this tabulated evidence of careless proof-reading.

The reviewer has found it difficult to give a satisfactory account of the contents of the second and third chapters in a short review, so that those who may wish to follow the author's applications of his fundamental ideas must read the original.

H. C. Jones.
Johns Hopkins University.

Text-book of Organic Chemistry. By A. Bernthsen. 2d English Edition, translated by G. McGowan, from the 4th German Edition. London, Blackie & Son. New York, D. Van Nostrand. 1894.

The general excellence of this work is indicated by its reception both in German and in English speaking countries. Four German editions in six years have been found necessary, and the second English edition will probably be even more extensively used than the first. The present book is a work of about 575 pages, fifty more than the previous edition, and occupies a position between the elementary and the encyclopedic text-book. As stated in the preface, the descriptive part is condensed as far as possible, and special emphasis put upon summarizing the characteristics of each class of compounds. There are frequent valuable tables of the principal properties of important classes of compounds. The subject-matter is treated in a way showing the intimate knowledge of the literature to be expected from a chemist like Bernthsen, though it seems strange that he makes no reference to American periodicals, but seems content to use the often imperfect abstracts in the foreign journals. The fourth German edition was published in 1893, and the subject is well brought to that date. A point would have been gained, and the value of the book greatly enhanced, had the translator brought to the date of publication of the English editions at least those chapters which treat of classes of compounds on which important work was done in 1893 and 1894. I refer particularly to the sugars, terpene, etc. The translation is good, though sometimes too literal. Many German expressions have crept in, and do not make the matter any clearer. In the text, formulæ of substances are frequently used instead of names. It would be better to use names only, but if P_2S_5 is used in one place because it occupies less space than Phosphorus Pentasulphide, it should be used always, and the one should not appear on one page, and the other a few pages further on. On the whole the work is well adapted to the needs of those American colleges in which organic chemistry can receive the time and attention it deserves. With it a mature student can easily get a good working knowledge of the subject. For undergraduate work, as carried on in most of our colleges, a less ambitious course, thoroughly given and embodying the use of a smaller text-book, seems desirable.

Felix Lengfeld.
University of Chicago.

Systematische Phylogenie der Protisten und Pflanzen. Ernst Haeckel. Jena, 1894, Pp. 400.

Prof. Ernst Haeckel, of Jena, has recently begun an extensive work on the systematic evolution of animal and plant life. It is to be in three parts, the first of which has just appeared as the '*Phylogeny of the Protista and the Plants.*' The second part, on the phylogeny of invertebrates, and the third part, on that of vertebrates, are also promised during the present year. In the present volume the author outlines his plan and presents in the opening paragraphs the main data upon which his phylogenetic trees are based, namely, the three branches of natural science, palæontology, ontogeny, or the life history of individuals, and morphology. The work as a whole is in