in sedimentary rocks by SEM, originally published in *Clays Clay Mineral.*, **24** (1976), 1–23, is also reproduced.

The second section, on 'Geology and Occurrences', again opens with an introductory paper by Hay and contains separate surveys of zeolite occurrences in alkaline lake deposits, marine environments and geothermal zones. Five papers are devoted to studies of marine phillipsite, clinoptilolite, and laumontite and three to the experimental alteration of glass or ash to zeolites.

The third section on 'Physical and Chemical Properties' is introduced by Vaughan and contains a brief survey of cation exchange equilibria in zeolites and feldspathoids by Barrer, five papers on sorption, diffusion, and catalytic properties of various zeolites, and one on the thermal stability of gmelenite. Applications are described in the fourth section, emphasis being placed on use as ion-exchangers in water purification and pollution (both radioactive isotope and heavy metal) control, and other topical areas such as energy saving—Tchernev describing how chabazite and clinoptilolite can be used as solid adsorbers in heat exchangers of solar panels. One of the first countries to exploit natural zeolites was Japan, and the numerous uses in the country are summarized by Torii (due to Japan's deficiency in kaolinite, zeolites are used for paper-filling, this application accounting for at least 50% of the country's output). An interesting description of the beneficiation of low-grade zeolite beds at Bowie, Arizona, completes the book. Author and subject indexes are provided.

Abstracts of all the papers are given in M.A. 80—1209. Apart from being essential reading for workers in the zeolite field, the book should be of more than passing interest to sedimentologists and marine geochemists in view of its extensive coverage of sea-floor sedimentation and diagenesis. Every Departmental and Institutional Library should have a copy of what will become, if it isn't already, a standard reference work but it is unlikely to find its way into individual collections (apart from those of book reviewers) because of the price.

D. J. MORGAN

Pies (W.) and Weiss (A.). *Crystal Structure Data of Inorganic Compounds. Part c3: Key Element C.* (Landolt-Börnstein: Numerical Data and Functional Relationships in Science and Technology, New Series. *Group III. Crystal and Solid State Physics. Vol. 7*). Berlin, Heidelberg, and New York (Springer-Verlag), 1979. xxvii+291 pp. Price DM 360 ($201.60). Part b2: Key Elements O, S, Se, Te. 1980. xxv+210 pp. Price DM 265 ($148.40).

Two further volumes in this series have now been published (see *Mineral. Mag.* **43**, 187, 563, 832). Volume c3 completes the subset of crystal structure data on inorganic compounds with the key elements N, P, As, Sb, Bi, C as the anion or part of the anionic group. Under the key element C one therefore finds graphite intercalation compounds (but not graphite or diamond themselves), carbides, carbonyls, carbonates, cyanides, cyanates, etc. The extensive section on carbonates is likely to be of most use to the mineralogist and, when the series is fully indexed, will provide the reader with access to sources of much structural data.

Part b embraces the key elements O, S, Se, Te and this subvolume (b2) is restricted to the oxyfluorides, oxychlorides, hydroxide chlorides, chlorates, bromates, iodates, and other oxyhalogen compounds. A number of minerals of current research interest, such as boleite and blixite, occur among the hydroxide chlorides.

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