

LIBRARY OF CONGRESS COLLECTIONS POLICY STATEMENTS

History of Science and History of Technology (Class Q, R, S, T, and applicable Z)

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I. Scope

This Collections Policy Statement covers all of the subclasses of Science and Technology and treats the history of these disciplines together. In a certain sense, most of the materials in Q, R, S, and T are part of the history of science and technology. The Library has extensive resources in the history of medicine and agriculture, but many years ago a decision was made that the Library should not intensively collect materials in clinical medicine and technical agriculture, as they are subject specialties of the National Library of Medicine and the National Agricultural Library, respectively.

Collecting Overlap with other U.S. national libraries

The subject areas covered by this Collections Policy Statement overlap with the collecting priorities of the Nation's other national libraries. For information on the National Agriculture Library's collecting efforts in this area, please see: <https://www.nal.usda.gov/>. For information on the National Library of Medicine in this area, please see: <https://www.ncbi.nlm.nih.gov/books/NBK518693/>.

In addition, some of the numerous abstracting and indexing services, catalogs of other scientific and technical collections and libraries, specialized bibliographies, and finding aids for the history of science and technology are maintained in class Z. See the list of finding aids online: <http://findingaids.loc.gov/>.

II. Diverse and Inclusive Collecting Statement

As the nation's de facto national library, the Library of Congress strives to build an expansive, yet selective, collection that records the creativity of the United States and is reflective of the nation's diversity and complexity. The Library's mandate is to have collections that are inclusive and representative of a diversity of creators and ideas. A priority includes acquiring material of underrepresented perspectives and voices in the Library's collections to ensure diverse authorship, points of view, cultural identities, and other historical or cultural factors. The Library also seeks to build a research collection that comprises a globally representative sample of international materials that are diverse in voice and perspective, relative to their places of origin, further supporting the Library's mission to sustain and preserve a universal collection of knowledge and

creativity for Congress and future generations.

Diverse collecting is mentioned within many of the Library's Collections Policy Statements. In addition, the Library has adopted several specific collection policies in an effort to ensure it is building an inclusive and representative collection. For more information, see the Library's Collections Policy Statements on [Ethnic Materials, LGBTQIA+ Studies, Women's and Gender Studies, Independently Published and Self-Published Textual Materials, and Countries and Regions with Acquisitions Challenges.](#)

III. Research Strengths

General

The Library's collections are robust in both the history of science and the history of technology. Both collections comprise two major elements: the seminal works of science and technology themselves, and historiographies on notable scientific and technological works. The former comprise the original classic works of science and technology as they were composed by the men and women who ushered in the era of modern science and invention. These landmark works can be viewed as the primary sources in science and technology, or as rungs in their progressive ladder. Well-known examples are Nicolaus Copernicus' *De revolutionibus orbium coelestium* (1543), Isaac Newton's *Philosophiae naturalis principia mathematica* (1687), and Charles Darwin's *On the origin of species by means of natural selection* (1859).

In addition to these and many other major works, there is a far greater number of monographs that are somewhat lesser known but still of prime significance. In terms of serials, the Library has long runs of virtually all the major journals of science and technology (some dating back to the seventeenth century), and significant collections of papers, pamphlets, and articles.

The Library of Congress aspires to build and maintain an exemplary collection in the history of science and technology that address both the theory and documentation of discovery and the historical and social context of those discoveries by seeking out current and retrospective primary and secondary materials in science and technology in all languages. Shelved along with the seminal sources are secondary works that analyze, interpret and critique the primary historical works of science. These works are collected to provide insightful commentary and context to the general narrative and impact of scientific discovery.

Because it has been acquiring materials on science and technology since 1815, soon after its establishment in 1800, the Library holds broad and deep science and technology collections. Two events in the nineteenth century had significant impact on the Library's collecting of scientific and technical materials.

First, the 1866 act of Congress known as the "Smithsonian Deposit" transferred to the Library from the Smithsonian Institution about 40,000 volumes of memoirs, transactions, and periodicals of learned scientific societies, museums, exploring expeditions, and observatories throughout the world. The arrangement broadened the science and technology collections considerably and influenced their future development. Subsequent yearly deposits increased this total to over 580,000 volumes before the items were merged with the general collections.

A second special circumstance was the Copyright Act of 1870, which established a legal deposit requirement for copyrighted works. Two copies of each copyrighted work were to be submitted to the Library of Congress, leading to unprecedented growth for the Library's scientific and technological collections. In addition, the acquisition of rare book collections such as Rosenwald, Thacher, Toner, and Vollbehr, have contributed significantly to the Library's holdings of early scientific and technical publications and classic first editions of important scientific monographs.

