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ENGINEERING EXPERIMENT STATION
OREGON STATE UNIVERSITY
CORVALLIS, OREGON

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The Use of a Technical Library

DISCARD

RODNEY K. WALDRON
Associate Librarian
Oregon State University

THE Oregon State Engineering Experiment Station was established by act of the Board of Regents of Oregon State University on May 4, 1927. It is the purpose of the Station to serve the state in a manner broadly outlined by the following policy:

(1) To stimulate and elevate engineering education by developing the research spirit in faculty and students.

(2) To serve the industries, utilities, professional engineers, public departments, and engineering teachers by making investigations of interest to them.

(3) To publish and distribute by bulletins, circulars, and technical articles in periodicals the results of such studies, surveys, tests, investigations, and research as will be of greatest benefit to the people of Oregon, and particularly to the State's industries, utilities, and professional engineers.

To make available the results of the investigations conducted by the Station, three types of publications are issued. These are:

(1) BULLETINS covering original investigations.

(2) CIRCULARS giving compilations of useful data.

(3) REPRINTS giving more general distribution to scientific papers or reports previously published elsewhere, as for example, in the proceedings of professional societies.

Single copies of publications are sent free on request to residents of Oregon, to libraries, and to other experiment stations exchanging publications. As long as available, additional copies, or copies to others, are sent at prices covering cost of printing. The price of this publication is 35 cents.

For copies of publications or for other information address

**OREGON STATE ENGINEERING EXPERIMENT STATION,
CORVALLIS, OREGON**

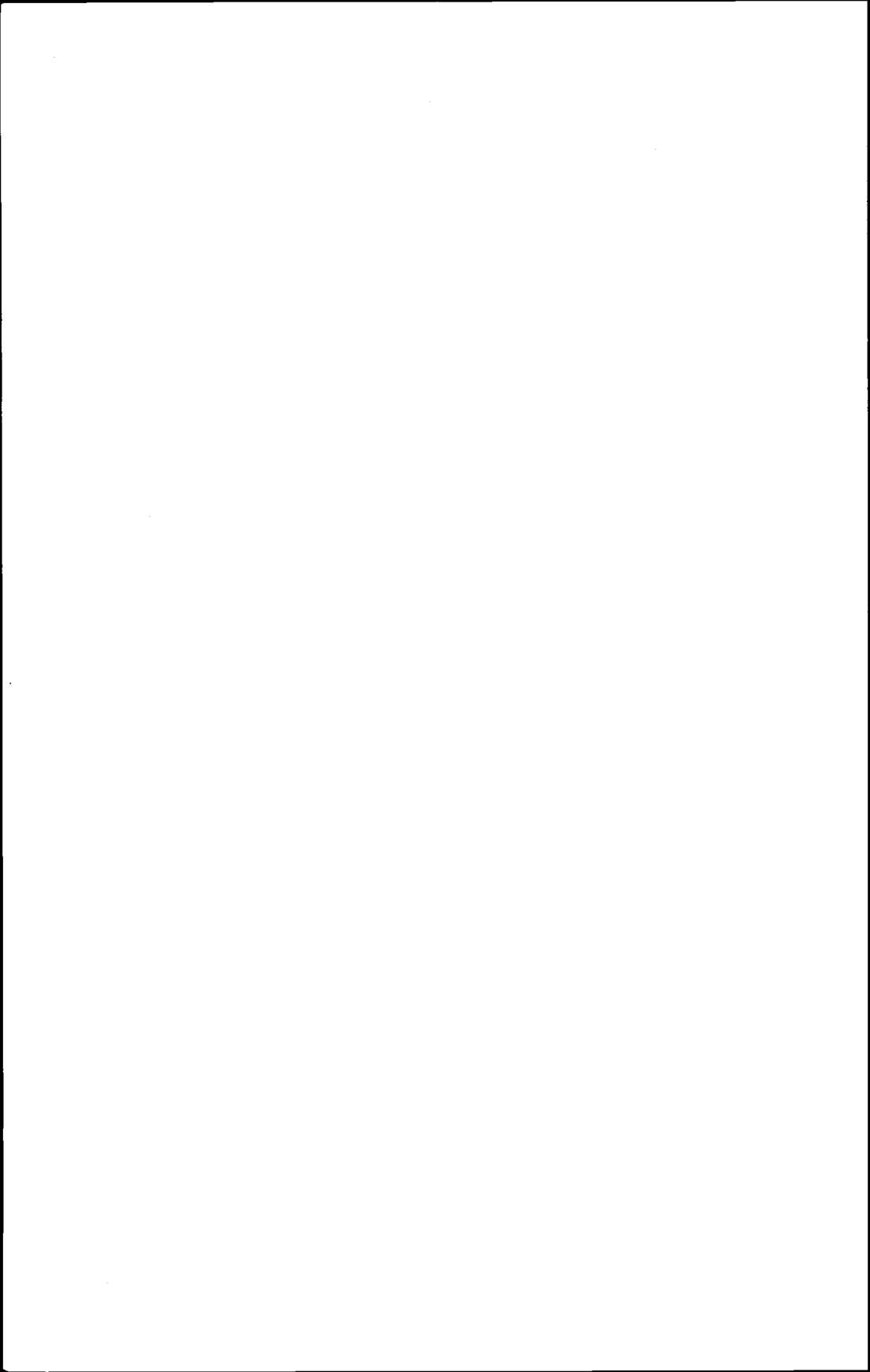
THE USE OF A TECHNICAL LIBRARY

By

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CIRCULAR NO. 32
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Engineering Experiment Station
Oregon State University
Corvallis, Oregon



THE USE OF A TECHNICAL LIBRARY

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INTRODUCTION

As a result of scientific research and study, man's knowledge of himself, his immediate environment, and the universe is constantly being extended. The discovery of new facts results in the discarding of previously accepted theories and points of view. It is a certainty that portions of information acquired in college will become obsolete within a few years. Expanded horizons of knowledge and research have resulted in a vast increase in the printed matter produced each year. The complexity and bulk of the printed materials in fields of science and technology, particularly, make it imperative that patrons know how to use the Library—any library—effectively.

Commencement Day marks only the beginning of education. After graduation the burden of responsibility for continuing education rests with the individual. Unless he has learned how to find for himself the information in the published literature of his major field, he will be at a serious disadvantage. This handbook has been prepared as an aid to the library user so that he may, with a minimum expenditure of time and effort, answer questions of research and references arising in his chosen profession. The purpose is to explain briefly basic procedures, organization, and materials. To explain in detail the many phases of library sources and service is not possible in these few pages, but the information presented will help in using the Oregon State University Library, especially the Science and Technology collection, with some facility and effectiveness. It should also be equally effective in using other collections of the same type in industrial or academic libraries.

