

anatase, brookite, perovskite, and the spinel group: the spinel group is subdivided into the spinel, magnetite, and chromite series. The sub-section on the spinel group represents an anomaly in the classification system for this volume, in that structural criteria are employed. Although scientifically commendable, the printer's type used for the sub-headings in the text differs from that in the Contents List, and some difficulty is experienced in coming to grips with the layout of the spinel sub-section. The placing of the non-silicates in pigeon-holes is as vulnerable to criticism as for the silicates, and in the case of ilmenite and magnetite the duplication of references at the end of each respective sub-section emphasizes the problem (which is not alleviated by the use of titles in German and English, respectively, for a reference to a paper by Ernst on pp. 32 and 83!). A minor point, in this connexion, is that although the reviewer has shirked the task of counting the number of separate, as opposed to duplicated, references, it is felt that the publishers' estimate of 6650 may be an unduly optimistic reflection of the mineralogists' zeal.

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FRONDEL (Clifford). *The system of mineralogy of James Dwight Dana and Edward Salisbury Dana, Yale University, 1837-1892*. Vol. III. *Silica Minerals*. 7th edn. New York and London (John Wiley & Sons, Inc.), 1962. xii+334 pp., 114 figs., 50 tables. Price 60s.

Volumes 1 and 2 of the 7th edition appeared in 1944 and 1951 respectively, and it was expected that volume 3 would cover silica and the silicates. In the event, Prof. Frondel has found it desirable to devote an independent volume to the polymorphs of silica. The new volume is distinguished by the accuracy and thoroughness that characterized the first two. After a short (8 pp.) introduction on the relations of the various polymorphs, and a note on other isostructural compounds and on ill-defined polymorphs, all the polymorphs of SiO₂ (except melanophlogite, which was rehabilitated too late for inclusion) are discussed in detail: 250 pp. are devoted to low-quartz, 8 to high-quartz, 24 to tridymite, 14 to cristobalite, 20 to opal, and 12 to keatite, coesite, and stishovite. A final 11 pp. are devoted to synthetic silica-glass, fulgurites, meteoritic impact glasses, etc. (but tektites are not discussed). The volume appears to be very free from errors, but there is one surprising omission: in 4 pp. devoted to liquid inclusions in quartz, the names brewsterlinite and cryptolinite, both due to J. D. Dana (*Syst. Min.*, 3rd edn, 1850, p. 559; 6th edn, 1892, p. 1029), are not mentioned.

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