



### *Services to Industry by Libraries of Government Agencies*

including those in industry, and (2) Those that are, or can be, tailored more specifically to industrial needs. The particular services described in this article are arranged by these two general categories. To facilitate further inquiry by readers, mailing addresses of the various libraries and information centers are given in Appendix 1 of this article; numbers in parentheses in the text refer to this listing.

The inevitable limitations of space make it impossible for us to attempt to cite and describe every Federal agency library service that might conceivably be found useful to industry. Almost all of the larger Federal libraries, for example, have more publications and other services than could possibly be described within the limited extent of this article. This is, however, a fairly broad selection and, at least, representative of the kinds of services that are available from these sources. More comprehensive information can be obtained from the agencies and libraries themselves. Several guides that may facilitate such a quest are cited in Appendix 2 of this article.

### *General References*

A service can be valuable to users in a particular group without being provided exclusively for their benefit. Many services available to industry from Federal agency libraries are of this kind. Some are serial publications; others take a variety of forms.

#### SERIAL PUBLICATIONS

*Index Medicus* is a monthly compilation of references to the world's biomedical and biomedically related literature, issued by the National Library of Medicine (NLM) (10). It is available on subscription from the Superintendent of Documents (SupDoc) (15). An annual cumulation of the monthly issues, *Cumulative Index Medicus*, is also published and sold by NLM (10). Both are arranged in two parts—subject section and name section. The January issues of *Index Medicus* and the *Cumulated Index Medicus* contain a list of the journals that are indexed; as of early 1965 these numbered some 2,446. The journal titles cover basic biomedical science fields (biochemistry, physiology, and pharmacology) as well as the specialties of clinical medicine. In early 1966, selected monographs will be included in *Index Medicus* in addition to the journal literature already being covered. Copies of articles cited in *Index Medicus* are available on interlibrary loan from the NLM. (See the section below on "Interlibrary Loans.")

*The Bibliography of Agriculture*, an annotated compilation cover-

ing the literature of agriculture and allied sciences, is issued monthly by the National Agricultural Library (NAL) (9). It is available on subscription from SupDoc (15). Entries are arranged under ten main headings: Plant Science, Soils and Fertilizers, Forestry, Animal Industry, Entomology, Agricultural Engineering, Agricultural Products, Agricultural Economics and Rural Sociology, Food and Human Nutrition, and Miscellaneous. Listed also are new periodicals and serials, translations, and publications of the Department of Agriculture, state agriculture experiment stations, extension services, and the United Nations Food and Agricultural Organization. Microfilm or photoprint copies of all articles cited can be purchased from NAL. Monographic materials in NAL's own collections are, for the most part, available on interlibrary loan. Most Department of Agriculture and state experiment station publications listed in the *Bibliography* can be obtained gratis from the issuing agencies.

*The Pesticides Documentation Bulletin*, a biweekly publication of NAL (9), is a computer-produced, permuted-title, comprehensive index to the literature on pests and their control, and on their impact on the economy and man's total environment. It is offered for sale by SupDoc (15). The *Bulletin* is in three parts—Keyword Index, Bibliography, and Author Index. Information is given on the availability of all items listed.

*Nuclear Science Abstracts (NSA)* published semi-monthly by the U.S. Atomic Energy Commission (USAEC) (16), is a comprehensive abstracting and indexing service in nuclear science and engineering. It is available on subscription from SupDoc (15). The world-wide coverage of *NSA* includes journal articles, technical reports, books, conference proceedings, bibliographies, and patents. Abstracts are arranged by broad subject categories, with each issue including author, subject, corporate source, and report number indexes. Cumulated indexes are issued quarterly, semi-annually, and annually. Copies of USAEC reports listed in *NSA* can be purchased from the Clearinghouse for Federal Scientific and Technical Information (Clearinghouse) (3).

*Scientific and Technical Aerospace Reports (STAR)* is a semimonthly publication prepared on contract for the National Aeronautics and Space Administration (NASA) (8). It is available without charge to NASA's industrial contractors and subcontractors and can be consulted in libraries that maintain public collections of NASA documents. Single copies or subscriptions of *STAR* can be purchased from SupDoc (15).

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The publication is comprehensive of the world's technical report literature on aeronautics and space science and technology. Entries are classified by subject, and are indexed in each issue by author, subject, corporate source, report number, and accession number. Indexes, including a contract number index, are cumulated quarterly, the last one each year being an annual cumulation.

