Original Articles.

MEDICAL LIBRARIES.¹

THEIR DEVELOPMENT AND USE.

BY JAMES R. CHADWICK, M.D.,
Librarian of the Boston Medical Library Association.

In accepting Dr. Osler's invitation to give to you a short address upon the medical library, its development and use, at the inauguration of the new building of the Medical and Chirurgical Faculty of Maryland, I find myself handicapped by lack of time for adequate preparation and an experience which is restricted to one locality, the city of Boston. Still I have had practical knowledge of the building up of a library from a few hundred to twenty-six thousand volumes and twenty-three thousand pamphlets. The lessons learned in the twenty years of labor may not be devoid of interest and value to you.

Soon after a young man graduates from the medical school and assumes the responsibility of the lives and health of his fellow beings, he soon realizes the limitations of his knowledge, and looks about to remove them. He finds two principal means of adding to his meagre acquisitions, hospitals and books. Hospitals, including dispensaries, if assiduously frequented, certainly teach him more of immediate practical value than do books. But the knowledge there acquired does not always bear upon the particular case in his private practice which is causing him anxiety, and moreover the hospital has the disadvantage of being available only during certain hours of the day and of necessitating absence from his field of labor during the hours when he ought to be earning his livelihood.

To the printed words of his masters and colleagues he must consequently turn and where shall he find them? His own few shelves contain the treatises from which he learned the first rudiments of his knowledge, but in our day every one of these is superseded in two or three years by the rapid advance of medical science.

In the early years of practice, few men can afford to buy or even give shelf-room to a tenth part of the books that he needs; no man, whatever his means, can possibly acquire all. A library is consequently indispensable in every centre of population or the health and lives of the community will be jeopardized by the ignorance of its medical practitioners. Could this fact be realized by the liberal men of means in our midst, self-protection, if no higher motive, would stimulate them to endow our medical libraries with as free a hand as they now evince toward hospitals. The benefits conferred upon suffering humanity would be greater, though less manifest, to the ordinary man of wealth.

Admitting then, that a medical library for the use of the profession in every community is indispensable and recognizing that we must not expect many contributions from the public, by what direction of our efforts can we procure it?

I appreciate that you do not need to be told how to make a start, for I well know that in the thirty-third year of your age (1832) you established a library in your Society under the fostering care of Dr. Samuel Baker; that in 1852 the first catalogue was published by Dr. John W. Woods; and that a few years later Dr. George W. Miltenberger raised funds for the increase of the library with such marked success that

¹ Read before the Medical and Chirurgical Faculty of Maryland at the Formal Opening of the New Hall and Library, January 11, 1896.

you already possess about 10,000 volumes, ranking among the larger medical libraries of the country.

As a stimulus to fresh effort to increase your already large library, I have had this chart constructed showing the yearly rate of growth of the seven largest collections of medical books in the country. An explanation of the peculiarities of the curves will throw much light on the various means by which the growth of each library has been effected.

The first library to be founded was that of the Pennsylvania Hospital in 1762; there has been a comparatively steady increase to the present day, no annual enumeration having been made. It now numbers 15,007 volumes. The difficulty of procuring books in the last century and the early decade of this can be appreciated from a printed circular distributed about 1805 to the members of the Second Social or Boston Medical Library, in which it is stated that "the books ordered last year from Europe have not yet been received."

The second library in order of seniority is that of the College of Physicians in Philadelphia, which was commenced in 1788. Its curve of growth shows such great fluctuations that a brief study of them will be profitable in making evident the means by which a library is augmented. You will note that the increase was very slow for sixty years, when in 1858, 1,265 volumes were received from Dr. Thomas F. Betton. In 1864-5 the library was almost doubled in size, chiefly by the gift of 2,500 volumes from Dr. Samuel Lewis, who from that date until his death was a constant contributor to its alcoves, the aggregate of his donations ultimately reaching the grand total of nearly 10,000 volumes. The erection of a fire-proof building in 1864 also contributed to securing many accessions. Between 1882 and 1886 the growth was very rapid owing to the receipt successively of the libraries of the late Dr. William F. Jenks, Dr. Alfred Stillé, Dr. Samuel D. Gross, Dr. I. Minis Hays, Dr. John S. Perry and that of the Obstetrical Society of Philadelphia.

