In the 1920's, when Shryock began his work, the great majority of medical history was written by physicians—men trained in the skills and assuming the values of their discipline and in most cases insensitive to the "external" aspects of medical history, to the view that medicine was a social function and not simply a changing conglomerate of great lives and great discoveries. Trained as a historian, Shryock brought a comparatively novel point of view to the study of medicine in America. He sought in his work to make the physician and his ideas part of the accepted canon of historical subject matter—and at the same time to bring to the comparatively insular field of medical history the historian's and sociologist's vision of medicine as a part of the general social process. Though a number of European writers had preceded Shryock in his "social" interpretation of medical history, he and the sociologist Bernhard J. Stern were for a good many years almost alone in attempting to study American problems in such terms. (A warmly gracious appreciation of Shryock and his work by the eminent historian of American culture Merle Curti introduces this volume; he summarizes Shryock's place in American historiography in much greater detail than is possible here.)

Historians of medicine and social historians generally will be grateful to the Johns Hopkins Press for making these scattered essays available in so convenient a form. These articles touch upon such disparate matters as the origins of the public health movement, lay medical ideas, and the status of the profession, and individuals as varied as Sylvester Graham, Benjamin Rush, and William Charles Wells. One might, however, quarrel with the author's decision to write a new introductory essay, a synthesis of the history of medicine in America in 45 pages. It is a bit unwieldy as an introduction, too brief and schematic to aid the common reader in search of a general synthesis of American medicine. (Nor does it succeed in revising and updating the individual essays which follow it.) Inevitably, an essay of this kind becomes an exercise in organization and emphasis, to be appreciated properly only by other professionals.

Despite the breadth and inherent interest of its content, one cannot help finishing this volume with a certain feeling of depression—of discontent, that is, not with the author, but with his disciplinary colleagues who have failed to act upon the cues Shryock has so generously provided. Almost every page in this book, at times consecutive paragraphs, suggest exciting subjects for theses and monographs—as yet unwritten. Thus, for example, Shryock's essay on "American indifference to basic science during the nineteenth century," published almost 20 years ago, is still cited everywhere; but not, as it should be, as a perceptive formulation of a significant and neglected problem, but rather as the *only* systematic discussion of a subject whose scope implies the writing of 19 books rather than 19 pages. Even in the rapidly expanding field of the history of science, the programmatic goal of interpreting science as part of the general social process shows only sporadic signs of fulfillment. And in history proper, the traditional canons of subject and method are still comparatively inflexible; Shryock's 35-year exploration in the new history is still new, novel in its attention to problems still marginal in the concerns of his fellow historians.

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The Ocean Tides

Tides. D. H. MACMILLAN. Elsevier, New York, 1966. 240 pp., illus. $9.50.

The oceanic tides are one of nature's grander phenomena, easily observed without sophisticated instruments, and dramatically changing the shoreline in a complex daily pattern. Explaining the scientific basis for the massive movement of water presents a great challenge to the popularizer, since he is forced to invoke an intricate combination of astronomical and fluid motions.

In *Tides,* D. H. Macmillan, a retired Royal Navy officer and professional hydrographic surveyor, has attempted to provide a nonmathematical introduction to the subject. Any such volume invites comparison with the masterly treatment given the tides in nonmathematical form by Sir George Darwin 70 years ago. The comparison is relatively easy to make in this case, since most of Macmillan's book could also have been written 70 years ago. The subject of tides, like oceanography itself, of which it is an integral part, has entered a period of renewed interest and changed point of view, largely under the impact of computers and advances in electronic instrumentation. Very little of this recent activity is reflected in this book.

There is, however, sufficient challenge in explaining tidal forces and responses to warrant another treatment. Unfortunately, it is impossible to recommend Macmillan's. The book is marred by imprecise, novel, and incorrect use of terminology. Many of the definitions are only partially correct, and some are quite misleading. The introduction of underived and mostly unexplained algebraic formulas is of questionable value, particularly when, as in the case of the formula for seiche period, they are wrong.

The author is at his best in discussing the requirements for harbor works, dredging, and the practical needs of the seaman. This presumably reflects his own experience and primary interest. His experience as a naval officer probably also accounts for the highly personal, patriotic flavor of a discussion of the effects of tides on history. If we take him literally, the rise of British imperialism was probably due to the existence of large tidal ranges in the British Isles.

A book combining Darwin's lucidity with a treatment of tidal motions (including the bodily, internal, and atmospheric tides) in their modern development could be of great value. Macmillan's book is wanting in too many aspects to be of much more than passing interest.

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Fluorine Chemistry

Fluorocarbons and Their Derivatives. R. E. BANKS. Oldbourne, London; Davey, New York, 1966. 167 pp., illus. $6.

Study of the organic chemistry of fluorine has developed rapidly since World War II. During this period the few general texts on fluorine chemistry that have been published have been intended primarily for practicing fluorine chemists. Hence Banks's book, a text for advanced students, is a welcome addition to the list.