Proper use of the resources and services of a specific technical library will vary from institution to institution, from industry to industry, and from research facility to research facility. Basically, however, a knowledge of the scope of the literature in the specific field of technology and familiarity with established library procedures are sufficient backgrounds for most users.

Familiarity with any typical collection makes the transition between facilities relatively easy. The following is a brief survey of the resources and facilities of the Science and Technology Division in the Oregon State University William Jasper Kerr Library.

ORGANIZATION OF THE OREGON STATE UNIVERSITY LIBRARY

The William Jasper Kerr Library is an open-access library of approximately 500,000 volumes. The material is organized for individual selection of materials from the shelves. Nowhere are there barriers between the user and the collection. All circulating library materials withdrawn from the shelves for use outside the library must be charged at the Central Checkout Point. Circulating materials are available for use by non-campus, as well as campus persons. Periodicals, documents, and related materials have a restricted use period for faculty and graduate students. Except for special authorization, these materials are not permitted to circulate to undergraduate or non-campus persons.

The library is oriented toward a four-floor subject area concept, hence there are four major divisions—Reference and Humanities, Social Sciences and Business, Education and Fine Arts, and Science and Technology (including Agriculture and Forestry).

Reference and Humanities (Second or Main Floor)

General reference books such as dictionaries, encyclopedias, atlases, biographical dictionaries, selected bibliographies, general periodical indexes, and specialized reference works are found here. The Humanities collection includes philosophy, psychology, religion, history, languages, and literature.

Social Sciences and Business (Third Floor)

This floor includes political science, economics, general social sciences, sociology, business, finance, industrial and labor relations, geography, anthropology, law, and other related subjects.

Education and Fine Arts (First Floor)

Here will be found books on education (including a Curriculum Library and a collection of children's books), music, and fine arts; phonograph records with listening facilities; current college catalogs; picture collection; and microfilm holdings.

Science and Technology (Fourth Floor)

Included here are physical and biological sciences, mathematics, engineering sciences, pharmacy, home economics, agriculture, horticulture, animal science, fisheries, and forestry. Also, Atomic Energy Commission publications (microcard and printed) and a limited trade catalog collection are located here.

Documents Division (Third Floor)

State, federal, and United Nations documents are a valuable source of original data and research for scholars in all fields. In the William Jasper Kerr Library, many of the government documents are listed in the Card Catalog under the name of the issuing agency. An equally large number, however, are not cataloged.

Listed below are selected U. S. Government documents in the Science and Technology area, with primary emphasis on engineering.

- U. S. D. A. , Yearbook of Agriculture
- U. S. D. A. , R. E. A. bulletins
- U. S. Army, Corps of Engineers, E. M. manuals
- U. S. Army, Corps of Engineers, examinations of rivers and harbors
- U. S. Army, technical manuals
- U. S. Bureau of Yards and Docks, design manuals
- U. S. Geological Survey, bulletins, professional papers, water supply papers
- U. S. Bureau of Mines, bulletins, information circulars, reports of investigations, minerals yearbooks
- U. S. National Aeronautics and Space Administration, technical reports, SP series
- U. S. Public Health Service, publications
- U. S. Bureau of Public Roads, Public Roads—a journal of highway research
- Nuclear Science abstracts
- Bibliography of Agriculture
- Index Medicus
- Journal of Research of National Bureau of Standards
- U. S. Government research reports
- Technical translations
- Scientific and Technical Aerospace reports
- U. S. Naval Oceanographic Office, publications

Technical Processes Division (Third Floor)

In addition to the four subject-area divisions, there is a so-called Technical Processes Division which incorporates the activities of the Order Department, Serials Department, and the Cataloging Department. Technical Processes performs the combined tasks of purchasing books, journals, serials, and other subscriptions; maintaining records for all acquisitions, whether gifts or purchases; and classification and cataloging of acquired library materials. The Serials Department maintains a "checking record" for all serials* publications received by Oregon State University. The Cataloging Department prepares the card record for the public catalog to indicate author, title, and subjects represented in each piece of material. The comprehensiveness of this catalog varies from library to library. Essentially, however, the public catalog represents the "key" to the materials held in the library. Also retained in the Cataloging Department is a "shelf-list" which is a card file of cataloged materials held in the library according to the order in which they are placed on the shelves, so that they are in order by class or subject.

As an adjunct to the Cataloging Department, a Book Processing Office letters a call number on each cataloged item. The call number is a combination of letters and figures used to identify a book or magazine and determines its subject location in the library.

Subject Classification Scheme

Books and journals are arranged in the library and on the various floors according to subject based on the Library of Congress classification scheme. An outline of the scheme, which has an alphabetical nomenclature, is as follows:

- A - General Works - Polygraphy
 - B - Philosophy - Psychology - Religion
 - C-D - History and Topography (except America)
 - E-F - America
-

*A "serial" has been defined as any publication, whether issued at regular or irregular intervals, with some scheme for consecutive numbering, and intended to be continued indefinitely. Such publications include annuals, monographs, government documents in series, periodicals, newspapers, and continuations. In the William Jasper Kerr Library, serials also include experiment station and extension service publications.

- G - Geography - Anthropology - Sports and Games
- H - Social Sciences
- J - Political Science
- K - Law
- L - Education
- M - Music
- N - Fine Arts
- P - Language and Literature*
- Q - Science
- R - Medicine
- S - Agriculture - Forestry - Plant and Animal Industry
- T - Engineering and Technology
- U - Military Science
- V - Naval Science
- Z - Bibliography

A Call Number Directory is posted at strategic locations throughout the library and lists the floor levels in the building on which are found the Library of Congress classification classes.

Linedex File for Serials

A Rotary Linedex File (located at the Central Reference Desk) lists most periodicals currently received throughout the library. A satellite Rotary Linedex on the fourth floor (Science and Technology) lists periodicals housed on that floor. Social Sciences and Education-Fine Arts divisions maintain their own card files of periodicals.

The Linedex File does not list all serials received by the library. These are included, however, in the Card Catalog.

A Rotary File listing government "serial" publications, both cataloged and uncataloged, is kept at the Central Reference Desk.

*Some of the literary forms are still classified in the Dewey Decimal classification, 800's.

SCIENCE AND TECHNOLOGY DIVISION AS PART OF THE MAIN LIBRARY

The previous discussion has been of the William Jasper Kerr Library, generally. The Science and Technology Division is, in a sense, an entity in itself. Its collection of nearly 200,000 volumes, its indexing and reference service, and specialist personnel, is comparable to, or perhaps larger than many industrial or technological libraries. It is, however, an integral part of the total library and, as such, adds strength to its own collection and services and functions closely with the other divisions of the library. It should be stressed that the interrelations of divisional collections are significant, for there can be no pure compartmentalization of knowledge. For the comprehensive and intensive research project, the researcher may have to, and should, avail himself of all the facilities provided by the library. For example, fields related to engineering and technology may not appear in the Science and Technology collection through subject emphasis of the classification, yet have real significance to the researcher. The extensive map collection, housed on the first floor of the library, may prove of interest to several areas of engineering, including highway and bridge construction, petroleum engineering, and others.

