layer-line repeat distances on rotation photographs taken in either the normal or the Mauguin mode. These quantities can obviously be applied also to cameras of diameter 11·46 cm. or 15·28 cm. diameter by simple proportion; neither quantity gives rounded values at 0·01° intervals of θ, but the intervals are sufficiently short to make interpolation easy.

Both these and the Nat. Bur. Stand. tables list d-values for $K\alpha_1$ wavelengths only, and are hence not strictly applicable to normal powder photographs, for which $K\alpha_m$ wavelengths are required at low Bragg angles. In the present case this is because these tables are intended primarily for users of curved quartz-crystal monochromators (with focusing cameras). They include a useful nomogram relating the radius of curvature of the crystal with its distances from the target-focus and the camera-focus for each of the above wavelengths and for various angles of cut between the crystal surface and the $(10\bar{1}1)$ plane of the quartz crystal.

Table II*a* lists atomic weights and mass absorption coefficients for the elements, while table II*b* gives values of e^{-x} to four decimals in the ranges $x = 0(0{\cdot}01)5{\cdot}50$ and $5{\cdot}50(0{\cdot}10)9{\cdot}90$. The format and legibility of all the tables are excellent.

The tables of Durif-Varambon and Forrat are for users of X-ray powder cameras 'de 240 mm de périmètre' (not 'de diamètre' as stated on the cover). They list θ, $\sin\theta$, and $\sin^2\theta$ for values of $4R\theta$ (see the review above) in the range $20(0{\cdot}1)240$ mm. ($R = 38{\cdot}2$ mm.). Sin θ and $\sin^2\theta$ are given to five decimal places; θ occurs at intervals of $2\frac{1}{4}$ minutes of arc on the above scale. The tables are thus designed for a very narrow public, since this interval of θ is awkward for interpolation by users of other cameras. There is indeed a need for five- (or six-)figure tables of $\sin^2\theta$. It seems a pity that the authors did not adopt the format of Rose's tables, or better that their values of $\sin\theta$ and $\sin^2\theta$ were not incorporated in them. Perhaps this would be possible in a future edition.

R. J. Davis

Borchert (H.). *Ozeane Salzlagerstätten.* Berlin (Gebrüder Borntraeger). 1959, viii + 237 pp., 27 text-figs. Price DM. 48.

This book is an excellent successor to Professor Borchert's earlier works on salt deposits. It presents a masterly review of the complex history of marine evaporites, from their initial deposition to their later reconstruction by geothermal metasomatism, leaching by groundwaters, and other processes.

The first part of the book is devoted to depositional factors. A

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 $Na–K–Mg–Cl–SO_4–H_2O$. 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