Areas of Distinction

The Library's collections of materials relating to the history of aeronautics and astronautics are particularly strong. The Library has arguably the world's most extensive collections on the subject. These are fully described in *Aeronautical and Astronautical Resources of the Library of Congress: A Comprehensive Guide* (Washington, Library of Congress, 2007.). Another notable historical strength is the Library's collections of materials relating to psychoanalytic thought. These, which include the works and papers of Sigmund Freud and those of most of his European and American disciples, are among the finest in existence. Other collections of preeminence include those in gastronomy (Bitting and Pennell collections), natural history, botany, astronomy, technology, and chemistry. These collections are highlighted in Leonard Bruno's *The Tradition of Science: Landmarks of Western Science in the Collections of the Library of Congress* (Washington, Library of Congress, 1987.), *The Tradition of Technology: Landmarks of Western Technology in the Collections of the Library of Congress* (Washington, Library of Congress, 1995.), James Reveal's *Gentle Conquest: the Botanical Discovery of North America with Illustrations from the Library of Congress* (Washington, Starwood Pub., c1992.), and Leonard N. Beck's *Two Loaf-Givers: or a Tour through the Gastronomic Libraries of Katherine Golden Bitting and Elizabeth Robins Pennell* (Washington, Library of Congress, 1984.).

Other sets of important collections are scientific research reports from World War II: United States government's Office of Scientific Research and Development (OSRD) led by Vannevar Bush, and so-called "captured documents" from Nazi Germany and imperial Japan. During the post-World War occupation period, the U.S. government's experts visited important research institutions and contacted leading scientists in both Germany and Japan, and brought back or created microfiche of important scientific documents and other materials – some of which are laboratory notebooks, reports, and letters from the 1930s to 1945.

The Library's collections of rare printed works in the history of science and technology are definitely among the strongest in the country. For example, the Library has more than 90 percent of the works listed in Bern Dibner, *Heralds of Science* (1980) and Harrison D. Horblit, *One Hundred Books Famous in Science* (1964). (Horblit's work actually describes 129 books, not 100.)

This strength in landmark monographs is complemented by manuscript collections of scientific and technological materials second to none in the United States. The Library's manuscript holdings include the papers of Alexander Graham Bell, Luther Burbank, Lee De Forest, John William Draper (medicine, photochemistry), Sigmund Freud, George Gamow, Asaph Hall (astronomy), William Temple Hornaday, Irving Langmuir (chemistry), Jacques Loeb, Matthew Fontaine Maury, Margaret Mead, Samuel F.B. Morse, J. Robert Oppenheimer, Glenn Seaborg, Merle Tuve (radio waves, ionosphere), Alan Waterman

(radio waves), and the Wright Brothers. The later acquisition of materials owned by two prominent Harvard evolutionary biologists, Edward Osborne Wilson and Stephan J. Gould, as well as by a prominent Cornell astrophysicist and TV host, Carl Sagan, added further strength to the Library's manuscript collections focusing on the recent history of science. Related to this is the Library's depth of biographical materials in its general collections. This varied and substantial body of work spans a time frame from before Greece and Rome to the present day and contains materials recording the scientific and technological accomplishments of these times.

In the area of the history of computers and computing, items on data processing, storage device development, software evolution, and hardware engineering, are significant at the Library. It holds the works and papers of Herman Hollerith, John von Neumann, Vannevar Bush (analog computer), Claude Elwood Shannon (information theory) and John W. Backus (FORTRAN). One of the Library's strengths in the history of computer science is that it holds original editions of books describing programming languages, operating systems, and storage devices.

For more detailed information on the Library's collecting policies related to the subjects of wireless technologies and electronics, and sensor technologies, see the [Collections Policy Statement on Computer Science, Telecommunication, and Artificial Intelligence](#), and more broadly, the [Collections Policy Statement on Technology](#), and the [Collections Policy Statement on Science - General](#). These policies determine the wide-range of computer-related materials that have been, and are presently being acquired, to make the Library's collections among the best in the world. A case in point: T.R. Reid wrote *The Chip: How Two Americans Invented the Microchip and Launched a Revolution* (1984) in its entirety in the Library's Science Reading Room.

IV. Collecting Policy

The overall context for this policy is the Library's position as the *de facto* national library of the United States. The Library acquires U.S. publications, from all periods and in a wide variety of languages, at the research or the comprehensive level in the history of science and the history of technology, while it acquires similar non-U.S. publications at the research, instructional, or basic level. The Library seeks to acquire works in a wide variety of languages which treat the history of a scientific discipline or scientific thought and practice (technology) generally, and to acquire the published works of explorers, scientists, engineers and inventors of the past. The emphasis is on manuscripts and original publications such as field notebooks and laboratory notebooks, critical editions, conference proceedings, scholarly commentaries, anthologies, journals, reference works, and biographies. The overall context for this policy is the Library's position as the *de facto* national library. Acquisitions in other formats and genres, e.g., oral histories, electronic resources, webcasts, podcasts, and datasets, relating to the history of science and technology are obtained in order to build on our current strengths and to expand strengths where appropriate.