*International Aerospace Abstracts (IAA)*, though not strictly a Federal agency publication, is issued under special arrangements with NASA. It is published semimonthly by the American Institute of Aeronautics and Astronautics (1). Books, scientific journals, and meeting papers are covered by *IAA*, thereby complementing *STAR*'s technical report coverage. Its publication dates fall halfway between those of *STAR*; the two publications use identical subject headings, and publish identical indexes.

*Aerospace Medicine and Biology (AMB)* is a continuing bibliography, published about once a month by NASA (8); it announces and abstracts references in the title fields related to the manned space program and space biology, and is available for purchase from the Clearinghouse (3). The publication concentrates on the biological, physiological, psychological, and environmental effects to which man is subjected during and following simulated or actual flight in and beyond the earth's atmosphere. Each issue is indexed by author, subject, and corporate source. Entries are furnished by NASA, the Institute of Aeronautics and Astronautics, and the Library of Congress (LC) (6).

*Reliability Abstracts and Technical Reviews (RATR)*, a monthly prepared by NASA (8), is available for purchase from the Clearinghouse (3). It abstracts and critically analyzes current literature on reliability believed to be of interest to scientists and engineers. Journals, technical reports, and conference proceedings are covered. Annual indexes are provided.

*U.S. Government Research and Development Reports (USGRDR)* is published twice a month by the Clearinghouse (3), and announces and abstracts unclassified technical reports on Federally sponsored research and development. It is available on subscription from SupDoc (15). Two principal sections with a combined table of contents are featured in *USGRDR*. One covers reports released by the Defense Documentation Center (see discussion below of *Technical Abstract Bulletin*); the other announces reports released by a number of civilian agencies. Entries in each section are presented under the

twenty-two subject divisions of the *COSATI* (Committee on Scientific and Technical Information of the Federal Council on Science and Technology) *Subject Category List*, which is available from the Clearinghouse (3). Many of these subdivisions have particular interest for industry. Each issue is indexed by subject, author, corporate author-monitoring agency, contract number and accession/report number. Cumulative indexes are issued from time to time. Two special sections of *USGRDR* are directed particularly toward the interests of industry. One, called "Research Highlights," summarizes reports of high industrial interest. The other, which appears irregularly in *USGRDR*, presents synopses of a series of reviews that contain résumés, abstracts, and bibliographies of technical reports believed to have special industrial pertinence; it is called, "Research Reviews Packaged for Industry."

*The Government-Wide Index to Federal Research and Development Reports (Index)*, published monthly by the Clearinghouse since April 1965 (3), is a unified, comprehensive index covering technical reports announced and abstracted in *NSA*, (*USAEC*), *STAR* (*NASA*), *TAB* (*DDC*), and *USGRDR* (Clearinghouse). Author, subject, corporate source, and report number indexes are provided by machine merger of computer tapes. The *Index* can be purchased (single copies or subscriptions) from SupDoc (15).

*Technical Translations (TT)* is published semimonthly by the Clearinghouse (3), and may be purchased (single copies or subscriptions) from SupDoc (15). Translations available from the Clearinghouse (3), the Library of Congress (6), the SLA Translations Center (14), NAL's (9) agricultural translations clearinghouse (also listed in the *Bibliography of Agriculture*), foreign and international sources, commercial translators and publishers, and others are announced in *TT*. Instructions are given on how to order all translations that are listed. Also included are book reviews of translated monographs, information on cover-to-cover translated journals, and notes on translations in progress. Author, journal, and translation number indexes are provided.

*The Technical Abstract Bulletin (TAB)* is published semimonthly by the Defense Documentation Center (*DDC*) (4) of the Defense Supply Agency. *DDC*'s primary function is to receive, store, announce, retrieve, and make secondary distribution of scientific and technical documents. These services are available to the Department of Defense and other Government agencies and their contractors. It receives

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a high percentage of all formal Department of Defense research and development reports that are produced. In effect, *TAB* is DDC's stock catalog. Each issue announces and abstracts approximately 2,000 reports. A white section is devoted to unclassified reports on which there are no restrictions. A buff section covers classified and otherwise limited distribution documents. The latter also includes notices of classification changes and a numerical index of report numbers. Entries in each section are arranged under twenty-two subject headings identical with those used in *USGRDR*. Accompanying each issue of *TAB* is a separate, bound volume containing the following indexes: corporate author-monitoring agency, subject, author, and contract. All DDC services, including *TAB*, are available without charge to authorized users in support of official requirements; information regarding such availability should be obtained from the Center. No DDC services are offered for sale by the Center; the white section of *TAB*, however, is reprinted in *USGRDR*.

