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**HIGHLIGHTS IN THE
DEVELOPMENT OF
MEDICAL HISTORY
IN THE UNITED STATES**

(Materials from an Exhibit)

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This sketch is a reconstruction, in only slightly modified form, of the captions and other textual material prepared for the Exhibit entitled, "The History of Medical History in the United States," which was displayed at the National Library of Medicine between April 12 and October 1, 1982. The captions, of course, represent only a sharply limited and highly selective sampling of available information about the topic. However, during the course of preparing the exhibit, a considerable array of names, dates, and other information was brought together which is not conveniently available elsewhere. It thus seems worthwhile to make the data available in this form as an introduction to the subject. As acknowledged earlier, textual details of several sections of the exhibit owed a great deal to various publications by Genevieve Miller. Help with the exhibit was given by John B. Blake, Jeanne L. Brand, Daniel Carangi, and other NLM staff members.

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Highlights in the Development of Medical History in the United States

Introduction

As it has developed during the mid and late twentieth century, the study of medical history is no longer simply an avocation of a few physicians; it has become a vigorous field of scholarly inquiry, involving many disciplines. In Germany since World War II, the history of medicine has been made a required subject in medical schools as part of an effort to create a strong and continuing national self-awareness. In present-day America, it has found an expanding place, both in humanities classrooms and in medical schools, as part of the scholarly effort to understand the roots of our complex world of science, ecological change, and social problems.

For today's medical leaders, the history of medicine provides an essential humanistic ingredient in the education of physicians as well as perspective in the pursuit of medical science. For collectors, librarians, and bibliographers, it is an endlessly fascinating livelihood. For general historians, it is at long last a legitimate and fruitful area of inquiry.

I. Medical History Texts, 1769-1970

Early in America's colonial period, European Medical histories tended to be compilations of the still-useful medical concepts of the ages. But eventually a new species of scholarship emerged. The work generally regarded both as the "first large history of medicine" and the "first genuine study" in the field is Daniel LeClerc's Histoire de la Médecine. Originally published in Geneva in 1696, this work became progressively larger and more useful in its subsequent editions. An English translation appeared in 1699.

John Freind is known as the "first English historian of medicine" because of his two-volume work, The History of Physick; From the Time of Galen, to the Beginning of the Sixteenth-Century, published in 1725-1726. Freind is said to have planned this work while incarcerated in the Tower of London on charges of high treason. He completed the writing after his exoneration and release.

Other early English texts included those by John Coakley Lettsom (1778), William Black (1783), and John Bostock (1833). However, German and French scholars dominated the field of medical history from 1800 until World War I. Notable among early German works were the monumental five-volume opus of Kurt Sprengel (1792-1803), Justus Hecker's two-volume work (1822-1829), and texts by Heinrich Haeser (1845), J. H. Baas (1876), and Theodore Puschmann (1889). Important later German texts included those of Karl Sudhoff, Max Neuburger, and Julius Pagel. Influential French medical histories of this later period included those of Charles Daremberg (1870), Maximilien Littré (1872), Eugène Bouchut (1873), and Léon Meunier (1911).

The earliest American contributions to the history of medicine were lectures presented on ceremonial occasions, with material largely derived from the European texts of LeClerc, Freind, Sprengel, and others. The first such work was A Medical Discourse, or an Historical Inquiry into the Ancient and Present State of Medicine, a work presented in 1769 at the opening of the King's College Medical School in New York City. The author, Peter Middleton (d. 1781), was a Scottish-born physician who came to the American colonies around 1750. Other significant works of the same kind include lectures by Benjamin Waterhouse in 1791 and David Ramsay in 1800.

Early in the nineteenth century, some physicians began to publish memoirs of military medical experiences and historical accounts of local medical institutions. Others produced American editions of medical classics. Among the latter were Elias Marks' 1817 annotated translation of The Aphorisms of Hippocrates and John Redman Coxe's collection, The Writings of Hippocrates and Galen (1846).

Among the first original medical history publications of any significance in this country were biographical dictionaries. In 1828 James A. Thacher published his two-volume American Medical Biography, while in 1845 Stephen W. Williams issued a large sequel to that work under the same title. These and later compilations of the type quickly became standard reference works. Two were by eminent surgeons with very extensive interests in medical history. Samuel D. Gross, whose Lives of Eminent American Physicians and Surgeons of the Nineteenth Century appeared in 1861, also wrote an extensive history of American surgery (in A Century of American Medicine, 1876), a biography of John Hunter, and various shorter works. Similarly, Howard A. Kelly made his most significant contribution to medical historiography with his A Cyclopaedia of American Medical Biography

(1910), expanded with Walter L. Burrage in 1920 and 1928, the last edition entitled Dictionary of American Medical Biography. Kelly, in addition, wrote a definitive biography of Walter Reed (1906), an important work on the history of American medical botany (1914), and other publications.

Translations of European histories of medicine have always been important in this country -- especially so during the nineteenth century, prior to the appearance of authoritative native texts on the subject. One such undertaking was the 1856 translation by C. G. Comegys of Pierre-Victor Renouard's Histoire de la Médecine. Another was the 1876 translation of the one-volume Grundriss der Geschichte der Medizin of J. H. Baas that was prepared by the Cleveland physician Henry E. Handerson. This work became possibly the most popular medical history text in the United States before World War I. In the twentieth century, another distinguished volume was E. B. Krumbhaar's 1941 English language translation of Arturo Castiglioni's Storia della medicina, subsequently revised in 1947.

