Book Reviews

Celebrations

Two Centuries of American Medicine. 1776–1976. JAMES BORDLEY, III, and A. MCGEHEE HARVEY. Saunders, Philadelphia, 1976. xvi, 844 pp., illus. $19.76.

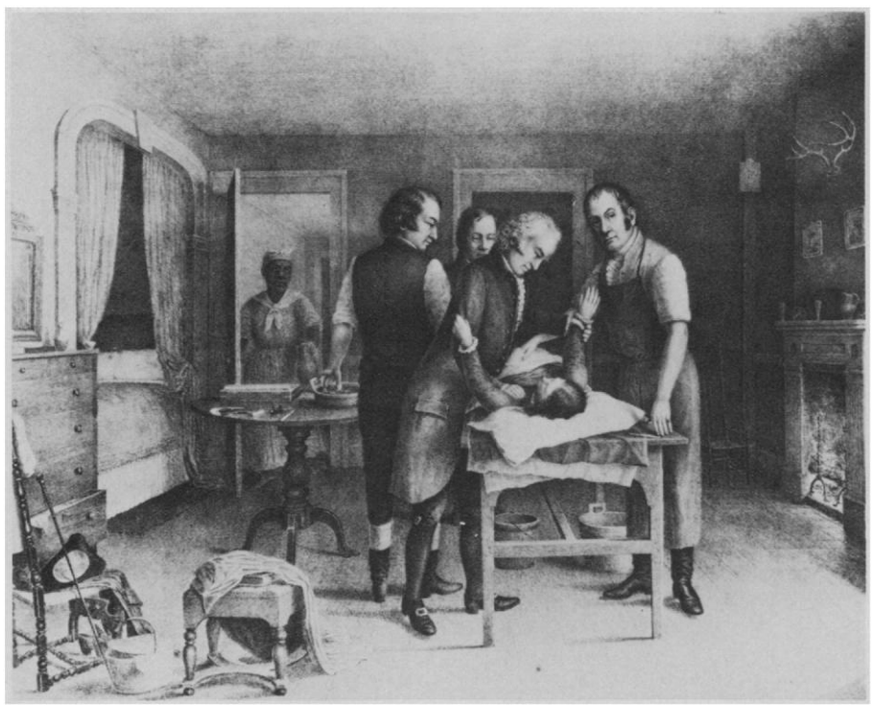
Advances in American Medicine. Essays at the Bicentennial. JOHN Z. BOWERS and ELIZABETH F. PURCELL, Eds. Josiah Macy, Jr., Foundation, New York, 1976. Two volumes. xviii, 918 pp., illus. $25.

These two celebrations of America's two hundred years of medicine cover much of the same territory, but they go about it in different ways. The book by Bordley and Harvey is a tightly constructed account of the development of scientific thought in American medicine. The authors acknowledge the help of a few consultants, but it is essentially their work and expresses their own view of the topics and the people they deal with. *Advances in American Medicine*, on the other hand, which is a set of essays prepared for presentation at the bicentennial celebration at the National Library of Medicine, is distinctly a group endeavor, with input from Martin Cummings and Mary Corning of the Library as well as from John Bowers and Elizabeth Purcell of the Macy Foundation and from some of the authors who convened in 1974 to plan the proceedings.

Bordley and Harvey exhibit impressive erudition. Not only does their historical research appear to be impeccable, they demonstrate a remarkable grasp of the diverse fields of medical science. Their book is not merely an interesting chronicle; it is a study of the process of scientific thought, taking us through the maze of reason and experiment that led to various discoveries. The authors devote exactly one hundred pages to the first century. As they say in the preface, "In the first century of American history, the role of the physician was that of the Good Samaritan. His success depended upon his sympathy, his humanity, and his art. Lacking a scientific base, his therapy for the more serious maladies was founded upon false hypotheses and fanciful system and was for the most part ineffective." The implication that today physicians are more effective with all their patients certainly stretches a point, but it conveys the spirit of optimism that Bordley and Harvey bring to their task and that underlies their confidence in the "explosive force" of molecular biology for the future.