The book presents a good summary of the chemistry of fluorocarbons, with

emphasis on work carried out during the past decade. The material in chapter 2, "Aliphatic fluorocarbons," and chapter 3, "Derivatives of perfluoroalkanes," will be familiar to most organic fluorine chemists; nevertheless, it serves as a useful summary and bibliography of those fields. For the novice, a differentiation between fluorocarbon chemistry and hydrocarbon chemistry becomes clear. The author condenses a great deal of material into clear, understandable abstract. This is particularly valuable now, at a time when researchers are faced with a nearly insurmountable task of literature survey in order to remain competent in even a narrow field. The use of diagrams summarizing chemistry of individual compounds is an excellent and effective technique.

A major effort of the book is to summarize the chemistry of perfluoroalkyl derivatives of elements other than carbon (chapter 4). Banks does this very competently, in a report-like fashion, and most fluorine chemists will find new and interesting information in this chapter.

Banks also notes that there are still significant gaps in the field which should provide opportunities for interesting and profitable work for future researchers. The section on perfluoroalkane-sulfur compounds is particularly well written. The inclusion of a few photographs of apparatus is distinctive for a book of this type.

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Endocrinology and the Nervous System

Neurosecretion. M. GABE. Translated from the French by R. Crawford. Pergamon, New York, 1966. 886 pp., illus. $30.

"[I]n the future no single scientist will ever be able to deal with . . . neurosecretory organs in the whole animal kingdom in one and the same volume as Dr. Gabe has done." So writes pioneer "neurosecretionist" Bertil Hanström in his brief but cogent preface to this remarkable volume, which he predicts will become "the bible of neurosecretion." But Gabe has provided us with much more than an encyclopedia; he has provided us with a careful and imaginative "composite picture," raising numerous questions and problems that will stimulate and orient future research in the continually expanding area of neurosecretion.

This huge book, with its almost 600 illustrations and its bibliography of almost 100 pages (bringing the references up-to-date as of July 1965), represents an enormous effort of scholarship on the part of a man who has no peer today in the field of comparative histology.

Gabe's intimate knowledge of both vertebrate and invertebrate tissues is derived from detailed studies using both ordinary staining methods and precise cytochemical techniques. Hence it is regrettable that many of the excellent original photomicrographs of Gabe's superb histologic preparations have received such muddy reproduction in the hands of the publishers. Even some of the drawings are reproduced so badly that they are almost useless. In such a situation the author has the right to ask whether the expenditure of his time and the reader whether the expenditure of his money (this is an expensive book) is justified.

By far the largest part of the monograph is devoted to an analysis of the occurrence of the neurosecretory phenomenon and its physiologic correlates in vertebrate and invertebrate animals. The point of departure is essentially that of cytology and is based on recognition of specialized neurons with staining characteristics that suggest glandular activity of an endocrine nature. At the present time, when the concept of neurosecretion is being reestimated, it must be admitted that this approach has its limitations. Some workers will regret the extensive use of the adjective "neurosecretory" without sufficient qualification. Undoubtedly, presumed neurosecretory cells and systems are described in this book that will prove to have no neuroendocrine significance, and systems of considerable physiologic significance may not have been considered, owing to the absence of dramatic staining properties. That the author is aware of these limitations is clearly indicated in his discussions, and he is cognizant of the problem raised by "innervation" of endocrine tissues by neurosecretory fibers, with which morphologists and physiologists are presently attempting to cope.

The text is up-to-date as of the middle of 1962; since that time the number and the nature of advances in the field have been such as to necessitate revision of some of the descriptions and conclusions. This fact, however, only underlines the value of this work as a central reference document for future studies of the phenomenon fundamental to the entire field of neuroendocrinology. Indeed, Gabe can be commended for his prescience; in more than one instance he anticipates by his careful analysis of earlier studies what more recent data have firmly established (for example, in his treatment of the octopod epistellar body).

The translation leaves unquestionable the work's origin in the French language and has yielded an occasional neologism. The bibliography shows its share of misspellings, which are bothersome though understandable; typographic errors of a minor nature are frequent. A careful proofreading by an English-speaking biologist would have been useful. There is little one can find in the way of real shortcomings, however, and the importance of this work cannot be overestimated. The student of neurosecretion and of neuroendocrinology will find his background enriched from the point of view not only of morphology, both gross and fine, but also of physiology and cell biology. Gabe has truly done the comparative biologist an invaluable favor.

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Stereotaxic Atlas

Atlas Stéréotaxique du Diencéphale du Rat Blanc. D. ALBE-FESSARD, F. STUTINSKY, and S. LIBOUBAN. Editions du Centre National de la Recherche Scientifique, Paris, 93 pp., 39 plates. F. 50.

There are several features which will make this volume more useful than previous publications of its kind (see Table 1).

The atlas includes both frontal and parasagittal planes. A method for modifying the standard Horsley-Clarke apparatus for use with the rat is described, and the coordinates used are based on this modification. As an alternative to buying an apparatus specifically designed for the rat, this relatively simple alteration should prove expedient and economical to many lab-