Attempts in the United States to prepare comprehensive original histories of medicine focused initially on the American experience. An important step in this direction was the centennial volume, A Century of American Medicine 1776-1876, a collection of essays by five eminent physicians: Edward H. Clarke, Henry J. Bigelow, Samuel D. Gross, T. Gaillard Thomas, and John Shaw Billings. Several of these physicians made other noteworthy contributions to medical history, as did Joseph M. Toner, a tireless collector of medical history facts, especially medical Americana. Although Toner did not live to shape his voluminous material into a general history of American medicine, his 1876 work, Medical Men of the Revolution, together with other short works, have had continuing reference value. It thus remained to Francis R. Packard to complete the first integrated history

on the topic. His History of Medicine in the United States appeared in 1901. Thirty years later, Packard expanded this one-volume "collection of facts and documents" into a new two-volume edition. Despite many shortcomings, it has remained the standard work on the subject almost up to the present day.

In the first half of the twentieth century, American medical historians also reached a level of scholarship which enabled them to produce a series of comprehensive original texts of world medical history. These included works by Albert H. Buck (1917 and 1920), Ralph Major (1936), Cecilia Mettler (1947), Victor Robinson (1944), Richard H. Shryock (1936, 1947), and others. However, none, with the possible exception of Shryock's work, has had the influence of Fielding H. Garrison's Introduction to the History of Medicine.

Garrison's text was first published in 1913, with revised editions appearing in 1917, 1922, and 1929. While his was a completely original work, Garrison acknowledged a considerable debt to the "great German masters" of medical history, and particularly to Sprengel and Haeser, who provided him with the model of "a close rendement of essential facts over a substratum of confirmatory footnotes." Subsequent historians, such as Shryock (1944), have tended to find Garrison's history "so disjointed that it can hardly claim to be a narrative, though it is valuable as a reference work." Indeed, it has proved so valuable that a senior medical historian of the 1980s has launched the project of updating and reissuing it in still another edition.

II. Medical Scientists as Historians

Some of the outstanding medical scientists in twentieth century America have also had extensive historical interests. From Welch to Wangensteen, such individuals have believed that the lessons of history provided an essential perspective for the pursuit of their specialties; and they accordingly made it their business to further medical history in this country. Not a few were serious and productive historical scholars themselves; some built up medical history libraries and institutes at their universities; most were active leaders in medical history societies and other activities.

George W. Corner (1889-1981) made contributions to the history of medicine which were as numerous as his contributions to our knowledge of embryology and human reproduction. Beginning with a study of Anatomical Texts of the Earlier Middle Ages (1927), his major works included an annotated presentation of The Autobiography of Benjamin Rush (1948), biographies of Elisha Kent Kane (1972) and George Hoyt Whipple (1963), and histories of the Rockefeller Institute (1964) and the University of Pennsylvania School of Medicine (1965). In 1943, Corner carried out a survey of the historical medical holdings of the American Philosophical Society.

John F. Fulton (1899-1960), throughout his career, remained as productive in medical history as in the science of physiology. His history of physiology appeared in 1931. Subsequently, he compiled definitive bibliographies of Robert Boyle (1932), Richard Lower (1935), and John Mayow (1935); was co-editor or co-compiler of bibliographies of Vesalius (1943), Galvani (1954), and Fracastoro (1935); and authored The Great Bibliographers (1951) and a biography of Harvey Cushing (1946), among other works. His systematic collecting of rare volumes in the history of

physiology ultimately resulted, along with the collections of Harvey Cushing and Arnold Klebs, in the formation of the historical medical library at Yale in 1941. During the last years of his life, Fulton was Professor of the History of Medicine in the new graduate department established for this subject at Yale.

Chauncey D. Leake (1896-1978) wrote the history of his specialty, pharmacology, in 1975, but he is even better known for his scholarly edition of Percival's Medical Ethics (1927), his translation and edition of Harvey's De motu cordis (1928), and his study of The Old Egyptian Medical Papyri (1952). While at the University of Texas Medical Branch, Galveston, Leake was also instrumental in the buildup of a strong rare books library and a teaching program in medical history and medical humanities.

Esmond R. Long (1890-1979) pursued his historical interests parallel to his life-long scientific studies of tuberculosis. His major historical writings included the general History of Pathology (1928), a volume of Selected Readings in Pathology (1929), his History of American Pathology (1962), and his History of the American Society for Experimental Pathology (1972).

George Urdang (1882-1960), in his graduate studies in Germany, combined interests in pharmaceutical chemistry and the history of science. He achieved prominence as editor of the Pharmazeutische Zeitung and was a founder and Director of the Society for the History of Pharmacy in Berlin. Driven from Germany in the 1930s, he became Professor of History of Pharmacy at the University of Wisconsin and first Director of the American Institute of the History of Pharmacy (founded 1941). In 1940, with Edward Kremers, he published the text, History of Pharmacy, a work which, in its successive editions, has become the standard

text in its field. Kremers (1865-1941) was Professor of Pharmaceutical Chemistry at Wisconsin and life-long collector of historical works in pharmacy, chemistry and related fields.

Owen H. Wangensteen (1898-1981) began serious historical studies of his specialty only near the end of his career in surgery. Of even broader significance, he began around that same time to apply his considerable talents as a fund raiser to projects aimed at putting medical history studies at the University of Minnesota upon a firm base. His efforts led to the creation at the University of a special historical library of biology and medicine and provided for continuing expansion of its outstanding rare books collection. Wangensteen was also instrumental in the creation and development at Minnesota of a separate department of the history of medicine. In 1978, with Sarah D. Wangensteen, he published The Rise of Surgery from Empiric Craft to Scientific Discipline.

