Review: Recent Medical Biographies and Autobiographies

Reviewed Work(s):

Four Treatises of Theophrastus von Hohenheim called Paracelsus

Torch and Crucible: The Life and Death of Antoine Lavoisier by Sidney J. French

Dr. Bard of Hyde Park: The Famous Physician of Revolutionary Times. The Man Who Saved Washington's Life by John Brett Langstaff

Death Loses A Pair of Wings: The Epic of William Gorgas and The Conquest of Yellow Fever by Robin Lampson

William Henry Welch and The Heroic Age of American Medicine by Simon Flexner; James Thomas Flexner

The Doctors Mayo by Helen Clapesattle

A Surgeon's Life: The Autobiography of J. M. T. Finney

A Yankee Doctor in Paradise by S. M. Lambert

The Man Who Lived for Tomorrow: A Biography of William Hallock Park, M.D. by Wade W. Oliver

Time and the Physician: The Autobiography of Lewellys F. Barker

L. Emmett Holt: Pioneer of a Children's Century by R. L. Duffus; L. Emmett Holt

Hugh Young: A Surgeon's Autobiography

As I Remember Him: The Biography of R. S. by Hans Zinsser

Chauncey D. Leake

Science, New Series, Vol. 96, No. 2491. (Sep. 25, 1942), pp. 297-300.

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1–7, 1–12 and 1 page 18 items. However, the 151 items listed constitute only 1 in every 596 of the about 90,000 names in the book, not including the cross references.

It is hoped that eventually a complete list of the generally approved changes and few errors and omissions can be made available to those interested.

Standardized Plant Names, second edition, edited by Harlan P. Kelsey and William A. Dayton, Harrisburg, Pa., J. Horace McFarland Co., 1942. Price, $10.50.

P. L. RICKER
THE WILD FLOWER PRESERVATION SOCIETY

STUDENTS' LECTURE NOTES

NINETY-NINE per cent. of my students in physiology courses given in Europe, China and in Chicago have been writing down the lectures so arduously that they did not have much opportunity either to think or to grasp the significance and relations of the subject. Very few of the students have had the time to go over the lecture notes at home and to correct them and make additions. During my own studies I have found it more profitable to listen intently to the lecturer, to take a few notes about the subjects discussed and to work out the lectures at home. Or, in the case of lecturers who use books, to find out the book and read the chapter at home. I have found very few students who could not remember lectures without having written them down in detail. I feel that the student who tries to write the lecture in the classroom loses more than he can gain, because by the writing he suppresses his critical thinking, the establishment of relationships between different matters and, worst of all, gives himself no training for remembering and associating the spoken word.

I have, therefore, for a number of years adopted the following system which has been successful enough to be made known for the trial and use in other institutions: One student or two, according to the size of the class, is asked to take lecture notes and to elaborate them at home into a well-written and well-correlated paper. The rest of the class is asked not to take notes, but to listen to the lecture critically and to discuss the subject or to ask questions during the last five to ten minutes of the lecture period. The reports of the students are then corrected and amplified by myself, and the pertinent literature is added. The secretary of the class receives this copy and has mimeographic copies made by the secretary of the department. The total cost to the student of these copies for a course of one quarter, two lectures a week, is approximately $1.40. The students have welcomed this method and have made good use of it, as I have been told by a great number of them. They feel that they learn more when they do not write constantly, and they are apparently under less nervous and physical strain than when they would have to watch for every word and sentence.

The reports handed in by the students are used as term papers and are corrected, the final grade of the student depending on the quality of these papers and his understanding and knowledge shown during the discussions at the end of each lecture. In a large class, each student will submit only one paper in a quarter, while in a smaller class he may have to submit two or three papers. If the one paper of a student of a larger class is not satisfactory, he is asked to submit another one. I have found this way of grading students as good as that which is achieved by a final oral or written examination at the end of the quarter. The students have the added advantage that at the end of a quarter they own the corrected and rounded out lecture notes, with the most important references from the literature for future reference, and the lecturer himself has the advantage of having his course worked out and organized so that he can use it again with the addition of recent advances or with slight reorganizations.

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SCIENTIFIC BOOKS

RECENT MEDICAL BIOGRAPHIES AND AUTOBIOGRAPHIES

Four Treatises of Theophrastus von Hohenheim called Paracelsus. Translated from the original German, with Introductory Essays by C. Lillian Temkin, George Rosen, Gregory Zilboorg, Henry E. Sigerist. Edited with a Preface by Henry E. Sigerist. Baltimore: The Johns Hopkins Press. xii + 256 pp., with frontispiece. 1941. $3.75.