In 1880 to 1882 Dr. S. Weir Mitchell contributed \$2,000 as a journal fund, and, later, when president, roused by his love of books and his enthusiasm the greatest interest in the library, whereby it grew rapidly. The falling off of its curve and that of the New York Academy of Medicine in the 80's merely means that duplicates were thrown out. The College now contains 49,748 volumes, besides 28,884 unbound pamphlets, reports and transactions.

The library of the New York Hospital was founded in 1796, had a steady increase until 1876 when, like all the others, it took on a more rapid growth. It now numbers 22,383 volumes but has practically no pamphlets.

The library of the Surgeon-General's Office in Washington, begun in 1845, grew so slowly that in 1865 it contained less than 2,000 volumes. Its increase from that date has been so phenomenal that we are warranted in pausing to seek an explanation, which is not, however, hard to find. It was in that year that a young army surgeon, Dr. John S. Billings, who had shown literary tastes and marked executive ability during the War of the Rebellion, was detailed to take charge of this insignificant collection of books. He at once conceived the idea of developing this nucleus into a grand national library. By importuning Congress year after year he secured large annual

CHART SHOWING ANNUAL GROWTH OF THE SEVEN PRINCIPAL COLLECTIONS OF MEDICAL BOOKS IN THE UNITED STATES.

appropriations of money (the annual appropriation for the purchase of books has averaged nearly \$7,000 from 1867 to 1895 inclusive), and by persistently canvassing, personally and by letters, the profession of every State in the Union he secured large donations of books. Exchanges were effected with other medical libraries not only in this country but in all parts of the world. From these two sources about one-sixth of the total number was derived. The result of his labors is the most complete medical library in the world, consisting of 116,847 volumes and 191,598 pamphlets.

The influence of this one man's work is not seen in the growth of this library only, but is made manifest by the impetus given to all existing libraries and to the formation of innumerable new ones, of which my data are still incomplete. The publication of the index-catalogue of this library, the first series of which, in sixteen volumes, was begun in 1879 and completed in 1895, will, when the new series of five or

six volumes is issued, be practically an index to all the medical literature of the world up to the end of this century.

Its value to medical scholars is inestimable, superseding, as it does, all the time-wasting labor that used to be expended in bibliographical research. By its aid we obtain a reference to every rare case that has been recorded since printing was discovered in A.D., 1450. But by indexing the articles and reports of cases in every periodical, past and present, obscure and famous, this catalogue has immensely extended the scope of medical research and created a demand for an array of books and especially of periodicals that is simply appalling. What is an earnest seeker after knowledge to do when he has, for instance, a case of inflammation of the pancreas and refers to this catalogue for the writings on the subject, when he discovers a reference to a case in the *Medicinische Jahrbuchbericht von Peter-Pauls Hospital in St. Petersburg*, to another in

the *Bulletino di scienza medica di Bologna*, to another in the *Moniteur scientifique* and to another in the *Zeitschrift für die gesammte Medizin* of Hamburg, so on *ad infinitum*? He cannot possibly have complete files of these various periodicals upon his own shelves. He must have within reach a library, in which most, if not all, these volumes may be found, or he will fail to learn all that can be learned about this subject and, as a consequence, his patient will suffer from treatment based on half-knowledge.

The demand thus created for periodicals of all kinds and countries has done more than anything else to promote the growth and foundation of public medical libraries throughout our country. This publication is therefore the great factor in determining, during the past fifteen years, the rapid rise of the curves of all the libraries represented upon this chart. The pressure of the demand for an extensive literature thus created will never wane.

The library of the New York Academy of Medicine, inaugurated in 1847, had the same slow growth as all the others until 1876-7, when Dr. S. S. Purple gave to it his large collection of medical periodicals. Its subsequent rapid growth owed much of its impetus to the energy of my old and dear friend, Dr. Fordyce Barker, who, combining the wisdom of age and the enthusiasm of youth, was foremost in securing funds for a new building in 1880, when he was president. In 1890 a new impetus was given to this library by the erection of a superb new fire-proof building. This library is fast becoming worthy of the metropolis of country. It contains 33,140 volumes and 13,000 pamphlets.

The medical department of the Public Library of Boston was founded in 1852 and has grown, by purchase and gifts, at a comparatively uniform rate. It now contains 19,609 volumes.

The Boston Medical Library Association, of which I have been the librarian since its foundation, in 1875, has had a rapid growth from the outset, chiefly because, in its early years, it took into its fold the libraries of several local societies. Its growth has been almost entirely by donations and exchange, having no funds regularly available for the purchase of books.

