authors to organise their work relatively easily, its use to the reader is less clear to me. Most of the readers of this book are likely to be synthetic organic chemists, interested in effecting a particular type of transformation, or in preparing a particular type of chiral molecule. They are unlikely to be greatly concerned as to whether the origin of the chirality is valine or alanine. The index is good, but this does not entirely obviate the problem.

The material in this book is well-presented and the diagrams are very clear and plentiful. Anyone reading this book with attention will learn a good deal about modern synthetic methodology. Whilst a considerable number of organometallic reagents are used in the syntheses described, they are seen almost entirely from the perspective of the organic chemist. The organometallic chemist may find the lack of mechanistic detail a little frustrating. The book is well-referenced with the main body of each chapter covering literature published up to mid 1984. Several chapters contain addenda detailing material which was published after the completion of the original manuscript, up to the end of 1985.

This book is well written and contains much valuable material. However, it does have the air of a catalogue, and is organised in an unhelpful manner. Moreover, this is a popular area, and there are many other books and review articles to which the interested reader can refer. Do we need another?

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Reactions of Coordinated Ligands, Volume 1; Edited by P.S. Braterman, Plenum Press, New York, 1986, xi + 1052 pages, U.S.$135.00, ISBN 0-306-42201-8.

This book, dealing with compounds containing metal–carbon bonds, bears a publication date of 1986; it is said to be aimed at graduate students and research workers in all branches of chemistry. The main thrust is toward organo-transition metallic chemistry and its applications in synthesis or catalysis. The book is prepared by a direct photographic process, but the presentation is consistent throughout and is clear. Volume 2 is due to continue the study into *N*-, *P*-, *O*-, and *S*-centred metal complexes.

The editor has assembled a powerful group of contributors, and there is little doubt, therefore, that the work is written with great authority. The main drawback seems to be that most of their articles appear to have been completed in 1980. Some have addenda with newer literature, but reference to work beyond 1982 is, to say the least, patchy. This will, undoubtedly, detract from the value that the book might otherwise have had.

The volume comprises the following chapters: "One-Carbon, Two-Carbon, and Three-Carbon Ligands" by P.S. Braterman (153 pages, 773 refs.); "Reactions of One-Carbon Ligands in Complexes of Macrocycles", by M.D. Johnson (65 pages, 217 refs.); "Alkylidene Complexes of the Earlier Transition Metals", by R.R. Schrock (62 pages, 107 refs.); "Carbene Complexes of Groups VIA, VIIA, and VIII", by K.H. Dötz (85 pages, 387 refs.); "Mechanistic Aspects of the Olefin Metathesis Reaction", by M. Leconte, J.M. Basset, F. Quignard, and C. Larroche

(49 pages, 135 refs.); "Carbonylation and Related Chemistry: Some General Aspects", by P.S. Braterman (15 pages, 104 refs.); "Promotion Effects in Transition Metal-Catalyzed Carbonylation", by G.P. Chiusoli, G. Salerno, and M. Foa (74 pages, 308 refs.); "Hydride Transfer to Coordinated Carbon Monoxide and Related Ligands", by C.E.L. Headford and W.R. Roper (39 pages, 129 refs.); "Reactions of Coordinated Isocyanides", by B. Crociani (85 pages, 416 refs.); "The Formation and Reactions of Metallacycles", by G. Ingrosso (38 pages, 199 refs.); "Nucleophilic Attack on Coordinated Alkenes", by J.-E. Bäckvall (52 pages, 161 refs.); "Asymmetric Additions to Double Bonds", by P.A. Chaloner and D. Parker (91 pages, 313 refs.); "Reactions of Coordinated Acetylenes", by J.L. Davidson (70 pages, 161 refs.); "Nucleophilic Attack on Unsaturated Hydrocarbons Coordinated to Transition Metals", by S.G. Davies, M.L.H. Green, and D.M.P. Mingos (41 pages, 114 refs.); "Reactions of Coordinated Dienes", by J.A.S. Howell (24 pages, 96 refs.); "Reactions of Five-Carbon and Larger Ligands", by P. Powell (67 pages, 388 refs.)

For Chapter 5 there is a specific statement that the literature coverage is only up to 1981/82. However, the same feature of an early cut-off data is evident in essentially all the contributions. For example, (i) the chapter on carbene complexes of some of the later transition elements by Professor Dötz does not even refer to the book published in 1983 on transition metal carbon complexes (Verlag Chemie, 1983), of which he is one of the authors; (ii) the chapter by Drs. Chaloner and Parker is less complete, with respect to asymmetric hydrogenation, than the review by J.M. Brown and P.A. Chaloner in "Homogeneous Catalysis with Metal Phosphine Complexes", (ed. L. Pignolet, Plenum Press, 1983); and (iii) in Chapter 9, the 35 "additional references" are to papers published in 1980/81.

In summary, this book provides some authorative reviews on several topics of considerable interest but, unfortunately, for many of these, time has overtaken events.

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Landolt-Börnstein. Numerical Data and Functional Relationships in Science and Technology. New series, Group II, Volume 17, Subvolume c. Magnetic Properties of Free Radicals: Conjugated Carbon-Centred and Nitrogen Radicals, ed. H. Fischer, Springer-Verlag, Berlin, 1987. xi + 644 pp. ISBN 3-540-16985-7. DM 1620.

This sub-volume is the third part of Volume II/17; a major update of the data on the Magnetic Properties of Free Radicals contained in Volumes II/1 and II/9 of this series, and contains chapters 4 and 5 of the 22 finally envisaged. Literature coverage is from 1977 to 1985 (chapter 4) or 1986 (chapter 5); the data, arranged in its familiar format, is mainly concerned with ESR studies, with smaller numbers of ENDOR, TRIPLE, CIDEP and NMR references.

Chapter 4, by A. Berndt, is a 382 page compilation of data on carbon-centred radicals with conjugated π-systems, covering approximately 1400 radicals and 420 references. Chapter 5 on nitrogen-centred radicals by F.A. Neugebauer is somewhat shorter at 256 pages, and covers approximately 1200 radicals from 370 references.