

Modern NMR Techniques for Chemistry Research; by A.E. Derome, Pergamon Press, Oxford, etc., 1987, xvii + 280 pages, £47.50, US \$70.00 (Hard cover) ISBN 0-08-032514-9. "Flexicover" version £23.50, US \$35.00 ISBN 0-08-032513-0.

This book appears as Volume 6 in the Pergamon Organic Chemistry series but its contents will be of interest to all organometallic chemists who wish to record more than the simplest of NMR spectra. The author assumes (not unreasonably) that the reader will be familiar with simple proton and ^{13}C spectra and as a consequence the fundamental aspects of chemical shifts and coupling constants are not discussed and there are no tables of such data. What the book concentrates on is the acquisition and manipulation of NMR data using Fourier transform techniques. The mathematics involved is kept to a minimum, and all the experiments are well illustrated with real spectra and clearly drawn figures.

The ten chapters have titles as follows: "What This Book Is About"; "Why Bother With Pulse NMR"; "Basic Experimental Methods"; "Describing Pulse NMR"; "The Nuclear Overhauser Effect"; "Polarisation Transfer and Spectrum Editing"; "Further Experimental Methods"; "Homonuclear Shift Correlation"; "Heteronuclear Shift Correlation"; "Spin Echoes and *J*-Spectroscopy".

As can be seen from the chapter titles the reader is taken from the fundamentals of Fourier transform NMR spectroscopy through to modern pulse sequences used to solve complicated problems. There are a wealth of helpful hints to be found throughout the book, from preparing samples properly (particularly important at high operating frequencies) to determining whether a 2D shift-correlation experiment will achieve adequate sensitivity. The uses and effects of pulse sequences such as COSY-90, COSY-45, DEPT, INEPT, INADEQUATE, WALTZ-16 etc. are all well described and illustrated, mostly from organic but with some examples from organometallic chemistry.

This book is both well written and free from errors. A second colour (red) has been used to clarify some of the more complicated spectra reproduced. Although the text has been reproduced from camera-ready copy the author has phototypeset the material himself to give a very clear and professional final appearance to a book that will be useful to anyone wanting to know how to use modern NMR techniques to solve chemical problems.

*School of Chemistry and Molecular Sciences,
University of Sussex, Brighton BN1 9QJ (Great Britain)*

Paul D. Lickiss

Organometallic Chemistry Reviews: Annual Surveys: Transition Metals in Organic Synthesis. Organic Reactions of Selected π -Complexes, edited by R.B. King and J.P. Oliver, Journal of Organometallic Chemistry Library, Volume 19, Elsevier, 1987, 590 pages, US\$200.00, Dfl 450.-, ISBN 0-444-42757-0 (Volume 19) 0-444-41445-2 (Series)

This book is composed of three annual surveys of the Journal of Organometallic Chemistry, all covering the year 1985. The first by Louis S. Hegedus, describes Transition Metals in Organic Synthesis. In view of the vast literature in this area the author wisely limits himself to describing either procedures which engender good