Its value is greater than its size would indicate for the reason that nearly 16,000 of its 26,000 volumes are periodicals and this class of literature is of most practical value to the medical public. The completeness of our files of journals and transactions I attribute largely to the existence of the volume which I hold in my hand, my "want-book," wherein, upon the left-hand page, is entered every periodical of which we have any part, while on the opposite page is entered every volume or number needed to complete the file of that particular journal. By invariably carrying this with me upon my travels in this country and Europe, I have been able gradually, at a trifling expenditure of money, to complete the files of all the leading periodicals of the world. I submit this to your special attention if you wish to know how to build up a medical library with practically no funds for the purchase of books. This library now contains 26,082 volumes, and 23,595 pamphlets.

I have sought by the analysis of these curves to indicate the principal factors in the growth of a medical library. The lessons to be drawn from this enumeration are that if a valuable collection of books is accumulated, the profession will rally to supply for it a

suitable abode; and, as my friend, Oliver Herford, says, "It's a poor pill that will not work both ways," so we find that if a fine building is erected, the library will soon be forthcoming. In either and every case some one man must work early and late to secure contributions and especially to make complete the files of periodicals.

I would not be understood as intimating that money is not needed for the building up of a library. As the Chinese say, "With money you can move the gods; without it you cannot move a man." Money and much money is needed for the maintenance of a library. The continuous service of a librarian and perhaps one or two assistants must be paid for. Many hundred volumes must be bound every year. A certain number of periodicals must be secured for your reading-rooms as soon as published, and therefore by subscription. The list of these may be supplemented immensely by securing gratuitously the exchanges of your medical journals; the journals received by your instrument-makers and manufacturing chemists, etc., in return for their advertisements; the journals circulated in journal clubs of medical men after they have gone the rounds. You may also obtain in exchange for your own *Transactions* the publications of nearly all kindred societies.

Finally, an author, subject and title card-catalogue must be kept up to date, no matter what the expense. "Who wants a lock without a key, a ship without a rudder, a binnacle without a compass, a check without a signature, a greenback without a goldback behind it?" [O. W. Holmes.]

Before closing, I want to say a word about pamphlets, with regard to which you will have noticed that policies differ widely; the New York Hospital keeps no pamphlets, the Surgeon-General's Library has sixty per cent. more pamphlets than books, the Academy of Medicine has only one-third as many pamphlets as books. Some of this discrepancy is doubtless due to different relative classifications of books and pamphlets. In order to secure uniformity, the rule of the Washington Library should be universally followed: to classify as a pamphlet everything that is unbound, up to a hundred pages, and everything that contains less than thirty pages, even though bound; to classify as a book everything above thirty pages, if bound, and everything above one hundred pages, even though unbound. This is purely arbitrary and may not be invariably followed, but it is as fair a classification as can be devised. No accurate comparison of the size of the different libraries can be made if, as in my knowledge has happened, one library counts everything above thirty pages as a book, whether bound or unbound. It may thus surreptitiously add many thousand volumes, so-called, to its aggregate of books, and take thereby an illegitimate rank among the libraries.

Pamphlets should be carefully kept and catalogued in one library in every city. They include most of the graduating theses, which are often compilations of inestimable value; they often contain the results of extensive laboratory experiments; they contain much local history, reports of special committees who have investigated water-supply, drainage, epidemics, quarantine, etc. Reprints of journal articles are of use, even though the library has the file of the journal in which they appear, because they may circulate for home reading when the journal may not be allowed to leave the building.

Classify your library by subjects, making the subdivisions more numerous from time to time, as the books accumulate. Do not agree to keep a man's library, if on various subjects, together as a unit, if you can help it, for you thereby break in upon your regular system of classification and make the library harder to administer and less available to the readers, besides storing many duplicates uselessly.

As to the use of the books, make it as free as is consistent with their safety. Where the users of a library are all members of an association and consequently known personally to the custodian, it is generally deemed safe to allow them free access to the shelves. All books that can be readily replaced may circulate for home reading, but not periodicals, for the loss of one volume of these depreciates the value of the whole series.

It is useful to make duplicate files, as occasion presents, of the leading periodicals for home reading. Beyond this be liberal in the disposal of duplicates; there is no market for medical books, so you may as well bank on the future, by giving freely of your duplicates to other kindred institutions on open exchange account, which is never meant to be balanced. You hereby establish a claim upon such institution for any favor it may be in position to do you in the future.

