

tailed specific descriptions are attempted, the work is rendered more useful than a mere list would be, by the introduction of keys, by means of which all the Indian species can be discriminated. There are also some critical remarks upon disputed questions of specific distinction, which the large series of specimens at the author's disposal has enabled him to throw light upon, such as the identity of *Ovis poli* of the Pamir and the so-called *Ovis karelini* of the Thian Shan. Under the heading *Elephas indicus*, we note that Mr. Sclater refers to Schlegel's having pointed out in a well-known memoir (of which a translation appeared in the *Natural History Review*, vol. ii., 1862) certain distinctions between the true Indian elephant and that inhabiting the islands of Ceylon and Sumatra (*Elephas sumatranus*, Schlegel), and he repeats the characters assigned to the two supposed species or varieties. Although no fresh evidence is brought forward in favour of Schlegel's views, it is not likely that Mr. Sclater would, without good reasons, reject Dr. Falconer's elaborate refutation of them, published in the succeeding volume of the same Review. Dr. Falconer was such a great authority on elephants, and his arguments for the specific unity of the Asiatic forms have been so generally held to be sound, that Schlegel's two species can only be rehabilitated by a careful comparison of a considerable series of specimens undoubtedly natives of both localities. Perhaps Mr. Sclater may have an opportunity of doing this while in the East, and thus definitely settle a question of considerable zoological interest.

W. H. F.

A TEXT-BOOK OF CHEMICAL PHYSIOLOGY AND PATHOLOGY.

A Text-book of Chemical Physiology and Pathology. By W. D. Halliburton, M.D., B.Sc., M.R.C.P. (London: Longmans, Green, and Co., 1891.)

IN spite of the fact that several standard works on the subject of physiological chemistry exist, both in German and English, the need has nevertheless been universally felt of one that should at the same time present a review of the present condition of the subject from an impartial standpoint, and give some account of the methods of research employed.

Hoppe Seyle's works have been of immense service, but suffer from being onesided, and representing only the views and methods of the Strassburg school. The only work in English which promised to be universal in its scope—namely, that by Gamgee—is unfortunately still unfinished.

Prof. Halliburton, who is justly celebrated for his work in all departments of physiological chemistry, has attempted to fill this gap in our literature, and with a large measure of success.

The first fifty pages of the book are taken up with an account of the apparatus and analytical methods chiefly employed in physiological chemical research. The only fault we have to find with this part of the book is that there is not enough of it. In a book intended as a guide to those who would work practically at the subject one hundred and fifty pages might well be devoted to these subjects, seeing that so many workers boldly attack the chemical

problems of physiology with scarcely any practical knowledge of chemical analytical methods.

The second part treats of the chemical constituents of the organism, concluding with two chapters on fermentation and ptomaines, the chapters on the latter and on proteids being especially good, and presenting an excellent *résumé* of our present knowledge of these subjects.

The next section is taken up with an account of the tissues and organs of the body. Here the author is thoroughly at home, and can speak with the authority of many years' practical work at the subject. It is rather difficult, however, to see on what principle he includes respiration in this part, especially as the subjects of alimentation, excretion, and general metabolism have each a part to themselves; unless it be, that it is so intimately connected with the physiology of the blood. In this chapter a student might be led astray by seeing the table of relations between the tension of the gases in venous blood and of those in the alveolar air. The important thing to know is the tension of gases in arterial blood; and by giving those in venous blood in juxtaposition to those in the alveolar air, the author glosses over the difficulties presented by the question of gas interchange in the lungs. In this connection, too, he does not notice Bohr's important work on the subject (interchange of gases in the lungs), although he gives a full account of the Danish physiologist's researches on the combination of hæmoglobin with CO₂.

In the latter part of the book no reference is made to Altmann's views on fat absorption, or to Ehrlich's suggestive work on the oxidative processes taking place in living tissues.

But a few errors of omission are inevitable in a work of this size and scope, and Dr. Halliburton wins our admiration for the completeness and correctness of his book, which everywhere shows signs of the care with which the proof-sheets have been revised and brought up to date. The accounts of recent analytical methods and work render it invaluable in a physiological laboratory, and it will be repeatedly referred to by students who desire more than a superficial knowledge of the subject. In Germany it has already found favour with physiologists, and is considered the best work on the subject. The fact that it is being translated into German, under the auspices of Prof. Kühne, is of itself sufficient recommendation for any work; and there is no doubt that in its new dress it will command as much success in Germany as it has already commanded in England.

E. H. STARLING.

OUR BOOK SHELF.

Praktisches Taschenbuch der Photographie. By Dr. E. Vogel, Assistant in the Photochemical Laboratory of the Technical High School of Berlin. (Berlin: Robert Oppenheim, 1891.)

THIS is a small volume, of some 200 pages, but it is full of useful information for working photographers, whether amateurs or professionals. Under nine sections the author treats of all the subjects likely to be required by the manipulator of the camera, from the purchase of his apparatus onward through every detail essential for successful work. The value of the book is greatly enhanced by numerous illustrations, which are