Torch and Crucible: The Life and Death of Antoine Lavoisier. By SIDNEY J. FRENCH. ix + 285 pp. Princeton University Press. 1941. $3.50.

Dr. Bard of Hyde Park: The Famous Physician of Revolutionary Times. The Man Who Saved Washington's Life. By JOHN BRETT LANGSTAFF. Introduction by Nicholas Murray Butler. 365 pp., with frontispiece, and 11 illustrations. New York: E. P. Dutton and Company. 1942. $3.75.

Death Loses A Pair of Wings: The Epic of William Gorgas and The Conquest of Yellow Fever. By ROBIN LAMPSON. xii + 518 pp. New York: Charles Scribner's Sons. 1939. $3.00.

William Henry Welch and The Heroic Age of American Medicine. By SIMON FLEXNER and JAMES THOMAS

FLEXNER. x + 539 pp., with frontispiece and 25 illustrations. New York: The Viking Press. 1941. $3.75.

The Doctors Mayo. By HELEN CLAPESATTLE, with a foreword by Guy Stanton Ford, President of the University of Minnesota. xiv + 822 pp., with 65 illustrations. Minneapolis: The University of Minnesota Press. 1941. $3.75.

A Surgeon's Life: The Autobiography of J. M. T. Finney. xiv + 396 pp., with frontispiece. New York: G. P. Putnam's Sons. 1940. $3.00.

A Yankee Doctor in Paradise. By S. M. LAMBERT, M.D. x + 393 pp., with frontispiece. Boston: Little, Brown and Company. 1941. $3.00.

The Man Who Lived for Tomorrow: A Biography of William Hallock Park, M.D. By WADE W. OLIVER. 507 pp., with frontispiece. New York: E. P. Dutton and Company, Inc. 1941. $3.75.

Time and the Physician: The Autobiography of Lewellys F. Barker. viii + 350 pp., with frontispiece and 6 illustrations. New York: G. P. Putnam's Sons. 1942. $3.50.

L. Emmett Holt: Pioneer of a Children's Century. By R. L. DUFFUS and L. EMMETT HOLT, JR. Foreword by Edwards A. Peck, M.D. xiv + 295 pp., with frontispiece. New York: D. Appleton-Century Company, Inc. 1940. $3.00.

Hugh Young: A Surgeon's Autobiography. xiii + 554 pp., with frontispiece, 103 anatomical drawings, and other illustrations. New York: Harcourt, Brace and Company. 1940. $5.00.

As I Remember Him: The Biography of R. S. By HANS ZINSSER. ix + 443 pp. Boston: Little, Brown and Company. 1940. $2.75.

EXCEPT for subjects dead for several centuries, biographies are usually inspired apologies. In the case of autobiographies, this apologetic tendency may become almost psychiatric, at least in the case of physicians. The anguished human conscience of the egocentric crusader, such as Hugh Young, appears in his: "There is still so much to do, and so much to live for." The apology of the shy introverted humanistic scientist is stated by Hans Zinsser, speaking of himself: "R. S. was really quite an ordinary person about whom it was hardly worthwhile to write a book. . . . At the time of his death he was as thoroughly bewildered as any thoughtful individual of our time is bound to be."

None of the biographies here noticed have the detailed delineation (or dullness) of such a recent classic as Harvey Cushing's "Life of Sir William Osler" (2 volumes, Oxford, 1925). The autobiographies are written too self-consciously to be honest. These biographies and autobiographies, therefore, are slightly disappointing, like all such efforts must be, to those who know the subjects. They are all, however, interesting and significant in showing the power of current American medical genius.

Not accidentally were the books on Lavoisier and Paracelsus included among these characteristic volumes. Both men were intellectual heretics in their time. Both exemplify that independent tendency of American medicine, which, repudiating the past which once inspired it, points the way to new practical achievement.

It may seem peculiar to consider a series of annotated translations of the writings of Paracelsus as a "biography." After four centuries, however, a man appears more clearly from his own words than from any account a formal biography might give. The common clay of humanity lies naked and unashamed in his "Reply to Certain Calumniations of His Enemies." His environmental conditioning is apparent in his "Book on Nymphs, Sylphs, Pygmies, Salamanders and on the Other Spirits." His skill in clinical observation and prescription and his courage in probing for a rational understanding of obscure abnormalities is apparent in his writing: "On the Minor Sickness and Other Diseases and The Diseases That Deprive Man of His Reason, Such as St. Vitus Dance, Falling Sickness, Melancholy, and Insanity, and Their Correct Treatment." In publishing this book, Professor Sigerist's wish is accomplished—to revive "the personality of an honest man who was a great physician and a staunch fighter for what he considered the truth. It is so easy to be orthodox and to reap honors by repeating what people expect and wish to hear. Progress, however, is achieved through a clash of ideals, and heretics like Paracelsus are a ferment without which there would be no life."

