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ALTHOUGH "there were only two medical books by American authors published in America before the Revolution," 1 medical book publishing has existed as a significant element since the early nineteenth century, and it has never failed to reflect the current thinking of practitioners of medicine. During the early and middle 1800's when the American physician was primarily trained by going into apprenticeship with a man who was already practicing, his book needs could be filled by a few works in basic science such as an anatomy and a physiology, and by broadly inclusive texts dealing with the treatment of trauma and recognized diseases. Even European medicine of the day, far advanced beyond American as it was, did not enter into its important descriptive and clinical phases until after 1850. In the later 1800's, after basic research into etiology and pathogenesis of diseases had got into full swing in Europe, the biggest part of American book publishing consisted of translations and interpretations of the work of English, French, and German authors.

The real reform in medical education which produced native authors capable of writing indigenous medical books to be produced by American publishing houses did not come until 1871 when Harvard increased its curriculum to three years, to be followed in quick succession by other universities, and further expanded by the opening of Johns Hopkins Medical School in 1893. It was not until 1911, with the publication of Abraham Flexner's report on the status of American medical education that anything approaching far-reaching minimum standards of medical education was advanced. Inevitably medical book publishing reflected the interests and abilities of medical practitioners, and the late nineteenth century's spate of European texts was a wonder to behold.

The next period in medicine and medical publishing concerned itself with the synthesis and interpretation of existing knowledge and

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gave rise to a considerable and continually growing trend toward the exposition of specialized interests. The time from 1895 to 1920 can be called the age of the "great man" and his followers. Around outstanding professors of medicine and surgery gathered followers at various hospitals, clinics, and universities; medical practitioners were proud to be pupils of Osler's, Cushing's, or the Mayos', both in their student days and after. This was the time when such giant over-all texts as Osler's *Practice of Medicine* and Kelly's *Medical Gynecology*, were first conceived and published. As the fundamental emphasis stressed the exposition of clinical medicine by the great teacher, emphasis in publishing was given to various facets of clinical medicine.

As medical knowledge expanded, physicians realized that they could no longer expect to be completely competent on all points of medical interest. As a result, they tended more and more to specialize. Of course, no clear-cut distinction really existed as yet, but the emphasis was changing, and since about 1920 has advanced with increasing speed. Coincidentally, the physician's function shifted in the picture of total medical care as he became the head of a highly trained team of experts, each of whom contributed to the over-all picture of research, treatment, and rehabilitation. Even the physician's specialized training was not adequate to encompass all facets of medical care; in the same way that he had long relied on the trained nurse for bedside care, he now became dependent on other specialists like medical technicians, dieticians, occupational therapists, and the social worker. Each of these, and inevitably many more, had to have access to authoritative information at the level of his own needs and capabilities. Moreover, many physicians turned their attention to research areas and needed information which was different from the materials previously supplied by medical publishing. Thus the medical publisher, always responding to the needs of his audience, had to present simultaneously material of interest to the general practitioner, the research specialist and the worker in ancilliary fields.

The above mentioned tendencies, prominent though they now seem, became crystallized during World War II. Every worker in medicine was pressed either into harassed civilian practice or active military service. Although a flood of new materials developed to meet the exigencies of the moment, no one could stop active practice long enough to take time to formulate or define, much less to prepare books about the changes and advances.

The end of the war did not result in a sudden increase of medical manuscripts. Doctors had first to mend some economic fences of their own, then to digest what they knew, and then, according to the time-honored pattern, they should have taken a couple of years to write a book. But things were moving too fast after the war: the population had come to expect more medical service as a matter of course. Expediency was the keynote.

The natural outlet for the quick report needed after the war was provided by journal literature. Consequently in 1946, 1947, and possibly 1948, one encounters a torrent of journal papers, with only a gradually increasing number of medical books. Subject areas explored in periodicals at this time provide fair indication of the areas to which books will give increasing attention in the future. Among significant topics are nuclear medicine, rehabilitation (both psychiatric and physical), medical administration, air and underwater medicine, antibiotics, hormone therapy, mycotic and bacterial infections, and socialized medicine.

