff of this size. A large proportion of these librarians are hired through civil service examinations. From the standpoint of the applicant, this is a relatively simple process. He obtains an application form at any first or second class post office, mails it to the appropriate address supplied to him by the post office, takes a written examination in some instances and receives his score. If he passes—and a large proportion of applicants, particularly of those who are college graduates, do—he is then on a list of eligibles and will be considered for vacancies as they occur. While this is a somewhat simplified description of the basic process as seen by the applicant, it covers the major steps.

From the standpoint of the government the process is much more complicated for a number of good reasons. Many of the facets of this process are of interest to applicants and deserve to be much more widely known.

Determining Requirements for Jobs

Lying at the heart of any civil service examination is the concept of a "merit system." In brief, the term "merit system" connotes equal opportunity to compete for positions and the selection of individuals on the basis of their ability, compared with the abilities of other applicants who are simultaneously available. To meet these objectives, it is necessary to define, in advance, the qualities required for each position, how these will be assessed in regard to each applicant and how applicants will be ranked relative to each other on the basis of those abilities.

In the Federal Government, the predetermined requirements in the way of experience, education, training, personal characteristics, etc., are usually set forth by the United States Civil Service Commission in the form of qualification standards. As the need arises for a particular kind of employee, *e.g.,* librarians, the appropriate examining office prepares and issues an examination announcement based on the previously authorized qualification standard. The examination announcement is the document the applicant receives at the post office. It describes the job or jobs to be filled and the minimum experience and education that will be accepted and also specifies various other requirements that must be met, including minimum age, physical requirements, citizenship and others. The announcement also furnishes data on salary, working conditions, vacations, insurance and other benefits.

Qualification standards clearly cannot be based upon whimsy or caprice, for upon the quality of its employees depends the quality and effectiveness of the government. The Civil Service Commission prepares and issues qualification standards on the basis of extensive study of the characteristics of employees already in the kinds of jobs to be filled, on study of the jobs themselves and of the kinds of programs in which they operate, on consultation with experts in the occupation itself and, frequently, with pro-

EDITOR'S NOTE: The qualification requirements for most of the Federal Government's librarian positions have been established by the organization the author directs.

fessional societies or employee organizations.

There are a number of factors to be weighed and balanced in the preparation of qualification standards for librarian or other jobs. The minimum acceptable experience, education or other requirements must provide assurance of ability to perform satisfactorily the duties of the job to be filled. Yet, the requirements must be broad enough to admit consideration of every applicant who can reasonably claim to possess this ability. Experience or training that can be gained only in the federal service may not be the sole acceptable experience or training, if competitive examinations are to be announced. It must be possible to qualify for the position on the basis of experience (in contrast to education) unless, in the case of professional and scientific positions, the Civil Service Commission can determine that the duties cannot be performed without appropriate formal education. The required knowledges, abilities, skills and characteristics must be susceptible to evaluation, using the personnel evaluation techniques available to the Civil Service Commission.

Assessing and Ranking Candidates for Positions

Once the knowledges, skills and abilities to be required have been determined, techniques for measuring these characteristics in applicants must be selected, adapted or devised. Among the many evaluative techniques used by the Civil Service Commission, written and performance tests are perhaps most familiar, even though these are not used for a high proportion of the kinds of positions found in the federal service. Other techniques used include: evaluation of experience, written inquiries addressed to former employers and associates, qualification investigations (personal interviews with former employers, etc.), various kinds of standardized interviews, physical examinations by medical officers, possession of required licenses and permits, evaluation of college records of academic achievements, investigations of applicants' characters, police records (or more accurately, the absence of them), reputations in the community and/or profession and evaluation of samples of work, published papers and similar achievements.

Not all of these are used in each examination nor for each type of job. People utilize a wide range of abilities and characteristics in each type of position and work. These characteristics are so numerous and have such a widely varying influence on the quality of the employee's performance that a comprehensive evaluation of all the characteristics of each applicant is both administratively and technically impractical. Any qualification standard and any examination necessarily concentrates on those few carefully selected characteristics that are found to be the most effective predictors of relative success in each type of position.

Another major step in the preparation of qualification standards is devising an equitable procedure for ranking eligible candidates in the order in which they will be considered for appointment. For most examinations this requires that the experience or education or other abilities—either separately or in the aggregate—of each eligible candidate must be given a numerical value. Further, when several different characteristics enter into the ranking, the relative weight of each must be assigned. Not all of the characteristics required for a particular position are necessarily used in determining the relative rank of candidates. Only those traits or characteristics which are most predictive of relative success on the job are used for ranking purposes. All examination announcements describe, in concise but general terms, the personnel evaluation techniques that will be used and the basis on which eligible candidates will be rated or ranked.

The Civil Service Commission obtains much valuable assistance from librarians in determining what knowledges and abilities are required in librarian positions, in assessing the relative importance of each type of knowledge or ability to success on those jobs and in preparing instructions (termed "rating schedules") for evaluating education, experience and other characteristics. A work group, consisting of librarians from several of the agencies employing large numbers of librarians, is currently assisting the Civil Service Commission in preparing rating

instructions to be used in connection with the examination requirements described in the next portion of this article.

Current Qualification Requirements for Federal GS-5 Librarian Positions

In the Federal Government's system of classifying positions, grade GS-5 is the lowest grade or the entrance level for most professions, including librarian positions. The starting salary for this grade is $4,040 per year. Applicants for librarian positions at this grade must offer either *a)* suitable education or *b)* suitable experience, or *c)* an equivalent combination of *a* and *b*.

A full four-year course of resident college study, which included or was supplemented by at least 24 semester hours credit in library science is, by itself, fully qualifying for most grade GS-5 positions.

Also qualifying for GS-5 librarian positions is four years of successful and progressive experience in library work that provided training in the practical application of the knowledges and abilities essential for effective library work. The applicant must establish that this experience has provided an understanding of methods and techniques comparable to that which would have been acquired through formal education.

Another type of librarian position at the GS-5 level is that of the trainee "technical" librarian. These are trainee positions in technical libraries, which serve the needs of persons engaged in advanced research in engineering, in the physical or biological sciences, law, or in the social sciences and humanities. The work in some such libraries can be performed satisfactorily only by persons who possess a thorough understanding of the basic principles, practices and terminology of the appropriate subject-matter field; knowledge of standard methods, procedures and techniques of research and analysis in the subject-matter field; and knowledge of available and pertinent source materials and current literature in that field.

For such positions at the GS-5 level, four years of college work in an appropriate subject-matter field is usually acceptable. Also acceptable is four years of successful experience that provided equivalent knowledge.

Applicants for both regular and "technical" librarian positions at grade GS-5 who have not completed four years of appropriate college work and who, therefore, offer only experience or some combination of experience and less than four years of college work, must pass a written test measuring verbal abilities (vocabulary, English usage and paragraph reading) and abstract reasoning ability. This test is also required of applicants for GS-7 librarian positions who have not completed at least four years of appropriate college study.

Requirements for Higher Positions

Librarian positions above the entrance grade are usually classified in grades GS-7, 9, 11, 12, 13, etc. The starting salaries of these grades are, respectively $4,980, $5,985, $7,030, $8,330 and $9,890 per year. The work in each successively higher grade is more difficult and more responsible. More in the way of education, experience and other evidence of ability is required of candidates.

For example, in addition to meeting the requirements for grade GS-5 positions, applicants for positions in grades GS-7 and above must have had successful experience that included the performance, supervision or direction of one or more of the following four specialized areas of library work:

1. *Acquisitions:* reviewing, screening and ranking decisions on the desirability of adding materials to the library collection.
2. *Cataloging:* descriptive and subject cataloging; classification of materials.
3. *Reference:* providing library services to users, including preparation of bibliographies, legislative reference, book selection, interlibrary loans and advisory service.
4. *Administration:* over-all administrative responsibility for a library, library unit, group of libraries or a library system.

At grades GS-9 and above, the required experience must very often have been in the particular specialized area or areas constituting the duties of the specific position for which the candidate is being considered.

The amount of additional experience required is one year for grade GS-7, two years for grade GS-9 and three years for grade GS-11 and all higher grades. There are also

requirements on level or quality of experience, which insure that the applicant has had experience on a level of difficulty and responsibility that offers reasonable assurance of his ability to perform adequately the duties of the position to be filled.

Graduate study in library science is also qualifying in part for higher grade librarian positions. Completion of all work for a master's degree or completion of one full year of graduate study in library science is fully qualifying for grade GS-7 positions and may be credited as one year of the experience required for even higher grade positions.

For the highest level positions (in grade GS-13 and above), applicants are judged on the basis of their capacity to plan and direct a library program, train and develop a library staff, plan and coordinate the work of assistants, exercise leadership in the field of library science and also, of course, on their understanding of library science.

Some positions at any of the grade levels may require, in addition to a background in library science, other knowledges and abilities. For example, individual positions may require a working knowledge of a particular language, a familiarity with a particular national culture or geographic area, a knowledge of a particular academic discipline or a background in the literature of a particular people or age. Only applicants who possess both the basic requirements and the required special knowledges or abilities will be considered for these specialized positions.

This is but a brief and generalized description of the requirements for federal librarian positions. Requirements pertaining to physical condition, age, citizenship and other characteristics have not been described. The examination announcements contain a more complete and detailed description of the experience, education and other requirements for these positions.

Other Ways of Recruiting Librarians for Federal Government Positions

Some librarian positions in the Federal Government are not filled by civil service examinations, or have somewhat different qualification requirements from those described above, or both. The Library of Congress, for example, sets its own requirements and does its own recruiting of librarians, since its positions are excluded from the coverage of the Civil Service Act. Information about job opportunities, qualification requirements, procedure for applying, etc., may be obtained from the Director of Personnel, Library of Congress, Washington 25, D. C.

Librarians for hospitals of the Veterans Administration are recruited for under separate examination announcements issued by the U. S. Civil Service Commission. Only persons with college training in library science are accepted for these positions.

New Recruiting Efforts Are Starting

Right at this time the U. S. Civil Service Commission is in the midst of changing its recruiting procedures for librarian positions. In the most recent years the Commission has endeavored to recruit entrance grade librarians, *i.e.*, at grades GS-5 through 7, through the Federal Service Entrance Examination. That is an examination used for the recruitment of college graduates and persons of comparable ability for the beginning or trainee levels of a very wide range of positions. Because of the need for even more librarians, the U. S. Civil Service Commission is now issuing separate examination announcements for librarian positions at those grade levels. (Since the Federal Service Entrance Examination has never been used for positions at GS-9 and higher, there have always been separate announcements for Librarian GS-9 and higher wherever there has been need to recruit librarians at those grades.) Soon after this article is in print, new examination announcements for librarians GS-5 and GS-7 should be available in all areas where recruiting for such positions is in process.

The kinds, sizes, locations, collections and services offered by federal libraries are so varied that somewhere among them any qualified librarian, whatever the breadth or nature of his interests or the depth of his background, can find a position in which he will be challenged to the limits of his professional and intellectual capability.

Technical Literature Sources for Military Libraries Supporting Research and Development

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THE DEMANDS ON all types of libraries for military research and development materials have increased rapidly, especially since World War II. These demands have been prompted by the exploding growth of science and technology resulting in the atomic age and now the space age. The many responsibilities of the Federal Government to the nation in general and to defense contractors and other agencies occupied in research and development have been reflected in an increased number of research and technical libraries as well as by increased workloads in established libraries.

This is a field in which it is particularly important for the librarian to have a thorough knowledge of the technical literature that supports many new and specialized fields. Military research and development librarians must select and acquire pertinent technical literature in anticipation of the needs of users. This must be done as far in advance as possible. Development of collections, which are limited to the specific requirements of the activity supported, is a further distinguishing feature of these military libraries.

Characteristics of Military Libraries

What is a military library? This category includes all the libraries of the Army, Navy and the Air Force as well as other military agencies under the Department of Defense. This discussion concerns only those specialized military libraries whose holdings consist primarily of scientific research and development material rather than libraries providing general service to all the personnel at a military activity or libraries serving military educational institutions. The following information covers some of the sources of reports and other technical literature that make up the major part of the holdings of military libraries supporting research and development activities. Material in such military libraries takes many forms—all well known to librarians: books, reports, documents, journals, reprints, film, microfilm, tapes and other recordings, photographs and slides.

Two features of military technical or research libraries are of interest in connection with sources of technical literature. One characteristic is the security control constantly exercised when dealing with classified material (usually reports or documents, rather than books). The safeguarding of classified material is clearly defined in military regulations. All employees, including technical writers, typists, printers, messengers, clerks, librarians and patrons, who are responsible for handling classified material, are required to know and observe these regulations.

Another characteristic involves the way in which library materials are acquired. Much material is obtained by a direct distribution or on an exchange basis, in contrast to the conventional way of procuring library holdings by purchase. The close liaison maintained among the libraries of the military services makes available to each a great mass of technical literature on an interlibrary loan and exchange basis. The publication, *U. S. Government Research Reports*, issued by the Office of Technical Services, Department of

Commerce, Washington 25, D. C., is a source for nonmilitary libraries needing to purchase technical reports. This agency collects, distributes and sells technical reports of interest to American science and industry.

In military research and development libraries, the bulk of the holdings consists of reports and documents, many of which are not available on the open market because of their security classification. These reports are generated as a direct result of current scientific and technical research, and their publication provides prompt availability of findings in a relatively inexpensive way. Much of this material is distributed in accordance with established mailing lists, based on fields of interest.

Government Sources of Technical Literature

The Guided Missile Technical Information Distribution List is prepared by the Office of the Director of Defense Research and Engineering, Office of the Secretary of Defense, Washington, D. C. The purpose of this list is to facilitate the initial interchange of guided missile technical information among agencies and civilian contractors of the Armed Services listed therein. It is revised quarterly and thus provides those listed in it with current information. Government agencies and contractors are included with approval of the appropriate security agency of the sponsoring service and receive publications in their applicable fields of interest.

The Joint Army-Navy-Air Force Mailing List for the Distribution of Solid Propellant Technical Information establishes authority for direct interchange of solid propellant information. Any organization listed is authorized to send solid propellant reports directly to, or receive reports from, any other organization on the list, unless a *via* address is specified. The *via* notation refers to the cognizant agency through which the report must be transmitted. In the same manner, the *Joint Army-Navy-Air Force Liquid Propellant Mailing List* controls interchange of liquid propellant technical information, including information on liquid propellant rocket engines. Inclusion on these various lists is intended to assure the library of receipt of current materials in specific subject fields.

Requirements for many additional items develop, however, and judgment must be exercised in procuring them in the most expeditious manner. Often a valuable report can be obtained by a simple request to the source. To know where to write for a report is not an elementary problem; it requires study and experience. The monitoring agency, corporate author, report numbers and number contract are the clues. The chart, "How to Obtain Research and Development Reports from the Government," published in *Special Libraries,* March 1953, p. 101-108, is still a valuable guide.

