

material in recent years, thanks largely due to the chromatographic techniques and to the isolation of numerous special peptides and proteins produced by micro-organisms (for example, antibiotics).

The senior author unfortunately did not live to see the publication of this book. He died suddenly in February 1959 as a result of a cerebral haemorrhage when the book had been virtually completed. A brief biographical sketch by the junior author prefaces the book and imparts something of the unusual gifts of the mind and character of the senior author. The book bears throughout the mark of Dr. Greenstein's distinguished style, outstanding in its clarity, accuracy, liveliness, elegance and beauty. A sample of this, conveying also the intentions of the authors, is the following passage from the preface:

"Let it be admitted that we have been entranced by the spectacle of these many and diverse phenomena. In attempting to transfer these pleasurable emotions to paper, and to portray accurately the work of so many able investigators, we were well aware of the magnitude and difficulty of the task which we set for ourselves, and of the impossibility of perfection. With filial piety and in justice to those who have built this field, as well as to convey a sense of perspective, we have stressed where we could the historical development of each subject. The literature of science is generally curt and colorless, except when enlivened at times by the statement of controversial opinion; on occasion an expression of notable and graceful generosity or of far-seeing imagination finds its way into this literature, and such examples have been quoted where pertinent in the pages to follow. The topics covered in this work have generally been those wherein a certain stability has been attained and are thereby suitable for comprehensive treatment—not that progress has ceased in such topics, but rather that nothing has so far emerged to render any substantial portion of them obsolete or questionable."

The references to the historical developments and the quotations from earlier writers are a particular asset of the book. Those from foreign languages are given in the original, with a translation in an appendix of the book. They add to the enjoyment and interest of a standard work which for many years to come will be an invaluable source-book. H. A. KREBS

INORGANIC CHEMISTRY

Inorganic Chemistry

By Jacob Kleinberg, William J. Argersinger, Jr., and Ernest Griswold. Pp. viii+680. (Boston: D. C. Heath and Company; London: George G. Harrap and Co., Ltd., 1960.) 75s. net.

THE past few years have witnessed radical changes in the teaching of inorganic chemistry to undergraduate classes. These may largely be attributed to a fruitful interaction, at the research level, between physical and theoretical chemistry on one hand and descriptive inorganic chemistry on the other. It has thus been possible to stimulate the undergraduate by presenting inorganic chemistry as a subject which makes full demands on his powers of comprehension and reasoning.

A new single-volume text on inorganic chemistry is therefore to be welcomed at this time. Drs. Kleinberg, Argersinger and Griswold have attempted to

tackle the subject so as to reflect these present-day changes in its teaching. To this end, the book is divided into three parts. Part 1 (211 pages) is devoted to a brief account of the development of atomic theory, to elementary quantum mechanics, then on to the problem of the electronic configuration of atoms and the consequence of this on chemical and physical properties, especially from the point of view of chemical periodicity, and finally a section on chemical binding and molecular structure. Part 2 (80 pages) is entitled "Some Aspects of Chemical Behaviour", and consists of two chapters, on coordination compounds and a particularly good one on acid-base relationships and reactions in non-aqueous systems. Part 3 is divided into three sections. The first deals with the representative elements (196 pages), the second (136 pages) with the transition elements (the descriptive chemistry is presented here with more detail than is usual), and the third (58 pages) with the lanthanides and actinides.

The authors have deliberately chosen to omit sections on nuclear chemistry, the inert gases, and organo-metallic compounds. The last of these topics was considered to be one which, in order to have covered it adequately, would have increased the scope and size of the text beyond limits that they had set themselves. I feel that this decision was unfortunate. The field of organo-metallic chemistry is one which has in many ways been in the forefront in the recently much talked of renaissance of inorganic chemistry, and its inclusion in this text need not have occupied more than 30 or 40 pages. I would also have wished to see sections on crystal chemistry, physical methods of structure-determination (for example, infra-red, visible, and ultra-violet spectra are rarely mentioned), and reaction mechanisms. Very few of the discoveries or developments of the past five years are included. The problem of bonding is dealt with almost wholly in terms of valence bonds and the treatment is obsolete in many instances. In addition, it would have been preferable to have introduced much more physical and theoretical chemistry into Part 3 and thus emphasize the essential unity of the subject.

The authors are to be congratulated on the general presentation of their book, which is well written. It can, with few reservations, be recommended for use at least up to Part 1 honours B.Sc. standard.

M. F. LAPPERT

A MUCH-STUDIED PROTOZOON

The Biology of Stentor

By Vance Tartar. (International Series of Monographs on Pure and Applied Biology. Division: Zoology, Vol. 5.) Pp. x+413. (London and New York: Pergamon Press, 1961.) 75s. net.

THE ciliate protozoon *Stentor* is large enough to be operated on by hand (with skill) and is remarkably amenable to surgery. For these reasons it has been the object of numerous morphogenetic studies, culminating in Tartar's own outstanding contribution. As the author of this book, Tartar shows his over-riding interest in cell morphogenesis.

Fission, re-organization (the "physiological regeneration" of Schwartz) and regeneration are related, in that each involves the formation of new adoral membranelles (which appear as a primordium) and mouth structures and the fusion and renodulation