the theory of their formation, structure and decomposition. A student who has mastered this book should find it an easy matter to gradually enlarge his knowledge by study of some larger book and by reading chemical literature and journals.

That the book is thoroughly revised and brought up to date is shown by the references to the work of Baeyer and Villiger and Collie and Tickle on oxonium compounds, of Thiele on partial valence, of Ciamician on pyrrol, of Emil Fischer on amino acids, and by the application of physical chemistry where it serves to explain reactions, as in the formation and saponification of esters.

The reviewer feels no hesitation in recommending this book as one of the best textbooks—perhaps it is *the* best—extant for those students for whom it was written, students of chemistry. It is not suited to students in high schools or colleges or to medical students who are "taking a course" in organic chemistry.

E. Renouf

Die Spiele der Tiere. Karl Groos. 2 Aufl. Jena, G. Fischer. 1907. Pp. viii + 341.

This new edition is apparently different from the first chiefly in the changes that were necessary to make it appeal to the lay reader. This impression is given by its appearance in German type, and the omission of a considerable amount of theoretical discussion. The anecdotes and instances cited are almost identical with those of the first edition. The only important change in theoretical standpoint is with reference to imitation. In the former edition Groos followed James Mill and current tradition in regarding imitation as an instinct. In the present edition he takes the ground that it must rest upon individual acquirement and presupposes practise based on experimentation. Instincts imply definite reactions to definite stimuli, while imitative movements are essentially variable in response to many different stimuli. The tendency to imitate, however, is made to rest upon an inherited disposition. The only considerable change in text is found in the concluding chapter, which has been reduced about three quarters, by the omission of all controversial matter and expository statement of theories. In this edition the author limits himself to the statement of his conclusions, that play is a form of experimentation, derives its pleasure from the feeling of power in self-activity, or from self-exhibition, and is closely related to the esthetic impulses of mankind.

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SCIENTIFIC JOURNALS AND ARTICLES

The New York Zoological Society has issued the first of a series of papers which will appear from time to time and give the results of the scientific work carried on by members of its staff. The title of the publication is, or was to have been *Zoologica,* but by an error it appears as *Zoologia.* This reminds one of the German University that proposed to issue an absolutely perfect *Festschrift,* and did issue it with a glaring error on the title page. A somewhat similar mistake recently occurred in a number of the *Bulletin of the American Museum of Natural History,* where the name of the author was misspelled.

The Museums Journal of Great Britain for October contains articles "On Preparing Artificial Ground-work for Mounting Individual Specimens, Economic Sets, etc., in Spirit," and "A Method of Utilizing Small Wall-areas in Museums for Spirit Preparations," by F. G. Pearcey, and "The Aims and Objects of Museums," and especially the Western Australian Museum, by B. H. Woodward.

A *Bulletin* on "Unutilized Fishes and their Relation to the Fishing Industries," by Irving A. Field, has just been issued by the Bureau of Fisheries. This contains some important observations on the food of the smooth dogfish, *Mustelus canis,* and horned dogfish, *Squalus acanthias,* showing that one is extremely destructive to lobsters and the other to the more important food fishes. Incidentally, attention is called to the fact that the numbers of edible fishes have been greatly lessened, nothing has been done to destroy their enemies, which have increased.