Also located in the William Jasper Kerr Library is an author catalog of all books and journals held in the various libraries within the Oregon State System of Higher Education. This facility gives researchers on the Oregon State University campus access to these other collections which, at this time (1964), total approximately 2,000,000 volumes.

SCIENCE AND TECHNOLOGY DIVISION COLLECTION, FACILITIES, AND SERVICES

Forty-seven percent of the cataloged volumes in the library, or nearly 225,000 volumes, comprise the Science and Technology Division collection. As indicated earlier, this is an open-shelf collection and patrons may go directly to the shelves to select needed materials, either for consultation or for borrowing.

Certain categories of material do not circulate (cannot be borrowed), but are restricted to use only in the library. These include reference books (these are indicated with a large R below the call number), current issues of journals, and certain special material clearly marked "Restricted". In some instances special permission to borrow "Restricted" material may be secured from the librarian in charge of the division.

All circulating library material withdrawn from the shelves for use outside the library must be charged at the Central Checkout

Point, and must be returned to the book-return at the same point.

The Science and Technology Division is administratively responsible to the Assistant Librarian, Head of Public Services. It is staffed with eminently qualified and experienced professional librarians, several subprofessional full-time employees, and many students. The professional and subprofessional staff may be of great assistance in locating materials and pursuing a specific topic. Patrons are urged to enlist their aid rather than waste time and energy in fruitless and frustrating random search.

System of Classification and Arrangement of Books

In libraries of any size or complexity, the collection of books and journals is classified according to subjects so that specific subjects are shelved together as a group. Call numbers are devised to aid in reshelving materials, as well as to aid in locating them. The William Jasper Kerr Library uses the Library of Congress classification system for its collection because it provides a more adequate, expandable, and flexible scheme for the rapidly expanding fields of science and technology.

With the Library of Congress system the following subject fields (these are selective, not inclusive) are included in the Library's Science and Technology Division:

- A - General Science
- QA - Mathematics
- QB - Astronomy
- QC - Physics
- QD - Chemistry
- QE - Geology
- R - Medicine
- S - General Agriculture (includes Agricultural Engineering)
- SD - Forestry
- T - Technology in general
- TA - General and Civil Engineering. Materials of engineering and construction; surveying, etc.
- TC - Hydraulic Engineering (harbors, rivers, canals) Water-supply engineering; irrigation, drainage, etc.
- TD - Sanitary and Municipal Engineering. Water supply: source, pollution, purification; sewerage, municipal refuse, etc.
- TE - Roads and pavements
- TF - Railroad engineering and operation
- TG - Bridges and roofs

- TH - Building construction. Building laws, plumbing, heating, ventilation, lighting, etc. fire prevention, fire extinction
- TJ - Mechanical Engineering and Machinery. Steam, hydraulic, and pneumatic machinery; machine-shop practice, etc.
- TK - Electrical Engineering and Industries. Production, distribution, and application of electric power. Electric lighting, telegraphy, telephony, radio, television, etc.
- TL - Motor vehicles. Cycles. Aerospace
- TN - Mineral industries. Mining and Metallurgy
- TP - Chemical technology (includes Chemical Engineering). Manufacture of chemicals, alcohol, fuel, pottery, etc.
- TR - Photography
- TS - Manufactures. Metal, lumber, leather, paper, textiles, packing-house, etc.
- TT - Trades (includes Industrial Arts, Mechanic trades)
- TX - Home Economics

The Science-Technology collection of books, journals and other materials are shelved in "call number" sequence, beginning with Q and terminating with TX. Bound journals are inter-shelved with books, in correct order, as are all unbound journals, with the exception of the most recent copy of selected journals is placed on the shelves in the Current Periodical reading area (indicated on floor plan).

In a restricted area of the Science and Technology Division are depository items from the Atomic Energy Commission. This library receives all of the unclassified publications of the AEC. Some of the publications are printed, some are near-print, and some are micro-reduced. Because of the dissimilarity of format and because some are not cataloged, these publications are housed in a restricted area, but they are freely available to users according to existing rules for loaning such materials. Readers for the micro-reduced materials are available at the Science-Technology Reference Desk.

Special Reference Files and Tools

In addition to the "shelf-list" (card file of cataloged materials held in the library according to the order in which they are placed on the shelves) maintained in the Cataloging Department, already mentioned, the Science and Technology Division also maintains a shelf-list of its holdings. This, in effect, serves as a classified subject catalog.

Maintained for the collection, also, is an author catalog for all cataloged materials in the division. Besides the comprehensive author catalog, a partial subject and title catalog is incorporated within the author entries. The Main Card Catalog at the Reference Area on the second floor, however, is the most complete catalog of the Science and Technology collection.

A Linedex Rotary Index of periodicals received in the Division is maintained near the Reference Area.

Special card catalogs which include the experiment station and Extension Service series, Forestry Abstract cards, and other special indexes and abstracting services are available within the Science and Technology Division.

It should be reiterated, however, that much ancillary and inter-related material is housed on other floors of the library, and the only comprehensive index to the entire library collection is the Main Card Catalog located near the Main Reference Desk on the second floor.

Reference Works

Compilations of precise and concise statistical information pertaining to specific fields or functions may be found in reference works. These compilations may take the form of tables, brief summations, illustrated summaries, or some other concise presentation. Reference works of this kind are essential to any subject area, but especially so in the fields of engineering and science because of the rapidly changing developments in these fields. A representative collection of reference works is shelved, by classification order (i. e., Q-R-S-T) on special Reference Area shelves near the Reference Desk. An additional collection is housed behind the desk for security reasons and ready reference. These may be secured for use by requesting them from the Reference Librarian.

A selected sampling of significant reference sources retained at the desk is listed below:

Metals Handbook
(American Society for Metals)

ASHRAE Guide and Data Book
(American Society of Heating, Refrigerating and Air-Conditioning Engineers)

ASTM Standards
(American Society for Testing and Materials)

Standards
(American Standards Association)

Welding Handbook
(American Welding Society)

Materials Handbook
(Brady, G.S.)

Handbook of Chemistry and Physics
(Chemical Rubber Co.)

Handbook of Engineering Fundamentals
(Eshback, O.W.)

Handbook of Chemistry
(Lange, N.A., editor)

Industrial Engineering Handbook
(Maynard H.B., editor)

Standard Handbook for Electrical Engineers
(Knowlton, A.E., editor)

Directory of the Paper and Allied Trades
(Lockwood)

Mechanical Engineers' Handbook
(Marks, L.S., editor)

Modern Packaging Encyclopedia

Modern Plastics Encyclopedia Issue

Radio Tube Vade-mecum
(P.H. Brans)

Chemical Engineers' Handbook
(Perry, J.H.)

