

tor, thrombopoietin, and thymic and macrophagic factors, as well as humoral inhibitors (such as chalones).

In systems that exhibit high proliferative activity and complex differentiative pathways, derailment of such processes might be expected to occur on occasion, leading, in some cases, to neoplastic alterations. The authors probe this problem and indicate that hematologic dyscrasias of genetic origin in animals and man as well as certain of the leukemias and anemias may have as the underlying cause changes in the nature of the hemopoietic inductive microenvironment or in the hemopoietic cells themselves. Approaches to the treatment of such disease states thus could be made through attempts to correct the abnormal microenvironment and through improvement of techniques of hemopoietic cell or organ grafting. Although some of the concepts advanced by the authors are somewhat bold, speculative ideas projected by experienced workers in such a rapidly advancing field have value in that as a result of being offered clues as to the underlying mechanisms workers in different disciplines may be attracted to this important area of research.

Although the book is highly detailed, it is written in a lucid manner with interspersed succinct summaries. The illustrations are clear and the references are adequate. It is recommended not only for investigators of hemopoiesis but also for workers who wish to obtain a panoramic view of the provocative problems concerned with hemopoietic cell origin and development and their important applications to blood cell disease.

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Social History of Medicine

American Physicians in the Nineteenth Century. From *Sects to Science*. WILLIAM G. ROTHSTEIN. Johns Hopkins University Press, Baltimore, 1972. xvi, 362 pp. \$15.

In his introductory chapter Rothstein accuses most medical historians of writing history in terms of personalities, of concentrating on medical science and institutions while failing to consider individual physicians, and of crediting advances in medical science to the regular or orthodox physicians. To remedy

this situation, he proposes to make a historical analysis of the major medical institutions in the 19th century from a sociological standpoint. He then draws up a "model of analysis," complete with italicized definitions and hypotheses.

Traditional medical history has indeed been guilty of these charges, and the accusations still hold true for much of the history written by retired and semiretired physicians. Rothstein overlooks, however, the existence of a new breed of physicians with sound historical training and the advent into the medical field during the past 30 years of a number of social historians, all of whom have been and are concerned with the social implications of medicine. Erwin H. Ackerknecht, whom Rothstein cites, typifies the modern group of physician-historians now calling for a behaviorist approach to their field. Rothstein himself quotes a great many of these historians—Shryock, Rosen, Rosenberg, Bonner, *et al.*—and many of the points he makes in his succeeding chapters have been made both implicitly and explicitly by these individuals.

Once Rothstein turns from telling us what he is going to do and starts doing it, he demonstrates again that an intelligent, industrious, well-balanced individual able to express himself clearly and concisely can write first-rate history. Despite the reviewer's qualms about the first chapter, when Rothstein starts describing medical practice, licensing, education, and societies, his book comes alive. One of its major points is that the difference between the regular and irregular physicians was more a matter of medical practices than of theoretical disagreements. Rothstein argues that since many of the forms of therapy used by orthodox physicians were medically invalid, they sought mutual support by standardizing their treatment through the creation of medical institutions. The formation of medical societies and the attempts to secure licensure laws were in part a response to the profession's own inadequacies. He notes that the so-called code of medical ethics was at least as much a code of professional etiquette—a fact of minor importance, he maintains, since the code was completely unenforceable during the 19th century.

In discussing the rise of medical schools, Rothstein demonstrates clearly what other historians have merely implied, that the medical schools and medical societies had differing eco-

nommic interests. By undermining the apprenticeship system, the schools deprived physicians of income and a cheap form of labor. At the same time, as schools kept increasing their enrollments, they raised the level of competition among the growing number of physicians. According to Rothstein, this conflict was a significant factor in the formation of the American Medical Association. Although it was founded ostensibly to raise standards of medical education, the AMA's primary interest was to reduce the number of medical graduates. To this purpose throughout the 19th century it established such high and impractical standards that their acceptance would have eliminated most medical schools. Not surprisingly, the AMA achieved virtually nothing in the way of educational reform.

Rothstein states that Thomsonianism, homeopathy, and the other irregular sects arose in response to the drastic bloodletting and drugging ("heroic" practice) that characterized orthodox medicine. This has long been recognized, but he brings some new insights to the matter. He has made a thorough study of the sources and presents an excellent picture of the various forms of medical practice. His brief accounts of the successive irregular sects are fine summaries of both their theoretical base and their actual practices.

The irregular sects, the author points out, were influenced by the same factors that affected orthodox medicine—lack of medically valid therapeutics, internal conflicts, and competition—all of which pushed them toward institutionalization. In the case of homeopathy, the most sophisticated of the irregular practices, scientific advances and specialization gradually forced it into affiliation with orthodox medicine. The less sophisticated sects simply disappeared. The orthodox practitioners found it in their interest to accept the better-educated irregulars, and they facilitated the integration of sectarians into orthodoxy. To secure licensure laws, the regulars discovered they needed the help of the irregulars; specialists eager to secure referrals were reluctant to antagonize general practitioners of any sect; and finally, bacteriology and other developments provided a rational basis upon which to judge medical treatment, thereby transforming medical practice from an act of faith into a rational procedure. Once this last was accomplished, there was no justification for sectarianism in medicine.

Rothstein's book will jar a few of the faithful and some of his conclusions will be questioned, but he has made a notable contribution to medical history. Whether his insights are attributable to his training as a sociologist or to his native intelligence, I welcome him into the ranks of medical historians.

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New Journals Received

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