have been replaced by a more conventional description of the covalent bond and of hybrid orbitals. There is also a modern and better organized presentation of the main structure types, including the silicates, especially chain silicates (but the formulae for anthophyllite and actinolite, on p. 154, are incomplete). One slight criticism here is that most of the old structure drawings are still used. These are quite heterogeneous and, in some cases, not informative: *e.g.* NiAs, scheelite or CdI_2 with S being assigned as the anion instead of I. Also, a somewhat more comprehensive treatment of polymorphism, compiling the various examples which are scattered throughout the text, might have been desirable.

The title of this book does not point out that it is intended primarily for use in earth sciences and also in material sciences. There is practically no coverage of the huge field of inorganic and organic chemical crystallography. The structure of the paraffins, anthracene and some polymers is discussed on two pages; proteins are not mentioned at all. Of course it is hardly possible to cover all topics of crystallography, crystal chemistry and crystal physics in only one book. This does not impair the value of this clearly written and well organized text.

Compared with the previous editions, there are now five main chapters instead of four, namely: 1. *Crystal symmetry and crystal morphology* (75 pp.), 2. *Crystal chemistry* (70 pp.), 3. *Physical-chemical crystallography* (55 pp.), 4. *Crystal physics* (86 pp.) and 5. *Structure analysis of crystals* (55 pp.). The popularity of 'Kleber' is demonstrated by its many editions; probably because it contains a rather comprehensive account of classical crystallography together with many practical applications. The excellent printing and the very reasonable price have to be mentioned in particular.

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Acta Cryst. (1984). B**40**, 520

Electron distributions and the chemical bond. Edited by P. COPPENS and M. B. HALL. Pp. ix+479. New York and London: Plenum, 1982. Price US $ 55.00.

This book represents the proceedings of a symposium held at the Spring 1981 American Chemical Society meeting in Atlanta. There are 21 contributions arranged in six sections covering: (1) Introduction, (2) Theoretical considerations, (3) Extended solids: theoretical and experimental results, (4) Molecular solids: theoretical results, (5) Molecular solids: experimental results, and (6) Electrostatic properties. The contributions form a coherent whole, and the editors and authors are to be congratulated on the result. Of particular value are the two lengthy contributions in §1 on charge density analysis: the theoretical approach by V. H. Smith and the experimental approach by P. Coppens. These provide the basic framework from which the later contributions are developed. §2 covers density functional theory, a quantum analysis of coherent diffraction, and relativistic effects. §§3, 4 and 5 cover a variety of theoretical and experimental charge density studies including covalently bonded semiconductors, metals, silicates, calcium beryllide, inorganic molecules, transition-metal complexes, metal–metal multiple bonds and organic molecules. §6 includes a discussion of the derivation of pseudomolecular electrostatic properties from crystal diffraction data, the use of constraints for electric field gradients at nuclear positions, the relevance of X-ray photoelectron spectroscopy, and the bearing of electron density analyses on general concepts in the electronic theory of organic chemistry. This book is complementary to *Electron density mapping in molecules and crystals*, edited by F. L. Hirshfeld, Weizmann Science Press of Israel (1977). Both should be on the shelves of crystallographic libraries.

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Acta Cryst. (1984). B**40**, 520

Studies in inorganic chemistry. Vol. 3. **Solid state chemistry 1982.** Proceedings of the Second European Conference, Veldhoven, The Netherlands, 7–9 June, 1982. Edited by R. METSELAAR, H. J. M. HEIJLIGERS and J. SCHOONMAN. Pp. 852. Amsterdam: Elsevier, 1983. Price US $202.00, Dfl 475.00.

What an unusual series is *Studies in Inorganic Chemistry*. The first two volumes are monographs; the third, a conference proceedings. Apparently the publishers have no clear plan for the development of this series, so potential subscribers had best examine each volume as it appears to see if it is worth the outrageous price.

Vol. 3 of the series is a collection of 11 invited lectures (179 pages) and 165 papers (669 pages) broken down into six subgroups: materials for energy conversion and storage (29 papers); defects, conduction, and diffusion (19 papers); solid-state reactions and synthesis (21 papers); spectroscopic studies (24 papers); magnetic interactions (16 papers); and crystal chemistry/structure (56 papers). In this collection of more-or-less classical solid-state chemistry I found many quite interesting articles.

As is to be expected in most proceedings, there is no consistent level of approach. The texts of the invited lectures vary from a one page abstract to a full 25 page article; coverage varies from general reviews to special topics. The papers average only 4 pages in length; they are, in many cases, merely extended abstracts with data. Browsers will enjoy them, but they should not serve as primary references. This raises the question of the value of such a work. To be of real scientific value each of these manuscripts will have to be published again in complete form. This collection merely serves as a snapshot of activity in a segment of the European solid-state community. Had it not been published, it would not have been missed.

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