

we are not able to follow the author very clearly in this part of his treatise; but so far as can be seen, the conclusions are inadequate. For instance, the tide at Kerguelen is triumphantly pointed to as proving the coincidence of the tidal crest with the moon's passage over the meridian; but there is no reference to Fiji, where the tide lags some six hours, and the conditions for observation appear equally favourable. We do not propose to follow the author in his discussion of such niceties as the diurnal tide, and prediction for a particular port. If any other remark be needed to indicate the character of the work, it will be found on p. 40: "the swaying of the axis of the tidal spheroid about the axis of the earth's rotation gives us a clear explanation of the production of the phenomenon of nutation."

*A Practical Physiology: a Text-Book for Higher Schools.* By Albert F. Blaisdell, M.D. Pp. vi + 448. (Boston, U.S.A., and London: Ginn and Co., 1897.)

THIS is not a handbook for the physiological laboratory, but a school lesson-book on elementary anatomy, physiology, hygiene, nursing, and ambulance work. A manual of this kind can hardly be otherwise than superficial, but the information it contains ought to be accurate as far as it goes. In the present case, however, signs of carelessness abound throughout; and the teaching, when not absolutely erroneous, is often misleading. A few instances will suffice to give an idea of the traps which await the unwary student of these pages. Peyer's patches are stated by implication to consist of glands which secrete intestinal fluids. In a figure representing the heart and great vessels, the innominate artery is called the "right subclavian," the left common carotid appears as the "right common carotid," and the left subclavian is labelled the "left common carotid." In a diagram intended to illustrate intestinal absorption, the veins of the mesentery are represented as anastomosing with the lacteals. "The power which the pancreatic juice possesses of acting on all the food-stuffs appears," it is asserted, "to be due mainly to the presence of a specific element or ferment known as *trypsin*." It is impressed on the student that he should learn how to tie a "reef" knot. But in the figure given to illustrate the directions of the text (which are correct), the author has delineated an unmistakable "granny." After these specimens of erroneous and careless treatment of the subject, it is of minor importance to note that in the repeated denunciations of the use of alcohol and tobacco, inserted, as the preface informs us, in compliance with the laws of most of the States, little or no attempt is made to distinguish between the effects of ordinary and toxic doses of these substances. A book like the present is far more likely to retard than to advance the cause of elementary physiological teaching in schools. F. A. D.

*Die Photographische Praxis.* Part i. By Prof. H. W. Vogel. (Berlin: Gustav Schmidt, 1897.)

OUR first words must be to congratulate Prof. Vogel that he has recovered from the illness that has delayed for three years the completion of this section of the new edition of his "Handbuch der Photographie." The part now issued is the first part of the third volume, and deals with photographic studios and apparatus (excluding lenses, which are treated of in a previous volume) and the negative processes with collodion and with gelatine emulsions. The chief differences between this and the previous edition are that the practice of photography is now regarded from a general rather than from a merely "professional" point of view, portable apparatus and shutters being considered, and that chapters are given on the use of colour sensitised plates and film photography. Collodion, on account of its continued application in the reproduction processes, retains the premier position; gelatine following with about the same number of pages

devoted to it. Considering the space given to the various branches of the subject, it is surprising that some of the most important advances made during the last ten years or so are not represented. We refer to advances of immediate practical importance, such as the methods of determining the exposure required, recent methods of determining the sensitiveness of plates, and the efficiency of shutters. Intensification also is dealt with in a very inadequate manner. But looking at the volume as a whole, it is a valuable addition to photographic literature, and the opinions and preferences of its distinguished author must always be of interest to English students.

*The Miner's Arithmetic and Mensuration.* By Henry Davies. Pp. x + 316. (London: Chapman and Hall, Ltd., 1898.)

THIS little volume comprises a collection of questions in arithmetic, the larger number of which are purely and simply arithmetical, ranging from compound addition to cube roots, whilst a smaller number illustrate the mode of solving some of the simpler numerical problems with which the miner has to deal. The work is naturally more or less elementary, and the formulæ given appear to be in most cases fairly correct; in some instances, however, as in the formulæ given under the head of "the barometer," simplicity has been gained only at the expense of accuracy.

The book seems well calculated to serve its purpose, that of enabling the miner to learn how to answer some of the easier numerical questions usually set in the mine manager's examination, without requiring from him any particular mental effort. Whether it is, however, upon the whole a good thing that the pupil, as well as his teacher, should have a collection of rule of thumb methods, that tax merely their memories, without appealing at all to their intelligence, is quite another matter.

*Inspector-General Sir James Ranald Martin, C.B., F.R.S.* By Surgeon-General Sir Joseph Fayrer, Bart., K.C.S.I., LL.D., &c. Pp. xvi + 203; plate i. (London: Innes and Co., 1897.)

THE name of Sir James Ranald Martin is known to few, and the details of his career to still fewer. It is for this reason that the volume before us will be welcomed by all interested in the birth and development of the medical profession, and sanitary science in India. Sir Ranald Martin left sanitary science, in the broadest sense of the term, and the position of the medical officer in India, in positions very different to those in which he found them. It would have been difficult—indeed, impossible—to have found a better biographer than Sir Joseph Fayrer, whose intimate knowledge of all that concerns medicine in India is absolutely unrivalled. So far as we are aware, the rôle of biographer is new to Sir Joseph; we can only say that from apparently scanty material he has constructed a biography accurate, interesting and instructive.

The biographer, put shortly, describes Sir Ranald's early life and early work in India, following him through the disastrous Burmah campaign 1824-26. Then follows a record of his public services in India. Amongst these, perhaps, the most striking are the inauguration of a system of medical statistics and the sanitary improvement of Calcutta. In 1840, at the age of forty-four, Sir James Ranald Martin returned to London, and took up his residence in Grosvenor Street. From this onwards, with the exception of some time devoted to literary work, which bore fruit in the shape of his treatise "On the influence of tropical climates on European constitutions," he devoted himself entirely to administrative work in connection with medicine and sanitary reform in India. His services in this direction met with but tardy public recognition, for it was not until 1860, sixteen years