

content. There is the sad, and detrimental, omission of the expected 1983 review of the electrochemistry of transition metal complexes, which has in the past offered a unique and critical review of literature of direct relevance to the synthetic chemist, although the annual review of organic electrochemistry (J.B. Kerr; 44 pp.; 268 refs.) is present, and even more perceptive and detailed than usual. The four other reviews cover the more specialist areas of adsorption at solid electrodes (P.J. Mitchell, N.A. Hampson and A.J.S. McNeil; 83 pp.; 563 refs.), pitting corrosion of ferrous alloys (C. Westcott; 31 pp.; 161 refs.), the electrochemistry of conducting polymers (G.K. Chandler and D. Pletcher; 34 pp.; 191 refs.) and electron transfer reactions studied using pulsed high energy radiation (J. Grimshaw; 20 pp.; 82 refs.). Of these the only one of any significance to organometallic chemists is that of conducting polymers, and this is a fine review, discussing specifically polypyrrole and related polymers, polyacetylene, polyparaphenylene, polythiazyl, polyanilines and TCNQ based systems. This is an area in which organometallic chemistry has an important rôle to play, and yet (with a few notable exceptions) has been largely ignored by the readers of this journal. However, I do not wish to appear to be tacitly criticizing the other three excellent reviews in this volume: it is merely that they are of only tangential interest to the non-specialist electrochemist.

The primary and overriding criticism of this volume is its ridiculously high cost. I commented last year, in a review of Volume 9 of this series, that "the price of the volume is high (more than twice the average cost per page of the 'average' research text)". For Volume 9, the cost per page was 21.72 p; for Volume 10, the cost per page is 30.84 p. This represents a 42% increase in cost! How can the Royal Society of Chemistry possibly justify price rises of this type on already overpriced books? If it is a deliberate attempt to price themselves out of the market, I suspect that they will achieve their aim rather rapidly.

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*Methods for the Oxidation of Organic Compounds; Alkanes, Alkenes, Alkynes and Arenes; by Alan H. Haines, Academic Press, London, New York, 1985, xix + 388 pages, £75.00, \$83.00, ISBN 012-3155-010.*

This is one of the first volumes of a new series detailing "best synthetic methods" for specific types of transformations in organic chemistry. The book considers about half of oxidation chemistry, dealing with hydrocarbons, and a further volume considering alcohols, alkyl halides, carbonyl compounds and polyfunctional compounds is planned. Carefully referenced tables occupy over one third of the work.

Any reviewer of this type of work will inevitably find omissions, but a wide range of oxidation methods are systematically treated. The emphasis is clearly on reactions of academic interest; the industrially important oxidations of alkylarenes in the presence of cobalt and manganese salts are largely neglected.

The strength of the book is that it gives details of practical procedures and the advantages and limitations of specific methods are discussed.

Individual chapters deal successively with oxidation of alkanes and alkyl groups, alkenes, alkynes and arenes. Organometallic reagents and catalysts are generally rather lightly treated. However, vicinal hydroxylation of alkenes in the presence of osmium complexes is well considered, as are hydroperoxide-mediated oxidations in the presence of molybdenum, vanadium and titanium complexes. Treatment of the oxidation of alkenes to ketones is more disappointing. Rhodium catalysed reactions are essentially absent, and palladium catalysed processes considered very briefly, with only one reference after 1980 despite much recent exploitation of this method. Phenol oxidative coupling in the presence of metal complexes receives detailed discussion, but few other organometallic routes for arene oxidation are reviewed.

Literature references are highly selective; whilst some up to 1983 have been included, they have been chosen to illustrate practical procedures rather than for their topicality. The book is interesting but its emphasis is distinctly towards classical organic chemical routes for transformations, and 1980's reagents, particularly organometallic ones, are considered somewhat briefly. The high price of the volume will largely preclude individual purchase, and although the book is nicely organised and presented, most of the information in it (and in some cases much more) could be as readily acquired from a perusal of a set of Fieser and Fieser.

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*Houben—Weyl Methoden der Organischen Chemie, Organische Schwefel-Verbindungen*, 4th edition, *Volume E11, parts 1 and 2*, edited by D. Klamann, Georg Thieme Verlag, 1985, xxiv + 1821 pages, DM 1950.

The last Houben—Weyl volume to deal with organic sulphur compounds appeared in 1955 and included organoselenium and organotellurium species. A critical survey of organosulphur chemistry over the last thirty years has generated two substantial books, with selenium and tellurium compounds reserved for a later issue. Sulphur analogues of the carboxylic acids were considered in volumes E4 and E5, and sulphur—phosphorus compounds in E1 and E2. Taken together with the earlier work, organosulphur chemistry is reviewed into 1984.

The Houben—Weyl series has as its purpose to detail the chemistry (synthesis and reactions) of the classes of compounds in question. It thus complements the Gmelin inorganic and Beilstein organic series, which are more concerned with comprehensive lists of compounds and their properties.

The present volume details the preparations and reactions of all classes of sulphur compounds, many of which were little known in 1955. Most notable of these, perhaps, are new classes of sulphonium salts, sulphur ylids and chiral