world atmosphere, as it were, which a modern interpolation or two (the thermionic valve, for example) merely emphasises instead of dispelling. Still, it is difficult to support such an accusation—if it be an accusation—by specific instances. What is indisputable, on the other hand, is the admirable soundness and thoroughness which characterise the book throughout. Of particular value is its insistence on the consideration of order of accuracy of measurements and results, for this is an aspect of laboratory instruction which is apt to suffer nowadays from the congested condition of practical syllabuses. Students who work conscientiously through this book, even without assistance from a teacher, will have laid a very secure foundation for more advanced experimental work in physics.

At the same time, one cannot but wish that the scope had been more comprehensive. It is true that there are sufficient experiments to constitute a satisfactory course, but no two teachers would be likely to select exactly the same experiments as being best suited to their special circumstances, and the book would therefore have been much more generally useful had it contained a wider range of experiments, from which selection could be made as required.

Zoologie im Grundriss. Von Prof. Dr. Walter Stempell. Erste Lieferung. Pp. xviii + 160. 6·60 gold marks. Zweite Lieferung. Pp. 161-336. 6·90 gold marks. (Berlin: Gebrüder Borntraeger, 1925.)

THESE two parts are devoted to accounts of the morphology, structure, and classification of animals from Protozoa to Chordata, and the author has been faced with the problem of what to include and what to omit—as are all writers of text-books, and each author has his own views on the subject. But is seems difficult to justify the inclusion of even short accounts of relatively rare parasites of man, the affinities of some of which (*e.g.* Rhinosporidium, the Spirochætes, and the Chlamydozoa) with the Protozoa are more than doubtful. The brief description and single figure of the Mesozoa can be of little use, and the same may be said of the characterisations in two or three lines of many of the families of cœlenterates and other Metazoa. It is evident the author has carefully rationed himself in his descriptions of the more important organisms in regard to many of which further detail would have been helpful. The extent of the compression may be judged by citing as examples the Prototracheata, which are dealt with in 20 lines of text and 4 figures, the Scyphozoa in 30 lines and 5 figures, the rotifers in 26 lines and 2 figures, the Diptera in 15 lines and 4 figures; there are short descriptive legends to most of the figures.

The parts on the Mollusca and the Chordata are, on the whole, more satisfactory. The illustrations are usually well chosen and well reproduced, and many of them are original. It should have been possible to give better figures of Entamœba, the Spirochætes, the larva of Filaria and *Pulex irritans*.

The table of contents shows that the succeeding parts are to deal with physiology, development, biology, distribution, and phylogeny, on which there is room for a good text-book. We shall look forward with interest to the author's mode of treatment of these important subjects.

Ostwald-Luther Hand- und Hilfsbuch zur Ausführung physikochemischer Messungen. Herausgegeben von C. Drucker. Vierte neubearbeitete Auflage. Pp. xx + 814 + 3 Tafeln. (Leipzig: Akademische Verlagsgesellschaft m.b.H., 1925.) 35 gold marks.

OSTWALD'S "Hand- und Hilfsbuch" has changed almost beyond recognition since it was first issued in 1893. It was then a comparatively small book, and the reviewer remembers vividly how as a student he used it as a text-book of scientific German. The second edition, issued in 1902, called for the services of a collaborator in the person of Prof. Luther; and now, fifteen years after the appearance of the third edition, the issue by Prof. Drucker of a fourth edition has only been possible with the aid of a long list of collaborators, who have contributed complete sections on optical measurements, X-ray measurements, radioactive measurements, etc. Including the indexes, the whole volume now covers more than 800 pages, and it would have been still larger but for the fact that, in the opinion of the responsible editor, the appearance of the "Kolloidchemische Praktikum" of Wo. Ostwald has rendered it no longer necessary to add a section on the technique of colloid chemistry. In the same way the revision of the "Physikalisch-Chemischen Tabellen" of Roth and Scheel has made it possible to omit most of the numerical data. The details of the practical course at Leipzig (which includes fourteen electrical exercises, but only one optical experiment, with a sodium lamp as the only light-source) have, however, been retained as an appendix.

Handbuch der biologischen Arbeitsmethoden. Herausgegeben von Prof. Dr. Emil Abderhalden. Lieferung 173. Abt. 9: *Methoden zur Erforschung der Leistung des tierischen Organismus*, Teil 2, 1 Hälfte, Heft 2. *Methoden der Süsswasserbiologie.* Pp. 285-542. (Berlin und Wien: Urban und Schwarzenberg, 1925.) 10·80 gold marks.

THE second part of the "Methoden der Süsswasserbiologie" is a further instalment of that indispensable work "Handbuch der biologischen Arbeitsmethoden," edited by Prof. Emil Abderhalden, and continues the description of freshwater biological methods begun in Part 115. The present portion begins with the rearing of freshwater insects of all groups, followed by other invertebrates. In such experimental work, the knowledge of the food required by the animals in question is essential, and a large amount of exact information is given as to the feeding at every stage. The culture of certain invertebrates as fish food has now become a matter of extreme importance, and special prominence is given to the small crustacea such as the Cladocera, a separate chapter being given to *Daphnia magna* Straus. Then follow a long treatise on the rearing of freshwater fishes, more especially carp and trout, although others are also mentioned; a most interesting account of the methods of investigating the history of lake bottoms by means of samples taken by boring tubes and tube sounding leads; and finally chapters on boats for scientific work in inland lakes and a description of the working of the biological station at Lunz in the Austrian Alps. As each section is by an expert in his own line, we have an up-to-date account of all recent research methods which is of inestimable value to all freshwater biologists.