The Atomic Energy Commission is, of course, a primary source of atomic energy information and related material. The Commission's bulletin, *What's Available in the Unclassified Atomic Energy Literature,* explains what unclassified atomic energy research information is available, how to locate and use this information and how it may be obtained. Technical librarians are all familiar with *Nuclear Science Abstracts* (NSA) and its counterpart, *Abstracts of Classified Reports* (ACR). Both of these publications provide abstracts and immediate and detailed indexes to literature on nuclear science and technology. Each issue explains how and where to obtain the material listed. Additional information on the services of the Atomic Energy Commission may be found in "A Brief Introduction to Research Tools for AEC and Government Scientific Reports" by Elsie P. Fishbein and Elizabeth C. Westcott, *Special Libraries,* March 1957, p. 96-9.*

The Armed Services Technical Information Agency (ASTIA), Arlington, Virginia, is the source for research and development reports for military libraries not receiving such reports on initial distribution. ASTIA's *Technical Abstract Bulletin* (TAB), published twice a month, announces current unclassified and classified acquisitions. (See article by J. H. Heald in this issue for more about ASTIA.)

The following quotation from the first semiannual report of the National Aero-

* EDITOR'S NOTE: This material has since been updated annually and is available upon request from the authors, Pennsylvania State University Library, University Park, Pennsylvania.

nautics and Space Administration is reassuring to military librarians who have long used the National Advisory Committee for Aeronautics as a source of technical information. "The National Aeronautics and Space Administration is following the established practices of its predecessor, NACA, in disseminating technical information arising from its scientific investigations. The legislation creating NASA stipulates that the administration 'shall provide for the widest practicable and appropriate dissemination of information concerning its activities.' This provision is the core of NASA's policy for both technical and public information."

The National Science Foundation is active in providing information helpful to libraries. The two series, *Current Research and Development in Scientific Documentation* and *Nonconventional Technical Information Systems in Current Use,* are examples containing descriptive notes on current research and development in scientific documentation. The brochures include information on pertinent activities in the United States and in some instances, foreign projects. Especially helpful is *Science Information News.* This brief quotation from "Statement of Policy," given in volume 1, April-May 1959, clearly defines the purpose of the publication: "The field of scientific information dissemination is rapidly approaching the status of a major scientific activity; thousands of organizations of many kinds and hundreds of thousands of persons are directly and indirectly involved. Consequently, the general problems in this field are intricately woven throughout all stages of processing information from the reporting scientists to the ultimate user. . . ."

Indexes and Translations

Scientific and technical journals are a major record of technical information with which the military research and development librarian must cope. The tremendous increase in the number of such journals has resulted in intensive efforts to index the articles and thus make them more readily available. The listing of title pages has become a simplified way of announcing the existence of journal articles. The various well known commercial indexes are valuable but would be more valuable if the publication time-lag could be shortened.

With the advent of Sputnik more interest than ever has been displayed in translations —especially Russian translations. Librarians everywhere are attempting to acquire lists and sources of translations. Many sources are available, including the various "express" publications issued ten times a year by International Physical Indexes, Inc. Librarians searching for translations will find invaluable *Translators and Translations: Services and Sources,* edited by Frances E. Kaiser and published by Special Libraries Association in 1959, and also *Providing U. S. Scientists with Soviet Scientific Information,* prepared by the Office of Science Information Service, National Science Foundation, May 1959.

Military librarians have access to translations and to translation services and collections not normally available to other government and non-government librarians through intelligence resources, including CIA. ASTIA has a large and growing collection of translations, including British and Canadian ones. ASTIA also receives all Air Force Technical Intelligence translations, including those classified and many from Army and other miscellaneous sources.

Technical Translations, the successor to *Translation Monthly,* is published twice monthly by the Office of Technical Services, Department of Commerce. It lists and abstracts translated technical literature available from the Office of Technical Services, the Library of Congress, the SLA Translation Center, cooperating foreign governments, commercial translators and publishers, universities and other sources.

No discussion of translations is complete without mentioning the Lending Library Unit of the Department of Scientific and Industrial Research Office in London. An article by E. G. Hill describing this service may be found in *Special Libraries,* vol. 50, no. 10, December 1959, p. 476-9.

The above listings indicate the tremendous increase in all aspects of human knowledge and the ever-expanding responsibilities of the military librarian who must serve the scholars, scientists and technicians operating in this era of specialization.

Military Librarians Division Workshop

The Third Military Librarians Workshop was held in Monterey, California, October 8-10, 1959, with the U. S. Naval Postgraduate School as host organization. George R. Luckett, Director of Libraries, coordinated the activities for the excellent meeting.

Military librarians from libraries connected with military organizations of the United States Armed Forces and those doing contract work for them as well as representatives from Canadian defense organizations, met to discuss mutual problems and work out projects beneficial to all.

A considerable portion of the program was concerned with information retrieval systems. Recent experiments carried out by members of the group were discussed. Since the Fourth Workshop will be held at the headquarters of the Armed Services Technical Information Agency in Washington next year, an opportunity for first-hand observation of a system in operation will be provided. Librarians were urged to examine these new methods with an open mind to determine advantages and limitations.

Another topic of interest was the most practicable uses for microfilm and Microcard in military libraries. It was recommended that items selected for these forms be those that are unique to the organization, impossible to replace, reports of other agencies otherwise unavailable and items for which substitutes for the originals are needed.

Smaller group meetings concerned with problems of acquisition, administration and reader services were held on the second day, providing excellent opportunities for individual participation and exchange of ideas.

Throughout the meeting, the most serious concern was with the problem of government procurement regulations that seriously delay acquisition of materials and service to patrons. Emphasizing the problem even more effectively than the serious discussion was a letter received by the library at White Sands Proving Ground, New Mexico, in reply to its order for a subscription. Based on solid statistics, the writer proved that to process a $3 subscription cost well over $15, and with tongue in cheek, the organization stated that they reserved the right as citizens and taxpayers to give White Sands the subscription free and to please not try to pay for it.

A special treat for the group was the opportunity to hear Dr. Luther Evans present the plans for the survey of government libraries conducted by the Brookings Institution, Washington, D. C. It is hoped recommendations from this survey will help to eliminate many current problems.

Willard Holloway gave a resume of accomplishments of military librarians through cooperative efforts initiated at the military workshops and through the Military Librarians Division. These include the *Directory of Military Libraries, The Union List of Foreign Military Periodicals* (currently being expanded to include domestic military periodicals), the microfilming of military periodicals to provide complete files for all libraries needing them, the exchange of special bibliographies and the exchange of instructional circulars and military biographical data among military schools.

RUSSIAN TECHNICAL JOURNALS TRANSLATED

The Instrument Society of America announces the availability of English cover-to-cover translations of four leading Soviet technical journals: *Measurement Techniques,* a bimonthly publication dealing with the study and application of fundamental measurement, annual subscription rate of $20; *Instruments and Experimental Techniques,* a bimonthly journal containing articles relating to the function, construction, application and operation of instruments in various fields of experimentation, annual rate of $25; *Automation and Remote Control,* a monthly journal dealing with all phases of automatic control theories and techniques, annual subscription rate $30; and *Industrial Laboratory,* a monthly with articles on physical and mechanical methods of material research and testing and instrumentation for analytical chemistry, annual rate of $35. A combined annual subscription to all four journals is available for $100, and single issues may be purchased for $6 each. In addition, 1958 issues are available for all four and the 1957 issues of *Automation and Remote Control* may also be obtained. Orders should indicate the year of issue desired and should be sent to the Instrument Society of America, Translations Department, 313 Sixth Avenue, Pittsburgh 22, Pennsylvania.

Meet—A. R. Meera Bai

WHEN I FIRST visited Denison University, it was in the company of several foreign students. We walked around the campus situated on a hill overlooking the small town of Granville, Ohio. In the autumn sun, the colorful trees lent a picturesque scene to the valley, and it reminded me of a recreational area or a European resort rather than a college campus. I could not help overhearing the reaction of one of these foreign students: "I just wonder how these fellows and girls are able to study in such a romantic place."

In this "romantic place" I recently met a charming young lady, Miss Meera Bai, visiting librarian from India. She came to the United States in March 1959 under the Jointly-Sponsored Program for Foreign Librarians. The William Howard Doane Library at Denison, serving a student body of 1400 and 125 faculty members, is an excellent place to practice librarianship in the United States. An extensive addition to the old building in colonial style has more than doubled stack space for its holdings of 120,000 volumes. Miss Meera Bai feels fortunate to be able to work with the well-trained and courteous staff of this library. During the one year training she is given every opportunity to practice all phases of the library profession; she started as a bibliographer, later worked in the catalog department and is now primarily involved in reference work. In addition to this, she helps the head librarian, Lois Engleman, with the development of the Asian program that was recently started by the University. This involves special studies of the three largest Asian countries, India, China and Japan, with the objective of promoting better understanding between these countries and the United States.

Miss Meera Bai was born and educated in Madras, a city of about two and one-half million inhabitants. After high school she completed a two-year intermediate course and continued in the college where she received a B.T. (bachelor of teaching) degree. She also holds a B.S. degree and has a Diploma in Library Science from Madras University. In 1954 she became assistant librarian in the Medical College of this University.

When I asked her about the usage of the Colon classification system of Ranganathan in the Indian libraries, Miss Meera Bai replied that she considers it very suitable for Indian literature and that it is used in a few libraries. The Madras Medical College Library, however, adopted the Bliss system. This library, with 30,000 volumes, employs two professionals, four clericals with a high school degree and five attendants with lower schooling. For financial reasons the libraries in India are less modern than those in the Western world and are not usually equipped with all the new instruments and gadgets employed in our libraries. More tasks are performed by human labor, which is quite cheap in India; consequently professionals spend much of their time supervising untrained staff members.

Miss Meera Bai has traveled more in the United States and visited more libraries in this country than many well-trained American librarians. From the biggest libraries in the world, such as the Library of Congress and the New York Public Library, through a special library such as John Crerar in Chicago, to the great university library at Berkeley, she saw a true cross-section of our different library systems. She had a wonderful experience traveling from the East to the West Coast, studying not only librarianship but also the college life and the American way of life that is so different from that of her own country.

It would be highly desirable if the example of Denison University, which is sponsoring this exchange jointly with the Library of Congress and the State Department, would be followed by more of our great libraries and universities. By demonstrating our cultural institutions to these competent people from foreign libraries, we would eliminate many misconceptions in foreign countries and enjoy personal contacts with foreign colleagues from whom we can learn almost as much as they do from us.

JOHN DE GARA, Agriculture Librarian
Ohio State University, Columbus, Ohio

Special Libraries Association Personnel Survey 1959

Preface

The 1959 Special Libraries Association Personnel Survey is being published with the firm conviction that it merits thoughtful study and has both immediate and future value. Currently needed salary and salary-related information is herein made available to the individual librarian, the SLA Consultation Service and Recruitment Committees, the Headquarters Staff and others interested in special librarianship. Utilized to its fullest extent, this same data may also be expected to stimulate more extensive and intensive research, to clarify the desirability of standards and to help guide various Association programs.

The study claims to be neither comprehensive nor definitive. It covers only special library matters believed appropriate to a management-directed inquiry. Even within this scope, some pertinent factors were omitted in the interests of preparing a brief questionnaire that would encourage wide participation.

Information has been received on a substantially larger group of special librarians than ever before, despite the omission of college, university, public and government libraries from the mailing list. The Association-wide survey made in 1947 brought usable responses from 1,688 members. The 1951 Science-Technology Division survey yielded a 41 per cent return and reported on 574 librarians. The present study, with a 55.5 per cent return, reports on 2,311 special librarians with salary information on 2,180 of that number.

In applying and interpreting the data bear in mind the following suggestions: *1)* Observe the inter-relationship of the exhibits; for example, consider education, experience and supervisory responsibility in connection with each other rather than separately. *2)* Note that the inclusion of a relatively small number of Canadian returns had no material influence on the results. *3)* Recognize the fact that any survey can reflect only the information furnished by the participants in reply to the questions asked. In view of this latter factor, the Personnel Survey Committee earnestly invites suggestions and comments. These will provide working knowledge essential to planning future similar studies.

This advisory committee has been concerned principally with defining objectives, developing the questionnaire and job sheet, selecting the area of inquiry, establishing procedures and reviewing the report. Major departures from the original proposal for a salary survey, as approved by the Executive Board in February 1958, were broadening the mailing list and engaging outside, expert assistance for tabulation of the questionnaires and preparation of the report. Both adjustments were made for the purpose of increasing validity. The title, Personnel Survey, was chosen because it described more accurately an inquiry involving questions on academic background and duties performed as well as salaries.

Kathryn E. Smith, Assistant to the Executive Secretary, was directly responsible for the supervision of the entire project and she handled this assignment most ably. The Committee also acknowledges with appreciation the cooperation of the Non-Serial Publications and *Special Libraries* Committees for making possible distribution of the survey results to the membership and participants.

Janet Bogardus, Donald Wasson, Katharine Kinder, *Chairman*
Special Libraries Association Personnel Survey Committee

January 25, 1960

PRICE WATERHOUSE & CO.

56 PINE STREET
NEW YORK 5

January 11, 1960

To the Personnel Survey Committee of
Special Libraries Association

The attached summary of results of the Special Libraries Association Personnel Survey, conducted during the summer of 1959, was prepared by us from information submitted directly to us by the participants in the survey. All information furnished to us by individual organizations has been and will be held in our complete confidence, and accordingly all figures in the accompanying survey results are aggregates or averages of the individual figures reported in the respective categories.

We understand that the names of organizations invited to participate in the survey were obtained and listed by Special Libraries Association from its records and directories. The list excluded the names of university, college, government and public libraries since, we were informed, salary information is presently available for these, and it probably excluded the names of organizations employing Association members where the Association's membership records lacked information on employment affiliation. The list included the names of organizations not employing Association members where it was known from the Association's records that such organizations maintained special libraries. Although all special libraries probably were not included, the Association believes that its records produced a representative list of organizations maintaining special libraries with the exceptions noted above.

The list was turned over to a commercial mailing house which, under our supervision, handled the physical process of mailing the questionnaire and job sheet forms along with our return envelopes. After mailing, the list was given to us by the mailing house and has been used as a control over replies received.

After eliminating known duplications from the list, 2,048 organizations (including separate divisions or branches, etc., of the same organization) were invited to participate. A tabulation of the response or lack of response follows:

	Number	Per Cent
Questionnaires and job sheets received in usable form, although not necessarily complete in all categories of requested information	1,137	55.5
Questionnaires only received (not used)	67	3.3
Job sheets only received (not used)	23	1.1
Organizations declined to participate or (in a few instances) requests to participate returned by post office because addressees unknown	334	16.3
Organizations did not reply	487	23.8
	2,048	100.0%

Fifty-four completed job sheets were received without accompanying questionnaires and without any indication of the name of the submitting organization. These were not used for the compilations, and the organizations returning them are probably included in the last category above.