Gregory Zilboorg (1890-1959) was one of numerous outstanding American psychiatrists who have written on the history of their specialty. He was also far more productive than most, with historical studies of Renaissance witchcraft (1935), Freud (1961), and psychoanalysis and religion (1962), along with his 1941 text, A History of Medical Psychology. He was active on the American Psychiatric Association's historical committee, and in 1944 co-edited its centennial volume, One Hundred Years of American Psychiatry.

III. The Teaching of Medical History

In 1824 Thomas Jefferson brought Robley Dunglison (1798-1869) from London to join the Medical Faculty of the new University of Virginia. Engaged to teach medical history as well

as anatomy, physiology, surgery, and materia medica, Dunglison drew his medical history lectures largely from the standard works of John Freind and Kurt Sprengel. Given annually between 1824 and 1833, these lectures constituted the earliest course in the history of Medicine known to have been presented in the United States. They were arranged and published by Dunglison's son in 1872.

Apart from Dunglison's lecture series, a course given at Penn Medical University in the 1850s, and occasional inaugural lectures on historical themes, medical history was rarely presented in American medical schools before the 1890s. John Shaw Billings had offered a course on medical history, legislation, and education at the John Hopkins University in the fall of 1877, before either the hospital or medical school had opened. Between 1891 and 1905, however, he presented various historical courses at both of these medical institutions.

During the same period, beginning in 1895, the Professor of Surgery at the University of Buffalo, Roswell Park (1852-1914), presented an extensive annual lecture course in the history of medicine. The published version of the course, entitled An Epitome of the History of Medicine (1898), proved highly popular; a second edition was issued the following year and was reprinted in 1908.

In 1903, Eugene F. Cordell (1843-1913) received an honorary appointment as Professor of the History of Medicine at the University of Maryland, the first such appointment in this country. This honor was at least partly in recognition of the publication that same year of Cordell's large Medical Annals of Maryland, 1799-1899. Around that same time Cordell was urging the formation of a national organization of medical historians.

Although medical history instruction spread considerably in the first several decades of the twentieth century, its caliber left much to be desired. Many of the medical school courses were presented by untrained individuals and were casual and unscholarly in the extreme. Some few schools improved their offerings during the 1920s and 30s, but only after World War II was there any widespread movement to upgrade the basic history of medicine course.

A limited effort to provide a higher level of instruction in medical history, through seminar work, was made at Wisconsin between 1909 and 1929 by William Snow Miller (1858-1939). But Americans desiring extensive training during those decades had to go to Vienna, Leipzig, or Berlin. America's first graduate program in the field was organized by Henry E. Sigerist at Johns Hopkins only in the 1930s. After World War II, however, this pioneer department was followed by that at Yale and then by a proliferation of instructional programs elsewhere. By 1967 nine American institutions offered graduate degrees in medical history, and many more have followed suit in subsequent years.

Efforts to learn the extent and nature of medical school instruction in the history of medicine were made by Sigerist in 1931, David A. Tucker in 1952-54, Ronnie Beth Bush in 1968, and Genevieve Miller in 1967-68. Miller in personal visits to 108 schools in the United States and Canada, found that regular instruction was offered in 48 of them. (See Genevieve Miller, "The Teaching of Medical History in the United States and Canada," Bulletin of the History of Medicine, 43 (1969), pp. 259-267, 344-375, 444-472). Subsequently, in the mid-1970s, an AAHM committee reported that history of medicine courses were also being included in the undergraduate curricula at 78 colleges or universities, mainly in history departments. (See Chester R. Burns, The Teaching of Medical History to College Undergraduates in the United States and Canada (1977).

IV. Johns Hopkins University and the History of Medicine

A significant number of the founders and early leaders of the Johns Hopkins medical institutions--notably John Shaw Billings, William Henry Welch, William Osler, and Howard Kelly--had deep historical interests. In fact, along with their enormous influence in shaping modern American medicine, they also had an immense collective effect upon the development of medical history as a scholarly and professional pursuit in North America. These men placed a high value upon the role that medical history could play in developing informed physicians and scientists. They brought great personal enthusiasm to the topic and passed their interests on to a huge coterie of their students and followers. They gave lectures, organized courses, and created an infectious scholarly camaraderie at what was one of the earliest medical history clubs. Several were avid collectors of the medical classics and stimulated some of their students to build up their own collections. All gave much energy to the expansion of medical libraries, and some were bibliographers. Most produced significant historical studies of their own.

In the late 1920s, toward the end of his career as pathologist and administrator, Welch became a more than ceremonial first Director of a new Institute of the History of Medicine. He threw himself actively into the labor of building up its historical resources. And he substantially influenced the Institute's subsequent role as a center of teaching and scholarship by bringing Henry E. Sigerist (1891-1957) to Baltimore as his successor. For a short time, late in 1933, the Institute's faculty included three generations of medical historians: Welch, Garrison, John R. Oliver, Sigerist, and one of Sigerist's subsequent successors, Owsei Temkin.

In his seventeen years at Hopkins, Sigerist proceeded to build the first American graduate-level center of medical history. Through his academic activities, his editorship of the Bulletin of the History of Medicine, and his efforts to modernize and expand the American Association for the History of Medicine, he did a great deal to promote professionalism among American historians of medicine. Unquestionably the most influential medical historian of his generation, Sigerist was also one of the most prolific. His major publications include Great Doctors (1933), American Medicine (1934), Civilization and Disease (1943), and a History of Medicine (1951, 1961).

