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Book review

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New Trends in Bio-Inorganic Chemistry; edited by R.J.P. Williams and J.R.R.F. Da Silva, Academic Press, London/New York/San Francisco, 1978, ix + 489 pages, \$ 25.75; £ 12.50.

Books on bio-inorganic chemistry can generally be divided into two classes. The first is at a pedagogical level containing an introduction to the field of bio-inorganic chemistry for inorganic, biological and physical chemistry students. Although texts are now appearing with this purpose in mind, a strong introductory textbook is still lacking and it is hoped by this reviewer that this need will be filled in the near future. The second class of books in bio-inorganic chemistry contain a collection of articles by different experts in their fields, the most notable example being Inorganic Biochemistry, edited by Eichhorn. These texts seem more appropriate for researchers in bio-inorganic chemistry interested in becoming familiar with the latest results in topics not directly related to their specialty, and to inorganic chemists who want to expose themselves to the biological aspects of their inorganic interests.

New Trends in Bio-Inorganic Chemistry fits into this latter class. It contains an Introduction by R.J.P. Williams and a collection of twelve articles: "Zinc Biochemistry and Physiology and Their Derangements" (B.L. Vallee), "Some Aspects of Structure and Function in Copper Containing Oxidases" (Bo. G. Malmström), "Molybdenum in Proteins" (J.J.G. Moura and A.V. Xavier), "High Redox Potential Chemicals in Biological Systems" (R.J.P. Williams and J.J.R.F. Da Silva), "The Superoxide Ion and the Toxicity of Molecular Oxygen" (H.A.O. Hill), "Silicon In the Biosphere" (J.D. Birchall), "A Short Note on Selenium Biochemistry" (R.J.P. Williams), "Phosphorus and Bone" (F.G.E. Pautard), "Heavy Metals in Medicine" (R.D. Gillard), "Lithium in Medicine" (N.J. Birch), "Element Determination in Biological Materials Using Electron Probe Micro-analysis" (C. Lechene), "Interaction of the Chemical Elements with Biological Systems" (J.J.R.F. Da Silva).

A particular theme in New Trends in Bio-Inorganic Chemistry and one which makes it stand out from other texts is its emphasis on topics not normally treated in collections of this subject. The chapters on the biological relevance of the elements, silicon, selenium, phosphorus and lithium are thorough and extremely informative. Such information is difficult to find at a review level. The medical aspects are also strongly emphasized in the

above chapters and in those on zinc by Vallee, heavy metals by Gillard and more generally in the last chapter by Da Silva. Additionally, Malmström's chapter contains a timely authoritative review on the rapidly evolving field of copper biochemistry and the chapters by Williams and Da Silva and by Hill extensively discuss the bioinorganic aspects of oxygen chemistry.

In summary, while I wouldn't recommend this as a general textbook in bio-inorganic chemistry, it does present authoritative treatments of a number of important topics not treated in other collections of this type and should be kept in mind as a reference on these topics.

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