In studying the attached survey results, less reliance should probably be placed on the figures in those categories where fewer organizations have reported data. We would also suggest that "average" figures should be considered, where applicable, in conjunction with the related exhibits providing distributions by ranges and with the corresponding median figures. The information requested on the questionnaire and job sheet forms used in this survey is included for reference purposes at the end of the report.

Price Waterhouse & Co.

Introduction

This survey summarizes data received on 1,137 special libraries and on 2,311 professional librarians employed by them in the United States and Canada, except that annual salary data are included only for the 2,180 professional librarians for whom annual salaries were reported. Canadian data appear separately in EXHIBITS 2, 3, 4 and 8. In all other exhibits, results from the two countries are combined. University, college, government and public libraries are not represented.

In considering the results of this survey, it is emphasized that less reliance should be placed on those figures that include data reported by relatively few organizations. In the analyses and summaries which follow, it has not been possible always to include in each figure such number of individual results as would produce a figure that might be considered as representative of special libraries as a whole in the particular respect. It is also suggested that "average" and "median" figures be considered, where applicable, in conjunction with related exhibits providing distributions by ranges.

The term "salary" refers to the amounts reported as annual salary. Bonus and salary range data are excluded from such amounts. The term "librarians" refers to the 2,311 (or 2,180) professional librarians reported. Exhibits presenting data by type of business or organization, kind of library, job classification, etc., are arranged consistently in descending order of average annual salary.

For some of the types of businesses insufficient responses were received to make a separate summary of replies meaningful. The data contained in these have been included in other categories. Automotive and parts manufacturers were included with equipment manufacturing. Entertainment was included with other nonmanufacturing. With these exceptions and with the exception that separate categories were established for nuclear and atomic energy, architectural and engineering, law and equipment manufacturing, libraries have been classified generally as reported.

Other manufacturing includes the following types of companies for which more than four but less than 12 libraries reported data: food products, business machines, pulp and paper, tobacco products, building materials, textiles, photographic equipment and products and rubber manufacturers. Other nonmanufacturing includes similarly printing and business forms, entertainment, investment counseling, scientific research and development, other research organizations, miscellaneous retailers and wholesalers and various kinds of consultants.

The 1,137 special libraries whose replies have been used in this survey were distributed geographically by type of business or organization served, as shown in **Exhibits 1** and **2.**

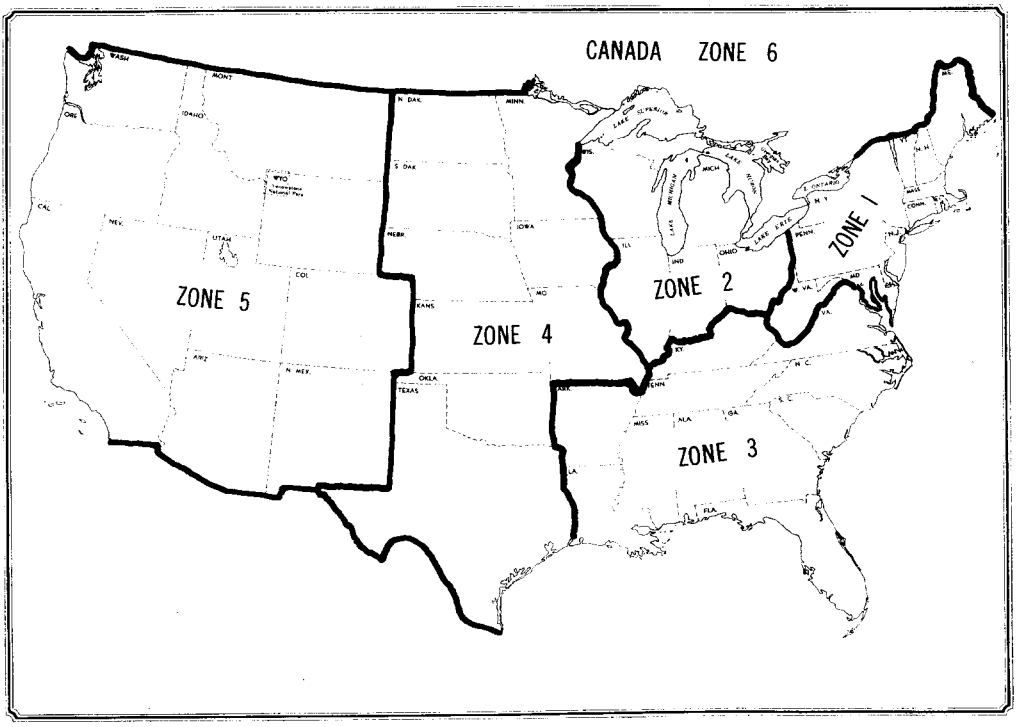

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Exhibit 1

Type of Business or Organization	Total	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
Nuclear and atomic energy	12	2	2	4	—	4	—
Petroleum	55	19	3	1	16	9	7
Aircraft, missiles and parts	35	8	4	1	5	14	3
Chemicals	128	60	29	8	15	7	9
Equipment manufacturing	27	14	10	1	1	1	—
Drugs and pharmaceuticals	48	25	10	1	1	6	5
Other manufacturing	93	41	27	9	5	6	5
Metals	49	23	15	1	—	4	6
Electronic and electric equipment	97	54	8	1	8	23	3
Public utilities and transportation	47	14	11	5	6	4	7
Other nonmanufacturing	95	51	20	5	1	10	8
Law	14	7	1	—	—	5	1
Newspapers and publishing	64	29	16	5	5	2	7
Trade and business associations	35	26	7	—	—	1	1
Insurance, accounting and business	56	28	8	—	6	6	8
Advertising and public relations	44	23	12	1	4	3	1
Architectural and engineering	25	14	7	1	1	2	—
Educational, scientific, religious and charitable organizations	123	64	17	6	9	16	11
Banks	39	16	7	2	5	5	4
Hospitals	51	24	12	—	3	8	4
Total	1,137	542	226	52	91	136	90

Exhibit 2

Salaries Geographically

Exhibit 3 summarizes by geographical zone the number of librarians employed by the 1,137 special libraries, the average number of librarians employed per library, the number of librarians for whom salary data were reported, the average annual salary and the median salary. With the exception of Canada, there does not seem to be a significant difference in the average annual salary or median salary paid to librarians according to geographical zone. In all zones the median salary is less than the average salary, which indicates that more librarians are paid less than the average than are paid more than the average.

Zones	Librarians	Average Number of Librarians per Library	Librarians for whom Salary Data Were Reported	Average Annual Salary	Median Salary
1	1,138	2.1	1,057	$6,158	$5,880
2	460	2.0	439	6,272	6,000
3	97	1.9	83	6,410	6,180
4	169	1.9	165	5,975	5,676
5	285	2.1	278	6,378	6,062
6	162	1.8	158	4,703	4,500
Total	2,311	2.0	2,180	$6,099	$5,820

Exhibit 3

Exhibit 4 shows that geographically annual salaries are, generally, fairly well distributed in the selected salary ranges, except again for Canada. Of the 88 librarians who earn $10,000 and over in annual salary, 44 earn from $10,000 to $10,999, 16 from $11,000 to $11,999, 17 from $12,000 to $12,999 and 11 earn $13,000 or more. None of the 44 librarians earning $11,000 or over is employed in Canada.

Zones	Less than $5,000	$5,000 to $5,999	$6,000 to $6,999	$7,000 to $7,999	$8,000 to $8,999	$9,000 to $9,999	$10,000 and Over
1	289	254	233	128	69	38	46
2	91	119	104	63	27	14	21
3	23	15	8	22	6	5	4
4	46	47	30	14	16	7	5
5	60	62	75	34	26	11	10
6	108	31	6	9	1	1	2
Total	617	528	456	270	145	76	88

Exhibit 4

Salaries by Type of Business or Organization

An analysis of salaries paid to librarians by type of business or organization reveals some rather wide divergences from the over-all average annual salary. **Exhibit 5** sets these forth, together with median salaries, average number of librarians per library and average number of all employees per library. Again, median salaries are less than average salaries except for equipment manufacturers. Since only 39 librarians were reported in this category, undue meaning should not be given to the exception.

Of the total of 2,180 librarians for whom annual salaries were reported, 936 are paid more than the average annual salary of $6,099 and 1,244 are paid less.

Exhibit 5 shows additionally that, except for the field of nuclear and atomic energy, all other special libraries employ from about one to three librarians per library and that, except for this same field plus the aircraft and missile and newspaper and publishing industries, all special libraries employ about two and one-half to five and one-half employees per library over all. The aggregate averages are 2.0 professionals and 4.7 total employees, respectively.

Type of Business or Organization	Librarians	Average Annual Salary	Median Salary	Average Number of Librarians per Library	Average Number of All Employees per Library
Nuclear and atomic energy	54	$7,377	$7,122	5.1	18.3
Petroleum	137	7,269	6,744	2.5	5.1
Aircraft, missiles and parts	100	6,986	6,745	2.9	11.9
Chemicals	228	6,686	6,300	1.9	3.6
Equipment manufacturing	39	6,678	6,800	1.6	3.3
Drugs and pharmaceuticals	121	6,590	6,336	2.5	5.3
Other manufacturing	142	6,203	5,947	1.6	3.1
Metals	65	6,159	5,800	1.7	4.0
Electronic and electric equipment	147	6,156	6,000	1.7	4.2
Public utilities and transportation	82	6,078	5,998	1.9	4.0
Other nonmanufacturing	207	6,037	5,700	2.3	4.6
Law	32	6,021	5,550	2.3	5.2
Newspapers and publishing	156	5,933	5,538	2.9	7.8
Trade and business associations	58	5,823	5,350	1.7	3.7
Insurance, accounting and business	81	5,408	5,148	1.5	3.4
Advertising and public relations	67	5,381	5,100	1.6	3.0
Architectural and engineering	31	5,316	5,100	1.2	2.3
Educational, scientific, religious and charitable organizations	294	5,315	4,986	2.5	5.4
Banks	76	5,261	5,072	2.1	4.5
Hospitals	63	4,844	4,680	1.3	4.1
Total	2,180	$6,099	$5,820	2.0	4.7

Exhibit 5

Exhibit 6 sets forth the distribution of librarians within the selected salary ranges by type of business or organization. It can be seen that, whereas the over-all mean salary falls near the top of the $5,000 to $5,999 range, the mean salary for six types of businesses falls in the $6,000 to $6,999 range, for one type in the $7,000 to $7,999 range and for two types in the less than $5,000 range. The mean salary for 11 types of businesses, representing 561 of the 1,137 reporting organizations (almost half), lies in the $5,000 to $5,999 range.

Type of Business or Organization	Less than $5,000	$5,000 to $5,999	$6,000 to $6,999	$7,000 to $7,999	$8,000 to $8,999	$9,000 to $9,999	$10,000 and Over
Nuclear and atomic energy	4	5	14	19	5	3	4
Petroleum	17	27	32	18	16	10	17
Aircraft, missiles and parts	12	22	21	19	12	8	6
Chemicals	31	60	53	34	24	12	14
Equipment manufacturing	9	3	10	8	5	2	2
Drugs and pharmaceuticals	12	31	30	28	11	6	3
Other manufacturing	37	35	30	19	10	6	5
Metals	12	22	11	11	6	1	2
Electronic and electric equipment	36	30	38	22	14	3	4
Public utilities and transportation	22	19	18	14	4	3	2
Other nonmanufacturing	51	64	49	22	8	6	7
Law	14	2	4	5	2	3	2
Newspapers and publishing	44	47	32	12	9	6	6
Trade and business associations	20	15	11	4	3	3	2
Insurance, accounting and business	34	18	23	23	9	1	10
Advertising and public relations	26	20	13	3	2	1	—
Architectural and engineering	14	9	4	4	2	1	1
Educational, scientific, religious and charitable organizations	148	67	36	1	3	—	—
Banks	36	20	16	3	—	1	—
Hospitals	38	12	11	1	—	—	1
Total	617	528	456	270	145	76	88

Exhibit 6

About half of the 88 librarians who earn $10,000 or more are employed by the first five categories of businesses or organizations and the other half by the remaining 15 categories. None of the 44 earning $11,000 or more is represented in the last five categories.

Annual salary ranges for individual positions were reported for 1,316 librarians (60 per cent) and not reported for 864 librarians (40 per cent) of the 2,180 for whom annual salaries were furnished. Six types of organizations, however, reported less than 50 per cent of their positions covered by salary ranges: equipment manufacturing, law, newspapers and publishing, advertising and public relations, educational, scientific, religious and charitable organizations and hospitals.

If it is assumed that there are not established salary ranges for particular positions where such have not been reported, it would seem from the available information that the better paying jobs, possibly being of a special nature, are less often subject to salary range limitations than are the lower paying jobs, especially in the companies that pay better generally. The special nature of some of the better paying jobs is also indicated by the fact that for a number of such jobs, annual salaries in excess of the corresponding salary range maxima were reported. For the less well-paying types of organizations, however, the opposite appears to hold, as several of these show average annual salaries subject to range limitations to be higher than the related over-all average annual salaries for those organizations.

Further compensation information was requested as to the amount of bonus paid, if any. Only 419 librarians were reported to have received bonuses during the year. The average amount of these bonuses is listed in **Exhibit 7** by type of business or organization (see also **Exhibit 27**).

Type of Business or Organization	Librarians	Average Bonus
Nuclear and atomic energy	—	—
Petroleum	26	$327
Aircraft, missiles and parts	11	191
Chemicals	48	316
Equipment manufacturing	5	427
Drugs and pharmaceuticals	49	519
Other manufacturing	36	231
Metals	10	263
Electronic and electric equipment	17	302
Public utilities and transportation	4	128
Other nonmanufacturing	37	356
Law	13	624
Newspapers and publishing	28	237
Trade and business associations	15	155
Insurance, accounting and business	22	340
Advertising and public relations	31	364
Architectural and engineering	8	260
Educational, scientific, religious and charitable organizations	27	122
Banks	24	320
Hospitals	8	242
Total	419	$319

Exhibit 7

Since reported Canadian salaries are substantially lower than those reported for United States librarians, **Exhibit 8** sets forth, for Canadian organizations only, certain salary information that has been included previously in **Exhibits 5** and **6**. The types of businesses or organizations have been listed in descending order of average annual salary. The number of Canadian librarians reported is probably not sufficiently large to attach any considerable weight to these figures other than the totals.

