

Book review

Inorganic Biochemistry, Volumes 1 and 2; edited by Günther L. Eichhorn, Elsevier Scientific Publishing Company, Amsterdam, London, New York, 1973, XXVI + XII + 1263 pages, Dfl. 300.00; U.S.\$115.40.

As a branch of chemistry, inorganic biochemistry has grown from small beginnings over the past 20 years, and has now reached sufficient maturity to be credited with a name. It is more often referred to as 'bioinorganic chemistry', but it is not the study of the chemical function of water, phosphates and other inorganic substances in biological systems. Generally it has the more restricted meaning of the study of the chemical functions of metal ions in biological systems. The Editor and authors of this ambitious two volume treatise have restricted their subject to "the application of the principles of the coordination chemistry of metals to biological systems" and so have brought it within the compass of 34 chapters by 45 authors covering 1263 pages, including a useful subject index of 18 pages. Each chapter carries its own references, and every two facing pages carry a valuable footnote indicating where the references on those pages are to be found.

The work describes the various metalloenzymes on all levels of sophistication, and provides a valuable source of reference for chemists who have a detailed interest in catalysis by metalloenzymes. The subject has been treated in eight parts. Parts I and II set the stage by a discussion of relevant fundamental coordination chemistry such as structures, stereochemistry, stability and electronic structures of coordination compounds in general, particularly of aminoacid and oligopeptide complexes, and related substances, including the alkali metal complexes of crown ethers. The remaining parts discuss different types of enzymic reactions, the enzymes responsible for them, their structures so far as they are known, and hypotheses concerning the mechanisms of their reactions. Studies of cell-free extracts of the enzyme and the enzyme model systems are treated in detail, but not the medical applications or pharmacological and nutritional aspects of coordination chemistry.

The Editor has done a remarkably good job in coordinating the contributions from his numerous authors, in avoiding overlap and providing pertinent cross-references. The chapters are authoritatively written by well-known workers in their fields. The two volumes provide a valuable source of detailed information about metalloenzyme systems, but unfortunately in so rapidly an expanding field, it will rapidly go out of date; indeed the chapter on nitrogenase is already so. It is a work for the specialist in one part of the subject who wishes to have access to a detailed knowledge of another part, or for the knowledgeable newcomer to the field. It is a massive work in all senses, and one which all workers in its field would like to have on their bookshelves. Unfortunately at Dfl. 300.00 it can only be a reference work for the library.

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