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A Short History of Medical Dictionaries

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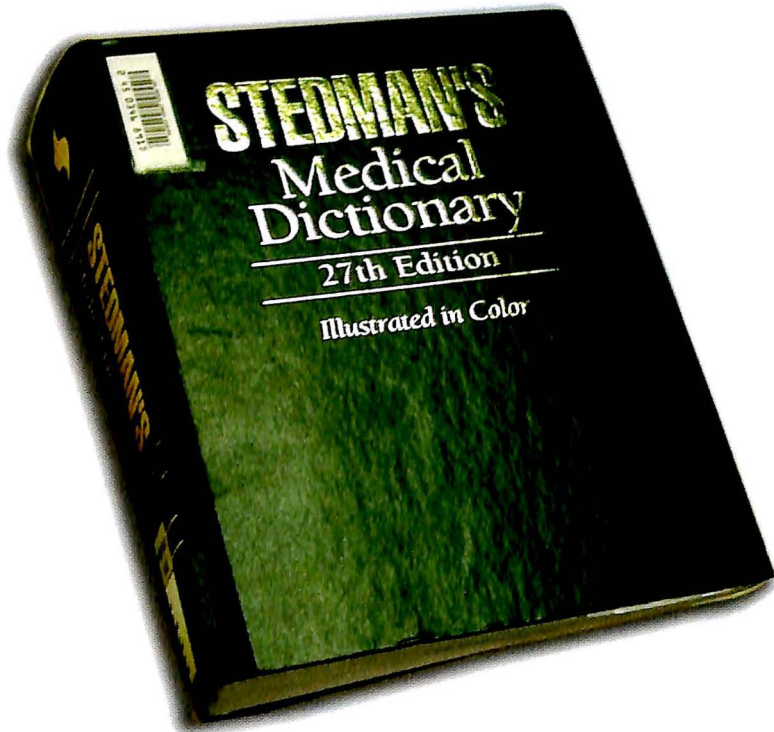
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A short history of

Medical dictionaries



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Soon after I learned of my admission to medical school in 1951, I telephoned my father, a general practitioner, for permission to purchase a medical dictionary. As an undergraduate, I had been maintained on a rather strict budget. Permission was given and I then bought the sixteenth edition (1946) of *Stedman's Practical Medical*

The author's collection of medical dictionaries. Left to right: Dioscorides (Latin, 1547 and 1558), Blanchard (English, 1708), Estienne (Latin, 1564), Blanchard (two volumes, Latin, 1717), Castelli (Latin, 1762), Ainsworth (Latin, 1783), Haller (German, 1756), Nysten (French, 1814), Hooper (English, 1835), and Dunglison (English, 1858).



Dictionary for \$10.00. (By way of comparison, tuition at the Johns Hopkins University School of Medicine was then around \$900 per semester.¹) Now, a half century later, I keep my original "Stedman" at my medical school office and have a much later edition in my study at home.

Modern medical dictionaries

During the past century, three dictionaries were commonly used by American medical students: those compiled by Thomas Stedman, Newman Dorland, and George M. Gould. Recently, I heard an interesting talk on Dorland, "the man behind the dictionary of that name," which caused me to wonder about Stedman, the editor of my two medical dictionaries.² His *New York Times* obituary in 1938 indicated that he was a native of Cincinnati, he received his medical degree in 1877 from Columbia University, he trained in various New York City hospitals, and he was for a time editor of the *Medical Record*.³ The first edition of Stedman's dictionary appeared in 1911. The twenty-seventh edition was published in 2000.

One other interesting fact emerged. Stedman's initial editorial experience with dictionaries was in 1901, when he worked on the last edition of Robley Dunglison's *A Dictionary of Medical Science*. This was the most widely-used dictionary by nineteenth-century American students and physicians. I have an 1858 edition of Dunglison's dictionary and two of his nineteenth-century medical texts. And over the past several years, while collecting early printed medical books, I have obtained medical dictionaries from the sixteenth century and later.

Herbals and manuscripts: Compilations of drugs

The idea of a medical dictionary may have been suggested in antiquity by the earliest lists of drugs. The Ebers Papyrus from Egypt was written around 1600 B.C., and included a collection of 800 prescriptions using 700 drugs.⁴ In the seventh century B.C. in ancient Assyria, during the reign of Assurbanipal, a botanical dictionary was recorded on clay tablets. More familiar to medical historians are the *materia medica* of three ancient Greeks. During the fourth to third centuries B.C., both Diocles of Carystos and Theophrastus of Eresos compiled herbals. In the first century B.C., Dioscorides of Anazarbos traveled widely in the eastern Mediterranean and recorded 700 or so medically useful plants, 90 minerals, and 168 animal substances.⁵

The early versions of these botanicals and pharmacopoeias were arranged according to the agent's use in dietary problems, other illnesses, or surgical matters.⁶ Not until after the first century A.D. were alphabetical listings begun. Even then, such listings did not constitute a general, universal medical dictionary.