While Professor French's account of Lavoisier necessarily relies on Grimaux's standard biography, it breaks new ground in appraising the scientific achievements of Lavoisier. While Lavoisier's scientific dependence on Priestley and Cavendish is carefully described, he is depicted as the leading scientific organizer for his century, not only in chemistry, but also in physiology, biology and sociology. An interesting detail is the discussion of the relationship between Lavoisier and the du Ponts.

Although European medicine was firmly established in the sixteenth century by the Spanish in Mexico, and in the seventeenth century by the French in Canada, English medicine did not develop until the eighteenth century in the American colonies. Philadelphia and New York vied with each other in the quality of their medical service, and in the establishment of hospitals and training centers. Most of the early leaders of American medicine studied in Edinburgh and London. After returning from these centers, Samuel Bard (1742–1821) promoted the New York Medical School, which is now the College of Physicians and Surgeons of Columbia University, assisted in the founding of the famous New York

Hospital, developed Hyde Park, and with his pupil David Hosack (1769–1835) established the Elgin Botanical Gardens, where Rockefeller Center now stands. Bard and Hosack were notable examples of the public-spirited American physicians of the late eighteenth and early nineteenth centuries, and their influence did much to shape the practical course of subsequent American medicine.

Robin Lampson has attempted something new in biography. Although this remarkable "novel in cadence" was published three years ago, a review of it is still pertinent, since the work seems to be so little appreciated by scientists. It is an extremely accurate analysis of the achievement of William Gorgas in applying available scientific knowledge to the public health control of yellow fever. Lampson's effort is an extraordinary union of sound science with high artistic skill. Since many scientists fail to realize the intellectual aspects of serious artistic effort, and particularly since most scientists are not interested in literary innovations, this remarkable book has been neglected by the very ones who might profit most from it. The story is told only to 1903, but an appended chronology carries Gorgas's life to his death in 1920. The care with which Lampson compiled his material is indicated by his extensive acknowledgments, particularly to important and frequently forgotten literary sources.

Perhaps the most important book of the biographies here surveyed is Simon and James Flexners's "William Henry Welch." The sub-title, "The Heroic Age of American Medicine," implies a rather peculiar judgment. This fine achievement of the Flexners is a quite successful attempt to combine a definitive biography, which by itself is apt to be dull, with a popularization and interpretation, which alone is apt to be exaggerated for effect. Copious notes indicate the vast material used by the Flexners in preparing this very readable account of their hero. Mostly, of course, it is eulogistic. This is appropriate, since Welch's scientific achievements in bacteriology and pathology are outstanding, and his successful applications of his knowledge to social problems involving public acceptance of public health measures are extremely significant. Those familiar with the development of American medicine during the past half-century have suspected much of the wise behind-the-scenes manipulations of Welch. Unfortunately, hero-worship tends to minimize obvious faults. Welch himself would have been among the first to acknowledge them, because he was genuinely honest and human. A serious error in judgment for which Welch was responsible, for example, was the unfortunate division of medical schools such as those at Harvard, Washington University at St. Louis and Johns Hopkins at Baltimore, from the main university campus. On the other hand, we have by no means approached Welch's high scientific and humane idealism, as witness the contrast between our present anonymous censorial control of scientific reporting and Welch's influence in preventing such conditions in 1917. We need Welch's wise counsel. Fortunately it is available in the many examples described so well by the Flexners.

The practical character of American medicine is remarkably exemplified by William J. (1861–1939) and Charles Mayo (1865–1939). Following faithfully in the pioneer footsteps of their physician father, the famous brothers made their clinic in Rochester, Minnesota, a world center for surgical achievement and medical research and training. Their amazingly active career and their extraordinary success is detailed with skill in this well-illustrated and thoroughly documented volume. The solid achievement of the Mayos remains, without inviting thus far the "debunking" that often follows excessive eulogistic publicity.

The recent untimely death of Dr. J. M. T. Finney, for so long professor of surgery at Johns Hopkins, brings his autobiography into bold relief. Dr. Finney was born in 1863 on a Mississippi plantation, was educated at Princeton and Harvard Medical School, and promptly became one of the outstanding Hopkins surgeons. He describes clearly his important services during the last war, and gives particularly entertaining accounts of his professional colleagues. Remarkable was his refusal of the presidency of Princeton.

