

Advances in Inorganic and Bioinorganic Mechanisms, Volume 1; edited by A.G. Sykes, Academic Press, New York and London, 1982, ix + 420 pages, US\$ 67.00.

The content of this volume is of value to a wide range of chemists, though only a kineticist would appreciate all the chapters in detail. To a non-kineticist, some of the chapter material seems selected somewhat arbitrarily. For example, the fifth review (Rates and Mechanism of Reaction for Elements in Groups I—III) by J.C. Lockhart covers a wide range of elements and reactions with little in common, e.g. reactions of 1A cations with macrocycles, exchange in alkyllithiums, and hydroboration. The sixth (Mechanistic Aspects of Transition Metal Complexes Containing Coordinated Sulphur) by E. Deutsch, M.J. Root and D.L. Nosco discusses a whole series of sulphur-containing ligands, including thiolates, thioethers, thiocyanate, sulphate and sulphide. This enormous review has nearly three hundred references, and organometallic compounds are specifically excluded from consideration.

The bioinorganic tendency is well represented by two excellent reviews by A.G. Sykes (Functional Properties of the Biological Oxygen Carriers) and F. Armstrong (Oxidation-reduction and Substitution Reactions of Iron-sulphur Centres). Though these contain material available in other reviews, the emphasis is on mechanisms and will be unfamiliar to many.

The principal interest for organometallic chemists is in the first contribution, from J.H. Espenson (Reactions and Reaction Mechanisms of Organochromium(III) Complexes). The discussion is confined to species $[\text{Cr}(\text{H}_2\text{O})_5\text{R}]^{2+}$ (R = alkyl) and reveals the wide range of reaction types which a transition-metal species can exhibit.

The two final contributions, Substitution Reactions of Oxo-metal Complexes (K. Saito and Y. Sasaki) and Reexamination of the $[\text{Co}(\text{NH}_3)_6]^{3+/2+}$ Self-exchange Rate (D. Geselowitz and H. Taube), are primarily of concern to kineticists.

In summary, this is an interesting compilation covering an immense range. It will be of use to many but of vital interest perhaps only to the specialist. It is remarkable that, at a time when the Royal Society of Chemistry finds that fewer and fewer of its Specialist Periodical Reports are viable, publishers such as Academic Press should still consider ventures such as this series economically worthwhile. If they are correct, many such specialised series should be forthcoming.

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