

in both books is their failure to treat adequately the practically important subject of the testing of fans, although, as might be supposed, this is rather more fully considered by the American than by the British author.

*Geschichte der Physik*. Von Edmund Hoppe. Pp. viii + 536. (Braunschweig: Friedr. Vieweg und Sohn, 1926.) 30 gold marks.

WE can scarcely imagine a more difficult task than the writing of a trustworthy and adequate history of physics. The field is so extensive and the work of reference so enormous that we can readily appreciate that Prof. Hoppe has spent several decades on his undertaking, and in this admirable book he has given the pith of his researches. The treatment is brief but delightfully clear, and in these days of turmoil, when the spirit of revolution has invaded even the realms of physics, it is refreshing to read of the gradual evolution of ideas, based on experiment, from the time of the Greeks through the Middle Ages to the end of last century.

The greater part of the book, almost five hundred pages, is devoted to physics of the *Neuzeit*, beginning with the close of the sixteenth century, and the book deals in turn with mechanics, heat, optics, and electricity and magnetism, whereby each section is prefaced by a brief statement of the earlier work in that branch of the subject. No attempt is made to deal with the discoveries of the present century, but the continuity of development of the subject is amply portrayed, and we are made to feel that there would have been no 'new physics' but for the classical physics which preceded it. In these days of relativity and quanta, students are perhaps inclined to look askance at the earlier work, and yet much of the remarkable development of our own day is a direct outcome of the discoveries of the end of last century and earlier.

The numerous and comprehensive references to the literature in the text are a valuable feature of the book. The omission of the initials before the names of authors has in a few cases resulted in a certain amount of confusion. Thus in the index (p. 524) there are two entries under the name of Rutherford, but they refer to different persons. The first is the Rutherford (1753-1819) of the maximum and minimum thermometer, whereas the second is Sir Ernest Rutherford. On p. 177 the names Negrette and Zumbra should surely be Negretti and Zambra, and on p. 505 few people will realise that the 'de Smolan' referred to is in reality Smoluchowski.

*The Wilderness of Sinai: a Record of Two Years' Recent Exploration*. By H. J. Llewellyn Beadnell. With a Foreword by Dr. D. G. Hogarth. Pp. xvi + 180 + 16 plates. (London: Edward Arnold and Co., 1927.) 10s. 6d. net.

MR. H. J. L. BEADNELL, during his service in the Geological Survey of Egypt, enjoyed the privilege of two years' survey of the mountains of Sinai. In this book he gives an interesting narrative of his experiences and records, his observations on the country and people, and especially on its

geology and physical geography. The country is of popular interest from its connexion with the wanderings of the Children of Israel on their way from Egypt to Palestine; and the author's account indicates that the physical conditions of this region were the same then as now, and that no large body of people could have crossed the mountains of southern Sinai. Moses probably followed a route across the northern plains.

The scientific interest of Sinai depends largely on the light it throws on the nature of the gulfs on either side. According to Dr. Ball, of the Egyptian Geological Survey, the Gulf of Suez is a normal valley of erosion and was excavated by a river along the summit of an arch. According to the alternative explanation, the Gulf is a rift valley due to the subsidence of a strip of country between parallel faults; the actual dislocation of the rocks may be seen from passing steamers, but according to Dr. Ball these disturbances are merely landslips. Mr. Beadnell declares that the evidence that the Gulf of Suez is a fault-made valley is irresistible. His new information also supports the conclusion drawn from W. F. Holland's map of 1869—to which there is no reference in the text—that the angular parallel-sided valleys of Sinai are also tectonic and are due to the rifting of the country by the earth movements that made the adjacent gulfs.

The photographic illustrations are of especial interest, for they show the topography and structure with almost diagrammatic clearness. An interesting introduction by Dr. Hogarth refers to the historic associations and attractions of this country which he describes as looking, when seen from the eastern Gulf, as alluring as a Gustav Doré vision of hell.

*A Year among the Persians: Impressions as to the Life, Character, and Thought of the People of Persia, collected during Twelve Months' Residence in the Country in the Years 1887-1888*. By Edward Granville Browne. With a Memoir by Sir E. Denison Ross. New edition. Pp. xxiii + 650. (Cambridge: At the University Press, 1926.) 25s. net.

SIR DENISON ROSS, who contributes a memoir of the author to this volume, points out that it is a remarkable fact that one of the most fascinating and instructive books of travel ever written should have remained out-of-print for a long period of years. Not only did Browne's valuable work cover a very interesting and important period in the political relations of East and West, as well as in the internal history of Persia, but also he covered ground in his journey which is still very little known. Where it is more familiar, a comparison with present-day conditions, especially, for example, in Asiatic Turkey, is highly instructive.

Browne wrote with a peculiar charm, his style was lively, and, thanks to his marvellous memory, always realistic. The fascination which Persia, and its literature and philosophy, held for him ensured a sympathy with his subject which he never fails to pass on to his readers. Sir Denison