*Scientific Information Notes (SIN)* is published monthly by the National Science Foundation's Office of Science Information Service (12), and is available on subscription from SupDoc (15). It reports national and international developments in scientific and technical information dissemination. A section on research and development is especially pertinent to the interests of industrial organizations concerned with mechanization and associated aspects of the storage, retrieval, and availability of the recorded results of research and development work in science and technology.

*The Monthly Catalog of U.S. Government Publications* is prepared by the Government Printing Office (GPO), and is offered for sale by SupDoc (15). It lists comprehensively the publications issued by departments and agencies of the U.S. Government—both those for sale by SupDoc and items which are available only from the issuing offices. Twice a month, GPO publishes a tabulation of newly issued and still-popular Government publications available for purchase; this list can be obtained gratis.

*The World List of Future International Meetings, Part I* is a monthly, prepared by LC (6), which records coming meetings in science, technology, agriculture, and medicine. (Part II is devoted to nonscientific meetings.) The *List* is available for purchase (single copies or on subscription) from SupDoc (15). The March, June, September, and December numbers list all meetings for the ensuing three years for which information has been received; intervening issues

give only new meetings and changes in previous listings. In this context, "international" denotes bodies composed of three or more countries. Each issue is indexed by subject, sponsor, and geographic location.

OTHER GENERAL SERVICES

*Catalog Cards.* The 3 x 5-inch cards which LC prints for its own catalogs are offered for sale by the Library's Card Division (6). The unusually complete bibliographic detail that is given makes these cards particularly useful to other libraries. A sizeable fraction of U.S. trade books are pre-cataloged in the Library of Congress so that cards are available when the books are published. Two booklets that describe this service in detail are available on request from the Card Division; they are entitled *Handbook of Card Distribution*<sup>1</sup> and *L. C. Printed Cards: How to Order and Use Them*.<sup>2</sup> The NAL (9) catalogs the major Department of Agriculture publications for the agricultural series of catalog cards printed and sold by LC (6). The multilithed catalog cards prepared by NLM also are sold (on a current subscription basis only) by the Card Division of LC.

*Referral Service.* The National Referral Center for Science and Technology (11) of LC answers queries of the kind "Where can I find information about—?" It can be thought of as analogous to the yellow pages in the telephone directory. It does not provide substantive reference information. All fields of science and technology, including the social sciences, are covered. Two directories published to date by the Center are listed in Appendix 2.

*Current Research Information.* The Science Information Exchange (13) of the Smithsonian Institution is organized to answer queries of the kind "Who is currently working on—?" The Exchange registers, indexes, and organizes information on current and planned, basic and applied research in the biological, social, and physical sciences. It differs from most libraries and information centers in that it handles no forms of published results of research. The Exchange's services are for the most part available on request to research investigators with recognized industrial or other research institutions; exceptions are fiscal data and certain privileged information.

*Interlibrary Loan.* The majority of Federal libraries offer interlibrary loan service, with those having the greatest such activity undoubtedly being LC (6), NLM (10), and NAL (9). These programs function, for the most part, within the general framework of the American

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Library Association's Interlibrary Loan Code.<sup>3</sup> They differ, however, in such details as conditions of eligibility for service, loan period, types of literature loaned, geographical area served, availability of photoduplication service with or in lieu of loan, and the like. Information on these details should be obtained from the particular library. Important sources of information on where particular publications are held include the Union Catalog of the Library of Congress (6) and the Center for Research Libraries (7). Additional information of this kind can be gleaned from the references in Appendix 2, especially the 23rd edition of the *American Library Directory* which lists state-maintained union catalogs.

#### *Industry-Oriented Services*

Described briefly in this section are a number of Federal library services that have, or can have, specific orientation toward industry. This orientation may be either by prior design, or because the service is provided in response to a specific request. Such services fall into two main categories—bibliographies and other publications, and replies to specific inquiries.