RCA Electron Tube Handbook
(Radio Corp. of America)

S.A.E. Handbook (Society of Automotive Engineers)

Dangerous Properties of Industrial Materials
(Sax, N.L.)

Data Book for Civil Engineers
(Seelye, E.E.)

Radiotron Designer's Handbook
(Smith, F. L., editor)

Plant Engineering Handbook
(Staniar, W., editor)

Architectural,
Industrial Construction,
Product Design, etc.
(Sweet's catalogs)

Minerals Yearbook
(U.S. Bureau of Mines)

Manual of Classification
(U.S. Patent Office)

Who's Who in Engineering

As reference works become outdated, they are replaced by more current editions; as new fields develop in Science and Technology, reference works are added.

Indexes and Abstracts

Current magazines publish the latest information on most subjects and the older magazines contain historical material. Information contained in the thousands of magazines, periodicals, serials, symposia, congresses, research reports and similar non-monograph material may be located by means of indexes and abstracts. Indexes and abstracts are as important searching tools to this type of material as the card catalog is to the book collection in the library.

Frequently indexes or abstracts, in order to keep up with current demands, will terminate only to reappear as new indexes. One classic example is the Industrial Arts Index, 1913-1957. It continued through 1957, divided, and became the Business Periodical Index and the Applied Science and Technology Index.

The Applied Science and Technology Index is a monthly, subject index to periodicals in the fields of aerospace, automation, chemistry, construction, electricity, communication, engineering, geology, metallurgy, industrial and mechanical arts, machinery, physics, transportation, and related subjects.

The Business Periodical Index is a monthly subject index to periodicals in the fields of accounting, advertising, banking and

finance, general business, labor and management, marketing and purchasing, office management, public administration, taxation, specific business, industries and trades.

Both these indexes, however, and the parent index, the Industrial Arts Index, are in the library, and are available in the Science and Technology Division.

Listed below are selected periodical indexes and abstracts that have significance in the fields of science and technology and are housed in the Science and Technology Division. There are many others, however.

Agricultural Index
Air University Periodical Index - aviation, rocketry, and their
military applications
Applied Mechanics Review
Applied Science and Technology Index
ASM Review of Metal Literature
Bibliography of Agriculture
Bibliography of North American Geology
Biological Abstracts
Chemical Abstracts
Engineering Index
Forestry Abstracts
GeoScience Abstracts
Index Medicus
Journal of the Science of Food and Agriculture
Mathematical Reviews
Meteorological Abstracts
Nuclear Science Abstracts
Nutrition Abstracts
Science Abstracts. Section A: Physics
Science Abstracts. Section B: Electrical Engineering
Water Pollution Abstracts

Instruction for the effective use of these indexes and abstracts may usually be found in the introductory pages of each. Arrangement and use may vary from one index to another.

GENERAL METHODS OF APPROACH IN SEARCHING LIBRARY MATERIAL

Ben Jonson once remarked: "Knowledge is of two kinds. We know a subject ourselves, or we know where we can find information upon it." The importance of searching the literature cannot be over-emphasized: Investigation should be planned on a sound basis, however, for best results. A systematic program of research, entails basically, the following steps.

1. Study the Question Carefully

Search usually begins with a question, or hypothesis. Evaluate the hypothesis or question, for a clear formulation of the subject and purpose of the research. With a clear understanding of what is desired, the hypothesis may then be set down as a clear and logical statement.

2. Choose Proper Tools and Sources

The volume of material in science and technology is so great that limits must be predetermined, and non-pertinent or marginal areas must be eliminated. Since, obviously, subject matter cannot be effectively compartmentalized, related subjects may eventually be significant, but not at the time of initial search.

One of the most important requirements for adequate literature search is a logical approach to the material. Begin with a selection of articles in an encyclopedia which will supply orientation in the subject, as well as a selective bibliography from which to progress. The search of a new problem usually begins on a vague basis which becomes tangible, only with "rolling up the sleeves" and diving in. Sense of direction comes from practical experience with the literature of the subject area.

The card catalog is the key to the resources of any library. It is the only complete index to all the cataloged materials in the library. Ordinarily, basic research will begin in the card catalog. Generally, a card catalog lists materials in three ways: by author, by subject, and by title. For most books, each of these approaches will be represented by at least one catalog card. Search by author or title requires, of course, knowing one or the other. The subject approach is easiest for the searcher who is feeling his way into the material. In using the subject approach, begin with the most specific heading that will cover the subject field desired. If there is no material under a specific heading, proceed to more general headings. Attention also should be directed to "See" references. These are directions from subject headings not used to subject headings that are used. "See also" references indicate related subjects, e. g. Atoms, see also Cyclotron. Instructions in the use of the catalog may be secured from any librarian, upon request.

Factual information may be derived from handbooks, catalogs, reference books, texts, journals, documents, bulletins, or any other printed item.

Generally, however, when itemized factual data (statistics, etc.) is desired, reference tools such as handbooks, catalogs, encyclopedias, etc. will provide the most concise information. Selected reference tools of this type are listed below:

Chemical Engineers Handbook	Mechanical Engineers Handbook
Radio Engineering Handbook	Materials Handbook
Handbook of Noise Control	Engineering Encyclopedia
Encyclopedia of Engineering Materials and Processes	Civil Engineers Handbook
Standard Graphical Symbols	Metals Handbook
ASME Handbook: Engineering Tables	Encyclopedia of Electronics
Minerals Yearbook	Standard Handbook for Electrical Engineers
Metals Reference Book	Specifications and Costs - Data Book for Civil Engineers
Natural Gasoline Supply Men's Assoc. - Engineers data book	Industrial Engineers Handbook

Many technological reference tools are updated each year or two.

Recent information is more logically obtained from current journals, patents, bulletins, federal and state documents, or reports.

Textbooks and printed reports may well serve as guides for general information, as they are digests or summaries of progress in the field up to time of publication. It should be borne in mind, however, that time-lapse between completion date of the text and publication date must of necessity preclude current information or progress. Books have virtually ceased to become useful for current information, but have primary usefulness for providing a preliminary survey of knowledge on a specific subject. Books, in effect, serve more as an encyclopedia in this day of rapid change in technology, but serve a useful purpose for technical literature research because they summarize.

Periodical indexes are the most useful tool for finding the current technical information of all kinds. Periodical indexes include periodicals, patents, annual reviews, transactions,

monographs, comprehensive treatises, proceedings, bulletins, and reports. Use of these indexes should, however, be supplemented by direct consultation with the most recent journals in the field, since with indexes, as with books, there is a time-lapse between completion and publication. Most indexes lag behind current periodicals from 30 to 120 days.

