Homogeneous and Heterogeneous Catalysis; edited by Yu. Yermakov and V. Likholobov, VNU Science Press, 1986, ix + 1169 pages, DM270, ISBN 90-6764-073-5.

This volume contains the proceedings of the Fifth International Symposium on Relations between Homogeneous and Heterogeneous Catalysis held in Novosibirsk, in July 1986. It gives the texts of invited lectures and of some of the contributed posters. After a general foreword by the editor, the book is divided into three main areas. The first of these is in many ways the most varied, being entitled "Common Features between Homogeneous and Heterogeneous Catalysis". Organometallic chemists will find particularly interesting the lecture by Lyons on the roles of palladium in liquid phase oxidation, Vol'pin's work on activation of carbon–carbon bonds, and Tanaka's account of new molybdenum based catalysts for alkene metathesis.

The second part of this volume is devoted to catalysis by immobilised metal complexes. Organometallic chemists tend to think first of the immobilisation of known soluble catalysts in the context, and this area is certainly well represented. The work of Keim on homogeneous and heterogenised nickel catalysts, for alkene oligomerisation, that of Čapka on hydrogenation catalysts, and that of Michalska on supported hydrosilylation catalysts will surely be familiar to many readers. I also found the articles by Kaminsky (reporting very stereoselective alkene polymerisation by a soluble catalyst), Frolov (detailing supported complexes of platinum and palladium as hydrogention catalysts) and Schwartz (reviewing his recent work on oxide supported rhodium complexes) most interesting. A number of other articles discuss reported catalysts which do not have simply related solution analogues. These include Ittel's work on magnesium chloride-supported alkene polymerisation catalysts, and a number of other papers in the field of Ziegler catalysis. Finally several papers deal mainly with the nature and the characterisation of surface-bound active species.

The third section of this volume is devoted to Catalysis by Metal Clusters and Dispersed Metal Particles. This includes some fundamental cluster chemistry, such as the work of Knox on $[Ru_3(\mu\text{-}H)_3(CO)_3(\eta\text{-}C_5H_5)_3]$, and that of Knobler on osmium and ruthenium containing species. Supported clusters are also considered in articles by Ichikawa, Guczi and Psaro. The final group of papers discusses catalysis by metal dispersions on solid supports, many of them produced from organometallic precursors.

This book has been produced in a camera ready format, and although the quality of the reproduction varies widely, most of the figures and structures are clear and well laid out. There is no index, which makes retrieval of information on an individual topic a little difficult, as many of the lecture titles are fairly general. This is a very interesting and varied volume, and has a higher organometallic content than many on this interdisciplinary topic. Whilst its price will exclude most individual purchasers, libraries should certainly buy it, and it is a well worth while volume for browsing.

School of Chemistry and Molecular Sciences
University of Sussex, Brighton (Great Britain)

Penny A. Chaloner