COLLECTION OVERVIEW

HISTORY OF SCIENCE AND HISTORY OF TECHNOLOGY

I. SCOPE

The history of science and technology covers all the subclasses of science and technology and treats the history of all these disciplines as taken together. In a certain sense all of the materials in Q (Science), T (Technology), S (Agriculture), R (Medicine), GC (Oceanography), U (Military Science) and V (Naval Science) are part of the history of science and technology. In addition, some of the numerous abstracting and indexing services, catalogs of other scientific and technical libraries, specialized bibliographies, and finding aids for the history of science and technology are classed in Z.

II. SIZE

One quarter of the Library's 32 million books, pamphlets and serials are classed in science and technology. This does not include the 6 million technical reports and the 10,000 standards in the custody of the Science, Technology & Business Division or the scientific and technical information in the Library's special collections.

III. GENERAL RESEARCH STRENGTHS

The Library's collections are extremely strong in both the history of science and the history of technology. Both collections incorporate two major elements: the seminal works of science and technology and the works of scientific and technological historiography. The former comprise the original classic works of science and technology, the "real stuff" as it was composed by the "doers" themselves. These landmark works can be viewed as the primary sources in science and technology, or as the rungs in its eventually progressive ladder. Well-known examples that most would recognize are Nicolaus Copernicus' *De revolutionibus orbium coe-lestium* (1543), Isaac Newton's *Philosophiae naturalis principia mathematica* (1687), and Charles Darwin's *On the origin of species* (1859).

In addition to these and many other major works, there is the far greater number of monographs that are somewhat lesser known but still of prime significance. With these must also be included long runs of virtually all the major journals of science and technology (some of which date from the seventeenth century), which contain analogous classics of science and technology but in the form of papers and articles.

Contrasted to these primary sources are secondary works which, with a traditional historical narrative, link these primary works and tell a story of scientific and technological development.

These are works of analysis and interpretation that critically examine sources and synthesize their particulars into a general narrative. Any institution such as the Library of Congress that aspires to collect comprehensively in the history of science and technology must fully address both of these dimensions and seek to obtain the primary works along with their secondary counterparts. The Library addresses both of these tasks directly, and searches out retrospective primary and secondary materials in science and technology in all the major languages. Because it has been acquiring scientific and technical material since its inception at the close of the eighteenth century, the Library's collections are very broad and deep.

IV. AREAS OF DISTINCTION

The Library's collections of materials relating to the history of aeronautics and astronautics are particularly strong. Indeed, the Library arguably has the world's most extensive collections on this subject. These are fully described in *Aeronautical and Astronautical Resources of the Library of Congress: A Comprehensive Guide* (Washington, Library of Congress, 2007. 463 p.).

The Robert Kastor Collection of 194 pen and ink sketches of famous scientists is housed in the Library's Prints & Photographs Division. Each portrait was drawn from life and bears the subject's autograph as well as a handwritten motto or inscription. This unique collection includes nearly every branch of science and has among its subjects such notables as Neils Bohr, Thomas A. Edison, Albert Einstein, Sigmund Freud, Lord Kelvin, Ivan Pavlov, and Max Planck.

The Library's collections of rare printed works in the history of science and technology are definitely among the very 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.) When the Library was made aware in the 1990's that no single library in the world actually has all of the foundation classics listed in Horblit's book, the decision was made that with the financial assistance of the Madison Council and the Library's yearly appropriations, the Library of Congress would obtain copies of all of the exact editions of the classics included in the Horblit volume. That lofty aim is now within view.

This strength in landmark monographs is complemented by a manuscript collection of scientific and technological materials second to none in the United States. The Library's manuscript holdings include the papers of Alexander Graham Bell, John William Draper, Sigmund Freud, Margaret Mead, Glenn Seaborg, Merle Tuve, the Wright Brothers, among a very great many others. Related to this is the Library's great depth of biographical materials in its general collections. This varied and substantial body of work spans a time frame of before Greece and Rome to the present day, and contains materials recording the scientific and technological accomplishments of these times.

V. ELECTRONIC RESOURCES

Electronic resources are an integral part of the Library's collections in the history of science, history of technology and the general sciences. They are particularly strong in both foreign and English language materials and contain a preponderance of serials, including the proceedings and transactions of most major scientific societies and institutions worldwide. Many of these are available electronically through JSTOR, TENET, EZB: Electronic Journals Library, and similar sources or through online abstracting and indexing services such as the History of Science, Technology and Medicine, ProQuest, Digital Dissertations, or Wilson OmniFile Full Text. Programs such as *Find It! Open URL Resolver* continue to work toward a seamless interface between records for electronic and print collections by improving linkages between bibliographic citations and full text accessible to Library staff and patrons.

As certain materials migrate from print to digital-only format, they are frequently collected into the Electronic Resources area of the Library, within the OPAC as an electronic link added through the TrackER system, or both. These sources may be freely available, or may require a subscription, as in the case of many electronic resources. Both are actively collected, and will continue to be collected in the future

Much material on the Wright Brothers, Edison and Bell can be found through the Library's American Memory Site and webcasts on the history of household technology and school gardens, including material on the School Garden Army, so important for food production in World War I, can also be found on the Library's web pages. Titles in the online *LC Science Tracer Bullet* series on *Food History*, *History of Technology*, and *History of Household Technology* provide resources to culinary and social historians.

VI. WEAKNESSES/EXCLUSIONS

The Library does not acquire materials in the history of technical agriculture and clinical medicine, although it is very strong in the history of American medical history and the history of American agriculture.

Since many historians of science actually use the Library's collections in the course of their research, many provide copies of their books to the Library in appreciation for the use of the collections.