Canadian Type of Business or Organization	Librarians	Average Annual Salary	Median Salary	Less than $4,000	$4,000 to $4,999	$5,000 to $5,999	$6,000 and Over
Metals	16	$5,499	$5,340	4	3	3	6
Newspapers and publishing	10	5,136	4,508	3	3	1	3
Petroleum	15	4,954	4,740	5	5	3	2
Public utilities and transportation	15	4,764	4,647	2	7	5	1
Hospitals and educational, scientific, religious and charitable organizations	37	4,663	4,500	10	14	10	3
Aircraft, missiles and parts and electronic and electric equipment	10	4,591	4,563	2	6	1	1
Other nonmanufacturing	11	4,562	4,440	3	5	2	1
Chemicals, drugs and pharmaceuticals	17	4,404	4,200	6	6	4	1
Other manufacturing	6	4,308	4,200	1	5	—	—
Banks, insurance, accounting and business and law	21	4,216	3,800	9	9	2	1
Total	158	$4,703	$4,500	45	63	31	19

Exhibit 8

Salaries by Kind of Library

Salaries also vary considerably according to the kind of library. **Exhibit 9** indicates that scientific and technical librarians receive approximately one third more in average annual salary than their counterparts in fine and applied arts libraries and about one quarter more than those in biology and medicine, business and accounting and finance and investment.

Kind of Library	Librarians	Average Annual Salary	Median Salary
Scientific and technical	1,151	$6,573	$6,300
Newspaper and picture	86	6,061	5,720
General reference	258	5,860	5,516
Social and political science	57	5,728	5,280
Advertising and marketing	80	5,510	5,200
Other	147	5,471	5,000
Finance and investment	85	5,372	5,200
Biological and medical	176	5,370	5,000
Business and accounting	92	5,294	5,141
Fine and applied arts	48	4,949	4,550
Total	2,180	$6,099	$5,820

Exhibit 9

Exhibit 10 shows the number of librarians in each salary range by kind of library. Only the scientific and technical libraries have more librarians with annual salaries over $6,000 than under $6,000. Sixty-four of the 88 librarians earning $10,000 and over are employed by scientific and technical libraries and none by finance and investment or business and accounting libraries. Only nine of the 44 librarians earning $11,000 or over are employed by other than scientific and technical libraries.

Kind of Library	Less than $5,000	$5,000 to $5,999	$6,000 to $6,999	$7,000 to $7,999	$8,000 to $8,999	$9,000 to $9,999	$10,000 and Over
Scientific and technical	208	267	269	184	105	54	64
Newspaper and picture	27	17	18	9	7	4	4
General reference	77	79	51	23	10	10	8
Social and political science	16	17	10	7	6	—	1
Advertising and marketing	29	22	17	6	4	1	1
Other	69	26	24	15	5	3	5
Finance and investment	36	22	22	4	—	1	—
Biological and medical	84	42	25	12	6	3	4
Business and accounting	39	28	16	8	1	—	—
Fine and applied arts	32	8	4	2	1	—	1
Total	617	528	456	270	145	76	88

Exhibit 10

Type of Business or Organization	Scientific and Technical	Newspaper and Picture	General Reference	Political and Social Science	Advertising and Marketing	Other	Finance and Investment	Biological and Medical	Business and Accounting	Fine and Applied Arts
Nuclear and atomic energy	12	—	—	—	—	—	—	—	—	—
Petroleum	45	—	5	1	2	1	—	—	1	—
Aircraft, missiles and parts	32	—	1	—	—	1	—	1	—	—
Chemicals	122	—	2	—	—	1	—	1	2	—
Equipment manufacturing	22	—	4	—	—	—	—	—	1	—
Drugs and pharmaceuticals	26	—	1	—	1	1	—	19	—	—
Other manufacturing	72	—	10	—	2	3	—	1	5	—
Metals	35	—	12	—	—	—	—	—	2	—
Electronic and electric equipment	93	—	1	—	—	—	—	—	3	—
Public utilities and transportation	14	—	21	—	—	5	1	—	6	—
Other nonmanufacturing	45	—	11	5	1	13	7	5	7	1
Law	—	—	—	—	—	14	—	—	—	—
Newspapers and publishing	1	32	20	—	5	2	1	2	1	—
Trade and business associations	6	—	14	1	3	1	3	—	6	1
Insurance, accounting and business	1	—	19	1	—	9	7	1	18	—
Advertising and public relations	—	—	3	—	41	—	—	—	—	—
Architectural and engineering	24	—	—	—	—	1	—	—	—	—
Educational, scientific, religious and charitable organizations	28	—	13	22	1	20	—	23	5	11
Banks	—	—	6	—	—	—	30	—	3	—
Hospitals	1	—	—	—	—	2	—	46	2	—
Total	579	32	143	30	56	74	49	99	62	13

Exhibit 11

Exhibit 11, a distribution of participating libraries according to kind of library and by type of business or organization, has been prepared to relate **Exhibits 5** and **6** to **Exhibits 9** and **10.** For instance, all nuclear and atomic energy librarians are included in scientific and technical libraries, all newspaper and picture libraries include only newspapers and publishing librarians, librarians for educational, scientific, religious and charitable organizations are well distributed in almost all kinds of library, etc.

Salaries by Job Classification

Job titles furnished were so diverse, it was impractical to make any compilations based on them. A set of job classifications was devised, therefore, based on personnel supervised. **Exhibit 12** shows how average annual salaries and median salaries differed for each category.

Job Classification	Number of Librarians	Average Annual Salary	Median Salary
Chief librarians supervising other librarians	386	$8,031	$7,674
Assistant librarians supervising other librarians	162	6,742	6,600
Chief librarians supervising clerical employees only	482	5,996	5,967
Assistant librarians supervising clerical employees only	326	5,881	5,700
Assistant librarians exercising no supervision	606	5,330	5,100
"One-man library" librarians	218	4,894	4,830
Total	2,180	$6,099	$5,820

Exhibit 12

The distribution of librarians by salary range and job classification, which is presented as **Exhibit 13,** emphasizes very clearly the effect that the degree of supervision exercised has on annual salaries. However, it can be noted from the fact that assistant librarians exercising no supervision are generally better paid than "one-man library" librarians that the size of the library also has a definite influence on salary.

Job Classification	Less than $5,000	$5,000 to $5,999	$6,000 to $6,999	$7,000 to $7,999	$8,000 to $8,999	$9,000 to $9,999	$10,000 and Over
Chief librarians supervising other librarians	20	35	76	75	69	46	65
Assistant librarians supervising other librarians	16	41	45	32	12	9	7
Chief librarians supervising clerical employees only	125	119	114	76	34	8	6
Assistant librarians supervising clerical employees only	86	95	79	40	15	7	4
Assistant librarians exercising no supervision	253	173	112	43	13	6	6
"One-man library" librarians	117	65	30	4	2	—	—
Total	617	528	456	270	145	76	88

Exhibit 13

According to the job classifications used, 65 of the librarians earning $10,000 and over are chief librarians supervising other librarians, none is a "one-man library" librarian and the balance are fairly evenly spread over the other four job classifications. Only five of the 44 librarians earning $11,000 or more are other than chief librarians supervising other librarians.

Experience

As would be expected, years of experience have a direct bearing on average annual salaries. **Exhibit 14** shows this relationship for total years of library experience, together with related median salaries. In studying years of library experience, it was found that whereas the over-all average annual salary of $6,099 is reached at about nine years of total library experience, it is reached at about six years of experience with the present employer, suggesting that librarians might average about three years of library experience before becoming affiliated with their present employers.

Exhibit 14 shows that up to about ten years of total library experience, salaries increase at a higher rate than after ten years. The rate of increase is slower in terms of years of library experience with present employers and after ten years is very small.

Total Number of Years of Library Experience	Librarians	Average Annual Salary	Median Salary
2 or less	351	$5,147	$5,000
3 — 6	481	5,534	5,278
7 — 10	388	6,275	5,998
11 — 15	377	6,482	6,100
16 — 20	212	6,625	6,472
21 — 25	150	6,738	6,500
Over 25	221	6,940	6,580
Total	2,180	$6,099	$5,820

Exhibit 14

Exhibit 15 has been prepared to illustrate employment turnover among librarians. Years of experience data are listed by the job classifications previously used in **Exhibits 12 and 13.**

Job Classification	Librarians	Average Years of Total Library Experience	Average Years of Library Experience with Present Employer
Chief librarians supervising other librarians	409	17.4	8.8
Assistant librarians supervising other librarians	169	14.3	6.3
Chief librarians supervising clerical employees only	507	12.8	6.6
Assistant librarians supervising clerical employees only	362	9.8	4.9
Assistant librarians exercising no supervision	630	7.4	3.9
"One-man library" librarians	234	9.4	5.3
Total	2,311	11.4	5.8

	Total Experience All with Present Employer	
Job Classification	*Librarians*	*Average Years of Experience*
Chief librarians supervising other librarians	75	11.7
Assistant librarians supervising other librarians	17	7.6
Chief librarians supervising clerical employees only	118	7.9
Assistant librarians supervising clerical employees only	101	5.3
Assistant librarians exercising no supervision	278	4.4
"One-man library" librarians	98	5.8
Total	687	6.2

Exhibit 15 (continued next page)

Job Classification	Total Experience with More than One Employer		
	Librarians	Average Years of Library Experience *Present Employer*	*Previous Employers*
Chief librarians supervising other librarians	334	8.1	10.5
Assistant librarians supervising other librarians	152	6.1	8.9
Chief librarians supervising clerical employees only	389	6.2	8.1
Assistant librarians supervising clerical employees only	261	4.8	6.7
Assistant librarians exercising no supervision	352	3.5	6.2
"One-man library" librarians	136	4.9	7.0
Total	1,624	5.7	8.0

Exhibit 15 (continued)

Exhibit 16, which sets out the distribution of librarians by salary range according to total number of years of library experience, points up the fact that greatly varying combinations of salaries and years of experience make up the average salaries and that there is a lack of concentrated distribution around any of the average figures, signifying that library experience is not necessarily as dominant a factor in determining library salaries as other considerations such as type of business, job classification or education. However, of the 44 librarians earning $11,000 or more, only four have less than seven years of total library experience. The remainder are half in the 7-15 year range and half in the 16-year and over ranges.

Total Number of Years of Library Experience	Less than $5,000	$5,000 to $5,999	$6,000 to $6,999	$7,000 to $7,999	$8,000 to $8,999	$9,000 to $9,999	$10,000 and Over
2 or less	171	97	41	29	4	2	7
3 — 6	185	130	100	37	21	6	2
7 — 10	96	97	73	54	32	21	15
11 — 15	70	98	89	52	30	17	21
16 — 20	34	47	57	32	21	10	11
21 — 25	24	24	39	29	18	8	8
Over 25	37	35	57	37	19	12	24
Total	617	528	456	270	145	76	88

Exhibit 16

Education

Exhibit 17, which furnishes average annual salaries and median salaries according to degree information, provides an indication of the influence of advanced education on salaries of librarians.

Degree	Library School			Other School		
	Librarians	*Average Annual Salary*	*Median Salary*	*Librarians*	*Average Annual Salary*	*Median Salary*
Doctorate	—	—	—	53	$8,273	$7,500
Master's*	453	$6,542	$6,611	224	6,594	6,594
Bachelor's	488	6,166	5,980	1,320	6,247	5,760
Certificate	57	5,559	5,148	—	—	—
None	937	5,903	5,525	412	5,385	5,100
No answer reported	245	6,025	5,832	171	5,358	5,100
Total	2,180	$6,099	$5,820	2,180	$6,099	$5,820

*Includes three doctorates under library school.

Exhibit 17

More meaning is given to **Exhibit 17** by **Exhibit 18,** which shows average annual salaries for the various combinations of library and other degree information. It would appear that other degrees carry more weight from a salary point of view than do library degrees where only one or the other is held, but that a combination of the two is beneficial, especially at the bachelor's level.

Degree Information Combinations	Librarians	Average Annual Salary
Other doctorate and no library degree or no answer under library degrees	42	$8,571
Library doctorate and other bachelor's or master's	3	7,916
Other doctorate and library bachelor's	7	7,529
Library master's and other master's	55	6,655
Library master's and other bachelor's	355	6,626
Other master's and no library degree or no answer under library degrees	124	6,593
Other master's and library bachelor's	42	6,456
Other doctorate and library master's	4	6,445
Library bachelor's and other bachelor's	324	6,336
Other bachelor's and no library degree or no answer under library degrees	611	6,002
Library certificate and other bachelor's or master's	30	5,730
Library bachelor's and no other degree or no answer under other degrees	115	5,499
Library master's and no other degree or no answer under other degrees	36	5,430
Library certificate and no other degree or no answer under other degrees	27	5,368
No degree or no answer under both library and other degrees	405	5,338
Total	2,180	$6,099

Exhibit 18

Exhibit 19 sets out the distribution of librarians by salary range according to degree information. The relatively general spread over all of the ranges should be noted in considering the average annual salaries. Of the 44 librarians paid $11,000 or more, only three do not have some other school degree, while 26 of the 44 do not have a library school degree.

Degree	Less than $5,000	$5,000 to $5,999	$6,000 to $6,999	$7,000 to $7,999	$8,000 to $8,999	$9,000 to $9,999	$10,000 and Over
Library School:							
Master's or doctorate	85	104	106	74	41	23	20
Bachelor's	131	115	101	65	44	15	17
Certificate	22	13	12	4	3	2	1
None	304	243	187	93	44	28	38
No answer reported	75	53	50	34	13	8	12
Total	617	528	456	270	145	76	88
Other School:							
Doctorate	3	4	13	12	3	3	15
Master's	40	41	55	45	26	7	10
Bachelor's	317	335	292	168	97	60	51
None	184	104	64	33	13	6	8
No answer reported	73	44	32	12	6	—	4
Total	617	528	456	270	145	76	88

Exhibit 19

A distribution of librarians by library and other school degrees and by job classification is presented in **Exhibit 20.** Job classifications again are listed in descending order of average annual salary.

Job Classification	Library School Degree			
	Master's or Doctorate	*Bachelor's*	*Certificate*	*None or no Reply*
Chief librarians supervising other librarians	89	122	13	185
Assistant librarians supervising other librarians	44	46	7	72
Chief librarians supervising clerical employees only	90	139	21	257
Assistant librarians supervising clerical employees only	115	78	3	166
Assistant librarians exercising no supervision	123	88	10	409
"One-man library" librarians	21	46	6	161
Total	482	519	60	1,250

Job Classification	Other School Degree			
	Doctorate	*Master's*	*Bachelor's*	*None or no Reply*
Chief librarians supervising other librarians	20	46	253	90
Assistant librarians supervising other librarians	8	24	101	36
Chief librarians supervising clerical employees only	5	52	288	162
Assistant librarians supervising clerical employees only	9	38	248	67
Assistant librarians exercising no supervision	11	61	385	173
"One-man library" librarians	—	14	116	104
Total	53	235	1,391	632

Exhibit 20

The major field of study of librarians by type of business or organization is analyzed in **Exhibit 21.** The fields of the physical sciences and mathematics and history, English and journalism are the best represented, accounting for over one half of the librarians for whom major field information was reported. The preponderance of librarians majoring in the physical sciences or mathematics is, as would be thought, in scientific and technical libraries; however, in all other kinds of libraries there are more history, English and journalism majors than majors in any other field.