It is useful to remember in a discussion of current technical information that most professional societies publish annually, a journal (a record of current developments in the fields and news items), proceedings (minutes of the meetings of the society, including significant scientific and technical papers presented at the conferences, and abstracts of other papers), and transactions (including proceedings plus comments and criticisms of papers presented at the conference by leading men in the profession).

Printed lists of books on specific subjects is another avenue of approaching a research problem. It should be reiterated, however, that book material is quickly out-of-date, and a printed list may only serve as a source of general references or textbooks.

Source material is generally of two types - primary or secondary. Primary sources are more authoritative since they are from "the horse's mouth" directly, and not modified or edited in the re-telling. Secondary sources are generally less accurate and in some cases information may be edited without consideration for the context from which it was taken. For example, test codes and standards of the American Society for Testing and Materials, the American Society of Mechanical Engineers, and any other national engineering societies tend to be more accurate, complete and up-to-date than those obtained from a textbook, and would be accepted by professionals in the field without question.

3. Use Library Facilities Effectively

Libraries are the most probable source of desired material. Efficient use of library facilities requires practice and a general knowledge of the arrangement of the library materials. Even the most practiced researcher may find that frequent use of the library will yield new and useful materials, as additional library materials are acquired in an ever expanding program.

The general principles of library searching are outlined above and are designed to assist the searcher find his way more efficiently through the facilities of the science and technology library. Adherence to the principles of organized research with assistance from the librarian when needed should enable the researcher to use any technical library efficiently. Although a knowledge of the actual

physical layout of a library in which one plans to do research is of value in making efficient use of time, no general statement can be made which will apply to all libraries. Each library layout is influenced by physical space or emphasis of use. Elsewhere in this Circular (p.22) the floor layout of the William Jasper Kerr Library is shown.

One final point in using library facilities effectively cannot be too often emphasized. The professional librarian is a most useful time-saver and is always ready and willing to provide assistance in locating materials and answering questions.

SOURCES COMMON TO ALL FIELDS OF ENGINEERING

As previously stated, the inter-relationships of subject matter precludes compartmentalizing the various fields of engineering and technology. Library classifications, also, were designed by librarians not by technicians. Fine distinctions are the rarity rather than the rule. Certain fundamentals are germane to all aspects of engineering and technology.

Listed below are certain types of publications which are of general interest. This is not intended to be a complete listing, but only representative titles.

Biographical Dictionaries:

American Men of Science
Who's Who in Engineering
Soviet Men of Science
Directory of British Scientists

Bibliographies:

Johnson's Selected Books and Journals in Science and Engineering
Parke's Guide to the Literature of Mathematics and Physics, including related works on Engineering Science

Directories:

Industrial Research Laboratories of the United States and Canada (National Academy of Sciences)

Scientific and Technical Societies of the U.S. and
Canada

Directories of Manufacturers and Their Products:

Thomas' Register of American Manufacturers
McCrae's Blue Book

Manufacturers Catalogs:

Engineers Product File
Sweet's
Reinhold's Chemical Engineers Catalog
Electronic Engineers Master: Catalog and purchasing
guide of the electronics industry

Technical Dictionaries:

Thorpe's Dictionary of Applied Chemistry
Hoyer-Kreuter Technological Dictionary
Webel's Technical Dictionary
Chambers Technical Dictionary
Crispin's Dictionary of Technical Terms
Dictionary of Business and Industry
Encyclopedic Dictionary of Electronics and Nuclear
Engineering
Bennett's Standard Chemical and Technical Dictionary

Periodical Indexes:

For basic list of Indexes and Abstracts, see p. 12.

Handbooks:

For basic, selected list of handbooks, see p. 14.

Encyclopedias:

Van Nostrand's Scientific Encyclopedia
McGraw-Hill Encyclopedia of Science and Technology
Engineering Encyclopedia

The brief list is illustrative of the type of reference materials available in most technical libraries. New ones are added; old ones are up-dated and revised, so that for the most current publications of this type, the card catalog in the Library provides the best source.

Patent Literature:

The patent literature is important, as it often contains the most current information on inventions of equipment or processes not available in any other source. Articles in technical journals usually follow patenting, rather than preceding it.

The U. S. Patent Office publishes many titles. Of most significance to engineers and technologists, however, is the weekly Official Gazette (1872 - to date) and its annual index, Decisions of the Commissioner (1895 - to date) and the Manual of Classification of Patents. The date of issue of any patent is the date of its appearance in the Official Gazette.

The annual index of the Official Gazette lists inventions by title and the names of the patentees alphabetically. Cross references to these titles are few in number.

There is no subject index to patents, although there are ways of locating patents by subject. One method is by means of the journals that list the recent patents in a certain field or through abstracting services such as Chemical Abstracts. The alternative is through the subject index in the Manual of Classification of Patents. Locate the class and subclass number in the Manual . . ., then search all the annual indexes of the Official Gazette. A third alternative is to ask the library of the Patent Office in Washington D. C., which has facilities for searching patent literature according to subject, to conduct the search.

It should be noted that the Official Gazette carries only an abstract of the patent, not the complete text of the patent. The complete patent text may be obtained from the U. S. Patent Office.

The Oregon State University Library has complete files of the Official Gazette. Microfilm holdings begin from 1948.

SPECIAL SERVICES

Interlibrary Loan Service

Through interlibrary loan service, research materials may be made available to technologists around the State. The request for interlibrary loans from the University Library must be initiated

through the nearest local, public, industrial, college, or university library. It cannot be made directly to the University Library by an individual.

Most requests for books are filled by sending the book itself. Recent and popular books are seldom loaned; reference books are never loaned.

In general most requests for periodical materials are filled by photocopy with charges to be assumed by the borrower. Only one copy of each article will be supplied, and responsibility for copyright is assumed by the borrower. Citation must be shown in full, and a source cited.

Oregon industrial firms and organizations on the University campus are charged a \$1.00 service fee per title plus ten cents per sheet of Xerox copy. Out-of-state industrial firms and organizations are charged a \$2.00 service fee per title plus ten cents per sheet of Xerox copy. Charges are made at a rate of ten cents per sheet, as it is often possible to get two pages of an article on one sheet of Xerox copy. For articles over 25 pages, an estimate can be sent in advance. Payment should not be made in stamps for orders over \$1.00.

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The facilities of the Oregon State University Library are available to any citizen of the State. For the patrons of the local or regional area who can come to the Library, special borrowing cards will be provided for materials which loan for two weeks. Those who live beyond driving distance, may use the facilities through inter-library loan (Interlibrary Loan Service).

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Use of the card catalogs, bibliographies and reference tools within the library, however, is available to all.