Following Sigerist, from 1949 to 1983, the Institute has had three directors: Richard H. Shryock, Owsei Temkin, and Lloyd G. Stevenson. During that time it was the model for other medical history departments in this country, particularly those providing graduate instruction. And, in many cases, it provided the trained specialists who moved on to become medical history professors in those other departments.

V. General Historians in Medical History; The Social History of Medicine

Until very recently, only a tiny scattering of general historians in this country had any interest in medical history. And even fewer were making scholarly contributions to the field or were otherwise involved in it. One early exception was the classicist Ludwig Edelstein, who in 1934 fled from Hitler's Germany and in 1935 joined the Johns Hopkins Institute of the History of Medicine Faculty, where he published major works on The Hippocratic Oath (1943) and Asclepius (1945). In 1936, Henry B. Shafer published his Columbia University Ph.D. dissertation on The American Medical Profession, 1783 to 1850, while the following year Sigerist's Institute published a work

on Early Medieval Medicine, by the University of North Carolina medievalist Loren C. MacKinney. At the University of Missouri, historian Charles Mullett published studies of the 18th century English physician George Cheyne (1940, 1943), a study of early English public baths and health in 1946, and The Bubonic Plague and England in 1956.

In the mid-1940s, Arthur Schlesinger, Sr., of Harvard's History Department, directed a number of Ph.D. candidates who subsequently became important contributors to the history of medicine. One of them, Donald Fleming, published biographies of John William Draper (1950) and William H. Welch (1954) and, beginning in the late 1940s was directing graduate students of his own at Brown University and later at Harvard, several of whom focussed on medical history.

At Stanford University in 1944, the Professor of Renaissance History, Charles Donald O'Malley (1907-1970), began a fruitful collaboration with John B. deC. M. Saunders of the University of California Medical School in San Francisco. This collaboration resulted in important medical historical studies of Leonardo da Vinci (1952), Vesalius (1950), and others. Saunders subsequently played an important role in building up the medical library and organizing a medical history department on his campus. Meanwhile, in 1959 O'Malley became Professor of the History of Medicine at UCLA, where he headed a new unit of the history of medicine within the Anatomy Department. At UCLA he directed a number of Ph.D.s in the history of medicine, organized several important symposia on related topics, was active in translating the classics of anatomy, and pursued other scholarly work. Particularly noteworthy among his later publications was his biography of Vesalius (1964), for which he helped prepare himself, with guidance from a physician, Robert Moes, by dissecting a cadaver following the sequence indicated by Vesalius.

An even more extensive influence on the pursuit of medical history in the United States came from the historian Richard H. Shryock (1893-1972). In fact, Shryock deserves recognition as the chief architect of what proved to be truly revolutionary changes in the American medical historiographical scene in the mid-twentieth century. Starting around 1929 he began to demonstrate that both the techniques and the broad outlook of the professional general historian were essential to the medical historian. Conversely, he undertook to persuade non-medical scholars that the social history of medicine and science was as important a part of historical inquiry as the traditional concern with political, economic, and military history. In his own career--as Professor of History at Duke and Pennsylvania for 29 years and as Director of the Johns Hopkins Institute of the History of Medicine for nine years--he spectacularly bridged the gap between the medical environment of the physician and the world of the general historian. Through his example, he made it professionally acceptable and feasible for an increasingly large number of general historians of the present generation to devote themselves to teaching and research in medical history. And, in his numerous publications, he set forth a multitude of challenging medical history themes which have since occupied the attention of M.D.s and Ph.D.s alike.

Shryock's single most influential publication in shaping the new social history of medicine was his Development of Modern Medicine. Originally published in 1936 and greatly enlarged in 1947, this work subsequently had a British edition, was translated into French, German, and Japanese, and has been reprinted several times. Shryock's other major works included biographical studies of Cotton Mather (1954) and Richard D. Arnold (1929), histories of nursing (1959) and of medical licensing (1967), and such volumes as American Medical Research (1946), National Tuberculosis Association (1957), and Medicine and Society in America (1960).

Prior to the Shryock era, the medical history publications of physicians were generally restricted to biographies, bibliographies, institutional histories, or internal histories of medical procedures. Only a small number showed any concern for social aspects of medical history. In 1931, the pediatrician Ernest Caulfield published a work on medical aspects of The Infant Welfare Movement in the Eighteenth Century. And, at Johns Hopkins, Henry E. Sigerist demonstrated a very strong interest in social medicine, one which resulted in such works as A History of Medicine and Human Welfare (1941) and Civilization and Disease (1943). In 1940, the psychiatrist Iago Galdston published the first of several histories of medicine and psychiatry, while over the next several decades he also edited a series of partly historical, partly sociological volumes on social medicine and on the social impact of modern medical science.

Another physician who was greatly interested in the social and economic themes of medical history, and who also contributed importantly to the professional development of the history of medicine, was George Rosen. Along with his influential career in public health education, Rosen regarded medical history as an equally important second career. He became co-editor of Ciba Symposia, was founder and editor of the Journal of the History of Medicine and Allied Sciences, and was professor of the History of Medicine at Yale between 1969 and 1977. He was also author or editor of nine books dealing with the history of medicine, several translations, and numerous articles. Among his most notable works were his History of Miners' Diseases (1943), History of Public Health (1958), and From Medical Police to Social Medicine (1974).

VI. Medical History Museums

The collection of medical artifacts in this country had started on a small scale during the colonial period, but it received its first great impetus somewhat later, from phrenology. Between 1820 and 1850 various physicians, notably Samuel G. Morton and John C. Warren, accumulated large collections of human skulls. Certain doctors undertook to gather other kinds of human specimens, as well as instruments and equipment.