The distribution presented in **Exhibit 22** shows that no particular major field of study is associated generally with any particular job classification.

Professional Societies and Activities

Exhibit 23 tabulates the reported memberships of the 2,311 librarians in professional societies.

Name of Society	Librarians
American Chemical Society	307
American Library Association	402
Medical Library Association	142
Special Libraries Association	1,544
Other societies	620

Exhibit 23

Type of Business or Organization	Physical Sciences and Mathematics	Natural Sciences and Medicine	Social and Political Sciences	Economics and Business	History, English and Journalism	Languages	Education	Other	Question not Answered
Nuclear and atomic energy	31	7	1	—	8	3	—	7	4
Petroleum	72	6	4	4	17	4	5	12	16
Aircraft, missiles and parts	19	6	1	5	24	2	5	13	28
Chemicals	149	11	4	8	13	7	7	15	28
Equipment manufacturing	6	4	1	1	8	4	1	6	11
Drugs and pharmaceuticals	36	22	4	6	14	13	1	10	16
Other manufacturing	52	6	1	5	21	8	5	18	30
Metals	25	4	5	2	10	4	3	11	17
Electronic and electric equipment	29	2	5	14	30	11	11	23	39
Public utilities and transportation	4	1	5	5	22	3	2	14	31
Other nonmanufacturing	39	11	8	13	48	11	8	36	42
Law	—	—	—	—	3	—	—	25	4
Newspapers and publishing	3	3	11	9	49	7	5	20	76
Trade and business associations	6	1	5	4	14	8	1	7	14
Educational, scientific, religious and charitable organizations	15	9	17	9	95	28	8	58	62
Insurance, accounting and business	6	2	2	9	19	7	1	11	25
Advertising and public relations	7	1	2	9	26	5	—	8	14
Architectural and engineering	5	2	1	—	7	—	—	4	12
Banks	1	—	5	18	22	1	3	4	26
Hospitals	3	6	1	1	20	7	3	13	12
Total	508	104	83	122	470	133	69	315	507

Exhibit 21

Job Classification	Physical Sciences and Mathematics	Natural Sciences and Medicine	Social and Political Sciences	Economics and Business	History, English and Journalism	Languages	Education	Other	Question not Answered
Chief librarians supervising other librarians	115	13	9	23	98	27	10	46	68
Assistant librarians supervising other librarians	33	13	11	5	35	14	1	26	31
Chief librarians supervising clerical employees only	83	19	24	33	116	27	19	75	111
Assistant librarians supervising clerical employees only	75	18	19	21	78	19	12	51	69
Assistant librarians exercising no supervision	162	31	16	24	104	34	22	78	159
"One-man library" librarians	40	10	4	16	39	12	5	39	69
Total	508	104	83	122	470	133	69	315	507

Exhibit 22

The 620 librarians listed in **Exhibit 23** as belonging to "other societies" specified 891 societies to which they belonged, as shown in **Exhibit 24.**

Name of Society	Librarians
Canadian Library Association	71
American Documentation Institute	44
American Association for the Advancement of Science	38
American Association of Law Libraries	29
Society of Technical Writers and Editors	22
Other United States and Canadian regional, state and local library associations	252
Other associations or groups	435

Exhibit 24

Over 72 per cent of the reporting companies or organizations have indicated that they contribute to the professional activities of individual librarians by paying dues, over 91 per cent by allowing time for meetings and over 84 per cent by paying the expenses to attend such meetings. **Exhibit 25** summarizes these responses by type of business or organization.

Type of Business or Organization	Company Pays Dues in Professional Associations			Company Allows Time for Professional Meetings			Company Pays Expenses to Attend Professional Meetings		
	Yes	*No*	*No Answer*	*Yes*	*No*	*No Answer*	*Yes*	*No*	*No Answer*
Nuclear and atomic energy	5	7	—	9	3	—	12	—	—
Petroleum	34	19	2	50	4	1	47	6	2
Aircraft, missiles and parts	23	11	1	33	2	—	31	4	—
Chemicals	80	44	4	121	4	3	118	7	3
Equipment manufacturing	21	5	1	24	2	1	25	1	1
Drugs and pharmaceuticals	38	9	1	47	1	—	46	1	1
Other manufacturing	66	24	3	88	3	2	87	4	2
Metals	46	2	1	44	4	1	43	4	2
Electronic and electric equipment	58	36	3	89	6	2	80	16	1
Public utilities and transportation	41	5	1	42	4	1	39	7	1
Other nonmanufacturing	67	28	—	86	9	—	78	17	—
Law	12	2	—	13	1	—	12	1	1
Newspapers and publishing	53	10	1	54	8	2	54	8	2
Trade and business associations	34	—	1	29	5	1	24	9	2
Insurance, accounting and business	50	6	—	52	4	—	47	8	1
Advertising and public relations	43	1	—	41	2	1	31	12	1
Architectural and engineering	20	5	—	20	4	1	17	6	2
Educational, scientific, religious and charitable organizations	73	43	7	113	7	3	93	26	4
Banks	36	2	1	36	3	—	36	2	1
Hospitals	21	29	1	49	1	1	40	8	3
Total	821	288	28	1,040	77	20	960	147	30

Exhibit 25

Salary Increases and Benefits

Most businesses or organizations, regardless of type, replied that increases in salary were on a merit basis. These replies are summarized by type of business or organization in **Exhibit 26,** along with the information furnished on the frequency of increases in salary. The majority of businesses or organizations use a frequency of one year.

Type of Business or Organization	Method of Salary Increases					Frequency of Salary Increases				
	Automatic	*Merit*	*Other*	*No Fixed Policy*	*No Answer*	*Less than Yearly*	*Yearly*	*More than Yearly*	*No Fixed Policy*	*No Answer*
Nuclear and atomic energy	—	12	—	—	—	—	7	4	—	1
Petroleum	4	45	1	2	3	3	19	20	6	7
Aircraft, missiles and parts	4	30	—	—	1	14	16	1	3	1
Chemicals	8	114	—	1	5	10	65	26	16	11
Equipment manufacturing	3	20	1	—	3	3	16	1	1	6
Drugs and pharmaceuticals	1	46	1	—	—	4	32	6	1	5
Other manufacturing	5	84	1	1	2	8	46	10	19	10
Metals	5	36	—	2	6	10	19	7	5	8
Electronic and electric equipment	6	88	—	2	1	28	46	7	8	8
Public utilities and transportation	9	36	—	—	2	4	28	8	2	5
Other nonmanufacturing	11	71	2	8	3	9	62	4	15	5
Law	1	9	2	1	1	—	10	—	1	3
Newspapers and publishing	21	31	8	2	2	8	32	10	7	7
Trade and business associations	8	25	—	—	2	1	23	2	3	6
Insurance, accounting and business	4	50	—	1	1	1	41	5	3	6
Advertising and public relations	4	34	3	2	1	4	23	4	11	2
Architectural and engineering	2	18	2	2	1	3	14	1	2	5
Educational, scientific, religious and charitable organizations	27	73	9	8	6	6	71	18	19	9
Banks	1	38	—	—	—	5	25	2	3	4
Hospitals	16	27	3	5	—	2	31	7	8	3
Total	140	887	33	37	40	123	626	143	133	112

Exhibit 26

Exhibit 27 shows by type of business or organization that the giving of bonuses is not the general rule; the advertising and public relations fields seem to be exceptions (see also **Exhibit 7**).

Type of Business or Organization	Profit-Sharing Bonus			Christmas Bonus			Other Bonuses		
	Yes	*No*	*No Answer*	*Yes*	*No*	*No Answer*	*Yes*	*No*	*No Answer*
Nuclear and atomic energy	—	12	—	1	11	—	3	9	—
Petroleum	4	43	8	5	42	8	5	45	5
Aircraft, missiles and parts	6	28	1	6	26	3	2	33	—
Chemicals	23	98	7	25	96	7	10	112	6
Equipment manufacturing	7	15	5	1	20	6	3	19	5
Drugs and pharmaceuticals	11	31	6	25	18	5	7	38	3
Other manufacturing	14	72	7	27	59	7	8	81	4
Metals	10	36	3	11	35	3	3	45	1
Electronic and electric equipment	16	75	6	11	79	7	14	79	4
Public utilities and transportation	—	40	7	3	37	7	2	38	7
Other nonmanufacturing	16	71	8	27	61	7	4	84	7
Law	1	11	2	11	2	1	—	14	—
Newspapers and publishing	16	44	4	23	37	4	6	55	3
Trade and business associations	1	27	7	14	17	4	1	30	4
Insurance, accounting and business	3	50	3	12	42	2	11	44	1
Advertising and public relations	28	14	2	27	14	3	5	38	1
Architectural and engineering	9	11	5	6	14	5	1	22	2
Educational, scientific, religious and charitable organizations	—	109	14	27	86	10	7	106	10
Banks	10	26	3	12	26	1	4	34	1
Hospitals	—	42	9	5	39	7	3	41	7
Total	175	855	107	279	761	97	99	967	71

Exhibit 27

The number of plans each company has is of interest as an indication of the total benefit coverage a librarian might expect with a certain type of business or organization. Such information is summarized in **Exhibit 28** and includes plans contributed to by the employee only as well as those contributed to by the employer.

Type of Business or Organization	No Plans or No Answer	One Plan	Two Plans	Three Plans	Four Plans	Five Plans
Nuclear and atomic energy	—	—	1	3	5	3
Petroleum	1	—	—	6	20	28
Aircraft, missiles and parts	—	1	—	8	17	9
Chemicals	2	1	3	35	60	27
Equipment manufacturing	2	—	1	9	10	5
Drugs and pharmaceuticals	—	—	—	15	24	9
Other manufacturing	3	1	1	28	43	17
Metals	1	2	3	18	17	8
Electronic and electric equipment	1	—	7	22	46	21
Public utilities and transportation	1	1	2	20	12	11
Other nonmanufacturing	4	8	16	35	25	7
Law	1	1	5	7	—	—
Newspapers and publishing	1	4	15	29	13	2
Trade and business associations	1	2	7	21	3	1
Educational, scientific, religious and charitable organizations	13	22	32	35	17	4
Insurance, accounting and business	1	2	2	28	17	6
Advertising and public relations	1	3	14	22	2	2
Architectural and engineering	—	—	4	11	7	3
Banks	—	—	1	17	16	5
Hospitals	4	11	20	12	2	2
Total	37	59	134	381	356	170

Exhibit 28

Exhibit 29 summarizes by type of business or organization the coverage afforded to librarians by the major types of benefit plans. Twenty-two organizations did not furnish

Type of Business or Organization	Life Insurance				Health Insurance				Retirement Plan				Education Plan				Thrift Plan			
	Only Company Contributes	*Only Employee Contributes*	*Company and Employee Both Contribute*	*No Plan*	*Only Company Contributes*	*Only Employee Contributes*	*Company and Employee Both Contribute*	*No Plan*	*Only Company Contributes*	*Only Employee Contributes*	*Company and Employee Both Contribute*	*No Plan*	*Only Company Contributes*	*Only Employee Contributes*	*Company and Employee Both Contribute*	*No Plan*	*Only Company Contributes*	*Only Employee Contributes*	*Company and Employee Both Contribute*	*No Plan*
Nuclear and atomic energy	3	—	9	—	3	—	9	—	4	—	7	1	1	—	6	5	—	—	4	8
Petroleum	4	10	39	1	7	5	42	—	9	—	45	—	3	1	31	19	1	—	42	11
Aircraft, missiles and parts	8	5	21	1	7	6	21	1	16	—	17	2	6	—	19	10	—	7	6	22
Chemicals	33	6	85	2	30	12	83	1	55	1	66	4	15	3	54	54	1	11	33	81
Equipment manufacturing	8	1	16	—	4	1	19	1	16	—	8	1	3	1	12	9	—	4	1	20
Drugs and pharmaceuticals	15	1	31	1	19	1	28	—	16	—	30	2	11	1	21	15	—	8	4	36
Other manufacturing	23	4	62	1	26	5	59	—	31	2	53	4	12	1	44	33	1	14	6	69
Metals	10	2	33	3	11	5	30	2	22	—	23	3	8	1	11	28	—	1	12	35
Electronic and electric equipment	48	2	45	1	47	4	44	1	42	1	38	15	29	—	41	26	2	18	9	67
Public utilities and transportation	—	4	40	2	4	14	24	4	22	—	23	1	1	3	16	26	1	13	6	26
Other nonmanufacturing	28	2	44	19	23	11	48	11	30	—	50	13	15	2	14	62	1	9	3	80
Law	9	1	1	3	9	—	3	2	3	—	2	9	—	—	1	13	—	—	—	14
Newspapers and publishing	19	2	34	8	18	6	32	7	22	1	27	13	4	—	6	53	1	7	2	53
Trade and business associations	13	3	14	5	8	9	11	7	11	2	17	5	3	1	2	29	1	1	—	33
Educational, scientific, religious and charitable organizations	35	6	23	54	24	30	40	24	21	2	70	25	7	1	5	105	—	12	—	106
Insurance, accounting and business	16	3	32	4	13	1	40	1	22	—	29	4	10	—	13	32	1	5	2	47
Advertising and public relations	26	1	14	3	12	13	13	6	18	—	5	21	3	—	4	37	1	2	1	40
Architectural and engineering	8	—	17	—	8	5	11	1	12	—	9	4	4	—	6	15	—	3	1	21
Banks	22	—	16	1	6	1	31	1	22	—	17	—	17	—	5	17	1	3	1	34
Hospitals	9	4	13	23	7	13	16	13	13	1	21	14	2	1	1	45	—	4	—	45
Total	337	57	589	132	286	142	604	83	407	10	557	141	154	16	312	633	12	122	133	848

Exhibit 29

replies in this respect. Of the 1,115 reporting organizations, 926 have life insurance plans partially or wholly contributed to by the employer; 890 have health insurance plans; 964 have retirement plans; 466 have education plans; and 145 have thrift plans. Only health insurance plans and thrift plans are contributed to in more than ten per cent of the cases by the employee only. Most organizations have either a life insurance plan, a health insurance plan, a retirement plan or some combination of the three.

Size and Use of Library

Exhibit 3 has already indicated library size geographically in terms of average number of librarians per library, and **Exhibit 5** has shown library size by type of business or organization in the same terms as well as in terms of average number of all employees per library. **Exhibit 30** sets out by type of business or organization the distribution of the 1,137 libraries reported according to number of librarians and total employees per library. There are 232 "one-man" libraries and 483 libraries with one librarian assisted by clerical employees. These libraries represent almost 63 per cent of the total reported.