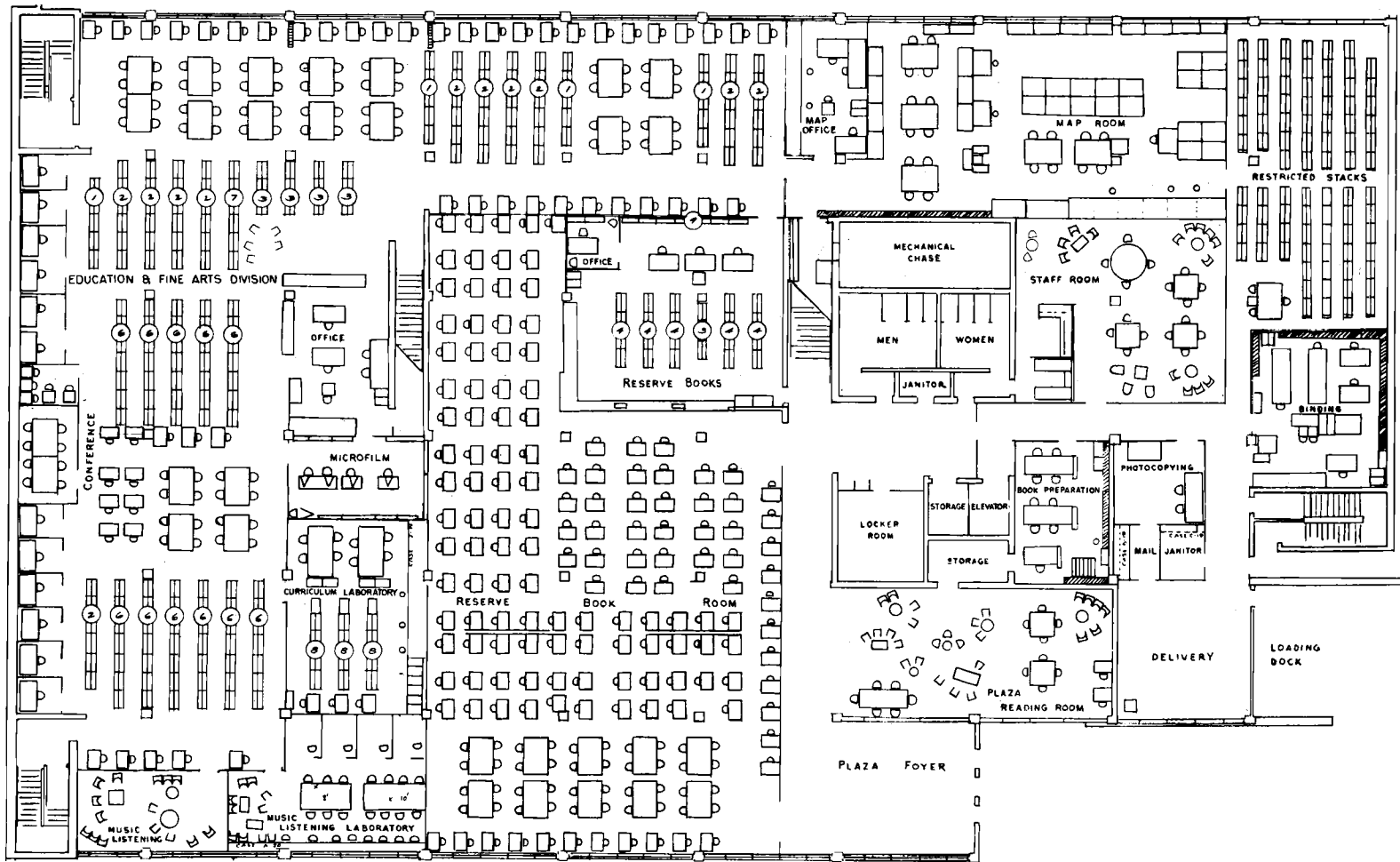
SUMMARY

This brief discussion of the use of a technical library is in itself a small "reference book", attempting to pack much information into a few pages. Although it has been the aim in compiling this Circular to include particular information that would enable library patrons to be less dependent on library staff in their search and in their use of catalogs and reference books, it is obvious that no "handbook", no matter how full and explicit, can do more than summarize a few fundamentals of library technique and suggest a few of the many bibliographical tools available. Also, whereas this Circular is oriented toward the Oregon State University Library collection, the information and techniques may be applied to the use of other libraries of the same type.

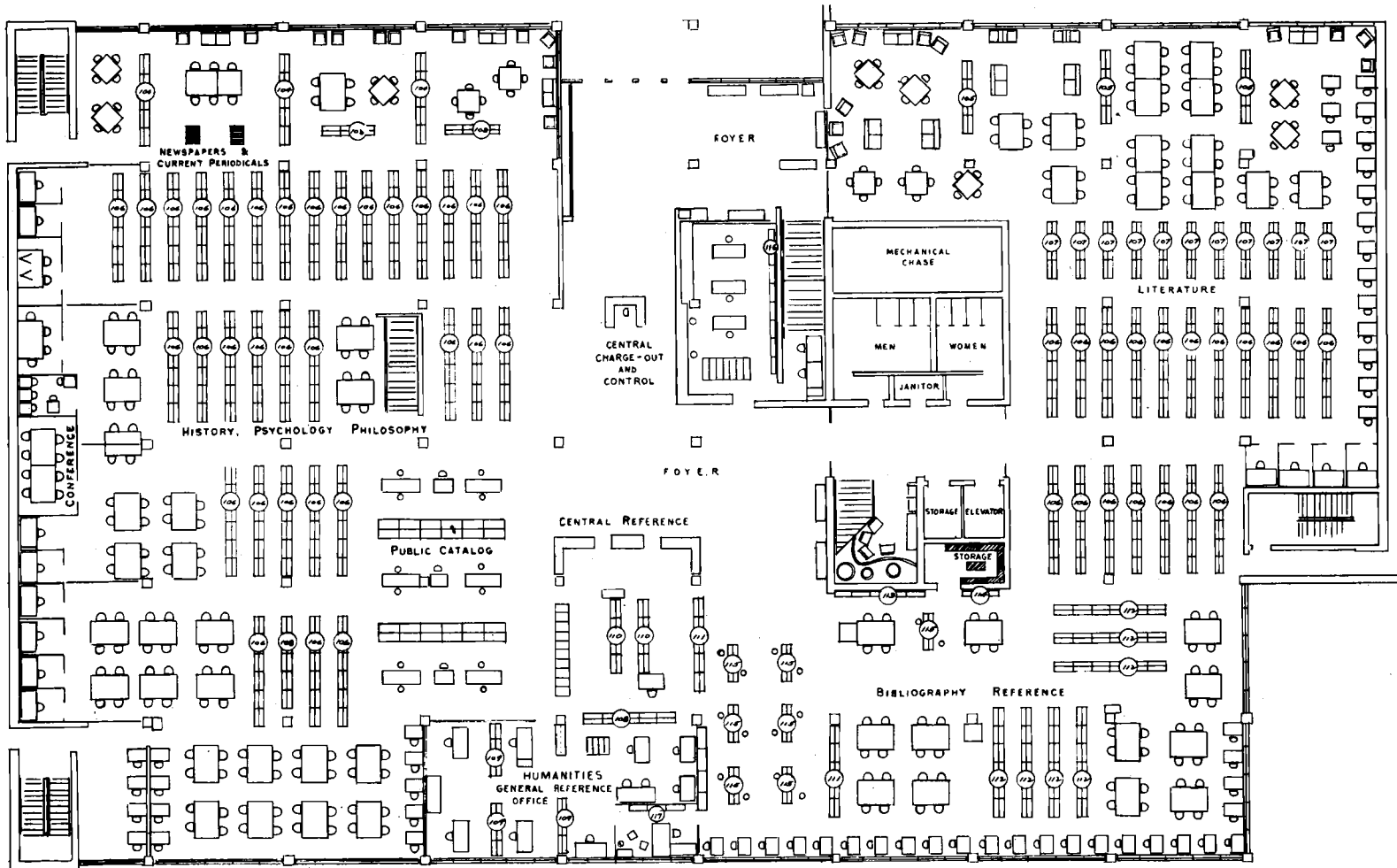
Lectures, discussions, manuals or handbooks may suffice to give a general idea of the use of a library, but practical experience in the library is of prime importance in gaining a knowledge of the library. It has been said that a competent searcher should have at his command a knowledge of libraries, including where they are and what is in them, combined with an ability to find and use the information sought. Only frequent use will yield a full appreciation of the facilities