The earliest glosses of medical terms were found in two Egyptian papyri written around 1600 B.C.⁴ The Papyrus Smith contains 69 definitions of terms in its text, while the Papyrus Ebers has 27. These papyri lay hidden within the wrappings of their mummified owners for 3500 years, and came to light only in the mid-nineteenth century. Thus these mini-glossaries had no influence on later medical dictionaries.

The model for dictionaries may have been glossaries interpreting idioms from the works of classical writers such as Homer. The *Lexicon Homericum* compiled by Apollonius Sophista in the first century A.D. was based on a second-century B.C. commentary by Aristarchus of Samothrace. Similarly, Timaeus several centuries later composed a lexicon explicating the difficult words in Plato's works. The precursors to modern medical dictionaries, therefore, were likely collections of terms taken from the works of Hippocrates. The earliest known example, now lost, was assembled by Apollonius of Citium, an Alexandrian physician in the first century B.C. A century later, during the reign of Nero, another Greek physician, Erotian, also listed all the learned words found in the *Corpus Hippocraticum*. He included anatomical terms and names of diseases, as well as drugs. Apart from the Egyptian papyri, it is the oldest full medical glossary to survive.

Three Roman encyclopedists are credited with coining much of the Latin medical terminology still used today: Cato the Elder in the second century B.C., and Celsus and Pliny the Elder in the first century A.D. The indices of their works in printed editions constitute glossaries of medicine. Manuscripts before the time of printing seldom included significant indices.

In the second century A.D., Galen composed over 400 medical works. It is claimed that during his productive period in Rome (from A.D. 162 to 199, or possibly 216), he dictated some five million words to a rotating pool of twelve secretaries.



A short history of medical dictionaries

Only about half of these Greek works were preserved in Syrian and Arabic translations, which provided the later Latin manuscripts and printed editions. The sixteenth-century printed Latin editions of Galen's complete works have detailed indices, which also represent medical glossaries. A four-volume 1549 folio edition in my collection contains over 1500 pages, plus an index of nearly 150 pages.

In the seventh century A.D., Isadora of Seville composed a popular medical text entitled *Etymologiae*. It included definitions of medical terms in its Book X, but also included an appendix on portents and monsters.⁷ Around 1395, a concordance of medical terms was compiled by a Paris University physician, Jean de St. Amand. His alphabetical listing of Latin medical terms occupies 428 pages in a nineteenth-century German thesis.⁸ The subject matter of some medieval medical texts was arranged alphabetically, with the result that they became essentially extended medical dictionaries.⁶

Osler and incunabula

William Osler wrote about early medical incunabula printed between 1467 and 1480.⁷ He noted that medieval physicians needed to know the Latin equivalents of medical terms written in the Arabic, Syriac, Hebrew, and Greek manuscripts then reaching Western Europe. These early dictionaries were thus polyglots, with the foreign terms listed and defined in Latin. Three classes of dictionaries were extant: (1) a book listing treatments for poisons was called an *antidotarium*, (2) a glossary of medical plants was termed a *synonyma* or an *aggregator*, (3) a general, universal medical dictionary was designated a *vocabularius rerum* or *entymologia*. The first printed medical dictionary is sometimes stated to have been Simone Cordo's *Synonyma medicinae* (1473), but that book merely listed herbs and other drugs under their Greek, Arabic, and Latin names.

Printed dictionaries of the Renaissance and later

Printing began in Europe in the mid-fifteenth century. By 1500, more than 1100 printing shops existed in 200 European cities.⁹ The early flood of printed books focused on religious works, but, after 1470, medical texts emerged, including the works of Hippocrates, Dioscorides, Galen, and Avicenna—all translated into Latin. By 1600, for example, as many as 36 editions of Dioscorides had been printed,¹⁰ and between 1473 and 1599 more than 515 editions of Galen's various works were published, some in two- to four-volume folio sets.¹¹

Several early medical dictionaries were listed by Sanford V. Larkey in his article on scientific glossaries in sixteenth-century English books.¹² In 1538, Thomas Elyot compiled a Latin-English *Bibliotheca* containing "propre terms belongyng to phisike and surgerie."^{12p105} Andrew Borde's *Breuiary of healthe* (1547) also included Latin, Greek, and some Arabic terms for diseases and medicine. John Halle's translation of Lanfranc's *Chirurgerie* (1565) contained "An expositiue Table" with the names and nature of diseases and simples.^{12p108}

Among the early celebrated printers were Johannes Froeben in Basel, Aldus Manutius in Venice, and three generations of the Estienne family in Paris and Geneva. Charles Estienne, the younger of three brothers, trained as a physician but was a prolific printer in Paris between 1550 and 1560, when he produced many critical works, such as *Dictionarium Latino-Gallicum*. In 1564, also in Paris, Jean de Gorris published *Definitioinum medicarum libri xxiii*.

