

yields or unique transformations which cannot be otherwise readily achieved. He describes his review as "non-critical" and this is indeed the case; reactions are presented in rather bald terms and their generality is not usually discussed.

The second section, by Laszló Markó, considers other uses of transition metals in organic synthesis, detailing hydroformylation, reduction, and oxidation reactions. Again this is an excellent review, and provides both a useful list of abbreviations, a "metal index" and a review of reviews, as well as the customary bibliography. The final chapter details organic reactions of selected  $\pi$ -complexes by George Marr and Bernard W. Rockett. Again this is a useful contribution and essential reading for anyone working in this area.

This volume has been produced from camera-ready manuscripts, with all their attendant advantages and disadvantages. When one considers the rate of arrival of journals in most libraries, the production has been commendably speedy. There are typographical errors, but these are not so numerous as to be obtrusive. I could not really see the purpose of providing only an author index; a subject or compound index would have been much more useful. The predecessors of these articles have been published in the *Journal of Organometallic Chemistry* (*J. Organomet. Chem.*, 298 (1986) 207; 305 (1986) 199, 333). I would hope that this change of format will not result in these excellent articles being less widely available to the chemical community.

In the USA and Canada the book is available from Elsevier Science Publishing Co. Inc., P.O. Box 1663, Grand Central Station, New York, NY 10163.

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*Catalytic Polymerization of Olefins (Studies in Surface Science and Catalysis, Volume 25)*; edited by T. Keii and K. Soga, Elsevier, 1986, xiv + 489 pages, Dfl 340.00, US \$165.75, ISBN 0-444-99518-8.

This volume contains the papers presented at a symposium on "Future Aspects of Olefin Polymerization", held in Tokyo in July 1985. The prospective purchaser should be aware of this, since this is most definitely not a text book, nor even a series of reviews covering most aspects of the subject described in the title. Almost the whole book is devoted to papers on Ziegler-Natta catalysis and related systems; ionic and radical routes to polymers are essentially not discussed at all, nor are metathesis based routes to polymers.

Given these limitations, however, there are a number of rather interesting papers presented. In the twenty-five years since the discovering of the Ziegler-Natta catalyst some 15,000 papers and patents have appeared and there is still no abatement of interest in the field. The articles here cover a fairly wide range of topics ranging from reaction engineering aspects, through heterogeneous and supported catalysts to modern homogeneous systems. It is the last of these areas that the organometallic chemist will probably find most interesting. I found Keim's discussion of catalysis by chelate complexes of nickel and Fink's work on soluble nickel hydride and  $\text{Cp}_2\text{TiMeCl}/\text{AlMe}_n\text{Cl}_n$  based catalysts particularly valuable. New metallocene catalysts reported both by Ewen and Kaminsky provide, almost

for the first time, routes to isotactic polymers based on soluble derivatives, an area which clearly shows much promise for the future. There are also several useful discussions of new methods for the determination of polymer structure.

As with any multi-author, camera-ready presentation, the quality of production is rather variable and there are quite a large number of typographic errors. Some of these are in page headings and were clearly introduced at the production stage (Tetylene Polymerization and Ligard Effects on Ziegler–Natta Polymerization). Whilst most of the articles are well-written it is clear that a number have been translated by non-native English speakers and a firmer editorial hand would have been useful. The index was clearly not compiled by the authors and leaves many omissions. For the polymer chemist working on Ziegler–Natta type systems this will certainly be a useful and stimulating account of some recent developments. Although there are some articles of general interest, it must be considered as a luxury item for the organometallic chemist's shelves.

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