

actinides, carbenes, heterocumulenes), with the result that a large percentage of the articles, whether they be primarily synthetic, structural, spectroscopic, or kinetics and mechanisms, will be read by the chemist interested in that particular field of chemistry. Second, the present volume suffers from two production problems: the literature has been covered only up to mid-1973 and there is no author index.

Of the six articles, three are probably only of minimal interest to the organometallic chemist: (1) "Aspects of Hydrogen Bonding" by Speakman; (2) "Structures of Natural Products: Alkaloids" by Mathieson; and (3) "Chemistry and Crystallography of Caryophyllene" by Robertson. This last article at least serves to remind the organometallic chemist that some intriguing rearrangements occur in organic systems in the absence of metals! Of somewhat more interest to the physically oriented organometallic chemist are the articles on "Measurement of Electron Densities in Solids by X-ray Diffraction" by Coppens and "Non-bonded Interactions in Organic Molecules" by Dunitz and Burgi. The Coppens' article provides a very good summary of the current state of the art in the determination of electron densities in solids by diffraction methods. By judicious choice of compound and meticulous attention to experimental details it is now possible to determine approximate electron densities that serve to test theory and intuition. Unfortunately, the article does not include the more recent applications by Coppens, Saito, Maslen, and others to organometallic and coordination compounds. The Dunitz-Burgi article provides an excellent summary of force-field calculations, with emphasis on applications to medium-ring cycloalkanes. This article will prove valuable to those considering applications to organometallic or coordination compounds. Of genuine interest to the organometallic chemist is the article "Structural Organotransition Metal Chemistry" by Mason and Mingos. Covered in this article are the structural aspects of mononuclear organometallic complexes containing simple, unsaturated ligands; dinuclear organometallic complexes; and cluster compounds. It is doubtful, however, if the organometallic chemist could justify the price of the volume on the basis of this excellent article of 56 pages.

*Department of Chemistry,  
Northwestern University,  
Evanston, Illinois 60201 (U.S.A.)*

JAMES A. IBERS

*Organic Phosphorus Compounds, Volume 7*; edited by G.M. Kosolapoff and L. Maier, John Wiley and Sons, New York/London/Sydney/Toronto, 1976, viii + 871 pages, \$42.75, £21.50.

This book completes the "Beilstein" of organophosphorus chemistry which has been so ably organized and edited by Kosolapoff and Maier\*. We regret that Dr. Kosolapoff did not live to see the publication of this last volume. Organophosphorus chemists owe both editors a vote of thanks for undertaking and bringing to completion this monumental task (over 4300 pages covering the results of over 18 000 references).

\*For reviews of the previous volumes see *J. Organometal. Chem.*, 57 (1973) C27 and 67 (1974) C35.

The present book contains only two chapters, both of them quite long: "Phosphonic Acids and Their Derivatives", by Worms and Schmidt-Dunker, and "Organic Derivatives of Thio (Seleno, Telluro) Phosphoric Acid", by Ailman and Magee. As in all previous chapters, there is a short discussion section which covers methods of preparation and physical, chemical and spectroscopic properties, but the main part of each chapter comprises the long tables of compounds and the supporting list of references.

The first chapter covers the literature through 1971, with a few selected references of 1972 and 1973 added. The second chapter contains no statement concerning cut-off date, but the coverage does not appear to be more up-to-date. Time marches on, and with each day these volumes become more out-of-date as new compounds are synthesized and new data are gathered on known compounds. However, for anyone who in the future will need to search the literature for an organophosphorus compound, this series will be the place to start.

*Department of Chemistry  
Massachusetts Institute of Technology  
Cambridge, Massachusetts 02139 (U.S.A.)*

DIETMAR SEYFERTH