Starting around 1850, some of the collections of individuals began to be transferred to medical societies, schools, or libraries, and distinct medical museums formed. From the beginning, the museums played direct roles in medical education. Increasingly, however, most have taken on the important additional function of popular education of health and medical matters.

Good examples of museums established and maintained by private medical bodies are those in Philadelphia, Cleveland, and St. Louis. The College of Physicians of Philadelphia established its museum in 1849, accepted the large Mutter Collection in 1859, and greatly augmented those materials in subsequent years. Thomas Dent Mutter (1811-1859) had studied medicine at the University of Pennsylvania and in Paris. Between 1841 and 1856, a period when he was Professor of Surgery at the Jefferson Medical College, Mutter collected some 2,000 pathological and anatomical specimens. Prominent later acquisitions of the museum were the large collection of skulls owned by Joseph Hyrtl of Vienna and Chevalier Jackson's collection of foreign bodies that had been removed by surgeons from their patients.

The Howard Dittrick Museum of Historical Medicine, located in Cleveland, had its beginnings in a donation of artifacts by Dudley Allen (1852-1915) to the Cleveland Medical Library Association. The museum took on distinction, however, only with the addition of the large collection of Howard Dittrick

(1877-1954). The third of these institutions, The St. Louis Medical Museum, which is of later vintage than either the Mutter or Dittrick, is an example of a museum whose historical displays emphasize the development of local medicine and the contributions of local physicians.

The United States has, in addition, a surprising number of specialty museums devoted to particular aspects of medicine or the health sciences. Typical of these is the Bakken Museum and Library of Electricity in Life, in Minneapolis. Medically related historical collections, large and small, are also to be found in many general museums, science museums, and other institutions. Likewise, America's art museums contain a wealth of portraits of early physicians and paintings of historical medical scenes.

Two of this country's oldest and finest collections of medical artifacts are in federal institutions. Founded in the 1840s, the Smithsonian Institution has steadily acquired materials pertaining to the history of American medicine, dentistry, pharmacy, public health, nursing, and other specialties. These materials are housed and displayed in topical exhibits at the Museum of American History. The Army Medical Museum, which was created during the Civil War, for many years shared the same building as the Army Medical Library and was frequently directed by the same individuals. Particularly noteworthy among its holdings are the collection of U. S. Civil War pathological specimens and the Billings Microscope collection.

VII. Medical History Libraries

Certain of the medical classics, as well as other source materials for the study of medical history, could be found in the private libraries of colonial physicians and other learned men. This country's early institutional libraries, especially

the libraries of colleges and learned societies, and the working libraries of hospitals and medical societies, also had some such works. By the last half of the nineteenth century, however, specialized libraries of old medical volumes began to appear in number. That period was marked by increasingly large-scale medical book collecting, conspicuously as carried on by the Army Medical Library, but more characteristically and equally vigorously as a pursuit of well-to-do individual American physicians. Numerous notable collections of rare and valuable medical works were accumulated during this time, including those of Henry Handerson of Cleveland, George J. Fisher of Ossining, N.Y., Nicholas Senn of Chicago, Rudolph Matas of New Orleans, Horatio R. Storer of Boston, Lewis Pilcher of Brooklyn, and others. Many of these were subsequently contributed to medical society libraries and, in the twentieth century, increasingly to medical school libraries. By 1968, thirty-three medical school libraries had historical collections of 2,000 or more volumes, and nearly half of those had over 5,000, along with supporting collections. Today the number of such libraries is higher.

The increasing numbers of medical society and medical school rare book libraries have thus contributed directly to the greatly accelerated production of medical history articles and books in our time. And the curators of these collections, whether as librarians, scholars, or in other capacities, have consistently played important roles in the history of the medicine community. The collections referred to in the following paragraphs are only samples of North America's medical history libraries. The ones included are those for which photographs or other material were available for display at the time of the exhibit.

The Library of the College of Physicians of Philadelphia received its first gift of rare books in 1788, from John Morgan, but its first donation of a large private collection came from

Thomas Betton in 1856. Subsequently the historical resources have been immensely augmented by donations of substantial collections from S. Weir Mitchell, Samuel Lewis, John Stockton Hough, and other physicians. Charles P. Fisher (1857-1940), who was Librarian from 1882 to 1932, prepared the first catalog of the College's incunabula. Walton B. McDaniel (1897-1975) succeeded Fisher as Librarian (1933-1953) and then served as Curator of the historical collections from 1953 to 1973.

The New York Academy of Medicine's superb early acquisitions of historical works resulted in large part from tireless collecting on the part of Samuel Smith Purple during the 1870s. In 1933, after acquisition of the E.C. Streeter collection, the Academy built a new wing to house rare books and serve as a center for serious medical history studies. Chiefly instrumental in bringing this about was Archibald Malloch (1887-1953), the Librarian between 1926 and 1949. Long-time Curator of the historical collections, 1929-1956, was Gertrude Annan, who also served as Librarian 1956-1970.

The Boston Medical Library owed much of its early development to the Boston gynecologist James Read Chadwick (1849-1905), who served as Librarian for over 25 years. During his tenure, Chadwick was successful in obtaining large book collections from physicians all over New England. Among these were the over 1,000 volumes presented by Oliver Wendell Holmes (1809-1894). Holmes's collected Medical Essays (1883) were characterized by Garrison as one of the most important American contributions to medical history during the nineteenth century.