Type of Business or Organization	Number of Librarians per Library				Total Employees per Library			
	One	2-3	*4-5*	*6 or More*	*One*	2-5	*6-10*	*11 or More*
Nuclear and atomic energy	3	4	—	5	1	2	3	6
Petroleum	28	15	7	5	14	24	10	7
Aircraft, missiles and parts	16	9	4	6	3	13	4	15
Chemicals	79	36	5	8	27	79	19	3
Equipment manufacturing	25	1	—	1	10	15	1	1
Drugs and pharmaceuticals	27	10	5	6	5	30	6	7
Other manufacturing	64	26	1	2	25	62	2	4
Metals	32	14	1	2	12	25	8	4
Electronic and electric equipment	63	25	7	2	19	54	17	7
Public utilities and transportation	25	17	4	1	9	27	9	2
Other nonmanufacturing	57	25	8	5	22	54	12	7
Law	10	2	1	1	1	7	5	1
Newspapers and publishing	39	15	3	7	7	32	13	12
Trade and business associations	21	11	2	1	5	24	5	1
Insurance, accounting and business	43	10	2	1	12	36	7	1
Advertising and public relations	30	10	4	—	13	24	7	—
Architectural and engineering	20	5	—	—	8	16	1	—
Educational, scientific, religious and charitable organizations	72	30	12	9	21	72	13	17
Banks	19	14	4	2	4	24	8	3
Hospitals	42	7	2	—	14	32	2	3
Total	715	286	72	64	232	652	152	101

Exhibit 30

The information furnished in reply to the question asking for approximate numbers and types of employees using library was not in all cases susceptible to tabulation. Therefore, there have been eliminated from the compilation of these data 256 librarians reported on questionnaires that did not provide definite numbers of users. **Exhibit 31** presents the resulting approximate average numbers and types of employees using library per librarian by type of business or organization. It should be noted that no degree of use is specified but merely the number of users, whether occasional or frequent.

Duties of Library Position

Exhibit 32 summarizes by job classification the average time devoted by librarians to the various duties stated as percentages of total time. These figures have been rounded

Type of Business or Organization	Editorial and Publishing	Engineering and Technical	Business, Legal and Administrative	Sales, Advertising and Public Relations	Production	Medical (including nurses)	Other	Total
Nuclear and atomic energy	—	168.5	19.8	—	92.1	—	—	280.4
Petroleum	—	81.1	41.4	2.4	5.1	—	32.6	162.6
Aircraft, missiles and parts	—	371.1	15.9	2.5	17.4	1.0	6.5	414.4
Chemicals	—	67.0	4.3	4.1	—	—	8.8	84.2
Equipment manufacturing	—	154.3	23.5	4.2	1.0	—	227.5	410.5
Drugs and pharmaceuticals	—	46.8	12.1	4.7	—	9.8	35.2	108.6
Other manufacturing	.5	82.2	20.5	4.5	1.9	152.8	—	262.4
Metals	—	72.3	25.7	5.1	6.5	—	13.7	123.3
Electronic and electric equipment	.2	257.1	30.8	7.3	.1	—	87.9	383.4
Public utilities and transportation	—	129.0	89.3	9.0	2.2	—	221.2	450.7
Other nonmanufacturing	.2	61.4	62.4	4.2	—	35.7	75.5	239.4
Law	—	15.4	104.4	—	—	—	5.8	125.6
Newspapers and publishing	42.5	1.8	3.7	2.7	—	.3	36.1	87.1
Trade and business associations	—	5.5	66.4	2.8	—	—	133.5	208.2
Insurance, accounting and business	—	5.3	175.3	22.2	—	6.9	246.5	456.2
Advertising and public relations	3.8	3.0	29.5	27.5	.2	—	28.3	92.3
Architectural and engineering	—	151.3	26.1	1.1	.3	—	10.5	189.3
Educational, scientific, religious and charitable organizations	2.6	63.5	10.0	.6	.5	43.2	30.0	150.4
Banks	—	2.4	160.4	.7	—	—	41.4	204.9
Hospitals	—	2.4	6.9	.8	—	351.2	15.1	376.4
Total	4.1	86.7	36.4	4.8	4.4	19.0	61.1	216.5

Exhibit 31

Duties of Position	Chief Librarians Supervising Other Librarians	Assistant Librarians Supervising Other Librarians	Chief Librarians Supervising Clerical Employees Only	Assistant Librarians Supervising Clerical Employees Only	Assistant Librarians Exercising no Supervision	"One-man library" Librarians	Total 2,311 Librarians Reported
Administration and supervision	38	27	20	12	1	6	16
Planning, policies and procedures	12	5	6	2	1	2	5
Abstracting	3	2	3	4	6	3	4
Editing	1	3	2	2	2	1	2
Literature searching	6	6	8	7	6	9	8
Patent searching	0	0	0	0	1	0	0
Publishing	0	0	0	0	0	0	0
Report writing	1	1	2	0	1	2	0
Research	5	5	6	3	4	5	4
Translating	1	1	1	1	2	1	1
Acquisition	8	5	6	8	6	8	6
Archives	0	0	1	0	0	0	1
Bibliography	3	2	4	2	3	3	3
Cataloging	3	12	7	15	14	10	10
Circulation	1	1	5	5	6	9	4
Classification	2	5	5	10	8	5	6
Filing	1	1	2	2	6	9	4
Indexing	2	7	5	6	8	7	6
Reference	12	17	13	18	20	12	16
Other library	0	0	1	2	4	3	2
Other nonlibrary	1	0	1	1	1	2	1
All library, no detail	0	0	2	0	0	3	1
Total	100%	100%	100%	100%	100%	100%	100%

Exhibit 32

to the nearest whole per cent since the data furnished were approximations only. As can be seen, the more supervisory the job, the more time is spent on administration, planning and policy-making. A good portion of time seems to be applied to reference work by librarians in all job classifications and to cataloging by all except chief librarians. With the exception of these two duties and the supervisory and planning duties, no job group devotes more than ten per cent of its time to any one duty. The "zeros" do not necessarily mean absolute zero but merely less than one half of one per cent.

Conclusion

Although the questionnaire and job sheet forms did not define a professional librarian, it would appear from the data received that a fairly uniform view is held generally as to what constitutes a professional librarian. Some use was made of all of the data received in the 1,137 usable responses with the exception of that furnished in answer to the query on the title of the librarian's supervisor. The wide diversity of replies to this question precluded any meaningful classifications.

The survey produced a great deal of basic information. Its results should be studied carefully and related to each other rather than considered piecemeal. A review of averages and means should be tempered by the fact that the exhibits providing distributions by various ranges usually show quite a spread over the ranges rather than any real concentrations around the means and averages.

The present figures reflect the status of special librarians in terms of information produced by the survey as of the summer of 1959 and naturally do not point up any trends without comparative information as of some prior date. If periodic surveys were to be undertaken in the future along the lines of the current survey, added significance would be given to the results of both this survey and possible future surveys by making available comparative information from which conclusions could be drawn concerning changes and trends as well as current status.

SLA Sustaining Members

The following organizations have expressed their interest in supporting the activities and objectives of the Special Libraries Association by becoming Sustaining Members for 1960. These are additions to the 49 Sustaining Members listed in *Special Libraries,* January 1960, page 38, and the 16 Sustaining Members listed in *Special Libraries,* February 1960, page 92.

FIRST NATIONAL BANK OF BOSTON, Boston, Massachusetts
FIRST NATIONAL BANK OF CHICAGO, Chicago, Illinois
FORD MOTOR COMPANY, Scientific Laboratory, Dearborn, Michigan
HARVARD GRADUATE SCHOOL OF BUSINESS ADMINISTRATION, Boston, Massachusetts
JOHNS-MANVILLE RESEARCH CENTER, Manville, New Jersey
ELI LILLY AND COMPANY, Indianapolis, Indiana
NEW YORK LIFE INSURANCE COMPANY, New York, New York
PURE OIL COMPANY, Chicago, Illinois
RAND CORPORATION, Santa Monica, California
ROHM & HAAS COMPANY, Philadelphia, Pennsylvania
STANDARD OIL COMPANY (NEW JERSEY), New York, New York
WORCESTER FREE PUBLIC LIBRARY, Worcester, Massachusetts

EDITOR'S NOTE: This list includes all applications received through February 8, 1960. Supplements will appear in future issues.

SPECIAL LIBRARIES ASSOCIATION PERSONNEL SURVEY QUESTIONNAIRE

NAME AND ADDRESS OF COMPANY _____

1. KIND OF BUSINESS, INDUSTRY OR ORGANIZATION SERVED BY THE LIBRARY (check one)

_____ Advertising & Public Relations
_____ Accounting & Business
_____ Aircraft, Missiles & parts
_____ Automotive & parts
_____ Bank
_____ Chemical
_____ Drug & Pharmaceutical
_____ Educational, Scientific, Religious and Charitable Organization
_____ Electronic & Electric Equipment
_____ Entertainment (TV, Radio, Movies)
_____ Hospital
_____ Insurance
_____ Metal
_____ Newspaper & Publishing
_____ Petroleum
_____ Public Utilities
_____ Trade & Business Association
_____ Transportation
_____ Other Manufacturing (specify)
_____ Other Nonmanufacturing (specify)

2. KIND OF LIBRARY (check one)

_____ Advertising & Marketing
_____ Biological & Medical
_____ Business & Accounting
_____ Finance & Investment
_____ Fine & Applied Arts
_____ General Reference
_____ Picture & Newspaper
_____ Scientific & Technical
_____ Social Science
_____ Other _____ (specify)

3. APPROXIMATE NUMBER & TYPE OF EMPLOYEES USING LIBRARY

_____

(Example: 90 engineers, 50 chemists, 30 salesmen, etc.)

4. NUMBER EMPLOYED IN LIBRARY: Professional _____ Clerical _____

5. METHOD OF SALARY INCREASES FOR PROFESSIONAL LIBRARY EMPLOYEES

		Frequency
Automatic Increases	_____	_____
Merit Increases	_____	_____
Other	_____	

(if other methods used please explain)

6. BONUSES RECEIVED BY PROFESSIONAL LIBRARY EMPLOYEES

Profit Sharing Yes_____ No_____
Christmas Bonuses Yes_____ No_____
Other Bonuses (specify) _____

7. PROFESSIONAL LIBRARY EMPLOYEES BENEFITS; excluding Social Security & Workmens' Compensation (check as appropriate)

	Only Company Contributes	Only Employee Contributes	Both Company & Employee Contribute
Life Insurance	_____	_____	_____
Health Insurance	_____	_____	_____
Retirement Plan	_____	_____	_____
Education Plan	_____	_____	_____
Thrift Plan	_____	_____	_____

8. COMPANY CONTRIBUTIONS TO PROFESSIONAL ACTIVITIES OF INDIVIDUAL LIBRARIANS

	Yes	No
Company pays dues in professional associations	_____	_____
Company allows time for professional meetings	_____	_____
Company pays expenses to attend professional meetings	_____	_____

SPECIAL LIBRARIES ASSOCIATION PERSONNEL SURVEY JOB SHEET

NOTE: Complete one sheet for each employee included as a professional librarian in #4 of the questionnaire. Give the job title you use for each position.

A. JOB TITLE _____

B. DUTIES OF POSITION (Instructions: Insert one of the following numbers to indicate the amount of time devoted to each duty performed)

1. 75% or more 2. 50% to 74% 3. 25% to 49%
4. 10% to 24% 5. Less than 10%

_____ Administration
_____ Supervision
_____ Planning (policies & procedures)
_____ Abstracting
_____ Editing
_____ Literature searching
_____ Patent searching
_____ Publishing
_____ Report writing
_____ Research

_____ Translating
_____ Acquisition
_____ Archives
_____ Bibliography
_____ Cataloging
_____ Circulation
_____ Classification
_____ Filing
_____ Indexing
_____ Reference
_____ Other (specify)

Number of employees supervised
Professional _____ Clerical _____

C. INCUMBENT SUPERVISED BY _____
(title of supervisor)

D. SALARY
Annual salary of incumbent as of June 1, 1959 $_____
Bonus (amount paid if any) during year ended January 1, 1959 $_____
Annual salary range for position as of June 1, 1959
Maximum $_____ Minimum $_____

E. NUMBER OF YEARS IN THIS POSITION _____

F. TOTAL NUMBER OF YEARS OF LIBRARY EXPERIENCE
(including that with previous employers) _____

G. LIBRARY SCHOOL DEGREE
Bachelor's _____ Master's _____ Doctorate _____ None _____

H. OTHER DEGREES
Bachelor's _____ Master's _____ Doctorate _____ None _____
Major field of study _____
(subject, i.e., chemistry, economics, biology)

I. MEMBERSHIPS OF LIBRARIAN IN PROFESSIONAL SOCIETIES (check)
American Chemical Society _____
American Library Association _____
Medical Library Association _____
Special Libraries Association _____
Others _____ (please specify)

Standards for Special Libraries

THE REPORTS OF DIVISION DISCUSSIONS held at the 50th SLA Convention in Atlantic City, June 1959, and tabulated here were preceded by two briefing sessions for discussion leaders and two General Sessions devoted entirely to standards. Division groups, averaging about 20 participants each, ranged in number from one to six per Division. The discussion leaders of the 45 groups scheduled to meet were given a detailed guide aimed at eliciting the opinion and advice of participants on how the Association should proceed in developing standards for special libraries, if at all.

Thirty-six reports, varying from six-page minutes to half-page summaries, were submitted to Samuel Sass, Chairman of the Professional Standards Committee. The following is an analysis and tabulation of those responses indicated to be the consensus of the group, not the opinion of a single participant. Figures in parentheses indicate the number of reports stating the group's opinion on the particular topic.

1. Preferences for particular types of standards (minimum, graduated, etc.) are less clearly revealed than other preferences. As work on the actual formulation of standards progresses, opinion in this category can be expected to crystallize.

2. Twenty-four reports ranked the areas to be covered by SLA standards, and the weighted tabulation indicates their relative importance in the opinion of these groups.

3. Of the 14 groups specifically endorsing the formulation of standards, many do not indicate procedures for doing the job. Conversely, of the 22 groups reporting in detail on procedures to be followed, many neglect to specifically endorse the formulation of SLA standards. ALA and the Hospital Division of SLA were among the library groups mentioned as having standards that should be studied and adapted where applicable. The nine groups favoring definition of terms for use both in a survey or in the proposed standards all recommended this as the initial step in formulating standards.

4. The ten reports recommending operation at the Division level did not exclude simultaneous operation at the national level (19). "General participation, acceptance and use of the final standards would be more assured," it was pointed out, if Divisions do some of the preparatory work. This work should be conducted "in a uniform manner, so that results will be comparable and suitable for analysis."

The earnest and intelligent efforts of each Division's participants, discussion leaders and reporters at Atlantic City have given direction to the formulation of SLA standards by clearly indicating group opinion of areas to be covered by standards, principal steps to be taken in developing them and levels at which to take these steps. The discussions also indicate that we are working toward the formulation of standards for organizing and operating special libraries and *not* on standards for measuring job performance.

