

*Structure and Bonding, Vol. 40. Biochemistry.* Editors J.D. Dunitz, J.B. Goodenough, P. Hemmerich, J.A. Ibers, C.K. Jorgensen, J.B. Neilands, D. Reinen and R.J.P. Williams. Springer Verlag, Berlin, 1980, 35 Figs., 14 Tables, 146 pp., Cloth DM 88.00.

This Volume contains four chapters in the field of biochemistry, three with a strong bioinorganic flavor.

"Metal-Metal Interactions in Metalloporphyrins, Metalloproteins and Metalloenzymes", by Irwin A. Cohen (New York) (36 pp., 160 refs.). Bio-inorganic chemists have, in recent years, explored intensively enzymes containing sites in which two or more metals interact directly. These include bridged hemin dimers, Hemerythrin, Hemocyanin, Laccase, and Cytochrome *c* Oxidase. This chapter reviews our knowledge of these systems, with especial reference to the information to be derived from modern physical techniques.

"Non-Heme Iron Dioxygenases", by Lawrence Que Jr. (Cornell) (32 pp., 105 refs.). Three classes of dioxygenase are discussed, namely the intradiol cleaving catechol dioxygenases, the alpha-ketoglutarate dioxygenase and lipoygenase. Iron is an essential element for all three systems. The paper discusses possible mechanisms of action of these dioxygenases on the basis of modern physical techniques, especially spectroscopy (EPR and Mössbauer), and through kinetic studies. Though little is known about the detailed nature of the iron sites, a picture is emerging of the kinetic role played by the metal ion.

"The Bleomycins: Antitumor Copper-Binding Antibiotics", by H. Umezawa and T. Takita (Tokyo) (26 pp., 57 refs.). Bleomycin (BLM) is a glycopeptide antibiotic used for the treatment of various carcinomas. It is isolated as a blue broth containing copper, there being evidence that copper is essential for a template type of biosynthesis. This chapter discusses in depth our knowledge of both the metal-free and the copper-containing antibiotic, including recent X-ray structural information, and discusses the interaction of BLM with other metals.

"Phytochrome, A Light Receptor of Plant Photomorphogenesis", by W. Rudiger (München) (39 pp., 198 refs.). Photomorphogenesis deals with the morphological changes and events which are light-dependent. There are a host of such changes, photosynthesis being but one. Phytochrome is one of the most important photoreceptors which has been discovered in the higher plants. This chapter discusses its biosynthesis in the plant, the properties of the chromophore and the behaviour of the protein itself.

The Editor's Desk