One of the largest and most important of the early twentieth century private collections was that of William Osler (1849-1919). Throughout his medical career Osler was a devoted and discriminating collector of rare medical works. At his death the collection of some 8,000 volumes went to McGill University, where it became the nucleus of a separate medical

history library and center of medical history studies. Osler also stimulated interest in medical history among many of his students and was influential in the launching of a number of other important rare medical book collections. Osler's own major historical publications included An Alabama Student (1908), The Evolution of Modern Medicine (1921), and Incunabula Medica (1923).

The Historical Library of the Yale Medical School was created in 1941 with the merger of the superb private collections of the surgeon Harvey Cushing, the physician Arnold Klebs, and the physiologist John F. Fulton. All three acknowledged their debts to Osler for stimulating their interest in the collection of rare medical books and in the pursuit of scholarly studies in medical history. Kleb's principal historical writings dealt with medieval plague literature and fifteenth century herbals; Cushing wrote the monumental Life of Sir William Osler (1925) and the posthumous Bio-Bibliography of Andreas Vesalius (1943). (For Fulton, see section 2) The creation of this outstanding library enabled Yale after World War II to establish America's second graduate program in the history of medicine.

In Kansas City, Logan Clendening (1881-1945) amassed a historical collection of medical books and objects during a busy career as medical teacher, columnist, and writer. He initiated medical history teaching on a regular basis at the University of Kansas and, with the bequest of his collection to the medical school, placed the study of the subject at Kansas upon a firm ground. Clendening's reputation as a historian rests primarily upon his Source Book of Medical History (1942). The contributions of Ralph H. Major (1884-1970), a long-time medical educator, were also important in furthering the study of medical history at Kansas. Major presented one of the early medical history courses at the medical school, and for several years served as Chairman of the Department of

the History of Medicine. Among his publications, he is best known for his Classic Descriptions of Disease (1932) and his text, A History of Medicine (1954).

Following World War II, outstanding historical collections have been acquired by a number of American medical school libraries. One of these was the library of Josiah C. Trent (1914-1948), which went to the Duke University Medical Center. At the University of Texas Medical Branch in Galveston, very substantial historical collections have been built up since 1967 as a result of large grants from the Moody Foundation and the Sid Richardson Foundation.

VIII. Medical History Journals

The earliest journals in the field were essentially to serve the bibliographic interests of collectors and librarians. In 1890 John Stockton Hough (1845-1900), a New Jersey physician of considerable means, issued the prospectus and initial issue of a weekly periodical to be devoted to the bibliography and history of the literature of medicine, Bibliotheca Medica Historico-Literaria et Bibliographica, but no further issues appeared. In the course of assembling an enormous personal library of old medical books, Stockton Hough also prepared a checklist of medical incunabula, but he never published what was to have been an international directory of such works. Meanwhile, the launching of the Medical Library and Historical Journal, in 1903, reflected the important role played by the expanding medical libraries in furthering medical history studies. The editors of this periodical were both professional librarians, and neither had a medical background. The journal continued for six years, the last under a new title, The Aesculapian.

Another periodical that was devoted partly to medical history was the weekly, Medical Life, which was founded in

1920 and continued for eighteen years. Edited by Victor Robinson, this journal was a source of popular medical advice and sex education along with medical history for the layman. Robinson (1886-1947) also produced a succession of book-length works on medical history. These included Pathfinders in Medicine (1912, 1929), Pioneers of Birth Control in England and America (1919), White Caps: the Story of Nursing (1946), and Victory over Pain (1946)--most of them admittedly short on scholarly footnotes but long on readability.

The first successful American periodical devoted exclusively to the history of medicine was the Annals of Medical History. Between 1918 and 1942 the Annals provided an essential outlet for the proliferating scholarly work of a generation of humanistic physicians. Its editor, Francis R. Packard, who was also a practicing specialist in ear, nose, and throat diseases, himself wrote many articles on medical history, but is today best known for his text, the History of Medicine in the United States (see section I).

Two special journal publications appeared in the mid-1930s. Medical Classics, begun in 1936 by Emerson Crosby Kelly (1899-1977), reprinted original scientific papers. The next year, in 1937, Ciba Symposia was launched in this country as the English language version of the Ciba Zeitschrift. Heavily illustrated, but including also some substantial articles, this periodical was edited for over a decade by George Rosen and Beate Caspari-Rosen.

America's first fully professional periodical in the field, one modelled after such European journals as Janus and Sudhoff's Archiv für Geschichte der Medizin, was the Bulletin of the History of Medicine. Originally established by Henry E. Sigerist in 1933 as the Bulletin of the Institute of the History of Medicine, this organ was issued for two years as a supplement to the Johns Hopkins Hospital Bulletin. It originally included only papers prepared by the Johns Hopkins faculty or read at the

Hopkins Medical History Club, but papers by outside scholars were soon accepted. Since 1938 the Bulletin has been the organ of the American Association for the History of Medicine as well as of the Institute.

Since World War II, the appearance of several new professional journals has reflected the great expansion of interest and scholarship in this and related specialties. In 1946 George Rosen founded the Journal of the History of Medicine and Allied Sciences. This was followed somewhat later by Pharmacy in History, the Journal of the History of the Behavioral Sciences, and the transformation of the Transactions & Studies of the College of Physicians of Philadelphia into a history of medicine periodical.

