

just criticism. But certain regrettable mistakes occur in this part of the subject: for instance on page 3 it is stated that the terms oocytes and spermatocytes of the first order are applied to the germ-cells at the end of the period of growth, whereas these names are usually applied from the beginning of this period. On p. 16 the chromosome interpretation of Mendelian phenomena is given incorrectly, but is partially corrected in a footnote; on page 17 increase of "alkalinity" of the sea water is attributed to addition of butyric acid; evidently a slip. On p. 524 Morgan is credited with the discovery of inducing artificial parthenogenesis in sea urchins by treatment with hypertonic sea-water, and Loeb stated to have confirmed this result in 1910. Loeb, of course, made the original discovery in 1899. Several other similar errors occur.

Professor MacBride's volume is to be welcomed as a useful account of descriptive invertebrate embryology. But, to complete the series in which it belongs, there is a need of a volume which shall treat the cytological, functional analytic and general problems of embryology, which seem to the writer to constitute the most significant aspects of the embryological research of the last thirty years.

F. R. L.

*An Introduction to the History of Medicine, with Medical Chronology, Bibliographic Data and Test Questions.* By FIELDING H. GARRISON, A.B., M.D. W. B. Saunders Company. 1914. Pp. 1-763, illustrated with numerous portraits of eminent men, to which is appended an extensive bibliography covering 18 pages.

The author, in his preface, states that "the object of this book is to furnish the medical student or the busy practitioner with a definite outline of the history of medicine . . ." But it is apparent, even on a hasty examination, that the work is capable of much wider usage and may easily be regarded as the most convenient volume of reference on the historical phases of medicine which has been issued recently in the English language. It ranks with the larger and more extensive works of Haeser

and of Neuberger, Puschmann and Pagel, though more modest in scope.

The work bears clear evidence of its author's intimate association with the best medical library of the continent and he has made free use of the extensive material in the Surgeon General's library. The volume is chiefly a biographical study of the development of modern medicine, the characters being fully portrayed or briefly mentioned as a particular phase of their career bore an impress on the period or on a certain phase of medicine. One is thus compelled to search in several places for the details of any one man, and even then he finds many only scantily given, this being in accord with the author's views of writing a history of medicine. Both the men involved and the condition of the times in which they worked united to produce the final result.

From the viewpoint of anatomy the work is especially useful. Anatomy has been given its widest application and all phases of biology bearing on the development of medicine have been discussed, with brief or extensive mention of the more eminent men who have had a part in the development of anatomy, not only as directly applied to medicine, but in the purely scientific aspects of the science. Not only is mention made of the men who have been influential in the development of anatomy, but the political conditions of the times in which they worked are discussed. Their more important discoveries are given with, in many cases, exact references to the literature where they were formally discussed; thus adding immensely to the usefulness of the volume. The titles of the more important larger works of many of the prominent anatomists of all time are given, with date and place of publication. The early writers such as Galen, Hippocrates, Fontana and others are treated with especial care and notices of their writings are accompanied by useful notes as to number of editions, translations and commentaries with a statement of which are considered the most authoritative. These notes will save the student just beginning the study of the history of anatomy many blunders and much valuable time.

A glance at the first few chapters will give an idea of the scope of the work.

The first chapter is entitled, "The Identity of all Forms of Ancient and Primitive Medicine." It is a discussion from an ethnological standpoint of what has been determined concerning the condition of medicine among primitive races of ancient and modern times, in which are found traces of modern tendencies in medicine. Chapter II. is given up to Egyptian medicine. The chapter opens with a brief discussion of the fossil remains of man leading up to a statement of the antiquity of Egyptian civilization. Our author says: "At the same time the gap between paleolithic and neolithic man is much greater than that between the people of the late Stone Age and the civilizations of Egypt and Mesopotamia." The following pages are devoted to a discussion of medicine among the Egyptian peoples from the time of the earliest known physician I-em-hetep (4500 B.C.) to the time of the predominance of Greek thought. The most important Egyptian medical documents are the papyri of Brugsch, Ebers and Hearst, the chief of these being probably the Ebers papyrus, which was discovered by Georg Ebers at Thebes in 1872 and dates back to 1550 B.C. It is interesting to note the absence of all anatomical learning in Egypt until the time of the introduction of Greek thought which resulted in the famous Alexandrian school.

Chapter III. is devoted to Sumerian and Oriental Medicine. "To sum up what we owe to Oriental Medicine, the Babylonians specialized in the matter of medical fees, the Jews originated medical jurisprudence and public hygiene and ordained a weekly day of rest, and the Hindus demonstrated that skill in operative surgery which has been a permanent possession of the Aryan race ever since."

Chapter IV. treats of Greek medicine and is divided into three sections: (1) Before Hippocrates, (2) The Classic Period (460-146 B.C.), (3) the Græco-Roman period (146 B.C.-476 A.D.). Chapter V. gives a discussion of the Byzantine period (476-732 A.D.). "Although the Byzantine power lasted over a thousand years (395-1453 A.D.) medical history

is concerned chiefly with the names of four industrious compilers (Oribasius, Aetius, Alexander of Tralles, and Paul of Aegina) who were prominent physicians in the first three centuries of its existence." Chapter VI. is devoted to the Mohammedan and Jewish periods (732-1096 A.D.). The titles of the next two chapters, "The Medieval Period" (1096-1438), "The Period of the Renaissance, the Revival of Learning and the Reformation" (1438-1600), will give an idea of the trend of the work.

In a compilation of such magnitude it is impossible that all errors should be avoided, and if attention is called here to a few errors in proof-reading it is with no thought of deduction, but with the hope of adding to the usefulness of the work. On page 24, 13th line from the top *metal work* is evidently intended, instead of mental work as it is printed; on page 184 the last year of Robert Hooke's life was 1703, instead of 1763 as printed. In the index to personal names the page reference to Carl Ferdinand von Arlt should be 549, instead of 547, McClung should be 474, instead of 592. In the index to subjects (p. 761) Sex, determination of, should read 474 instead of 592. These defects are of minor importance, but are rather annoying when one has to search for the correct page. In four weeks' almost continuous use of this volume the above errors are the only ones which have come to my notice.

ROY L. MOODIE

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#### THE NATURE AND ORIGIN OF FIORDS

THERE are two groups of geologists whose ideas regarding the origin of fiords are mutually opposed. The first group may be designated as the "glacialists," because in their opinion all the phenomena peculiar to fiords may be explained as the result of extensive glacial over-deepening of pre-glacial river valleys near the sea. The second group, or "non-glacialists," reject the theory of ice erosion, and attempt to account for the phenomena of fiords in other ways.