

Book review

Catalysis, Science and Technology; edited by J.R. Anderson and M. Boudart, Springer Verlag, Berlin, Heidelberg and New York, 1981, pp. VIII + 309, 58 tables, 107 figures, DM 142.-

Organometallic chemists are aware that heterogeneous catalysts exist, and sometimes even use them. Since the discipline of the study of heterogeneous catalysis is not attractive to a chemist who likes to work with homogeneous systems, the disturbing thought that heterogeneous catalysis is much more important than homogeneous to the world at large is ignored. In the surrealist terms popular some years ago, they don't wish to know it. This volume, the first in a proposed series, may go some way to redress the situation.

The laudable aim of the series is to describe catalytic subjects of some relevance to industrial processes and to discuss the chemistry, physics and engineering of each topic. There is no obvious pattern of chapters and there clearly will be some overlap as volumes accumulate. The editors will try to impose some kind of discipline and cohesion to the whole undertaking.

Volume 1 is of direct interest to organometallic chemists only in part, though it is valuable in toto. It opens with a brief history of industrial catalysis (Heinemann) and follows this with a chapter on the theory of catalytic reactors (Turner). This should be of use to anyone considering extrapolation from bench scale to pilot plants. Ozaki and Aika present a novel review of the catalytic activation of dinitrogen concentrating on heterogeneous systems and reminding us how far the homogeneous dinitrogen chemistry at present being intensively investigated has to go before it becomes of commercial significance. The fourth chapter on Fischer-Tropsch synthesis by Dry concentrates mainly on the technology, particularly of the Sasol process. The final chapter, by Sinfelt, deals with catalytic reforming of hydrocarbons. This is also a technological contribution.

This volume provides valuable background material for traditional organometallic chemists. Most would benefit from browsing through it, and many from reading it in detail. It is highly to be recommended, despite the price. I look forward with eagerness to further volumes in the series.

*Unit of Nitrogen Fixation
University of Sussex
Brighton BN1 9RQ (Great Britain)*

G.J. LEIGH