The second section of the book, entitled Period of Scientific Advance—1876–1946, recounts the founding of modern medical education and the establishment of a scientific base for medical practice, giving appropriate credit to importations from abroad. Twenty-eight pages are devoted to the Johns Hopkins Hospital and Medical School; other medical schools are mentioned only in passing. Considering the influence of the Hopkins, this is probably proper, but it may lead some readers to the belief that the whole endeavor is more a history of Johns Hopkins than it is of American medicine. From the founding of the Hopkins onward, the authors, with a charming chauvinism, carefully identify each prominent figure in American medicine, where they can, in terms of his or her connection with the Hopkins medical school or hospital. They do provide brief sketches of the educational backgrounds of most major contributors to medical science, however, if without the enthusiasm and acclaim accorded a Hopkins connection, and the many personal details and anecdotes supplied, along with the photographs of the individuals discussed, are one of the most appealing features of the book.

The strength of the book lies in its third section, Period of Explosive Growth—1946–1976, where in chapters devoted to such topics as cardiovascular disease, medical genetics, virology, and cancer the authors go thoroughly into the rapid changes that have taken place since World War II. Within this section, the chapter on psychiatry—for which the authors acknowledge the help of John Romano—is an anomaly and an anticlimax. We are led through a rather dreary list of the various movements that have characterized American psychiatry and of the people associated with them. The authors give equal emphasis to psychobiology, psychoanalysis, and psychosomatic medicine, with no indication

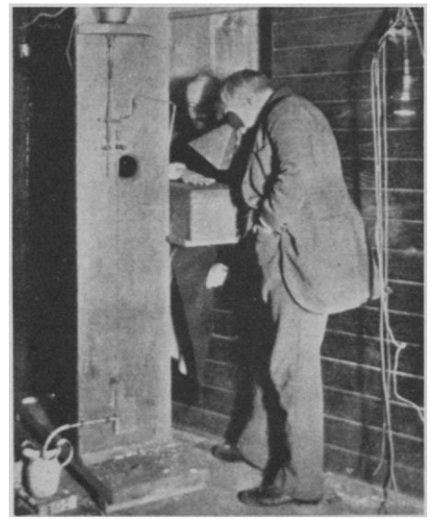


"The first ovariotomy," performed by Ephraim McDowell in 1809. McDowell, "a frontier physician in Danville, Kentucky, was the first in the world to succeed in removing a diseased ovary. . . . Before his death [in 1830] he had performed thirteen such operations with eight recoveries, a remarkable achievement in the early days of the nineteenth century. His operations were performed on an ordinary household table without benefit of anesthesia." [Reproduced from *Two Centuries of American Medicine* by permission of the National Library of Medicine, Bethesda, Maryland]

which, if any, of these approaches has been successful. Interest quickens slightly when they deal with the psychotropic drugs and some of the recent biochemical findings pertaining to brain metabolism. But time after time they mention research that was going on in various medical centers without telling what it was or what findings advanced knowledge in the field. Psychologists and sociologists are recognized as an asset to the field, but except for a few early behaviorists none are mentioned by name. In conclusion the authors quote Romano's summation of the 15 accomplishments of the last few decades, which leads one almost to the conclusion that American psychiatry has not progressed much since the days of Benjamin Rush. Whether this is the actual state of psychiatry or only the authors' view of it, the subject might with benefit have been omitted from an otherwise exemplary volume, or else dealt with properly.

Advances in American Medicine: Essays at the Bicentennial, having a multiplicity of authors, is somewhat uneven by comparison. Each author was chosen for expertise in the field to be discussed, and at times there is an attention to esoteric detail that may put a particular chapter over the head of the average medical reader. Nevertheless, as a whole the book is a profound contribution to our knowledge of how scientific thinking has developed in American medicine. Most of the authors dismiss the first hundred years and concentrate on the "explosive period" of the last three decades. Bowers, however, in his opening essay entitled "Influences on the development of American medicine," though he begins by paying homage to the founding of the Johns Hopkins and to the Flexner Report as the "turning points in the ascendancy of American medicine," provides a broad view of the many threads from colonial days on that came together to form American higher education and the context for today's advances in medicine. John Snyder's essay "Public health and preventive medicine" at the end of volume 1 provides a perfect counterpoint to Bowers's essay. It is a masterly retrospective view of the health of the American people and the significant influences upon it from colonial days to the present.

