

unnecessary iteration. This repetition, it is true, is apologised for in the preface, but it could have been avoided by altering the plan of the book, which as it stands is rather confusing.

What strikes one most on glancing through the pages is the disproportionate treatment of the subject. To devote one-third of the whole book to the mammalian skeleton shows that the author has allowed himself a free hand where the facilities for compilation are greatest—and his indebtedness to the "Osteology of the Mammalia" is admitted in the preface. Where, however, it has been necessary to collect the detailed statements from scattered sources, as, for instance, in Fishes and Amphibia, the results are very far from satisfactory. The parts relating to the Cyclostomi, Ganoid fishes, the shoulder-girdle of Anura, and the hyoid of Reptilia are especially poor. The classificatory scheme (pp. 30-49), including as it does extinct as well as living vertebrates, should prove of considerable service to the student. It is well up to date, and, on the whole, trustworthy, although ichthyologists will probably gird at the inclusion of a physoclistous form like *Exocoetus* among the Clupeidæ. It would have been well if the generic and specific names of the borrowed figures had been checked by reference to some modern catalogue, instead of relying so implicitly upon those used by the original authors. *Galeus*, for instance (Fig. 15), should read *Galeocerdo*, and *Docidophryne gigantea* (Fig. 30), *Bufo marinus*; while the Figs. 16 and 17 of the seven-gilled shark should, in the student's interests, be given the same generic name, either *Notidanus* or *Heptanchus*. The specimen in the Natural History Museum, on which Fig. 16 is based, is marked *Notidanus*, while Gegenbaur's figure, which is reproduced in Fig. 17, is labelled *Heptanchus*, and Mr. Reynolds has, regardless of uniformity, adopted the two names as he found them.

The want of cohesion throughout the text detracts seriously from the value of the book. The various sections, culled from different sources, are not blended together, so that the product is indigestible and difficult of assimilation. The failure to treat the subject from a consistent morphological point of view is, in fact, the great flaw in the book. Positive inaccuracies are not common, but the sternum ought not to come under the head "Hyoid apparatus" (p. 162), the epipubic cartilage of *Xenopus* (p. 188) and the horny beaks of *Siren* (p. 168) are not "minute," and auditory ossicles are not as large as Fig. 100 would lead one to believe. The application of the name "branchiostegal rays" to the endoskeletal cartilages of the branchial septum of selachians (p. 120) implies a false homology with the dermal bones attached to the hyoid arch in bony fishes, while the inclusion of the vomer of the dog (p. 395), under the head "Bones in relation to the Olfactory Capsules," fails to impress upon the student the fact that this bone is morphologically an ossification of the mucous membrane of the roof of the mouth.

That great credit is due to Mr. Reynolds for his conscientious industry and honesty of purpose there is abundant internal evidence to show, but the product of his labours is—a book which is just good enough to suggest how valuable it might have been had its compilation been entrusted to a qualified morphologist. At the same time, Mr. Reynolds is to be congratulated on

the large amount of information which he has brought together, and on the fact that he has not neglected the extinct forms. And although, in its present form, the book cannot with advantage be used as a book of reference, while its abrupt and disconnected style renders it ill-adapted for continuous reading, there can be little doubt that if, when a second edition is called for, the plan of the book were simplified, the inaccuracies corrected, and the various chapters and sections connected up and coordinated, the book would prove a valuable addition to the student's library.

OUR BOOK SHELF.

Studien über Dampfspannkraftmessungen. By Georg W. A. Kahlbaum; with the co-operation of C. G. von Wirkner and others. Part ii. 1st half. Pp. x + 221. (Basel: Benno Schwabe, 1897.)

IN the first part of this work (NATURE, March 8, 1894, p. 436), measurements of the vapour pressures of a number of substances were given. The method used in the determinations was also fully described, and its accuracy discussed. The author's intention was to devote the second part of the book to a discussion of the theoretical bearing of the experimental material collected. Further experiments with substances belonging to chemical groups other than those previously examined revealed, however, the necessity of first enlarging this experimental material; the present volume contains the results of these additional measurements. The experimental method employed is the same as before, and the results are given in the form of numerical tables and of curves. Every precaution appears to have been taken to secure accuracy. Where previous observations exist, the results are compared together, and the satisfactory agreement found between the results obtained by Ramsay and Young, for example, by the statical, and by the authors by the dynamical method, may be regarded as further evidence of the trustworthiness of the latter. In this volume the measurements extend from about 0 to 760 mm., except in cases where the solidification of the substance prevented the measurements at lower pressures. The substances for which new experimental results are given are benzene, brom-benzene, benzaldehyde, phenol, aniline, benzonitrile, benzyl alcohol, nitrobenzene, benzoic acid, ethyl alcohol, propionic, normal butyric, valeric, heptylic, isobutyric and isocaproic acids, methyl-, dimethyl-, ethyl- and diethyl-aniline, phenyl-methyl ketone, methyl benzoate and benzoyl chloride.

In connection with the fatty acids, the accuracy of Dühring's rule is discussed. The rule states that the difference between the boiling-points of a liquid at some standard pressure and at any other pressure divided by the corresponding difference for some other liquid is a constant quantity for that pair of liquids. This, it appears, is sufficiently accurate only when the liquids belong to a group of closely related substances, such as the fatty acids.

In conclusion, it is hardly necessary to point out the great value, scientific and practical, of careful determinations, such as those before us, of the vapour pressures of liquids.

The Induction Coil in Practical Work, including Röntgen Rays. By Lewis Wright. Pp. vi + 172. (London: Macmillan and Co., Ltd., 1897.)

THE discovery of the Röntgen rays has created a revived interest in many of the beautiful experiments that can be performed with the aid of the Ruhmkorff induction coil, and is thus indirectly a sufficient justification for the appearance of this treatise of 172 pages. More especially