Book Reviews

M. S. Whittingham and A. J. Jacobsen (Eds.), *Intercalation Chemistry*, Academic Press, New York, 1982, 595 pp, £57.80, $87.50.

Although the term 'intercalates' is normally used for systems where the guest is accommodated within a host lattice having a *layered* structure, the editors have widened the definition of the term to cover systems where the host lattice maintains some essential structural features during the formation of the intercalate.

Thus in addition to chapters dealing with the better known intercalates formed by graphite (Bartlett and McQuillan), the sheet silicates (Thomas), zirconium phosphate (Alberti and Costantino), β-alumina (Tofield), transition metal dichalcogenides (five chapters by Jacobson, Himba, Schöllhorn, Murphy and Thompson and DiSalvo), metal phosphorus trichalcogenides (Johnson), layered halides (Corbett), metal chalcogenohalides (Halbert) and layered oxides (Dickens and Pye), there are also chapters dealing with Diffusion and Shape Selective Catalysis in Zeolites (Derouane), Hydrogen Containing Materials (Buschow and Van Mal), Intercalation in Biological Systems (Wilson and Jones) and Reactions in Crystallographic Shear Structures (Anderson).

The chapter on Intercalation in Biological Systems contains interesting material for readers unfamiliar with this topic and the chapter on the sheet silicates contains a very informative section on the use of their intercalates to accomplish unusual chemical conversions of organic guest molecules.

The book is well produced with relatively few printing errors, one small criticism being that the subject index could have been more extensive. The book however presents a comprehensive coverage of the field of intercalation chemistry and deserves a place on the bookshelf of anyone interested in the structure, reactivity and possible applications of intercalates.

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