One of the most interesting of recent medical autobiographies is Dr. Lambert's account of his long service with the International Health Board in New Guinea, the Solomon Islands, Fiji, and all the fascinating South Pacific potential paradises. The book is brilliantly written and contains an extraordinary amount of general scientific information bearing on anthropology, sociology, geography and geology, preventive medicine, chemotherapy and zoology. There are interesting accounts of the many scientific expeditions which have studied in the South Seas during the past quarter of a century. Impressive is the practical achievement in tremendous reduction in preventable diseases and in the death-rate through the South Pacific area as a result of the application of modern scientific information. Significant are Dr. Lambert's many wise observations on the character of the people. The book should be carefully studied, particularly at this time by all who are interested in the problem we are facing in the Pacific.

Like so many other leaders of American medicine, William H. Park (1863–1938) devoted his career to the applications of bacteriology, immunology and epidemiology, to the prevention of disease generally,

and to the promotion of public health. Park's great achievement was the establishment of the highly efficient public health service for the world's greatest city. The details of his career show why he was cited as "the perfect type of a scientist in the service of the state."

Among the many brilliant leaders who made the Johns Hopkins Medical School so great is Lewellys F. Barker, a Canadian Quaker, who studied in Toronto and Europe, served in the Philippines and in India, and succeeded Osler as head of the Department of Medicine at Hopkins. Later he gave up his full-time university work to engage more in practice and public work of a broad social nature.

The development of pediatrics has been one of the outstanding achievements of modern medicine. An American pioneer and influential leader in this was Luther Emmett Holt (1855–1924). Most of Holt's career was spent in New York City, although he traveled extensively and participated in professional work in Europe and China, after World War I. Like most leaders in American medicine, Holt was a prodigious writer, and his texts relating to his specialty have been standard in medical literature for years.

Hugh Hampton Young's autobiography is vigorous and entertaining. It paints an astonishing picture of contrast between serious citizenry, merry-making buffoonery and careful meticulous technique in surgery. The volume is unusual in containing a considerable amount of technical material relating particularly to the study of urology, which Dr. Young has been so instrumental in promoting. There are intriguing chapters on World War I medicine, Diamond Jim Brady, excursions of all sorts to all parts of the world, and a remarkable series of pen pictures of his many brilliant associates at Hopkins. It also contains the story of mercurochrome, but not quite complete.

Hans Zinsser's remarkable autobiography is a brave and brilliant apology for modern culture. His religious and romantic impressions are sensitive poetry; his anecdotes are delightful; his descriptions of his professional work, particularly in Serbia, Russia, Tunis and the Orient, emphasize the political difficulties of applying modern knowledge to human welfare, and through it all his philosophical confusion resolves into a long-range optimism which even impending death can not dispel.

Significant as a group is this baker's dozen of recent biographies and autobiographies relating to medical leaders. They indicate the dependence of American medical science on its European sources—a dependence melting now into a common pool of scientific achievement with our English colleagues. Whereas American medicine stems from sturdy Scotch and English roots, it has been abundantly grafted with French and German buddings. Many of these are now being trimmed away. It remains to be seen whether the stock will be able to carry the heavy potentialities of Russian or Chinese or Latin-American medical ideas which are certain to flourish among us if given a chance.

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SPECIAL ARTICLES

HEPARIN AND THE ANTITHROMBIC ACTIVITY OF PLASMA[1]

THE antithrombin of plasma destroys thrombin almost as rapidly as the latter is formed. Eventually, the serum, expressed from the clot, is found to contain merely traces of prothrombin and thrombin.

On adding heparin to plasma, the antithrombic activity is known to be "increased." We shall show, however, that heparin does not increase the total capacity of plasma to destroy thrombin; it merely increases the speed with which it does so. The heparin thus appears to behave merely as a catalyst in the destruction of thrombin.

Fig. 1 illustrates the relationships which were found. Into each of 4 tubes were placed 3,880 units of purified thrombin. To one (A) was added heparin alone, to another (B) was added plasma, to a third (C) and a fourth (D) were added both heparin and plasma. All tubes were made up to constant volume and were then allowed to stand for an hour. During that time the thrombin concentration was repeatedly measured. The heparin alone (Curve A) had no effect. The most striking change was shown by the tube (D), containing plasma, together with 0.5 Toronto units of heparin. Here the thrombin titer fell precipitously to the 1,500-unit level within a minute. It then remained at that level throughout the course of the experiment. With only 0.1 unit of heparin (curve C) the thrombin titer also fell to the 1,500-unit level, but 15 minutes were required instead of one.

From these experiments it is evident that the amount of co-factor determines the amount of thrombin destroyed; the amount of heparin determines the *speed* of destruction.

[1] This work was aided by a grant from the John and Mary R. Markle Foundation. Funds for a technical assistant were also supplied by the Graduate College, State University of Iowa.