

*Journal of Organometallic Chemistry*, 217 (1981) C21—C22  
Elsevier Sequoia S.A., Lausanne — Printed in The Netherlands

## Book review

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*Topics in Current Chemistry Volume 92*; (Managing Editor, F.L. Boschke), Springer-Verlag, Berlin-Heidelberg-New York, 1980, 178 pages.

This slim and attractively produced book consists of the following chapters: "Two step reversible redox systems; by S.H. Hünig and H. Berneth, 44 pages, 92 references; "Controlling factors in homogeneous transition-metal catalysis", by P. Heimbach and H. Schenkluhn, 64 pages, 120 references; "In search of new organometallic reagents for organic synthesis", by T. Kauffmann, 39 pages, 65 references; "Orbital correlation in the making and breaking of transition metal—carbon bonds", by P.S. Braterman, 24 pages, 74 references. Each chapter is prefaced by a substantial table of contents, which perhaps accounts for the absence of a subject index. As frequently seems to be the case in this series, some of the proof reading, especially by the publishers, appears to be careless. For instance, in the author index for volumes 50—92, essentially a publicity exercise, the word "author" is consistently mis-spelt. Indeed, the quality of the English in the various contributions is eccentric and in the chapter by Professor Kauffmann it could be described as quaint. Naturally, it would be inappropriate to expect scientists for whom English is not their mother tongue to write fluently in this language, but surely the publishers should take appropriate care.

Each contribution is written with considerable authority. The chapter by Hünig and Berneth is not of direct interest to practitioners of organometallic chemistry, but is an exceedingly scholarly review. Professor Hünig is, of course, a major contributor to this area of chemistry.

The article by Heimbach and Schenkluhn, despite its rather practical title, is almost an exercise in scientific philosophy with particular emphasis on linguistic analysis. The reviewer hastens to add that this is essentially his interpretation rather than that of the authors. There appear to be two underlying ideas. The first is called the "Metala-Logy Principle"; while the second, of rather more practical interest, is concerned with "Evidence for Ligand-Concentration Control by a "Titration of the Catalytic System" with Lewis Bases". Undoubtedly some provocative ideas are ventilated by the authors; however, the reviewer is not convinced that the approach will be useful in the hands of many others than those of the authors.

The chapter by Kauffmann is, naturally, not as broad as the title indicates. The sub-sections are entitled: organoelement group assisted, 1,3-anionic cyclo-additions; element/halogen exchange in organic synthesis; element/lithium exchange in organic synthesis; new carbonyl olefination reagents; and hydrogen/lithium exchange on organometallic compounds. In large part, the reagents in question are organometallic derivatives of the main group elements of Groups 4—6. The author has, of course, made notable developments to the

chemistry which he chooses to discuss and indeed about half the references are to the work of his laboratory.

The article by Braterman is perhaps the slightest in this volume. It is extremely clearly written and is concerned with reductive elimination, coupling reactions at metal centres, and the cleavage of individual metal-carbon bonds. The approach is essentially that of an educated lay molecular orbital theoretician.

The book seems to be derived in whole, or part, from a symposium held in 1978 on "Stereochemical Aspects of Organometallic Reactions" in Hameln/Weser. I must confess that I have not gained a great deal from my study of this work.

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