IX. Medical History Societies

The earliest known American group devoted to this specialty was the New York Medico-Historical Society, organized in 1864. Much better known is the Johns Hopkins Hospital Historical Club, founded in 1890 by Osler, Kelly, and their associates, and continuing up to the present. Following its establishment, during the 1890s and early 1900s, a number of other historical clubs were organized in connection with hospitals and medical schools, while historical committees were formed by medical societies in Baltimore, Brooklyn, Philadelphia, and possibly other communities. In 1898, ten New York physicians founded the Charaka Club, aimed at exploring the "literary, artistic and historical aspects of medicine." Subsequently, a historical section was established within the Medical Library Association. By 1980 some two dozen well-organized local medical history clubs or committees were flourishing in the United States and Canada, together with other less formal bodies.

National professional organizations of historians of medicine, science, and related specialties did not come into being until long after the formation of the American Historical Association (1884). The History of Science Society was created in 1924, largely upon the initiative of David E. Smith and George Sarton. Between 1941 and 1981, at least six other national bodies were formed, the most recent--The Society for Ancient Medicine--in 1976.

The American Association for the History of Medicine was formed in 1925 as the American section of the International Society of the History of Medicine. Much of the initiative leading to its creation came from the Philadelphia physician, Edward Bell Krumbhaar (1882-1966). A distinguished pathologist and long-time editor of the American Journal of the Medical Sciences, Krumbhaar was also a life-long collector of medical books and author of numerous medical history publications. His best known historical work was his translation and revision of Arturo Castiglioni's History of Medicine (1941, 1947).

Early meetings of the Association were as much social as scientific events or more so, and were usually held in Atlantic City at the time of the Association of American Physicians meetings. Since 1946 the meetings have become increasingly professional in nature and have been held at many sites around the country upon the invitation of local medical groups and universities. Membership increased during the first fifty years from a few dozen to around 1,000.

The Association acquired its official journal, the Bulletin of the History of Medicine, in 1938, and a Newsletter in 1979. It has subsidized the publication of short scholarly monographs since 1943 and has issued a biennial research in progress report since 1972. Over the years its committees have conducted occasional surveys of medical history curricula, library resources,

research needs, and other matters. Since 1940 the Association has recognized achievement in the field through its various regular awards; these honors include an annual lectureship and three annual medal awards.

X. Medical History at the National Library of Medicine

A. The Directors and Librarians:

Whether out of choice or simply in the course of their work, the Directors and Librarians of the National Library of Medicine, from the beginnings of the institution, have had frequently close relations with the medical history community. All have drawn on the advice of historians in the development of the NLM collections and programs. Nearly all have helped advance the field in some way. And a few have made outstanding personal and professional contributions to it.

John Shaw Billings (1838-1913), the first Director of the Surgeon-General's Library, was also noted for building up the then Army Medical Museum, for initiating the Index-Catalogue and Index Medicus, and for outstanding contributions to military medicine, public health, hospital construction, medical education, and vital statistics. He likewise became this country's preeminent mid-nineteenth century pioneer in medical history. As a collector he made the Library America's greatest repository of medical history resources. As a writer he found time to prepare lengthy histories of surgery and of American medical institutions, as well as shorter contributions. And, as one of the founders of the Johns Hopkins University medical institutions, he saw to it that medical history would be given a role in the formation of the modern medical scientist and physician.

Robert Fletcher (1823-1912), was Editor of Index Medicus and Assistant Librarian for many years. A scholarly man who wrote on such diverse topics as poetry, anthropometry, art, and tattooing, Fletcher also published numerous articles on medical history.

Fielding H. Garrison (1870-1935) rose at the Army Medical Library from an ordinary clerk to Principal Assistant Librarian and Editor of Index Medicus, succeeding Fletcher. He also came to be acknowledged as America's foremost and most productive medical historian before Sigerist. His reputation as a historian resulted largely from his great text of 1913, his Introduction to the History of Medicine (See Sec I). However, his prolific output also included histories of military medicine, pediatrics, neurology, and early anatomical illustration, as well as a biography of Billings.

Much of Garrison's posthumous reputation has rested upon his famous medical bibliography. Garrison compiled the bibliography originally as the "scaffolding" for his 1913 text. It first appeared as a 90-page entry entitled, "Texts Illustrating the History of Medicine," in the Index Catalogue of the Library of the Surgeon-General's Office (2d series, XVII (1912), pp. 89-178). Years later, Garrison updated his list and published it in the Bulletin of the Institute of the History of Medicine (I (1933), pp. 333-434), under the title, "A Revised Students' Check-List of Texts Illustrating the History of Medicine." After Garrison's death, Leslie T. Morton used the "Students' Check-List" as the basis for the first edition (1943) of the familiar and indispensable 'Garrison and Morton'. The third edition (1970) is thus, historically speaking, really the fifth, and the fourth edition (1983) really the sixth.

Two additional pre-World War II officials of the Library made significant contributions to medical history. Percy Moreau

Ashburn (1872-1940), Director of the Library between 1927 and 1932, was among other things the author of a standard text on military hygiene. His principal medical history works were A History of the Medical Department of the United States Army (1929), and The Ranks of Death: a Medical History of the Conquest of America (1947). Edgar Erskine Hume (1889-1952), an officer who distinguished himself in both World Wars, was Director between 1932 and 1936. His major historical works included a biography of Max von Pettenkofer (1927); collective biographies of U.S. Army ornithologists (1942); and histories of military medicine (1943), of the Association of Military Surgeons (1941), and of the medical work of the medieval Knights Hospitallers (1940).

Post World War II Directors have all worked actively to strengthen NLM's historical holdings and to encourage medical history studies, both at the Library and in the nation as a whole, during a time when the Library's overall functions have undergone great change. Among other activities, beginning in 1966, NLM has organized or co-sponsored a series of conferences and symposia on medical history topics. The first four of these were joint projects with the Josiah Macy, Jr., Foundation; one was carried out by the Library staff alone. Three focussed on historical aspects of contemporary medical concerns; two marked important anniversaries--the nation's bicentennial in 1976, Index Medicus in 1979.

