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Book review

Inorganic Chemistry: Towards the 21st Century. ACS Symposium Series 211 (Ed. M.H. Chisholm), American Chemical Society, Washington, D.C., 1983, ix + 566 pages, \$67.95 (\$55.95, USA and Canada)

The title suggests that we are to be treated to a Wellsian (H.G. not A.F.) view of inorganic chemistry: it will come as no surprise that we are not! However, assuming that the average reader of this volume is not naive enough to take the pompous title seriously, this volume does represent an exciting cross-section of the important areas in inorganic chemistry today. Most of the thirty-three articles presented are of a very high standard, and designed to whet the appetite of the novice; many of the articles would serve as splendid introductions to their subject matter to graduate or postgraduate students. The section headed "Inorganic Photochemistry and Aspects of Solar Energy Conversion" contains a splendid exposition upon photochemical intermediates by Turner and Poliakoff (in contrast to a pathetically brief 'article' by Bard et al.), and "Thermal and Photochemical Electron Transfer Reactions" contains definitive statements concerning metalloporphyrins (Dolphin and James), electron transfer mechanisms (Kochi and coworkers), excited-state electron transfer (Meyer) and metalloproteins and electron transfer (Sykes and coworkers). The section headed "Nonclassical Coordination Compounds" (the ludicrous nature of the title is well-illustrated by the first paper, by Fackler and Basil) contains an array of fascinating work principally involving metal-metal bonded compounds and both inorganic and organometallic clusters (by, inter alia, Heaton, Clark, Chisholm, Walton, McCarley, Sattelberger, Ozin, Greenwood, Stone and Shore), along with a rather disappointing article by Cotton, and an eccentric note by Curtis. The section also includes interesting articles on platinacyclobutane complexes (Puddephatt) and multiple metal carbon bonds in catalysis (Schrock). The final section, "New Analytical and Spectroscopic Techniques", contains articles on high resolution magic angle spinning solid-state NMR spectroscopy (Fyfe et al.), polarised X-ray absorption spectroscopy (Hahn and Hodgson), high resolution electron microscopy and EELS (Thomas), lasers, laser spectroscopy and laser chemistry (Woodruff) and resonance Raman spectroscopy (Clark), all of which could be adopted as teaching texts, being learned, lucid and well-illustrated.

In summary, Malcolm Chisholm has brought together an exciting collection of papers defining the modern frontiers of inorganic chemistry: it should be in every library to which students and young research workers have access. The conference upon which this volume was based must have been a stimulating event to all concerned, and this is well illustrated by the lively discussion which is recorded at the end of each major article (a particularly illuminating addition to the content of the volume).