#### BIBLIOGRAPHIES AND OTHER PUBLICATIONS

Many Federal libraries issue substantive bibliographies, papers, and reports from time to time, in addition to the serial publications described earlier. Many of these have direct interest for industry. Obviously no comprehensive listing of such documents is possible here; however, the likely areas of potential industrial application of the output of any given library usually can be inferred from the mission of its parent agency, or from the library's own field of interest. Most such documents are listed in one or another of the announcement, abstracting, and indexing services described earlier under "Serial Publications"; some can be obtained upon request; a few (for example, the Department of Agriculture's *List of Available Publications*) are fairly formal documents sold by SupDoc (15).

Perhaps most directly aimed at industry is the so-called fee bibliography program that jointly involves the Clearinghouse, LC, NAL, and the Department of Interior Library. This service is available in all aspects of science and technology. Each bibliography is "custom built" to subject matter specifications provided by the requester. Some searches are comprehensive, covering broadly related fields; others are limited to highly specialized subject areas. Some tasks in this

program have involved retrospective literature only; others emphasize current material, and some subscribers arrange for continuous updating service. Charges are made on an hourly basis. The user deals only with the Clearinghouse (3), but can receive the benefit of search, not only of the Clearinghouse's own very large technical report holdings, but also of the vast collections of LC and the more specialized holdings of the Department of Interior Library and NAL.

Numerous other bibliographies are prepared by Federal agency libraries, ordinarily for some branch of the parent agency or for another Government organization. For the most part these are subsequently available for broader distribution; many are of interest to one or more segments of industry. Space permits mentioning only a few representative compilations here. Examples of industry-pertinent bibliographies issued by NAL (9) include *Freeze-Drying of Foods* and *Utilization of Soy Beans*; such compilations are announced both in GPO's *Monthly Catalog* and the *Bibliography of Agriculture*. Of particular interest to the pharmaceutical and the biomedical information service industries are various publications of NLM (10); *Bibliography of Medical Reviews* is an example. This library also is one of three organizations (along with the National Institute of Health and the Food and Drug Administration) that are cooperating to develop a drug information service.

The Science and Technology Division of LC (6) prepares a number of bibliographies on a transfer-of-funds basis for other Government agencies. An example is the 18-year old continuing *Bibliography on Snow, Ice, and Permafrost*, prepared for the U.S. Army. It includes material in such areas of possible industrial interest as operation of many kinds of equipment at low temperatures, construction of buildings and bridges in the Arctic and Antarctic, and the like. Others concern a variety of subject fields. Announcement and availability are handled through the Clearinghouse's *USGRDR*. The NASA issues a number of continuing bibliographies which are sold by the Clearinghouse (3). Titles include: *Communication Satellites, Lasers and Masers*, and *Lubrication, Corrosion, and Wear*. Similarly, many other Federal libraries issue bibliographies that may have industrial importance.

The *NASA Tech Briefs* are prepared by NASA to acquaint industry with the technical "spin off" from space research. These one- or two-page illustrated summaries describe items selected from this agency's advanced technology that may have particular value in commercial

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and other applications. They are distributed monthly and may be purchased (single copies or annual subscriptions) through the Clearinghouse (3). More comprehensive information on NASA developments of interest to industry is reported in *Technical Utilization Reports*, *Technology Utilization Notes*, and *Technology Surveys*, also on sale by the Clearinghouse (3). As part of a somewhat analogous program, the U.S. Atomic Energy Commission issues *Engineering Materials List* and other industry-oriented publications; additional data on this activity can be obtained from the Division of Technical Information of USAEC (16). Special sections of *USGRDR* that have particular interest for industry were described in the "Serial Publications" section.

Among the important publications of DDC (4) are its technical report bibliographies which are of two general kinds—compilations initiated by DDC on subjects of known broad interest, and special bibliographies prepared on request. The former are announced in *TAB* and also, if unclassified, in *USGRDR*. Eligibility to obtain request bibliographies is the same as for other DDC services. (See earlier discussion under *Technical Abstract Bulletin*.)

