in mind, and the treatment adopted should present little difficulty to any reader conversant with the ordinary fundamental conceptions of physical chemistry.

The first two chapters are devoted to elementary notions concerning molecules, atoms, electrons, thermodynamics, and the quantum theory. The third treats of the Bohr atom as the basis of modern atomistics, emphasis being laid on points of immediate importance in the study of chemical problems. The remainder of the book is concerned with atomic chemistry proper, and is dominated by the fundamental idea that chemical phenomena are due to the laws governing physical phenomena in general, namely, the laws of energetics and probability. The extent of the ground covered may be judged from a brief summary of the contents of the book, these including : Electronic theory of valency ; Bohr's theory and its applications ; electronic structure and ionic radii ; deformation of electronic orbits ; photochemistry ; radiochemical hypothesis ; catalysis and adsorption ; wave mechanics, and Fermi's statistics.

Each chapter is followed by a useful bibliography, and an author index and a list of the tables included in the text are given at the end of the book. The print is good, the proofs have been carefully revised, and the whole is well up to the Hoepli standard of production. The price is commendably moderate.

Mechanism of Enzyme Action and Associated Cell Phenomena. By F. F. Nord. Pp. ix + 78. (London : Baillière, Tindall and Cox, 1929.) 9s. net.

WITH our present knowledge of enzyme processes any conception of their mechanism must be essentially highly speculative. In the work under notice the author makes no claim to deal comprehensively with the subject of enzyme chemistry, but confines himself to a limited aspect of this wide field. The book deals almost exclusively with the subject of yeast fermentations, while the probably related subject of muscle chemistry and the various other enzyme processes of animal physiology receive little or no attention.

The work of Harden and Young on alcoholic fermentation is summarised and discussed in conjunction with the findings and views of other workers in this field. Evidence for the presence and rôle of intermediate compounds in yeast fermentations is examined, and a short account is given of the information obtained as to the course of fermentation reactions by the use of alkaline sulphite as a means of influencing the part played by acetaldehyde as an intermediary. A whole chapter is devoted to the discussion of the problem of ' activation ' of enzymes, and particular attention is directed to the part played by simultaneous reduction and oxidation in fermentation processes.

In its literary style the work is somewhat laboured and occasionally obscure, while the execution of the diagrams also leaves much to be desired in the way of clarity. The information

presented has obviously been carefully collated ; nevertheless, the reviewer has been unable to find authority for the statement, on p. 10, that the gamma fructose present in cane sugar is partially enolised.

A good bibliography greatly increases the value of the book as a concise presentation of the chemistry of yeast fermentations.

Histoire des sciences mathématiques dans l'antiquité hellénique. Par Prof. Gino Loria. (Science et civilisation : Collection d'exposés synthétiques du savoir humain.) Pp. vi + 215. (Paris : Gauthier-Villars et Cie, 1929.) n.p.

THIS is probably the best short history of Greek mathematics which has yet been published. It has all the clearness and charm of a French popular exposition of a difficult subject ; it also gives, unfortunately (in the copy submitted for review), a striking proof of the carelessness of French book-production, fourteen pages being entirely blank !

Prof. Loria gives a brief general sketch of the earliest steps, with the presumed debt to Egypt and Babylonia, takes a conservative view as to Thales and Pythagoras, and reserves most of his space for the later mathematicians whose works are extant. He is particularly good on Euclid, Archimedes, and Apollonius, and enlivens the end of his little book by several examples of the amusing concrete problems in which the Greeks delighted and which were sometimes engraven on the tombs of their ancestors.

There is a very useful short chapter at the end, giving the applications of Greek mathematics to their astronomy and views of the universe. This supplies the link needed in many accounts of early Greek science. The bibliography is well chosen and up-to-date, giving both the latest editions of the texts and the best books discussing the results.

F. S. M.

List of the Vertebrated Animals exhibited in the Gardens of the Zoological Society of London, 1828–1927. Centenary edition in 3 volumes. Vol. 2 : *Birds.* By Dr. G. Carmichael Low. Pp. viii + 832. (London : Zoological Society, 1929.) 25s.

A COMPANION volume to that on " Mammals ", already noticed in NATURE, and like it a most useful work of reference. It includes the names of 2330 birds which have appeared in the London Zoo, and in addition gives the geographical races of many of the forms. All the essential catalogue information accompanies each scientific name—the most important synonyms, the geographical distribution, references to a good description and to a coloured figure where such exists. The English name or names of each species is given—an important item for the museum official who has to label birds, and, since each name is indexed, for the reader who wishes to know the exact significance of colloquial names used in books of travel and the like. So authoritative a list should help to stereotype the popular names of foreign birds, which are sometimes in danger of having as many popular as scientific synonyms.