

## BOOK REVIEWS

FARMER (V. C.), editor. *The Infrared Spectra of Minerals*. London (Mineralogical Society), 1974. x+539 pp., 219 figs. Price £16.

The contents of this book fall into three rather distinct parts. Chapters 1–8 (136 pp.) introduce the theory and practice of I.R. and Raman spectroscopy, and do so on the whole with unusual lucidity. Chapters 9–18 (287 pp.) provide a compendious review of the applications of these techniques to minerals (with varying degrees of coverage of related compounds outside the mineral field, where this is needed to help the interpretation). An idea of the review nature of this section is given by the fact that fifty-two of the 287 pages are taken up by the bibliographies at the ends of the chapters. The third section consists of three rather disparate chapters. Chapter 19 deals with the application of I.R. to the study of cements, Chapter 20 to thermal transformations in brucite and 1:1 layer silicates (its contents belying its more comprehensive title), and Chapter 21 to the study of glasses. An appendix gives Site Group to Factor Group Correlation Tables.

The editor (who is also the author of five chapters) is to be congratulated on achieving so uniform a standard from thirteen authors, very largely avoiding repetition and introducing some degree of cross-referencing between chapters by different authors (unfortunately incorrectly on p. 285 where Fig. 5.5 should be 4.5), and ensuring a very low level of errors. The book will certainly be indispensable both to anyone proposing to enter the field and to anyone wishing to know what spectroscopic work has been done on a particular mineralogical problem, as well as to the practising spectroscopist.

A general criticism is that many of the authors tend to make over-ambitious claims for their technique that are belied by the alternative assignments given by different workers, and the lack of correspondence between theory and experiment that they have to report in many instances. The resulting uncertainties are made very clear in some chapters, but not so clear in others, with the result that the reader who consults the volume in a restricted way may get an unduly optimistic impression. This reviewer regrets the extensive use of Schoenflies symbols both for point groups and space groups (sometimes with International Symbols in parallel, but more often without) in discussing what are essentially crystallographic problems. There is also considerable misuse by authors of crystallographic terms (lattice, sub-lattice, 'true unit cell', etc.). The standard of editing seems to fall a little in the last two chapters, where there is some lack of correspondence between text and diagrams, and between the units used in them. Pressure coefficients in  $\text{cm}^{-1} (\text{GN/m}^{-2})^{-1}$  would provide a singularly infelicitous example of S.I. nomenclature even if it were correct.

In view of the state of the subject and the polemical nature of much of the literature, one imagines that revised editions of this book, which is clearly going to become a standard reference work, will be essential. Their preparation will be a mammoth task and a very important one.

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