#### REFERENCE INQUIRIES

If, for the moment, we define "library" in a somewhat more limited and conventional sense than that outlined at the beginning of this paper, it can be said that substantially all Federal agency libraries respond to reference inquiries within their respective bailiwicks of subject concern. For the Department of Interior Library, these are natural resources and allied fields; for NAL, agriculture and various biological areas; for NLM, medical science and associated disciplines; for the Science and Technology Division of LC, science and technology as a whole; and so forth. The extent of effort which any given library can devote gratis to such an inquiry necessarily varies with the size and particular organization of the library staff, being pegged at whatever level will provide the most service to the greatest number of users. The fee bibliography program described earlier is a mechanism whereby one type of reference service (specialized bibliographies), requiring a greater effort than can be afforded free, is available from the combination of the Clearinghouse, NAL, Department of the Interior, and LC.

The specialized kinds of inquiry-answering service provided by the National Referral Center (11) and the Science Information Exchange

(13) were discussed earlier under "Referral Service" and "Current Research Information."

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Of the many scientific information trends during the past two decades that come to mind, three seem to me<sup>4</sup> to be particularly worth noting. One concerns the relationship of the bibliographic element of research and development (R&D) to the traditionally more respectable aspects of the R&D process. Formerly considered a poor relation, invariably seated well below the salt at the R&D table, scientific information activities have achieved in recent years substantially full kinship with the laboratory experimentation members of the clan. Industrial and other organizations engaged in R&D have enlarged, and have given improved status to, their own library and library-related operations. They have increasingly recognized the value, and taken advantage, of a wide variety of commercial and Government technical literature services. In short, they have more and more come to realize that information is both an essential raw material and an important end product of all R&D, and that, therefore, acquiring, processing, and disseminating scientific and technical information is as integral a part of the total R&D sequence as is laboratory experimentation.

Then there has been the coming of age of that peculiar form of scientific literature called the technical report. Twenty years ago it was largely regarded as an unpleasant and unprincipled brat, sired by World War II and damned by practically everyone who was forced to have anything to do with it. But it possessed, and still possesses, a unique combination of important characteristics. It is a report of stewardship to the agency or organization that funded the R&D; it permits very prompt dissemination of data and results on a completely flexible distribution basis; and, not being subject to externally imposed space and other restrictions, it can tell the total R&D project story, including exhaustive exposition and detailed tables and illustrations. No other medium of scientific publication can make this claim. And so, this somewhat unwelcome waif of a couple of decades ago has grown and prospered. The technical report still presents formidable problems. However, it has acquired the usual accessory bibliographic paraphernalia of announcing, abstracting, indexing, and availability services, and would appear to be here to stay—at least, until the development mentioned next justifies its ad-

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vance publicity and makes obsolete some major portion of our conventional scientific literature complex.

Unquestionably, the most significant development of recent years in the scientific information field, as in many other areas, has been the ever-increasing emphasis on mechanization. Immense effort has been, and is being, devoted to the automation of almost every aspect of information handling and control, from the research man's first notebook record to an archival grave complete with mechanized resurrection features as standard equipment. Progress has been substantial. No one today can write the exact specifications for the library and information system of the future, but construction is being rushed on the super-highway of mechanization that we are told will lead us triumphantly into a Promised Land flowing with the automated milk and push-button honey of instant availability to every scientist and engineer of the precise scientific and technical data both necessary and sufficient to meet his most exacting needs.

In closing, this author would like to express one small personal hope related to the preceding point. Perhaps some others will share it. There can be no question but that mechanization of information handling is important and promises great things for the future. But, along with frantic construction of the super-highways to bigger and better scientific information, can a few quiet country roads be preserved where the searcher who does not want to know right now everything about something can indulge in bibliographic browsing, and where the atmosphere is suitable for the kind of calm contemplation from which great ideas frequently spring?

### *References*

1. U.S. Library of Congress, Card Division. *Handbook of Card Distribution*. 8th ed. Washington, U.S. Government Printing Office, 1954.
2. U.S. Library of Congress, Card Division. *L. C. Printed Cards: How To Order and Use Them*. 5th ed. Washington, U.S. Government Printing Office, 1941.
3. "General Interlibrary Loan Code 1952. Revised Edition, 1956." In Wyllis E. Wright, ed. *The Bowker Annual of Library and Book Trade Information, 1959*. New York, R. R. Bowker Company, 1959, pp. 64-73.
4. The co-editors of this issue of *Library Trends* asked Dwight E. Gray to summarize in the closing paragraphs of this article a few personal impressions of significant scientific information trends during the past two decades.