This is only a modern version of the historical fact that periodical literature is of the utmost importance in medicine. As Postell says, "... Prior to the establishment of medical periodicals, a physician had little opportunity and less encouragement to record his observations . . . and it is through medical journals that most of the discoveries which the arts and sciences owe to American physicians have been made known to the world." 1 The preponderant importance of the medical periodical is adequately reflected in the ordinary medical library's larger budgetary allowance for journals than for books. If one considers initial outlay for periodicals and the cost of their preservation together, and compares this cost with initial expenditures for books, approximately three-quarters of the library's annual outlay for reading materials will be spent on periodical literature.² Certainly never would the proportion be less than 60-40 unless the library were concerned with filling in expensive specific subject gaps. Although the dimensions of medical book publishing in the U.S. are large (in 1957 there were published 511 titles in medicine and hygiene, including 152 new editions), there still is every reason to suppose that the great majority of significant medical information appears in periodicals. The importance of periodical publishing is emphasized when one considers that many of the most important medical book publishers are identical with the significant periodical publishers, such as, Lip-

pincott, Grune and Stratton, Mosby, Saunders, Thomas, and Williams and Wilkins.

Medical authors still have little time after satisfying their immediate professional demands of practicing medicine, teaching the next generation, engaging in basic research and keeping up with their own special subject interests to write an exhaustive treatise. Yet, it became increasingly evident after the war that there was an increasing need for organization and synthesis of all the periodical literature, and a physician could be persuaded to do justice to a subject if he were not expected to handle one that was too large. As Benjamin puts it, "... the authors of technical books are not professional writers. Rarely is one even a skilled writer. ... As a rule he is interested far more in technical content than in style, far more in editorial accuracy and production quality than in the rate of royalty he will receive. He writes rather for personal satisfaction or professional prestige than for the limited royalties his book may earn." 4

Two answers to the author's dilemma have been tried and represent two new approaches in medical book publishing, the multiple-authored text and the extremely circumscribed subject monograph. An example of the first is Harrison's *Principles of Internal Medicine*, now about to go into its third edition since its original appearance in 1950; the many, many Bannerstone Lectures in . . . published by C. C Thomas are representative of the latter class. Both forms have their disadvantages, the former in that no editor, no matter how expert, is able to make all sections of a multiple-authored book equally authoritative and readable; the latter in that the individual titles are expensive for the subject matter embodied in them. Their sheer physical flimsiness creates the impression of ephemera. Each, however, provides a way to synthesize medical literature in small enough portions that medical authors can be persuaded to write them, and medical readers to read them. These two types of medical publication, together with medical treatises form the bulk of medical book publishing in the United States today. It is difficult to differentiate among advanced texts, treatises, and monographs beyond the following distinctions for identification's sake: a text is designed to teach, either at an elementary or at an advanced level; a treatise is a work in a large subject field, with subdivisions examined separately and exhaustively, each in a comprehensive manner and yet as part of the whole; a monograph is a thorough and scholarly examination of a separate small subject area.

Medicine, unusually among other scientific disciplines, has often followed the European treatise idea; such works as Duke-Elder's Textbook of Ophthalmology and Schinz' Roentgen Diagnostics are wellrecognized and used in medicine, and there seems to be a movement to enlarge this kind of publishing, for example, volume 1, of Raven's proposed seven volume work, Cancer, has just appeared. Medical monographs, to which the Thomas Bannerstone Lectures and American Lectures in . . . belong, comprise the bulk of publishing within this general class. They will probably continue to be published at about the same rate as now, and continue to be either revised or out-of-date within five years after publication. Another format of publishing which falls into this area, the loose-leaf system, seems to be on its way out. Not only does it become nearly impossible to provide consistent authoritative revisions within a system such as Brennemann's Practice of Pediatrics, but subscribers must spend an inordinate amount of time in filing these materials. Moreover, large subject revisions such as Cooley's of the section on Radiology of the Heart and Great Vessels in Golden's Diagnostic Roentgenology are being simultaneously published as separate monographs.

In addition to the large class of medical books described above, one can distinguish some other types: the basic reference tools such as dictionaries, directories, atlases, manuals, and pharmacopoeias; the review publications which serve as transitions between short reports and exhaustive treatises or monographs; the *Transactions, Proceedings, Symposia*, published under the aegis of learned bodies, foundations, and sometimes supported by commercial firms such as Ciba Pharmaceuticals; and books on medical subjects published for a lay audience.

The significant reference books have to be revised regularly to remain useful. Three major medical dictionaries: New Gould (Blakiston), Stedman's (Williams and Wilkins), and Dorland's (Saunders), as well as their smaller encyclopedic companion Taber's (F. A. Davis) are revised at about five year intervals. The Marquis Company tries to bring out a new edition of its Directory of Medical Specialists at least biennially, as does the American Medical Association with its Directory. Atlases are not revised so often, but new editions of such standard works as Sobotta's Atlas of Descriptive Anatomy appear as needed. Manuals such as the Merck Manual of Treatment, are revised within two or three years. Pharmacopoeias and drug handbooks such as Modern Drug Index, New and Non-Official Drugs, and Physicians'

Desk Reference, as well as the Pharmacopoeia of the United States are either revised and re-issued annually or kept up-to-date through supplements. Tools such as these grow larger and bulkier each year.

