

a brief introduction followed by a treatment of each clay mineral species.

Chapter 2 (Order-Disorder in Clay Mineral Structures by G. W. Brindley) covers 70 pages. Disorder in layer stacking, disorder due to curvature of layers, and diffraction by small crystals are some of the topics. Indeed, order-disorder in clay minerals is a pervasive theme throughout much of the book.

Chapter 3 (Interlayer and Intercalation Complexes by D. M. C. MacEwan and M. J. Wilson) runs about 50 pages. Topics covered include aqueous and organic complexes with 2:1 clay minerals, complexes with 1:1 minerals, and dehydration-rehydration.

Chapter 4 (Interstratified Clay Minerals by R. C. Reynolds) is about 50 pages long. Various methods for analyzing interstratified structures are examined. Reynolds' treatment of the one-dimensional diffraction profile is considered in some detail complete with a helpful sample calculation. Many previously unpublished computed profiles are given.

Chapter 5 (X-ray Diffraction Procedures for Clay Mineral Identification by G. Brown and G. W. Brindley) is 55 pages. Topics discussed include clay preparation of X-ray diffraction techniques, and identification of mineral species. The useful checklist of d-spacings that appeared in the first edition but was omitted from the second edition has been resurrected here. The d-spacings of aluminum metal are included for those who irradiate their specimen holders. The user is cautioned that the list is not all-inclusive, e.g., some reflections for calcite are omitted which are equally as intense as those given. The relative merits of copper and cobalt radiation are compared as well as the reasons for changing divergence slits, particularly at low 2θ values. Not generally appreciated, however, is the fact that not all divergence slits (particularly the finer ones) center the X-ray beam at exactly the same position re-

sulting in misalignment. The recently-available theta-compensating slit may preclude this problem.

Chapter 6 (by G. B.) covers Associated Minerals and is about 50 pages long. Chapter 7 (by G. W. B.) covers about 35 pages and deals with Quantitative Analysis. An Appendix (by G. B.) gives tables of d-spacings for $^{\circ}2\theta$ for the $K\alpha$ and $K\beta$ radiations of copper, cobalt, and iron.

A few minor negative points can be noted. Some of the tables and figures reduced for printing are quite light in my copy. The book contains a minimum number of typographical errors; however, the country in which the book was published is misspelled on the page facing the title page. Also, the equality at the top of page 255 contains two identical quantities the last of which should probably be $P_{IIM.M}$. The octahedral charge of chernykhite appears to be *excessive* rather than *deficient* as stated on page 70. Very few papers appear to have been overlooked. One notable omission is the paper by K. K. Bissada, W. D. Johns and F. S. Cheng (1967), Cation-dipole interactions in clay organic complexes. *Clay Minerals*, 7, 155-166. The editors regret that a chapter on the geology of clays could not be finished in time for publication and I must concur. An attempt to correlate the vast amount of structural and chemical data of clays in a geological context is desirable. My personal feeling is that the Appendix could have been omitted. Finally, the antecedent of the pronoun *their* in the title seems ambiguous. Nevertheless, this definitive update on the crystal structures and X-ray identification of clay minerals is essential for anyone with a serious interest in the subject.

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NOTICES

MSA Short Course on Amphiboles and Other Hydrous Pyriboles October 29 to November 1, 1981

The Mineralogical Society of America will sponsor a Short Course on Amphiboles and Other Hydrous Pyriboles before the 1981 MSA/GSA Annual Meeting in Cincinnati, Ohio. The Short Course will be held at a conference center near Erlanger, Kentucky, from October 29 (evening) to November 1 (noon). It will include an intensive review of the crystal chemistry, spectroscopy, phase equilibria, igneous and metamorphic petrology, and solidus behavior of amphiboles, as well as discussions of the mineralogy and geology of amphibole asbestos and wide-chain pyriboles. The outstanding lecturers who have been selected for this course will also participate in the preparation of Volume 8 of the MSA Reviews in Mineralogy series. For further information, write to Amphibole Short Course, Mineralogical Society of America, 2000 Florida Avenue, N.W., Washington, D.C. 20009.

First International Symposium on Crystal Growth Processes in Sedimentary Environments

The first International Symposium on Crystal Growth Processes in Sedimentary Environments will be held in Madrid, Spain from

April 13-16, 1982, under the auspices of the International Mineralogical Association, the IMA Commission on Crystal Growth of Minerals, the International Organization for Crystal Growth, the Spanish Council for Scientific Research, the Spanish Mineralogical Society and the Instituto Geológico y Minero de España.

The Symposium is aimed to provide a forum mediating between the science of crystal growth and the science of sedimentation and sedimentary petrology, as well as for reporting and discussing recent studies on crystal growth processes in sedimentary environments. The symposium is organized in view of the increasing importance of the knowledge of crystal growth mechanisms in understanding the formation of sedimentary rocks and diagenetic processes.

The symposium will consist of lectures by invited speakers (about ten speakers are expected), Round-Table discussions led by invited speakers and contributed papers presented by the assistants in the form of posters. Those who are interested in this symposium may obtain further information from: Dr. R. Rodríguez Clemente, Instituto de Geología, Consejo Superior de Investigaciones Científicas, c/ José Gutiérrez Abascal, 2. MADRID -6. SPAIN.

The registration fee is fixed at 100 US \$, and the deadline for submission of abstracts of contributed papers is December 20 1981.