MRS. MARTHA H. O'LEARY, Professional Standards Committee

1. Areas of Agreement

1a. Considered the formulation of SLA standards (20):

Needed	6
Useful	5
Valuable	5
Desirable	4
Beneficial, essential, worthwhile	1 each
Difficult, impossible	1 each
Difficult in qualitative areas	1
Impossible in qualitative areas	1

1b. Agreed SLA standards should be (20):

Minimum	8
Graduated by library categories (size, type, etc.)	7
Graduated by categories and by degree (minimal, adequate, good)	2
Up-dated regularly	5
General (broad)	5
Not too general	2
Qualitative in some areas	2
Basic, optimum	1 each
Used as guides, not as requirements	3
Less detailed than each Division's standards	2

2. Categories To Be Covered by SLA Standards (24)

	First	Second	Third	Fourth	Fifth	Sixth	Number of Mentions	Weighted Totals
Staff	7	5	1	5	2	1	21	91
Collection	3	5	5	2	2	—	17	73
Services	7	2	2	2	1	—	14	68
Space	3	4	4	2	1	—	14	62
Equipment	2	1	5	5	1	1	15	55
Budget	1	3	2	—	5	2	13	41
Place of the library in the organization	1	3	2	—	—	2	8	31
Technical processes	—	1	1	2	3	1	8	22
Weights	6	5	4	3	2	1		

Note: Also mentioned were public relations (3), interlibrary loans (2) and ethics (1).

3. Procedure to be Followed (22):

3a. National Level

- Formulate SLA standards — 14
- Study and adapt to SLA needs standards of other organizations — 13
- Survey SLA libraries to determine present conditions and standards — 10
- First define terms to be used in survey and in formulated standards — 9
- Provide members with a bibliography on library and related standards — 2
- Call on all SLA members for information about existing and proposed standards of library and non-library organizations — 1
- Investigate *methods* used by other groups in formulating standards — 1
- Cooperate with other organizations now formulating standards — 1
- Professional Standards Committee should study Consultation Service Committee's experiences and their standards of operation — 1

3b. Division Level

Formulate standards in areas:

1. To be covered by SLA standards — 3
2. Of basic reference collection — 3
3. Of particular Division concern (ethics, storage, etc.) — 1

- Formulate more specific Division standards *after* SLA standards have been adopted — 1
- Survey Division libraries on:
  1. Conditions and standards now existing — 1
  2. Budget standards — 1

3c. Chapter Level

- Hold a program on standards — 3

4. Levels of Procedure (24):

4a. National

- Present Professional Standards Committee — 4
- Appoint a Standards Committee or Committees — 4
- Appoint one representative of each Division to a Committee on Standards — 3
- National level implied but not specified — 8

4b. Division — 10

4c. Chapter — 3

4d. Consulting firm (to review final form of proposed standards) — 3

The Special Libraries Association Personnel Survey published on the preceding pages has also been reproduced as a separate 28-page pamphlet and is available for one dollar from Association headquarters, 31 East 10th Street, New York 3, New York.

SLA Non-Serial Publications

Cumulative Statement on Publications in Print as of December 31, 1959

Date	Name of Publication	Cost*	Number Printed	Sust., Inst. & Review Copies Given	Copies Sold	Total Receipts to Date
1949	*Aviation Subject Headings*	$ 569.19	1000	254	427	$ 728.49
1949	*Brief for Corporation Libraries*	831.65	1500	417	1033	1,723.54
1949	*Creation and Development of an Insurance Library*	424.32	1000	253	536	999.20
1949	*Subject Headings for Aeronautical Engineering Libraries*	1,390.97	1000	225	551	2,109.87
1950	*Contributions Toward a Special Library Glossary*	369.47	1000	405	437	511.94
1951	*Technical Libraries, Their Organization and Management*	9,302.43	5077	526	4283	24,545.92
1951	*Nicknames of American Cities*	905.82	1500	20	1345	2,351.34
1953	*Source List of Selected Labor Statistics*	1,028.33	1000	33	725	1,148.06
1953	*Correlation Index Document Series and PB Reports*	4,192.54	1000	14	762	6,262.50
1953	*Directory of Special Libraries*	7,580.74	2090	19	1695	12,357.39
1954	*Map Collections in the U. S. and Canada*	1,043.38	1000	22	738	1,917.24
1954	*Subject Headings for Financial Libraries*	1,340.52	1000	23	452	1,810.55
1955	*Bibliography of Engineering Abstracting Services*	1,079.47	1702	21	1068	1,280.40
1956	*Handbook of Scientific and Technical Awards in the U. S. and Canada, 1900-1952*	8,579.42	2000	44	942	7,946.30
1956	*Handbook of Commercial, Financial and Information Services*	3,727.98	2000	52	1806	7,757.50
1957	*Bibliography of New Guides and Aids to Public Documents Use, 1953-1956*	1,344.64	1226	36	1012	1,221.75
1957	*National Insurance Organizations in the U. S. and Canada*	1,106.44†	1009	40	471	1,295.00
1959	*SLA Loan Collection of Classification Schemes and Subject Heading Lists*	1,660.11	750	125	395	981.75
1959	*Translators and Translations: Services and Sources*	3,421.71‡	3010	138	1389	3,471.00
1959	*Picture Sources: An Introductory List*	3,265.68§	2532	115	957	3,345.50

* Cost of handling now included.
† $21.71 of this cost represents an additional share of the profits paid to the Insurance Division.
‡ $21.13 of this cost represents a share of the profits paid to the Georgia Chapter.
§ $34.21 of this cost represents a share of the profits paid to the Picture Division.

Alma Clarvoe Mitchill and SLA: In Memory

NEWS OF THE passing of Alma Clarvoe Mitchill on February 6, 1960 was hard to accept. With her quiet courage, few had realized the toll the last year had taken. Her death, from heart complications, followed that of her invalid mother, aged 100, in less than a month.

Probably no other member of SLA can equal the record of Alma Mitchill for quiet, competent service to the Association in many offices. Never an extremist, she moved serenely through the lively years of SLA's growth, following a course marked by steady common sense and the ability to avoid dissension while holding to her objectives. Deceptively Victorian, even yielding in appearance, under that gentle guise, Alma had a determination and a strong will that made themselves felt in any project. The growth of the Public Service Electric and Gas Company Library reflects these qualities as does her success in her many SLA offices.

Alma began her library career in the Brooklyn Public Library but in two years followed another Brooklyn graduate to the newly established library of the Public Service Corporation of New Jersey in Newark, becoming, in 1916, its librarian. During her 42 years there, the library grew from a circulation of 700 to one of 136,000, expanded in size and service and was recognized as an invaluable part of the organization.

With her special interests, Alma's first close ties with SLA came through the Public Utilities Committee of the Technology Group. She was an influential member serving as chairman of many projects. From 1927-1930 she was chairman of the newly-formed Commercial-Technical Group. Always she was one that could be counted upon for constructive effort in that Group and its successor, the Science-Technology Division. With her interest in all phases of Association activity, she was quick to sense the opportunity for a vigorous Chapter in New Jersey and was one of its organizers, serving as its first President from 1935-37 and again leading the Chapter from 1947-1949. It was a natural progression from these responsibilities to the broader ones of the Association as a whole, and she gave yeoman service in the years 1937-1940, first as Vice-President of SLA and then as President.

In still another area of SLA activities Alma showed her remarkable capacity for sustained effort when she filled the post of editor of **Special Libraries** for ten years from 1941-1951 and served again in 1955. This, perhaps the most rewarding as well as the most demanding office in the Association, was held by librarians in the field, with Alma carrying the assignment for a longer period than any of her predecessors. Since she gave up the post, it has been filled by a member of the headquarters staff.

That the members of the Special Libraries Association have warmly appreciated her generous use of her time and abilities for its welfare has been clearly expressed. In December 1950 the New Jersey Chapter presented her with a Life Membership in SLA. In 1951 she was the recipient of the SLA Professional Award for her years of service to the Association. In 1959 she was one of the first 20 individuals to become members of the newly instituted Hall of Fame.

SLA has been fortunate in the many loyal and gifted members who have given unstintingly of their time and abilities; for continued effort for the Association's welfare for more than 40 years, Alma Mitchill's record is unique. Her gracious, friendly personality will long remain a happy memory to the hundreds who have known her in this work.

MRS. MARIAN MANLEY WINSER

This Works for Us . . .

A Novel Method of Charging Library Material for Loan

A technical library is often faced with such questions as "What does John Doe have on loan from the library?" or "What was the average number of books—magazines—pamphlets borrowed by each engineer over a given period?"

A method of charging, which answers questions of this variety without difficulty, was developed by the Allen B. Du Mont Laboratories Research Library over three years ago. It should be stated, however, that this library serves approximately only 200 engineers. During the year 1958-1959, 1298 books, 715 separate issues of magazines and 382 paper bound pamphlets were circulated. Consequently, it would be difficult to predict how the system would stand up to greater usage.

In this system four small card-files are kept at the charge-out desk. The first is called the alphabetical borrowers' file. All borrowers are assigned a permanent number, and this file lists each borrower by name and gives his number. It is seldom used because borrowers or the clerk tend to remember the pertinent number, but it is useful as a reference.

The second file is called the numerical borrowers' file, for here all borrowers' cards are arranged numerically. Each card shows exactly what that borrower has on loan—if anything—and the date due. Should a borrower leave the organization, his card is taken from the file and his number may be reassigned. Cancelled or filled cards are saved for year-end statistical analysis purposes. The borrower's card (buff) shows the following information: borrower's number, name, department, telephone number and all the library material he has ever borrowed—whether returned or not. A book is charged by its accession number, a magazine by the term "Mag," and a pamphlet by the term "Pamph." The date-due stamp serves to differentiate between magazines and pamphlets charged out on different days.

The third file is the collection of cards for materials currently on loan. At Du Mont this breaks down into three groups of material: books, magazines and different types of pamphlets. The cards for books (white) on loan are arranged by author and bear the additional information of title, accession number, the number of the borrower who has it on loan and the date due. Book cards are kept in the book pocket when the book is not on loan. The book accessions register is also an occasionally useful tool when tracing books by accession number. Magazine loan cards (pink) are of the normal type.

Every magazine subscribed to by the library has a number of blank title cards on file. When a magazine is required for loan, a relevant title card is taken from the blank file and the issue or year (if it is a bound volume) is written in one column, together with the borrower's number and the date due. Magazines on loan are arranged in alphabetical order by title. An all-purpose loan card was developed for charging out the variety of pamphlets in stock. When a pamphlet is borrowed, the pamphlet code number is written on the card together with the

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A. Knitterling

Adv. Systems Ext. 26

~~244~~	~~Jan 13~~		
~~79~~	~~Feb 6~~		
~~Mag~~	~~Feb 19~~		
~~Pamph~~	~~Mar 22~~		
801	Apr 12		
Mag	Apr 14		

Numerical Borrower's Card

borrower's number and the date. They are filed according to the code.

Finally, the fourth file consists of blank magazine and pamphlet cards for use in charging purposes. Blank magazine cards are arranged in alphabetical order by title to facilitate finding.

When material is returned, the borrower's card is extracted, the returned material crossed off and the card is replaced in the file. Cards for the returned material are similarly extracted and the borrower's number crossed off them. Book cards are placed in the book pocket. Magazine and pamphlet cards are returned to the blank file.

This system takes no more time to operate than normal systems, both for charging and for checking overdues. After working with it for a short time, a clerk can memorize most of the borrowers' numbers. The advantages of this system, however, are that it will tell what every borrower has, or has had, on loan over any given period at any given time—in detail for books, and roughly for magazines and pamphlets. It will tell how many registered borrowers there are. It will simplify the normal charging method of writing the borrower's name on the charge-out card. This method frequently breaks down because of illegible handwriting. In addition, it will still tell how many and what books, magazines and pamphlets are currently on loan.

There is undoubtedly a little more for a new clerk to learn initially and more cards are used, but for quick reference uses and statistical analysis, this system bears rich and interesting rewards.

JOHN L. GARDNER
Former Engineering Librarian
Allen B. Du Mont Laboratories, Inc.
Clifton, N. J.
Now Librarian, *Sports Illustrated*
Time, Inc., New York

News From SLA Headquarters

The Midwinter Meetings of the SLA Executive Board and Advisory Council were held in Chicago, February 11-13. Among the decisions reached by the Board were:

. . . to proceed with a more aggressive public relations program, including the Sustaining Membership drive outlined by Executive Research, Inc., the Association's public relations counsel in 1959, and employing additional headquarters staff to implement the program;

. . . to liberalize publication benefits for Sustaining Members so that they may receive appropriate Division, Chapter and other publications in addition to those published by the Association itself;

. . . approved the report of the Chapter Standards Committee recommending that *1)* each Chapter be required to submit an annual financial report, *2)* the current fund balances of Chapters be limited to three times their annual allotments and *3)* limiting Chapter reserve funds to twice their annual allotments. There will be no restrictions on monies derived from special projects.

. . . authorized the President-Elect, Winifred Sewell, to appoint an ad hoc committee to study future goals of the Association and to recommend ways of attaining them during the next ten years.

. . . asked the Publications Committee and the Executive Secretary to explore further the possibility of publishing Convention proceedings as a monograph.

. . . instructed the Finance Committee to prepare a motion transferring responsibility for the Reserve Fund to the Executive Board, for presentation at the Annual Business Meeting at the Convention in June.

At Advisory Council sessions, several of the matters discussed were: an apprentice-type of membership for persons who would ultimately qualify for one of the professional memberships; a membership certificate or card; a brochure describing Division activities; reporting the decisions and discussions of Executive Board meetings in *Special Libraries* rather than the *Bulletin;* and the establishment of an information service and/or model library at SLA headquarters.

The Fall Executive Board Meeting will be held September 29-30 at the Hotel Gramercy Park in New York City.

Have You Heard . . .

Planning Library Buildings Book

Keyes D. Metcalf, Librarian Emeritus of Harvard University, with the aid of a $73,365 grant from the Council on Library Resources, Inc., has begun the preparation of a long-needed book on the planning of college and university libraries. His manual will collect and synthesize the information available in scattered studies, records of institutes, reports and the like as well as information from librarians who have served as consultants. The book, which will contain all available information necessary to the building and equipping of a university library, is expected to be of service in the planning of public library buildings, and the differences between the two types of planning will be described. The four-year project is being sponsored by the Association of Research Libraries and the Association of College and Research Libraries.

Library School Assistantships Available

One teaching assistantship, open to graduates of accredited library schools, and six research assistantships, open to both beginning library school students and to graduates, are available at the University of California's School of Librarianship in Berkeley for the 1960-1961 academic year. The teaching assistantship carries a stipend of $2000 for nine months and requires that less than half-time be spent on teaching duties. The research assistantships, which call for about 10 hours of work a week, pay $770 for the nine months. For further information write the Dean of the School of Librarianship, University of California, Berkeley 4, California.