The mid-sixteenth century was a religiously intolerant period in Western Europe—a person could be hanged "simply for editing a Protestant commentary"^{13p71}—and some of the Estiennes moved to Switzerland to avoid religious censorship in France. Henri Estienne, the middle brother, fled to Geneva, where he used the name Henricus Stephanus. There, in 1564, he produced *Dictionarium Medicum*. This dictionary included the Greek text of Erotian's lexicon from Hippocrates, an alphabetical listing of Greek words from classical authors (such as Celsus and Galen) and Byzantine medical writers (including Aretaeus, Rufus, and Oribasius), and Latin translations of and commentaries on Greek medical words. In sixteenth-century dictionaries, many medical terms were defined in Latin for the first time.

During the seventeenth and eighteenth centuries, a widely used medical dictionary for nearly 200 years was Bartolomeo Castelli's *Lexicon medicum Graeco-Latinum*. Castelli was born in Messina, Sicily, where he later became professor of theology, philosophy, and medicine. His dictionary was first published in 1598; later editions were revised by Jacob Pancraz Bruno, and printed in Pavia or Nürenberg. They contained the Latin for medical terms in Arabic, Hebrew, Greek, French, and Italian. The last edition was in 1792.

Another popular medical dictionary of this period was *Lexicon medicum renovatum*, compiled by Steven Blanchard, a Dutch anatomist, pharmacist, and physician living in Amsterdam. His dictionary was initially published in 1679, and went through 20 editions. The first medical dictionary in Great Britain was a 1684 English translation of Blanchard's work, entitled *The Physical Dictionary*.

Other dictionaries

German and French medical dictionaries included Albrecht von Haller's *Medicinisches Lexicon*, published in 1756, and its French counterpart, Pierre-Hubert Nysten's *Dictionnaire de Médecine*. The latter was first published in Paris in 1810 and reached the twenty-first edition in 1905. It is very likely that Dunglison referred to these in reading the European medical literature as background for his many medical texts and his medical dictionary.*

* Editor's note: Dunglison was the first, and for several years, the only professor of medicine at the University of Virginia. Because he was not permitted to practice outside the university except in

In the early 1800s, physicians in the United States used available British dictionaries. The most common was *Hooper's Medical Dictionary*, first published in England in 1798. Later editions underwent few changes or additions, which may account for its demise in 1854. The mid-nineteenth century was thus an opportune time for Dunglison to compile a more up-to-date medical dictionary. By 1875, over 110,000 copies of the many editions of *A Dictionary of Medical Science* had been sold.¹⁴ Dunglison's success prompted other American physicians to produce medical dictionaries, but none of the dozen or so published in the nineteenth century ever achieved the same popularity.

Medical dictionaries now and in the future

Old dictionaries today are much like outdated medical texts. Both need the continual revision most easily accomplished by electronic means. One can now buy *Stedman's Electronic Medical Dictionary*, with over 100,000 terms, on a single CD-ROM. The dictionary in paperback, plus the CD-ROM cost around \$55. For a fee, three electronic updates per year are available. The 2003 edition of *Dorland's Illustrated Medical Dictionary* sells for about \$50. Its CD-ROM contains 123,000 entries, while 35,000 definitions can be scanned on the small screen of a handheld PDA (personal digital assistant). Online medical dictionaries are available on the Internet.

The \$50 price of current medical dictionaries is a bargain compared with my original \$10 Stedman when other costs are considered. Tuition for one year at Hopkins in 1955 was \$900.¹ Today, tuition plus fees there is \$34,600.¹⁶ Thus, in the 1950s a dictionary was 1.1 percent of tuition, while today it is only 0.15 percent.

The prevalence of computers and PDAs in medical education and practice might imply that printed copies of medical dictionaries will soon be obsolete, but librarians assure me that is unlikely. Computers can crash. CD-ROMs can be damaged or deteriorate. Software updates and physical damage may render CDs unreadable. And Internet services are a monthly expense, occasionally are not accessible, and may be arbitrarily discontinued. A printed dictionary, once obtained, is always available and, holding it in one's hands feels, for many, easier to read, more reliable, and friendlier than the computer and its cold screen.

Countering the trend to all-digital information is the American Medical Association, which gives first-year medical students hard copies of Stedman's dictionary when they join the association. And so, for various reasons, it seems likely that the bookshelves of future physicians will continue to hold well-thumbed copies of medical dictionaries.

consultation, he was, in effect, the first full-time professor of medicine in this country. In his waning years, Thomas Jefferson was attended by Dunglison, whose refusal to accept a fee for his services prompted Jefferson to rebuke him mildly.¹⁵

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