The Collections Policy Statement for [Dissertations and Theses](#), as well as the statements for [Medicine](#), [Agriculture](#), [Science - General](#), the [Life Sciences](#), [Physics and Astronomy](#), [Technology](#), [Chemical Sciences](#), [Earth Sciences](#), [Military Science](#), and [Environmental Sciences](#), are used in conjunction with this statement to maintain the Library's collecting strengths in the history of science and technology. Since the history of

science and technology is a broadening and increasingly interdisciplinary field, a research level collection should be maintained whose emphasis is on works in the history of major scientific and technical institutions, societies and movements, as well as on the major social consequences of science and technology.

V. Best Editions and Preferred Formats

For guidance regarding best editions for material acquired via the Copyright Office, see:
<http://copyright.gov/circs/circ07b.pdf>.

For guidance regarding recommended formats for material acquired via all other means; e.g., purchase, exchange, gift and transfer, see: <http://www.loc.gov/preservation/resources/rfs>.

For information regarding electronic resources, open digital content, web archiving, and data sets, see the following Supplementary Guidelines: <http://www.loc.gov/acq/devpol/electronicresources.pdf>, <https://www.loc.gov/acq/devpol/opencontent.pdf>, <http://www.loc.gov/acq/devpol/webarchive.pdf>, and <https://www.loc.gov/acq/devpol/datasets.pdf>.

VI. Acquisitions Sources

Whenever possible, the Library attempts to acquire materials through non-purchase means, such as copyright, exchange or gift. The Library of Congress collections are heavily dependent upon materials received through the copyright deposit provisions of U.S. copyright law ([17 USC section 407](#) & [17 USC section 408](#)). For copyright demand, the U.S. regulations allow for the Library to receive analog and some digital materials. When items are offered in both formats, the Library's default is normally the Best Edition print version, unless the publisher has arranged a special relief agreement with the Copyright Office. The Library also has several exchange partners with non-U.S. government agencies and national libraries from other parts of the world. For materials not available to the Library through copyright deposit, or other non-purchase means, the Library acquires materials through purchase. Purchase is predominately for non-U.S. publications that are not widely available within the United States. The Library utilizes an array of traditional methods of library acquisition (firm orders, subscriptions, and approval plans) with vendors located in different areas of the world. In addition, the Library uses its six Overseas Operations Offices to broaden its acquisitions opportunities.

VII. Collecting Levels

Meeting the Library's Diverse and Inclusive Collecting Statement (see Section II) and the collecting levels outlined below requires continual evaluation of the publishing landscape, sources of expression, current events, and socio-cultural trends to thus maintain effective collecting policies and acquisitions methods. Changes in publishing or in the creation of materials covered by this policy statement may necessitate collecting efforts not explicitly referenced here. Such efforts will be handled on a case-by-case basis while the Library evaluates the need for policy statement updates.

For explanation of the Collecting Levels used by the Library, see
<https://www.loc.gov/acq/devpol/cpc.html>

LC Classification	Subject	U.S. Levels	Non-U.S. Levels
Q124.6-125	General science history & biography	5	4
QA21-29	Mathematics	5	4
QA75-76.9	Computer science	5	4
QB15-36	Astronomy	5	4
QC7-16	Physics	5	4
QD11-22	Chemistry	5	4
QH15-21	Natural history	5	4
QK15-31	Botany	5	4
QL15-21	Zoology	5	4
QM11	Human anatomy	4	3
QP21	Physiology	4	3
QR21	Bacteriology	4	3
S441	Agriculture	4	3
R131	Medicine	4	3
T15-40	General technology	5	4
TA15-19	Civil engineering	5	4
TA139-140			

LC Classification	Subject	U.S. Levels	Non-U.S. Levels
TC15-19 TC139-140	Hydraulic engineering	4	3
TD15-19 TD139-140	Environmental technology	4	3
TE15-19 TE139-140	Highway engineering	4	4
TF15-19 TF139-140	Railroad engineering	4	4
TG15-20 TG139-140	Bridge engineering	4	4
TH15-19 TH139-140	Building construction	4	3
TJ15-20 TJ139-140	Mechanical engineering, machinery	5	3
TK15-18 TK139-140	Electrical and nuclear engineering	5	3
TL15-140 TL515-521 TL539-540	Motor vehicles, aeronautics	5	3
TN15-19 TN139-40	Mining, Metallurgy	4	3
TP15-140	Chemical Technology	5	3
TS15 TS139-130	Manufacturers	4	3
TR15 TR139-140	Photography	4	3
TT15 TT139-140	Handicrafts	4	3
TX13-140	Home economics	5	3

LC Classification	Subject	U.S. Levels	Non-U.S. Levels
Z5154.H57	Astronomy	5	2
Z6660.8	Medicine	4	2
Z7144.H55	Physics	5	2
Z7405.H6	Science	5	2
Z7914.H5	Technology	5	2

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