The most rapidly growing of medical publications are the review mechanisms. They are designed to give simultaneously an over-all view of activities within a certain field over a set period and to provide a key to significant journal literature for the practitioner who has not time to keep up with all specialities in which he is interested. Many publishers have entered this field, notably Year Book with its Practical Medicine Year Book series, Academic Press with Advances in . . . , Annual Reviews in several subject areas, Saunders with Current Therapy, and Grune and Stratton with Progress in . . . , etc. The initiation and success of the reviews emphasizes once again the importance of journal publications in medicine, for this is the material which is "reviewed."

An older member of the medical book family seems to be coming into increasing prominence, because it serves as interpreter of very scattered short reports. This is the kind of publication which reports scientific meetings sponsored by foundations (like the Josiah Macy, Jr., Foundation), learned societies (like the Association for Research in Nervous and Mental Diseases) and commercial firms which are interested in medical matters (like Ciba Pharmaceuticals). The period since 1946 has seen an increasing number of publications whose titles start with *Proceedings of, Transactions of, Conference on, Colloquia in*, and *Symposia on*, and the number bids fair to grow.

A comparative newcomer in serious medical book publishing is the authoritative lay presentation. Tonkins' treatment of peptic ulcer problems, Danowski's book on diabetes, and Kitay's on arthritis each fill a long-felt need to provide accurate medical information to the person who suffers from a disease. It seems fair to predict that more such material will appear as time goes by.

The major publishers in the medical field are Appleton-Century, F. A. Davis Co., Blakiston Division of McGraw-Hill, Grune and Stratton, Hoeber-Harper, Lea and Febiger, Lippincott, Macmillan, C. V. Mosby, Oxford, W. B. Saunders, C. C Thomas, Williams and Wilkins, and Year Book Publishers. Of these fourteen, six are medical divisions of major trade publishers (Appleton-Century, Blakiston, Hoeber, Lippincott, Macmillan, and Oxford). Of the other eight publishers, six publish almost exclusively in the field of medicine and its ancilliary disciplines (Davis, Lea and Febiger, Mosby, Saunders, Thomas, and

Year Book) and two (Grune and Stratton and Williams and Wilkins) publish also in scientific fields other than medicine. It is safe to assume that approximately three-quarters of the trade medical titles published in the period 1946-57 appeared under these fourteen imprints. Little, Brown, while fairly new in medical publishing, produced thirty-one titles in 1957. There are other publishers in the medical field, but they are usually technical publishers whose primary interests lie in other areas of technical or scientific publishing (Academic, Bruce, Edwards, Interscience, Pantheon, Philosophical, Wiley), or university presses which primarily publish for the entire scholarly community (Columbia, Harvard, Johns Hopkins, Stanford University, University of California, University of Minnesota); or publishers of one specific type of medical tool (Lange, who publishes small practitioners' handbooks, and Prior, who publishes loose-leaf systems and supplements, are examples). The United States Government Printing Office must be considered in the medical publishing field with such major efforts as its ongoing Atlas of Tumor Pathology of the Armed Forces Institute of Pathology and the many volumes of medical histories of World War II activities. The field of psychiatry, while represented in the lists of all major publishers, also supports two firms which devote themselves almost exclusively to this field: International Universities Press and Basic Books.

Medical book publishers are inclined to be fairly conservative, but of late a few publishers have adapted with great success some of the regular trade publishers' techniques, particularly in format and binding, although there seem to be excessive numbers of very small and very large books, equally hard to house. Saunders, Year Book and Hoeber seem to lead in this trend. Although it is difficult to pin down individual characteristics of the various houses, a few remarks about the "personalities" of individual medical book publishers may be made. Ten of the afore-mentioned major publishers are listed as existing before 1900: Appleton (1825), Blakiston (1843), Davis (1879), Harper (1817, the only case where the parent firm is older than the medical book division), Lea and Febiger (1785, the oldest book publishing firm in the U.S., whose medical concentration started in the 1840's), Lippincott (1792), Macmillan (1869 in New York), Oxford (1896 in New York, although not actually publishing in the U.S. until the 1930's), Saunders (1888), and Williams and Wilkins (1890, although this firm perhaps can trace itself back to 1804 through its purchase of William Wood). 5 Several of the firms, Saunders, Davis,