H. W. Wilson Company Scholarships

A second four-year program of H. W. Wilson Company scholarships was announced at the ALA Midwinter Conference in January. Intended to encourage recruitment for the library profession, the $500 scholarships will be made to all library schools currently accredited by ALA. Receiving institutions are free to award the scholarships as they think suitable.

Coming Events

The second COMMUNICATIONS LIBRARIANS' WORKSHOP, designed to aid newspaper librarians on small and medium sized dailies to better maintain and operate their libraries, will be held at Syracuse University, June 13-17. Agnes Henebry will be a guest lecturer. For further information write Evelyn E. Smith, Coordinator, School of Journalism, Syracuse University, Syracuse 10, New York.

The INTERNATIONAL ASSOCIATION OF AGRICULTURAL LIBRARIANS AND DOCUMENTALISTS will meet April 24-28 in Stuttgart-Hohenheim, Germany. The program will include a two-day working conference on international cooperation and a three-day OEEC-IAALD seminar on agricultural documentation. For further information write D. H. Boalch, Librarian, Rothamsted Experimental Station, Harpenden, Herts., England.

International Cataloging Conference Supported

The Council on Library Resources, Inc. has granted $95,420 to the International Federation of Library Associations (IFLA) to help meet the costs of an international conference on cataloging practices. The ten-day conference, to be held at Unesco House in Paris during the spring or autumn of 1961, will seek to promote international uniformity in cataloging and, specifically, to reach an agreement on basic principles for the entry of printed works in alphabetical catalogs arranged by authors and titles. The members of the Organizing Committee for the 1961 conference will attend ALA's Institute on Catalog Code Revision at McGill University this June through the aid of a Council grant.

SLA-API Petroleum Meeting

The SLA Petroleum Section and the American Petroleum Institute's Advisory Committee on Fundamental Research on the Occurrence and Recovery of Petroleum sponsored a special Forum on Abstracting and Indexing Petroleum Exploration and Production Literature in Dallas, Texas, on February 19.

Discussion centered on the development of procedures necessary to correlate the vast amount of technical literature in the field of oil industry exploration and production. Dr. Burton W. Adkinson was one of the principal speakers.

Members in the News

DR. JAMES C. HODGSON has recently retired as Chief of the Library Branch of the Quartermaster Food and Container Institute in Chicago. His wife, MRS. MAGDALENE F. HODGSON has also retired. She was librarian of the American Medical Association and editor of its *Quarterly Cumulative Index Medicus*.

Pergamon Press Opens Washington Office

Pergamon Press Inc. has announced the establishment of a branch office in Washington, D. C. Directed towards extended and improved communications with the scientists and engineers in the area and with government agencies and learned societies, the office will make available advance information to government scientists and administrative officers and to others interested in the Pergamon publishing program. Pergamon Institute, I. R. Maxwell & Company and Pergamon Printing & Art Services will also be represented in a consultant capacity. The new office, under the direction of Detlev J. Raymond, will be located at 1404 New York Avenue, N.W.

Letter to the Editor

Ruth Savord's letter in the October issue was of great interest to me and I heartily agree with her remarks. Two of the problems she presents are closely related and one influences the other—the lack of an open forum and the work of the Nominating Committee. I am concerned that there is no longer a place for the entire Association to become acquainted with those who have been working hard for SLA—Chapter Presidents, Division and Committee Chairmen. A resume of activities from the President and the Chapter and Division Relations Officers is excellent, but such reports fail to bring "the workers in the vineyard" to the attention of the membership. A few years ago such detailed reports were given that we cried for relief; now we have made a complete swing the other way. Surely there is a mid-way point that can be found.

As our conventions are now run there is no place for open discussion of Association problems. The Advisory Council has little activity. The only ones who report there are those on the agenda, a schedule that has been prepared weeks in advance of convention. What of all the questions that arise when groups get together? The only place left to "cuss and discuss" is in hotel rooms in small groups. This is not healthy. We must have a time and place for an open forum for the interchange of ideas and discussion of problems. If a place were provided where the workers could make a brief report, the Association would get to know them. At an open forum those who respond well to a question before the assembly would be noted by the group. These things would aid the Nominating Committee in spotting outstanding new people.

The job of the Nominating Committee is a difficult one. I agree with Miss Savord that our present system is wasteful of some of our best talent. The Nominating Committee makes a herculean effort to divide the slate by geography as well as Division interest and to get two good people to run for each office is a real task. A check of defeated candidates of the past few years reveals the names of outstanding people. Many have been defeated twice. Few individuals or their organizations are willing to risk a third defeat. Unfortunately, the candidates' only shortcoming might have been the alphabetical listing on the ballot. Does the solution lie, perhaps, in a single slate chosen by an *elected* nominating committee?

ELIZABETH W. OWENS, Librarian
Union Electric Company, St. Louis, Mo.

"FOR A BETTER-READ,
BETTER-INFORMED AMERICA"

National Library Week
April 3-9, 1960

As this issue goes to press, word was received on February 25 of the sudden death of Rose Boots, Chief Librarian, McGraw-Hill Publishing Company, Inc., an active SLA member since 1933.

Off the Press . . .

Book Reviews

AMERICAN LIBRARY & BOOK TRADE ANNUAL 1960. *Wyllis E. Wright,* editor. New York: R. R. Bowker Company, 1959. x, 309 p. $5. (L.C. 55-12434)

Five years ago when a new series of the *American Library Annual* began publication, it seemed probable that this series would develop into an extremely useful source of information on librarianship and the book trade. The fifth issue confirms the series' original promise. Sponsored by the Council of National Library Associations and *Library Journal,* the 1960 *Annual,* like its predecessors, is edited by Wyllis E. Wright, Librarian of Williams College, and the editorial staff of R. R. Bowker Company. It aims, as did the earlier volumes, to furnish library and book trade statistics and information and to provide current data on library associations. In addition, the present volume contains a cumulative index to the *Annuals* issued thus far.

In Part I, the statistical and informational section of the *Annual,* many series and articles already valued by users of previous issues are brought further to date or are repeated. Also, new material is added. Appearing for the first time are such items as salary data for large academic libraries and comparative international book trade statistics, 1954-1958. Other additions include the texts of the new "Standards for College Libraries" and the "American Standard Basic Criteria for Indexes."

Part II presents information on library associations, giving, when available, names of officers and committee chairmen. An index by interest or activity to committees, sections, boards and specialized associations expedites use of this section.

The five-year cumulative index enhances the *Annual's* reference value. It is particularly welcome since material included in an earlier issue (e.g. General Interlibrary Loan Code) is not always reprinted in the latest volume. Also, for certain topics (e.g. censorship) the several volumes must be taken together for a consecutive account of developments during the five-year period.

Some portions of the *Annual* are less helpful than others. For example, if specific scholarships and fellowships are to be listed, a more complete list of those available seems desirable, even though the reader is referred to other sources for additional information. It is hoped, too, that the statistical data relating to special libraries can be augmented in forthcoming issues.

All in all, the 1960 *Annual* is a convenient source of up-to-date information on librarianship and the book trade. It brings together in one place material that otherwise would have to be located, sometimes with considerable difficulty, in a variety of scattered sources.

AGNES L. REAGAN, Associate Professor
Division of Librarianship
Emory University, Atlanta, Ga.

MODERN TRENDS IN DOCUMENTATION. *Martha Boaz,* Editor. New York: Pergamon Press, Ltd., 1959. 103 p. $5. (L.C. 59-10081)

The proceedings of a symposium, including ten papers and discussions, held at the University of Southern California in April 1958 are recorded in this book. The purpose of the symposium was to help those who wanted to know something of the needs and problems of information retrieval and what to do about them. Librarians know that mechanized systems are in the cards for the future but, where to start? What has modern technology developed for effective information handling?

In the first paper Robert S. Meyer tells where to start. Consider the user! Each library situation must be diagnosed individually and the treatment chosen to suit the unique circumstances. This advice is so important and necessary that this paper is worth the price of the book.

Other papers indicate that information technology is racing ahead. The practical problem is to properly select and apply the systems and equipment now available. The readable papers are devoted to various aspects of data retrieval including the methodology for realizing machine translation, systems of auto-encoding and applications of computers and smaller machines to the problems of libraries. However, there isn't a single new idea presented in these discussions. Leading figures representing the centers where research is being done in the field—IBM, Stanford Research Institute, RAND Corporation, Magnavox Company —retell the same story that has been told again and again at meetings and that has been published in most of the current library and documentation journals.

I cannot recommend the book on the grounds that it is convenient to have these papers in one volume, for the information is presented by these same authors in papers published in other books. The book cannot be endorsed as useful to specialists and librarians who wish to keep informed, for they have read about these advances in the current press long before the appearance of this book. This reviewer does not think that the panel discussion which followed the papers at the meeting and is printed at the end of the book successfully conveyed the impression that the speakers knew what their responsibilities were regarding "planning for the future."

There still remains a strong undercurrent of confusion and uncertainty as to the whys and wherefores of information storage and retrieval.

It is hoped that these technical studies will stimulate some hard thinkers to clarify the entire issue of data retrieval and to help the library manager to progress from awareness of users' needs to ways of meeting these needs.

GERTRUDE SCHUTZE, Manager, Library Department
Standard & Poor's Corporation, New York City

Government Documents in Microprint Editions

The Microprint edition of Groups 9, 10 and 11 of the U.S. Government Serial Set has recently been published by Readex Microprint Corporation. Group 9 (Serial Nos. 469-501) covers the sessions of the 29th Congress, March 1845 through March 1847, and is available at a subscription price of $125; Group 10 (Serial Nos. 502-546), covering the 30th Congress, 1847-1849, is priced at $160; Group 11 (Serial Nos. 547-606), available for $155, covers the 31st Congress, 1849-1851. The entire set of 11 groups, covering the years from 1817 through 1851, is available in cloth-covered boxes the size of royal octavo volumes for $1860. Librarians are urged to order now, since it is doubtful if the edition will ever be reprinted in its entirety.

Microcard Foundation and Corporation Open Washington Office

The Microcard Foundation, a publishing organization, and the Microcard Corporation, which manufactures Microcards and Microcard Readers, have opened a joint office at 901 26th Street, N.W., Washington 7, D. C., thus ending a three-year association with the University of Wisconsin Press. The three organizations will continue to work closely together, however, with the Microcard Foundation publishing its works on Microcards and the University of Wisconsin Press supplementing its book publishing program with Microcard publications. Albert James Diaz will serve as Executive Director of the Foundation, and Gerald Sophar will continue to serve as the Microcard Corporation's representative. Orders for publications may be sent either to the new Washington address or to West Salem, Wisconsin, where the Foundation's shipping, bookkeeping and other clerical work will be done.

Biological Sciences Directory

The SLA Biological Sciences Division has just issued a directory of its members as of September 15, 1959. Members are listed alphabetically with their home and business addresses, and there are organization, geographic and subject indexes. Copies may be obtained for $2 from Marjorie Henderson, The Remsen, 70 Remsen Street, Brooklyn 1, New York.

Academic Press Offices Move

Both the West Coast and British offices of Academic Press have moved to larger quarters. The California office, headed by Richard C. M. Jones, is now located at 1901 West 8th Street, Los Angeles 57. In London, the editorial, sales and production offices of the press are now at 17 Old Queen Street, London, W. 1, with Charles M. Hutt in charge of editorial matters, Frederick W. Morgan, sales activities and R. C. Thixton, production manager.

New Serials

AMERICAN BOOK PUBLISHING RECORD, a new monthly Bowker publication, cumulates all the entries in *Publishers' Weekly* for the four calendar weeks preceding its date of issue, arranges them by Dewey Decimal Classification number and indexes them by author and title. In addition to the subject arrangement, each entry includes full Library of Congress cataloging information and a descriptive notice. The annual subscription rate is $10 United States, $11 foreign. If six or more identical subscriptions are ordered, all but the first will be $5 United States, $6 foreign. Orders should be sent to R. R. Bowker Company, 62 West 45th Street, New York 36.

DIGEST FROM WASHINGTON, a 15-page newsletter to be issued twice a month, will report on the current activities of Congress and various federal agencies. It will cover actions taken, proposed actions, hearings and Congressional bills. The annual subscription rate is $10 and orders should be addressed to *Digest From Washington*, 2020 Henderson Avenue, Wheaton, Maryland.

TECHNOLOGY AND CULTURE, the new international quarterly of the Society for the History of Technology, will be devoted to the study of the development of technological devices and processes and the relations of technology to science, politics, social change, the arts and humanities and economics. The subscription rates are $7 for one year, $12.50 for two years and $18 for three years. Readers in Canada should add 15¢ a year to the basic rate and those abroad should add 35¢ a year. Orders may be sent to Wayne State University Press, Detroit 2, Michigan.

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RECENT REFERENCES

Bibliographic Tools

SOUTHEASTERN SUPPLEMENT TO THE UNION LIST OF SERIALS. *Edward Graham Roberts,* ed. Atlanta: Southern Regional Education Board, 130 6th St., N.W., 1959. 447 p. $20.

Serial holdings of 36 university and college libraries granting the Ph.D. degree in ten Southeastern states. Approximately 32,550 entries, covering serials which began publication *before* January 1, 1950.

STUDIES IN BIBLIOGRAPHY, vol. 12. *Fredson Bowers,* ed. Charlottesville, Virginia: Bibliographical Society of the University of Virginia, 1959. 264 p. $10.

Seventeen literary papers presented by members of the Bibliographical Society of the University of Virginia. Also selective checklist of 1957 bibliographical scholarship.

SUBJECT GUIDE TO BOOKS IN PRINT, 3rd ed. *Sarah L. Prakken,* ed. New York: R. R. Bowker, 1959. 1584 p. $17.50.

Lists 100,000 books under 24,000 headings with 30,000 cross references. Headings and subheadings updated to conform with June 1959 supplement to the 6th edition of *Subject Headings Used in the Dictionary Catalogs of the Library of Congress.* Only books listed in the 1959 *Publishers Trade List Annual* are classified.

Miscellaneous References

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DICTIONARY OF ASTRONOMY AND ASTRONAUTICS. *Armand Spitz* and *Frank Gaynor.* New York: Philosophical Library, 1959. 448 p. $6.

RUSSIAN-ENGLISH GLOSSARY OF OPTICS AND SPECTROSCOPY. New York: Interlanguage Dictionaries Publishing Corp., 1959. 78 p. pap. $10.

Contains over 4,000 terms compiled from Russian and English sources.

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SCIENCE REFERENCE LIBRARIAN. In charge of science and technology reference work, bibliography and materials selection, including cooperation with faculty and local industry in building an outstanding research collection for the Houston area. Some teaching opportunity for qualified applicant. Salary open. Month's vacation, sick leave, retirement plan. L.S. degree, experience; advanced study in science or technology desirable. Write to Hardin Craig, Librarian, Rice Institute, Houston, for further details.

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