

discussion of the general climatic, topographic, and tectonic conditions, with reference especially to the Zechstein evaporites, is followed by sections on the separation of salts from sea water under static isothermal conditions, and under 'dynamic polythermal' conditions where temperatures vary in different parts of the depositional area. These involve the calcium salts and the relevant part of the system $\text{Na-K-Mg-Cl-SO}_4\text{-H}_2\text{O}$. Metastable phenomena are considered.

The following 73 pages deal with post-consolidation metasomatic changes, including the various stages of metasomatism of important salt parageneses by solutions, resulting from melting with rise of temperature and pressure on burial, migrating from upper layers to lower ones and vice-versa, and by solutions produced by groundwater leaching or from juvenile waters. The evidence for metasomatism in salt deposits is discussed in detail, and includes the occurrence of mineral phases and parageneses unstable under conditions of primary deposition, textural evidence (pseudomorphs, &c.), veins and impregnations, blue halite, and certain types of facies change. The processes are discussed in relation to experimental work, and the principal changes in the Zechstein evaporites are given.

The rest of the book includes comparisons of oceanic and non-oceanic deposits; sections dealing with the evaporites of the Rhine graben and some other deposits; the association of salt with oil; and a discussion of salt tectonics and the mechanical properties of salts. There is a large and useful bibliography (40 pp.).

The book would be improved by the addition of more text-figures (for example, maps showing facies changes in the Zechstein), but this is the only slight qualification in my admiration for a work which contains a very large amount of information, and deals with a highly complex subject in a way that makes it essential to all workers interested in evaporites and in metasomatic processes.

F. H. STEWART

KONTA (J.). *Jílové minerály Československa*. [*Clay Minerals of Czechoslovakia*.] Česk. Akad. Věd, Prague, 1957, 319 pp., 165 figs., 65 tables. Price 35.50 Kčs.

This excellent volume gives details of the clay mineralogy of some twenty-two clay occurrences in Czechoslovakia. After a general description of clay minerals, their structure, classification, and nomenclature, and the methods of investigation used, the remainder of the

book is divided up on the basis of the mineralogy of the deposits studied. Thus, three occurrences of allophane, sixteen of kandites, eight of smectites, eight of clay micas (including dillnite), and three of sepiolite and palygorskite are dealt with. The data given on each sample is remarkably exhaustive, consisting of macroscopic and microscopic data, differential thermal and dehydration curves, X-ray diffraction data, electron micrographs, and in most instances chemical analyses. The description of each sample examined is completed by some remarks on its genesis. An extensive bibliography and very adequate name and subject indexes are given. The book is excellently produced, and electron micrographs and X-ray powder photographs show detail adequately, despite the fact that art paper is not used. The binding is, however, hardly up to the standard of the remainder of the book, and it is doubtful if it would stand up to much handling.

Dr. KONTA is to be congratulated for his energy and for the tremendous amount of work which he must have undertaken to produce such an excellent survey, and one can only feel disappointed that no comparable book is available for other countries: it is, in a more limited field, comparable with HEDDLE'S classical and monumental 'Mineralogy of Scotland'. Despite the fact that the book is written in Czech, and that workers in other countries may not have great interest in the actual deposits described, there is such a wealth of detail on individual minerals that all clay mineralogists will find much to interest them.

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SWINEFORD (A.), editor. *Clays and Clay Minerals*. Proceedings of the Fifth National Conference on clays and clay minerals, University of Illinois, 1956. Washington (National Academy of Sciences—National Research Council, Publication 566), 1958, vii+360 pp., 156 text-figs. and pls., 58 tables. Price \$4.50.

The National Clay Committee of the National Academy of Sciences (U.S.A.) was formed some seven years ago and has since then held seven annual meetings at various centres in the U.S.A., publishing the papers presented at these meetings in a yearly volume entitled 'Clays and Clay Minerals'; the one under review is the fifth of the series. Since the National Clay Committee has deliberately attempted to interest not only clay mineralogists, chemists, and physicists, but also all interested in clay from any angle, practical or theoretical, the twenty-eight papers included in this book cover a very wide range and defy a simple classification into sections. Nevertheless, they are all of great interest to clay