Mosby, and Lea and Febiger seem to concentrate on American authors. Three, (Grune and Stratton, C. C Thomas, and Williams and Wilkins) as well as Macmillan and Oxford, (whose parent organizations are in England) run rather heavily to the production of standard English authors' work under American imprints. Books of this kind cannot be sold in the United States except through these firms, which usually release them some six months later than in England, and seem to price the American edition as though the pound sterling were still worth \$4.80 instead of \$2.80, for example: the British pre-publication price on the Standard Edition of the Complete Works of Sigmund Freud (Macmillan, 1952+) was £30, or, generously, \$90; the American pre-publication price was \$120; Glaister's Toxicology, eleventh edition, Edinburgh, E. & S. Livingstone, 1957, 47s 6d, is to be issued in 1958 under the Williams and Wilkins imprint at \$10, or approximately \$4 more than its British price. One thinks of medical publishers as being small, selective organizations, yet eight of the fourteen already mentioned published over fifty titles in 1957, counting in five cases the medical departments with their parent organizations.6

Statistics and general descriptions of medical book publishing are frequently presented jointly with those of scientific and technical, disregarding some basic differences. A reference work in mathematics or physics may need a supplement five years after the original publication date, but it remains essentially as good a tool, worth its price, and capable of sustaining continuing sales; with a few exceptions, medical reference tools are nearly worthless five years after appearance, and consequently would seem to require lower production standards in binding, type, and paper which should result in better prices. In addition, the annual rate of growth since World War II shows a significant difference between medical and scientific book publishing. Between 1946 and 1957, there has been an average increase of only 70 per cent among new titles in medicine and hygiene, while science has produced 158 per cent more titles; 3 even now the annual release of medical book titles has grown only slightly over those produced prior to World War II. There is no doubt that medicine is changing rapidly, and growing, particularly in certain subject areas, but one can speculate that older areas of interest are dropping out of the picture at about the same rate that new ones are added, with the result that medical interest, and medical book publishers' sales. have reached a point of stability. Medical uses of nuclear fission products created a whole new field of interest, but penicillin has almost completely obviated the necessity for books about venereal disease; cardiovascular surgery has become very important, radiation and drug therapies have cut drastically into other surgical fields, and reduced the need for research and reporting; books on tuberculosis are of less importance now but information on diseases of connective tissue (collagen diseases) is assuming more and more clinical and research significance.

Medical book publishers also share problems with those in the scientific and technical fields. They publish expensive books for a limited expert audience, which makes high and expensive demands by requiring exacting proofreading, a large number of footnotes and references, and profuse illustration. Business, technical, scientific, law, and medical books (excluding textbooks), taken as a single class, captured roughly 10 per cent of the dollar market in both 1947 and 1956 (1947: 45.8 million out of 435.1 million; 1956: 87.5 million out of 865 million), but in so doing reduced the number of copies sold from 17.5 million in 1947 to 12.1 million in 1956.³ The average cost per copy, that is, rose from \$2.60 in 1947 to \$7.23 in 1956. While the number of buyers has decreased, the market seems sufficiently stable to sustain higher prices.

Apparently the individual buyer relies more and more on the institutional purchase of books. It does not seem likely that, in the face of increased activity in all fields of scientific and technical endeavor, fewer people are reading in their special fields, but it is probable that fewer copies of books are being read by larger numbers in more libraries with better resources. The technical book publisher can count on an assured market for his books, but this market is changing its character. The point may well be reached where institutional book budgets, always subject to close scrutiny, may prove incapable of absorbing further price increases. Abuses such as the separate issuance of small but expensive monographs in a subject area where a single treatise may be sufficient and more appropriate, particularly in the face of high library processing costs, may well be the straws that break the hard core of the new medical book publishers' market.

References

- 1. Postell, W. D.: Applied Medical Bibliography for Students. Springfield, Ill., C. C Thomas, 1955, pp. 26-27.
- 2. Medical Library Association: *Handbook of Medical Library Practice*. 2d ed. Chicago, American Library Association, 1956, pp. 54, 67, 162, 270.

- 3. Frase, R. W.: Economic Development in Publishing. Library Trends, 7: 7-15, July 1958.
- 4. Benjamin, C. G.: Technical, Scientific and Medical Publishing. *In*: Grannis, C. B., ed.: What Happens in Book Publishing. New York, Columbia University Press, 1957, p. 348.
- 5. Stern, Madeleine B.: Imprints on History: Book Publishers and American Frontiers. Bloomington, Ind., Indiana University Press, 1956, pp. 329-384.
- Book Publication Statistics for 1957. Publishers' Weekly, 173:33-34, Jan. 20, 1958.