tendency in all branches of natural history; and the writer deplores it. Is it not just as well to call these chief groups orders with as little disturbance as possible to existing plans of classification? For, after all, it seems to be merely a question of names. However, classification of organisms is an art that passes understanding, and no one knows where it will end; possibly when all the species have been raised to genera and all the genera to families, and families to orders, etc.

Perhaps the most widely useful part of the work is reserved for the conclusion of this review—the introductory chapter. In this the author brings together in a readable way the underlying principles of paleontology, with especial reference to mammals, but also widely applicable, not only to all branches of paleontology, but to all natural history as well. The philosophy of structure, correlation, range, environment, the laws of evolution as applying to mammals in general and in detail, are among the subjects treated. Not all is discussed that might have been; not all the conclusions are beyond controversy, but, withal, it is the best summary of the guiding principles of paleontological research the writer has seen.

The writer can not recommend the work as one suitable to slip into one's grip for literary recreation on a vacational outing—it is a little heavy and forbidding in places. As a work of reference for the geologist and naturalist it is indispensable; and it will be a working tool for the student of extinct mammals. Perhaps, with the publication of this work there will no longer be an excuse for the further display of the dense ignorance concerning extinct forms that characterizes the most of our text-books in zoology—at least let us hope so!

In conclusion it may be said that this inventory of extinct mammals has been well done; the way is again cleared for a further rapid expansion in our knowledge of this class of vertebrates. And the author is to be commended and congratulated on the opportunities he has aided in opening up.

S. W. Williston

Catalogue of the Nearctic Hemiptera-Heteroptera. By Nathan Banks. Philadelphia, Pa., American Entomological Society. 1910.

This catalogue covers the entire group of Heteroptera for the Arctic region, and in this respect is of much greater service to the American student than the general catalogue of Kirkaldy which includes only a few of the families represented in this region. The work is rather a presentation of the existing knowledge than an attempt to rearrange the grouping or to introduce radical changes in the generally accepted nomenclature. The list covers 1,268 species and is particularly serviceable in certain families which have not been treated in recent years. Such a catalogue has been much needed, as the only work of a similar character, the list by Dr. Uhler, published over twenty years ago, is long since out of date. The paper shows some defects in proof reading, as for instance, the misspelling of *Macrovelia* and *Zicrona,* but on the whole it seems to be quite free from serious error. We can certainly share with the author the hope "that this catalogue will encourage entomologists to devote more time to this order, so that our forms will be better known to us."

Herbert Osborn

The Relation between Chemical Constitution and some Physical Properties. By Samuel Smiles, D.Sc., New York, Longmans, Green and Co. 1910.

The study of the relations between the chemical constitution and the physical properties of substances has interested chemists and physicists for a greater period of time than has the study of any other branch of chemistry which possesses more or less general interest at present. For this reason, the volume under review should exert a wider appeal than any which have appeared in the series of "Text-books of Physical Chemistry" edited by Sir William Ramsay, of which it forms a part. As part of a physical chemistry series it will appeal to physical and inorganic chemists, and it will also appeal to organic chemists, since as stated by Professor Smiles