APPENDIX I

MAILING ADDRESSES OF LIBRARIES AND INFORMATION CENTERS

- (1) American Institute of Aeronautics and Astronautics  
750 Third Avenue  
New York, New York 10017
- (2) American Medical Association  
Circulation-Records Department  
535 North Dearborn Street  
Chicago, Illinois 60610
- (3) Clearinghouse for Federal Scientific and Technical Information  
U.S. Department of Commerce  
National Bureau of Standards  
Springfield, Virginia 22151
- (4) Defense Documentation Center  
Cameron Station, Building 5  
5010 Duke Street  
Alexandria, Virginia 22314
- (5) Department of Interior  
Central Library  
Washington, D.C. 20240
- (6) Library of Congress  
Washington, D.C. 20540  
(Card Division, Navy Yard Annex,  
Washington, D.C. 20541)
- (7) Center for Research Libraries  
5721 S. Cottage Grove Ave.  
Chicago, Illinois 60637
- (8) National Aeronautics and Space Administration  
Scientific and Technical Information Division  
Attention: Code ATSS-A  
Washington, D.C. 20546
- (9) National Agricultural Library  
United States Department of Agriculture  
Washington, D.C. 20250
- (10) National Library of Medicine  
U.S. Department of Health, Education, and Welfare  
8600 Rockvill Pike  
Bethesda, Maryland 20014

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- (11) National Referral Center for Science and Technology  
Library of Congress  
Washington, D.C. 20540
- (12) National Science Foundation  
Office of Science Information Service  
Washington, D.C. 20550
- (13) Science Information Exchange  
Smithsonian Institution  
Suite 209, Madison National Bank Building  
1730 M Street, N.W.  
Washington, D.C. 20036
- (14) SLA Translations Center  
The John Crerar Library  
35 West 33rd Street  
Chicago, Illinois 60616
- (15) Superintendent of Documents  
United States Government Printing Office  
Washington, D.C. 20402
- (16) U.S. Atomic Energy Commission  
Division of Technical Information  
Washington, D.C. 20545  
(DTI Extension, P.O. Box 62, Oak Ridge, Tennessee 37831)

APPENDIX II

GUIDES TO ADDITIONAL INFORMATION

1. *A Directory of Information Resources in the United States: Physical Sciences, Biological Sciences, Engineering.* National Referral Center for Science and Technology (11) 1965. For sale by the Superintendent of Documents (15).

Listed in this subject-indexed directory are upwards of 1,100 U.S. information resources in the above subject areas; arrangement is alphabetical by organizational name. Included are libraries, centralized information centers, professional societies, industrial firms, Government agencies and offices, and other organizations willing to provide information to requesters.

2. *A Directory of Information Resources in the United States: Social*

*Sciences*. National Referral Center for Science and Technology (11), 1965. For sale by SupDoc (15).

Listed in this directory are some 650 U.S. information resources in the social sciences; organization and subject indexes are included. The rest of the description is the same as for the companion NRCST directory cited in the first entry.

3. *Scientific Information Activities of Federal Agencies*. National Science Foundation (12), 1958-1965. For sale by the Superintendent of Documents (15).

Each item in this series of bulletins is devoted to all or part of the scientific information activities of a single Federal agency. Data presented include agency organization and mission, subject fields of information interest, types of publications issued and how to obtain them, and information on the agency's libraries, data centers, and field offices. Some thirty bulletins have been issued to date; each of the later ones lists all preceding members of the series.

4. *Special Library Resources*. New York Special Libraries Association, [1941]-47. 4v. Vols. 1-2 edited by Rose L. Vormelker; v.3 edited and v. 4 compiled by Isabel L. Towner. Contents: —I. U.S. & Canada. —II. Alabama-Montana. —III Nebraska-Wyoming, Canada. —IV. Cumulated indexes to vols. I-III.

Although an older source, this work is nonetheless important, partly because of the quantity of information it gives. Entries are arranged alphabetically by state, city, and then by library, company or other organizational name. All types of literature are covered.

5. *Directory of Special Libraries and Information Centers*. Anthony T. Kruzas, ed. Gale Research Company. Detroit, Mich., 1963.

This directory lists some 10,000 special libraries and information centers. Although considerably more recent than *Special Library Resources*, the information given about each organization is less comprehensive.

6. *American Library Directory*. 23rd ed. New York, R. R. Bowker Co., 1962.

This directory is compiled biennially; the separate listing of union catalogs ended, however, with the 23rd edition.