and services offered in a library.

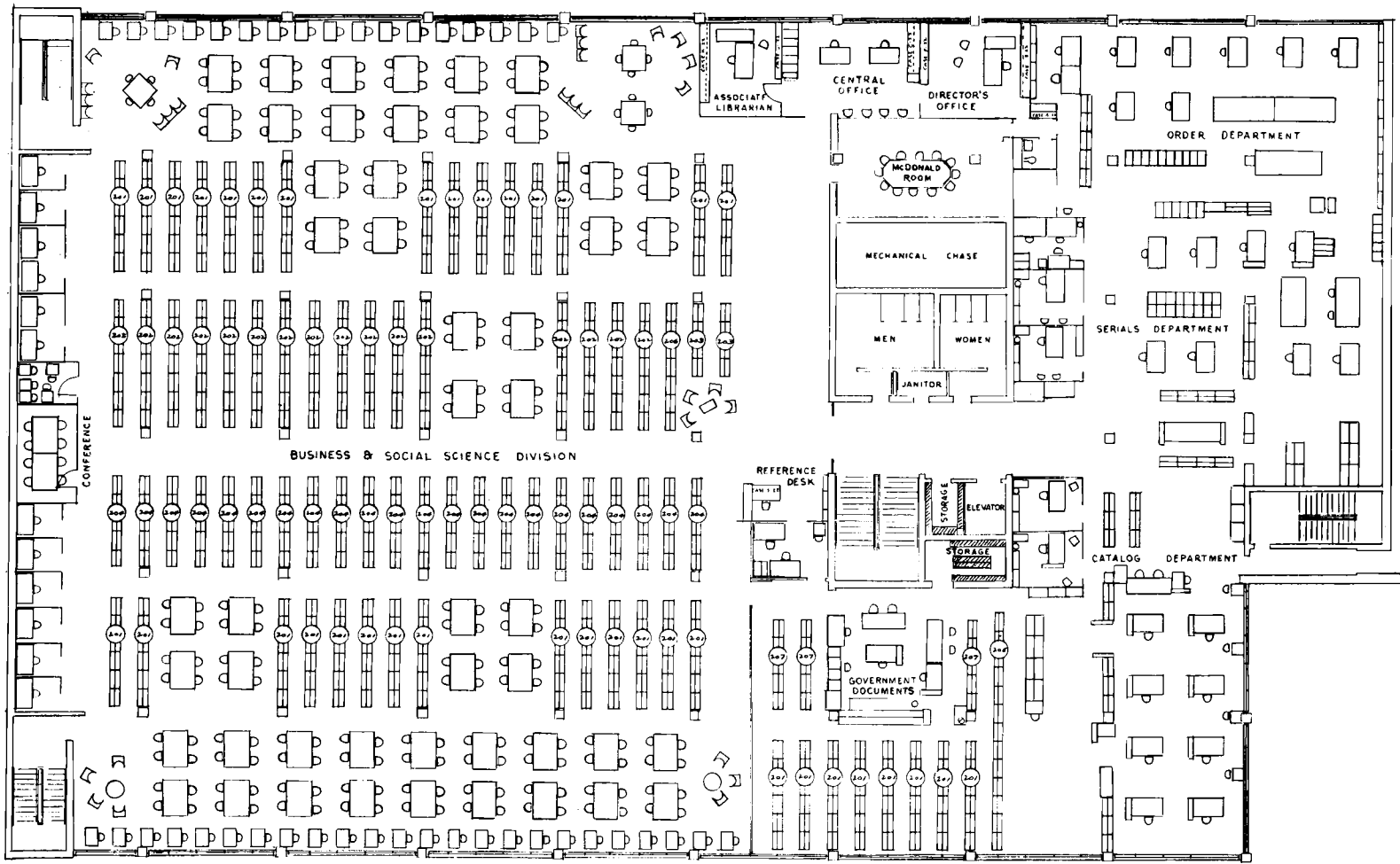
The technical library prevents duplication of effort, saves time, money and energy for the researcher. Carlyle said "...it is lying, as in magic preservation, in the pages of books". The library is the source of reliable information which has practical importance and general applicability.