A special feature of *Advances in American Medicine* is the essays expressing the views of two foreign observers, Sir George Pickering and Sune Bergström. Much of what Pickering has to say is not new, but he provides refreshing comment on the deficiencies of the resident physician staff in hospitals with regard to patient care, as well as on the way the role of physician-in-chief as administrator has evolved to the detriment of the continued scholarly growth of the professor of medicine. Bergström focuses on the Nobel prizes and the role of American laureates, mainly by providing a complete listing. He also dwells on the importance of the American financial contribution to research advances abroad as well as at home.



"Thomas A. Edison examining hand through fluoroscope, 1896." Roentgen's discovery of x-rays was published in December 1895. "Within a few weeks scientists in the United States were producing x-rays and carrying out experiments with them." Edison was among them. "Concentrating as usual upon practical utility, [he] turned his attention to the development of a fluorescent screen that would make it possible to observe moving objects in a subject or to set a fracture while actually observing the damaged bone. By the end of March, 1896, Edison not only had developed a fluorescent screen but also had incorporated it in a practical apparatus that could be purchased by physicians." [Reproduced in *Two Centuries of American Medicine* from R. Brecher and E. Brecher, *Rays: A History of Radiology in the United States and Canada* (Williams and Wilkins, Baltimore, 1969), by permission of the American College of Radiology Foundation]

Mary Corning and Martin Cummings have an excellent chapter on the history of biomedical communications in the United States, which does not have any counterpart in *Two Centuries of American Medicine*, and there is no specific essay on psychiatry, which receives passing reference in the chapter entitled "The neurosciences." Otherwise, the two works cover much the same aspects of contemporary medicine.

Bordley and Harvey have a chapter entitled "Medical practice" in which they rather sketchily discuss changes in practice, the problem of costs, and the origins and functions of the American College of Surgeons and the American College of Physicians and spend an extraordinary amount of space on early ambulation of patients compared with the space they give to other advances. They do not mention at all the effects of legislation since the 1960's, the development of neighborhood health centers, health maintenance organizations, professional standards review organizations, or the prospect of national health insurance. Russell Nelson in his essay "Medical care" in *Advances in American Medicine* does somewhat better by group practice, quality assurance, and the growth of health insurance; but as a former hospital director he focuses mainly on hospital bed patients. Curiously, he does not deal with the major technological advances in hospital care, such as the intensive care unit, renal dialysis, the CAT scanner, and the automated laboratory. Nor does he come to grips with the increasing threat to financial stability facing most hospitals today.

The other chapters with subjects in common are more concerned with substantive contributions and focus on individuals. In fact, one may say that all the authors cling to the great man theory of history. In many cases they begin with those in a particular field who have received the Nobel prize, which is probably as good a way as any of identifying major contributions. This approach does, however, neglect the social forces that provide opportunities for one investigator rather than another to rise to the top of the heap, or for one breakthrough rather than another to come about. Multiple discoveries are largely ignored, although their frequency suggests the influence of the Zeitgeist.

Though there is little disagreement between the two works, much can be gained by reading both versions, and every medical library should own them. They are a munificent 200th birthday present to American medicine.

Of course other recent books pertinent to the subject may be desirable as well. For an analytic approach to the American Nobelists, Harriet Zuckerman's *Scientific Elite* (Free Press, New York, 1977), for example, is required reading, and for participants' views of the federal involvement in health *Health in America: 1776–1976* published by the U.S. Department of Health, Education and Welfare is essential, particularly the chapter by James Shannon on the development of the National Institutes of Health.

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