B. Extramural Support of the Discipline:

Since 1965, Congress has authorized NLM to provide financial support both to individual and institutional projects relating to the history of medicine. Since that time, through a variety of programs, the Library has been the largest single source of such support in the country.

Prominent aspects of the Library's assistance have been individual research and publication grants. These have

assisted the projects of a large number of scholars. According to a five year sample, these projects were spread over five broad subject areas:

Public health history	28%
History of medical care	22%
Histories of biomedical sciences	18%
Histories of medical theory and professional development	15%
Miscellaneous	17%

In turn, the principal investigators or scholars on these projects reflected the following educational backgrounds:

M.D. and Ph.D. in history of medicine	10%
Ph.D. in history of medicine	5%
Ph.D. in history of science	11%
Ph.D. in history (social, economic, political)	37%
Ph.D./M.D. in biological sciences	17%
M.D. in clinical specialties	15%
Other	5%

Concurrently with its research and publication grants, the Library, thanks to the availability of special foreign currencies, such as those authorized under Public Law 480, has been able to utilize foreign linguistic and scholarly expertise in the interest of medical history. Since the 1960s, some 25 medical history projects have been supported in Poland, Yugoslavia, Tunisia, Egypt, India, Israel and Pakistan. These have included original studies in medical history, translations and new editions of medical classics, and other publications. Carrying them to completion is a truly international process, normally involving authors, editors, translators, publishers, and printers of two or more countries.

Beginning in 1971, a series of resource project grants have benefited medical historians by facilitating improvements to library and archival collections of major scholarly significance or national importance and by making such collections more accessible. Still another form of NLM support, the program of training and fellowship grants, was continued only up to 1972. This program aimed to strengthen American teaching in the field of medical history by increasing the number of well trained scholars available for such teaching. The Library's two training grants over a period of several years supported the studies of a considerable number of predoctoral students at the Institute of the History of Medicine of Johns Hopkins University and at the Department of the History of Science and Medicine of Yale University. At the same time, post-doctoral fellowships supported training and research projects of well qualified individuals at numerous other institutions.

Applications for NLM assistance of history of medicine projects are evaluated by program officers, by outside consultants, and by the NLM Board of Regents. In the case of publication grant (formerly research grant) applications, the principal review for scholarly merit is provided by outside medical historians organized as a Special Study Section and convened by the National Institutes of Health's Division of Research Grants. Study sections also have sometimes been asked to consider the current state of medical history in the United States, to determine needs in the field, and to recommend paths of action.

C. The History of Medicine Division:

Up to 1941 the Library did not have separate facilities or staff for its historical collections. With the outbreak of World War II, however, concern for the safety of the invaluable older volumes led to the shipment of some 30,000 such books to

Cleveland. There, the collection was housed in the Allen Memorial Medical Library and a staff created to repair, rebind, and otherwise take care of it properly. These volumes and the History of Medicine Division (HMD) remained in Cleveland until 1962, when they were brought to the Library's new building in Bethesda.

Much of the time and energy of the HMD staff is taken up with reference, loan, duplication, and other public services relative to NLM's older holdings of monographs and serials, along with manuscripts, prints and photographs, and oral histories pertaining to the recent past. Since the Cleveland era, however, much attention has also been given to the preparation of printed aids to historical scholarship. A catalog of the Library's incunabula and non-modern manuscripts, compiled by Dorothy M. Schullian and Francis E. Sommer, was privately published in 1950. In 1967 Richard J. Durling compiled a Catalogue of Sixteenth Century Printed Books in the National Library of Medicine, and in 1971 Peter Krivatsy prepared a supplement to that work. In 1979 John B. Blake's Short Title Catalogue of Eighteenth Century Printed Books in the National Library of Medicine was published. Catalogs of additional segments of NLM's historical collection are now in preparation, specifically a catalog of seventeenth century books and one of medical theses published before 1801.

Another important printed aid to scholarship has been HMD's annual historical bibliography. In the United States, the earliest bibliographies of medical historiography were the historical sections of Billings' and Fletcher's monthly Index Medicus (1879 on) and of the Index-Catalogue (see 1st series, vol. 8, 1887). Subsequently, between 1939 and 1963, the American Association for the History of Medicine prepared an annual bibliography of current secondary literature that was not limited to the holdings of a single library and that incorporated

material from nonmedical as well as medical journals, but was limited to works dealing with the United States and Canada. This Bibliography was designed by a committee of the Association which included Henry E. Sigerist (Chairman), Wyndham Blanton, E. B. Krumbhaar, Esmond R. Long, and Richard H. Shryock, and was published in the Bulletin of the History of Medicine. Most of the issues were edited by Genevieve Miller, but Whitfield J. Bell, Jr. and Janet Koudelka each edited several numbers.

NLM's Bibliography of the History of Medicine has been published annually since 1965, with every fifth volume being a five-year cumulation. Beginning in 1975, material for the Bibliography has been stored in and arranged for publication by the computer. And, since 1978, the entire history of medicine database (HISTLINE) i.e. literature citations from 1970 on, has been available to the public for online searching.

In addition to preparing official publications and other duties, HMD's professional staff members have also been encouraged to undertake historical research in the Library's collection and to make their findings public. Their continuing output of scholarly books and articles, together with their active roles in national professional life generally, have helped NLM retain its long-time prominence as a center for the pursuit of the history of medicine.

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