But I find that I am dropping into technical details that can have no interest for any one but your librarian and committee on the library.

In conclusion, I want to parry the charge of having too prosaic a view of a medical library, of seeing only the utilitarian side of it. To the deep student, to the true lover of books, nothing that I can say will add or detract from his appreciation of it. Remember what Confucius says, "Learning without thought is labor lost; thought without learning is perilous."

THE RESULTS OBTAINED BY EXAMINATION OF THE AIR-DISTENDED BLADDER IN FEMALES, WITH SOME REMARKS UPON THE TECHNIQUE AND A SUMMARIZED REPORT OF CASES.¹

BY EDWARD REYNOLDS, M.D.

CYSTOSCOPY of the bladder is no new procedure either in men or women. But the long-established method of examination of the bladder, when distended with fluid, through a fenestrated cystoscope carrying an obliquely placed mirror within its calibre, is so unsatisfactory in its results as never to have attained popularity, nor to have established any very familiar knowledge of the viscus. This method further labors under the disadvantage that local treatment is of course impossible through such an instrument.

The direct exploration of the female bladder was placed upon a wholly different plane, however, when, but little more than two years ago, it occurred to Dr. Howard A. Kelly, that if a woman were placed in an appropriate position and air allowed to enter the bladder, it could be made to dilate under the influence of negative abdominal pressure, just as the vagina is dilated in the familiar use of the Sims speculum; and it is to-day a matter of familiar knowledge that direct inspection of the mucous lining of the bladder is by this method a procedure sufficiently easy, rapid, and painless to be used in the office, and to be applicable

to ordinary clinical work. Its value and results are, however, still sufficiently *sub judice* to render it desirable that we should accumulate as large an amount of testimony as possible upon this point.

Our knowledge of the pathology of the bladder is still small, and workers in this field still labor under great difficulties, many if not most of which are owing to the absence of a satisfactory literature, and indeed, of the knowledge which produces such a literature. This scarcity of literature is to be deplored, but is perhaps natural when we remember how very recent the introduction of the method is. Not quite two years ago, when I personally first began to study the subject, there was not even a satisfactory account of its technique to be procured, and I was obliged to start by a visit to Baltimore, where Dr. Kelly very kindly demonstrated his method to me. Even then I was obliged to expend the labor of a number of months before I was able to make a satisfactory examination of the bladder; for at that time even Kelly, whose mind was principally occupied with the affections of the ureters, had paid but little attention to the bladder itself; and I believe that most workers are to-day in the same position in which he then was, that is, occupied chiefly with the ureters and content to ignore the bladder, unless incidentally; and, although there is now a considerable volume of periodical literature descriptive of the technique of Kelly's method, yet the scantiness of the literature which relates to its results is shown by the fact that when I attempted to read up whatever had been written, in preparation for this paper, an exhaustive search of the "Index Medicus" up to the date when its publication ceased, and a letter to the office of the Surgeon-General at Washington, asking for a list of articles published since that date, furnished me, indeed, with a few papers in which single cases were detailed, but with no single effort at any general statement of what should be looked for, or of the results of treatment in any series of cases, however small. The individual cases reported were, moreover, almost without exception, affections of the ureters, and there was no single reference to any condition of the bladder except tuberculosis. I am, therefore, led to hope, that though many others are now working in this field, a brief statement of my own experience may help other beginners in avoiding the great waste of time which attended my own blind efforts to obtain a knowledge of the normal bladder, and of the more familiar of the pathological appearances which may be expected; or that it may, at least, produce criticisms and differences of opinion from others who are now familiar with the method. My object to-night is to present to you a preliminary numerical statement of the lesions which I have so far observed, of the number of cases in which each has appeared and of the results of treatment in these cases; and, afterwards, to speak briefly of certain rules of procedure which I have picked up slowly by the disagreeable process of studying out the causes of my failures, and which my experience now leads me to believe to be essential to success in the diagnosis and treatment of affections of the female bladder.

In reporting my cases I feel obliged to limit myself to those which I have seen since December 1, 1894, the date on which my last year's service at the City Hospital began, as my records of those which I had seen before that time are rendered valueless by many omissions and errors of observation, which were due, I

¹ Read before the Obstetrical Society of Boston, November 9, 1895.