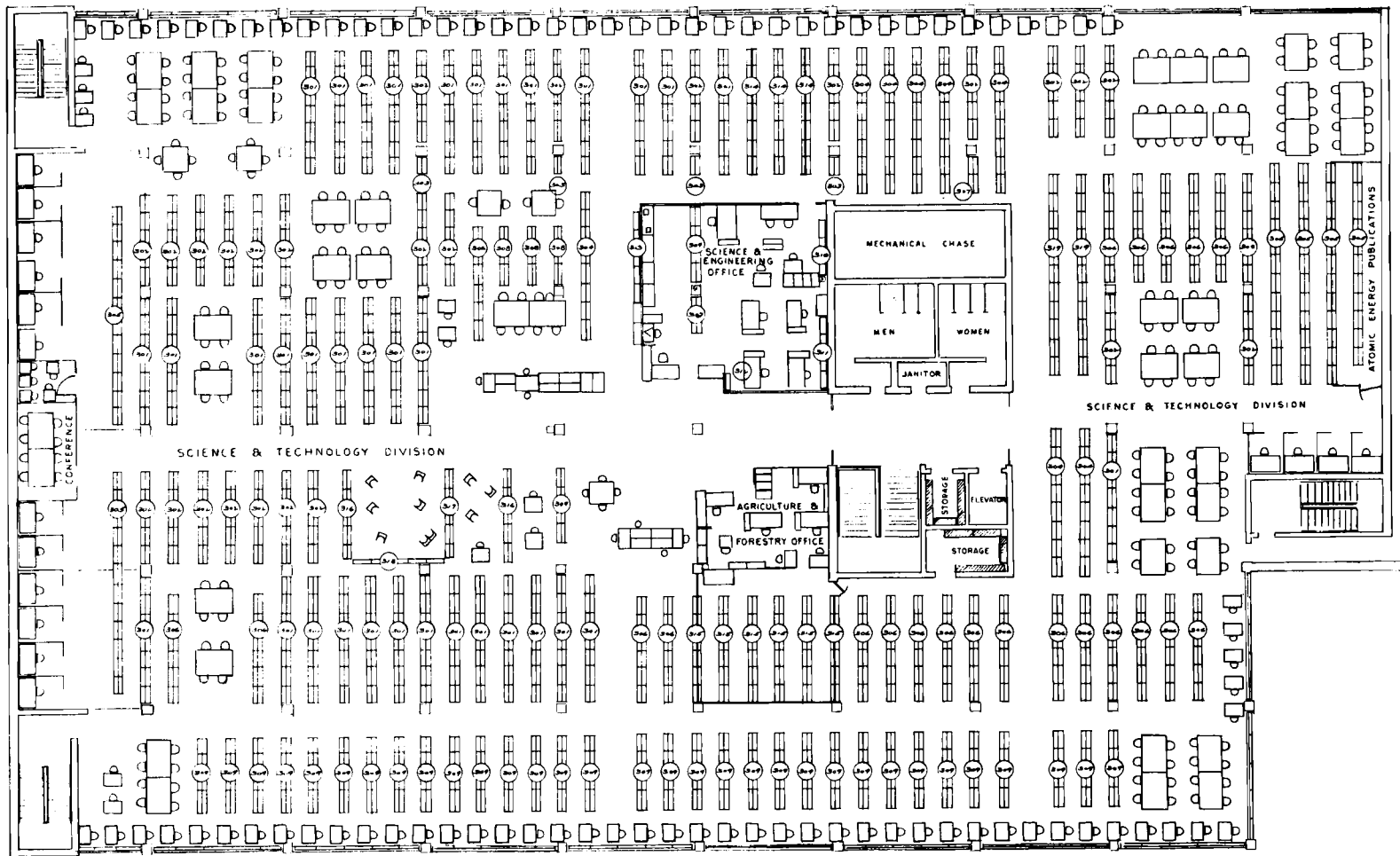
First Floor



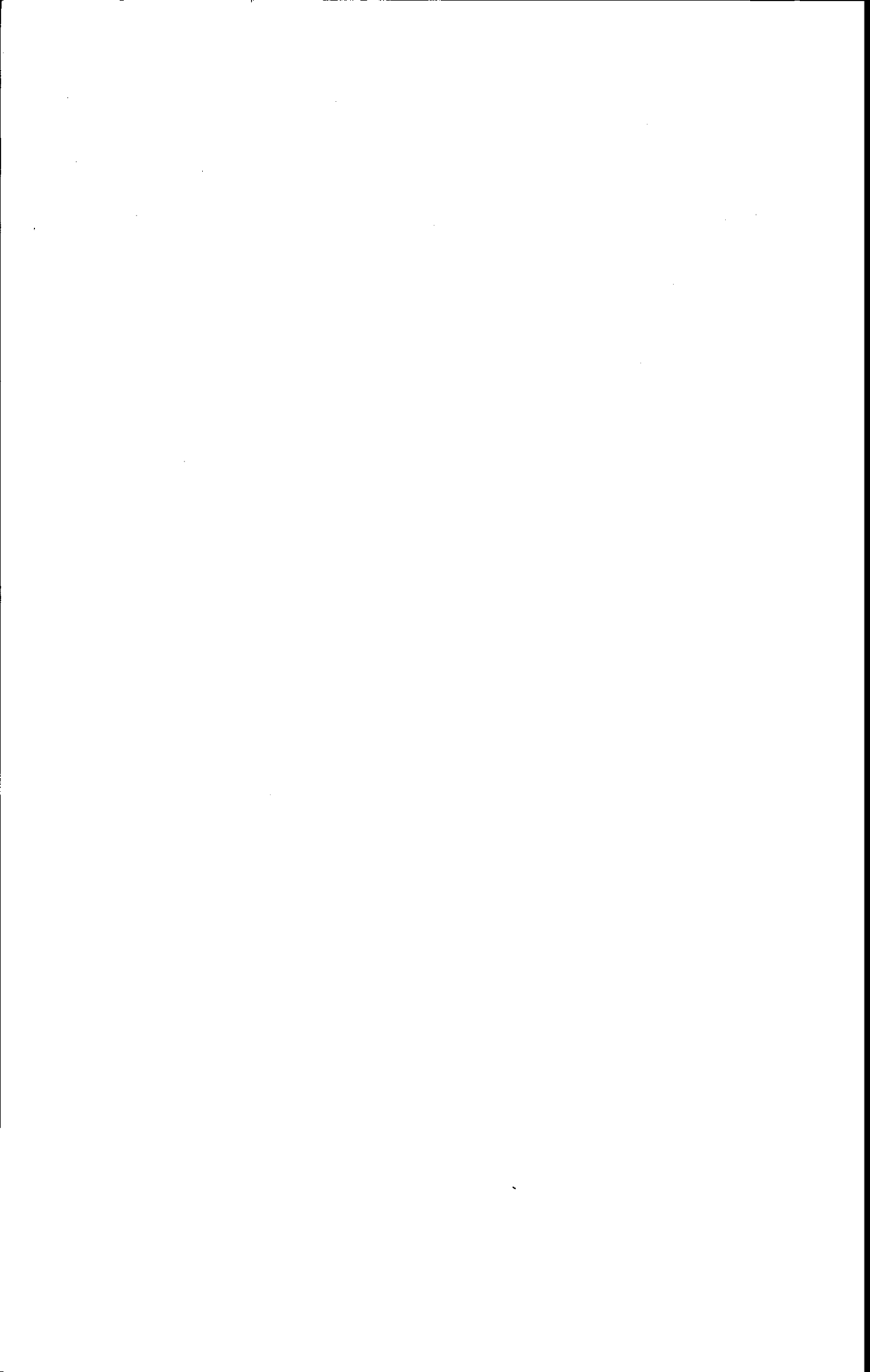
Second Floor



Third Floor



Fourth Floor



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