

Electron Transfer in Biology and the Solid State Inorganic Compounds with Unusual Properties, Advances in Chemistry Series, No. 226, edited by M.K. Johnson, R.B. King, D.M. Kurtz, Jr., C. Kutal, M.L. Norton and R.A. Scott, American Chemical Society, 1990. 470 pp. ISBN 0-8412-1675-4.

This book was developed from a symposium sponsored by the Division of Inorganic Chemistry at The Biennial Inorganic Chemistry Symposium of the American Chemical Society, Athens, Georgia, March 1-4, 1989.

It is a collection of 23 articles from talks presented at the aforementioned symposium. The topic is introduced by an overview written by Bob Williams and this is followed by a discussion of the theoretical aspects of electron transfer by Reimers and Hush and by Sutin and Brunschwig. There then follow six chapters dealing with experimental approaches to biological electron transfer with specific reference to peptides and proteins, five more dealing with electron transfer in inorganic compounds, three papers dealing with theoretical aspects of electron transfer in solid state systems and five dealing with experimental aspects of solid state systems.

The organizers were fortunate in bringing together a large number of the major contributors to the field to provide an up-to-date presentation of the state-of-the-art. The coverage is rather broad, ranging from proteins to the ubiquitous ruthenium diimine systems to low dimensional metals and ceramic superconductors, thin films, graphite intercalation, and conducting polymers in zeolites, etc.

The volume presents an eclectic mixture of contributions that makes interesting reading.

The Editor's Desk

Metal Ions in Biological Systems, Degradation of Environmental Pollutants by Micro-organisms and their Metalloenzymes, Vol. 28, edited by H. & A. Sigel, Marcel Dekker, Inc., New York, 1992, pp. 582, \$165.00. ISBN 0-8247-8639-4.

This is the latest in an excellent series which presents very wide aspects of the chemistry of biological systems. This series aimed to bring together coordination chemistry and biochemistry in their widest sense, reflecting the growing field of bioinorganic chemistry. It was hoped by the editors that the series would help to break down the barriers between the historically separate spheres of chemistry, biochemistry, biology, medicine and physics. This was

the gyst of the preface to Vol. 1 in 1973 and subsequent years have proven the success of the series.

The current volume assesses the possibility of dealing with the enormous waste products of our society by using biological processes as a means of recycling or destroying chemical waste. General strategies in the biodegradation of pollutants form the subject of the first chapter (Egli), while subsequent chapters deal with the oxidation of aromatic pollutants by Lignin degrading fungi (Hammel); biodegradation of tannins (Field and Lettinga), of aromatic hydrocarbons by bacteria (Harayama and Timmis); of halogenated aromatics by actinomycetes (Winter and Zimmerman), enzyme catalyzing oxidative coupling reactions of pollutants (Bollag); mechanism of action of peroxidases (Anni and Yonetani); mechanistic aspects of dihydroxybenzoate dioxygenases (Lipskin and Orville), aerobic and anaerobic degradation of halogenated aliphatics (Janssen and Witholt); mechanisms of reductive dehalogenation by transition metal cofactors found in anaerobic bacteria (Wackett and Schanke); bacterial degradation of hemicelluloses (Zimmerman); degradation of cellulose (Goyal and Eveleigh); metalloproteases and their role in biotechnology (Grandi and Galli); and, finally, metal dependent conversion of inorganic nitrogen and sulphur compounds (Kroneck, Beuerle and Schumacher). The book manages to cover a very wide area of the application of biological processes to the destruction or processing of the pollutants. The book will undoubtedly play a major role in the development of this subject.

The editors are to be commended for bringing together such an important and useful collection of chapters. There are author and subject indexes.

The Editor's Desk

Transuranium Elements: A Half Century, edited by L.R. Morss and J. Fuger, American Chemical Society, Washington, DC, 1992, 562 pp., US \$99.95. ISBN 0-8412-2219-3.

This book might reasonably be subtitled "Everything You Wanted To Know About Transuranium Elements But Were Afraid To Ask". The first 137 pages comprise three articles describing the history of the development of transuranic elements written by individuals closely associated with their development. These 13 chapters alone would make this book worth buying. In particular, the contribution of Seaborg, arguably the father of transuranic chemistry, is a fascinating description of the chronology of their development including many photographs taken at the time each new element was an-