(Yafsoan in Russian). Type material is at the Fersman Mineralogical Museum, Acad. Sci., Moscow and the Inst. of Geology, Yakut Filial, Siberian Branch, Acad. Sci. USSR. **M.F.**

Discredited Minerals
α-$MnSiO_3$ ϴ Hausmannite

Bruno Simons and Friedrich Liebau (1982) α-$MnSiO_3$ discredited. Neues Jahrb. Mineral., Monatsh., 165–168.

Liebau, Sprung, and Thilo (Zeitschr. anorg. Chem. 297, 213–225 (1958)) described a phase as α-$MnSiO_3$; it was formed by heating Mn_2SiO_4 with SiO_2. Korczynska-Orzaca (Mineralog. Polonica, 6, 75–80 (1975)) found a mineral with the same X-ray pattern as "α-$MnSiO_3$". The present paper shows that this X-ray pattern is that of hausmannite. **M.F.**

BOOK REVIEWS

METEORITES: A PETROLOGIC–CHEMICAL SYNTHESIS. By Robert T. Dodd. Cambridge University Press, 1981. xi +368 pages, 25 sets of photographs, 47 line drawings, 45 tables. $69.50.

Meteorites are the most important source of data for our understanding of the origin, early history and evolution of solids and, indeed, the planets, in our solar system. This is not only because meteorites, besides lunar samples, are the only extraterrestrial material available in abundance for study in the laboratory, but because many meteorites are the most ancient rocks, dating back to the time of formation of the solar system. Many are also texturally, chemically and isotopically primitive, reflecting the make-up of matter 4.55 billion years ago, and some even contain pre-solar and extra-solar system material. Meteorites further contain a record of the origin, evolution and properties of their parent bodies (the asteroids), namely of their accretion, structure, break-up and reassembly; their melting, differentiation, cooling and solidification; and their regolith history.

It is therefore not surprising that for many years and, particularly, since the late fifties, meteorites have become the treasured objects of studies by scientists from many different fields. This interdisciplinary nature of meteoritics has resulted in major contributions from diverse scientific fields and publication in many different journals and, thus, there has always been a real need for up-to-date syntheses. Although some excellent texts on meteorites have been published in the past, none have concentrated on a synthesis of mineralogic, petrographic and chemical data. The book by R. T. Dodd is an excellent attempt for just such a synthesis and, therefore, is exceedingly timely and fills a major gap in the literature. The author is very well known in the field and has made major contributions over many years to the petrology of stone meteorites, particularly chondrites, and their origin and evolution. Although the author's biases show through in places, I do not find this to be too much of a problem, since the book generally has abundant literature references to papers representing diverse points of view.

As the title implies, the emphasis of the book is on mineralogic, petrologic and chemical aspects of meteorites. Hence, considerable space is devoted to classification of meteorites on the basis of mineralogic, petrographic and chemical parameters. Chondrites in general and ordinary, carbonaceous and enstatite chondrites specifically are treated in detail, and the enstatite chondrite—enstatite achondrite association is delineated. Time and processes in the evolution of chondrites are reviewed and differentiated meteorites (irons, pallasites, and their associates) are described. The eucrite association, a group of differentiated, genetically related achondrites is reviewed, and so are the "unassociated" differentiated meteorites, *i.e.*, rocks that cannot now be clearly related to other meteorite groups (*e.g.*, the pyroxene–maskelynite, augite–olivine, olivine, olivine–pigeonite and fassaite achondrites, as well as the siderophyre and lodranite). Finally, source objects and parent bodies are discussed.

The book is remarkably free of typesetting and factual errors. A few, which the author may wish to correct in a second edition, are noted here. The jacket photo is not the Salta but the Thiel Mountains pallasite. p. 10: The description of Antarctic meteorite nomenclature is incomplete and should state that the capital letters A, B, C *etc.* stand for field parties A, B, C *etc.* at that particular locality and during that field season, such as Allan Hills A77005. p. 16, Table 2.3: Some chondrites classified by Dodd as type 7 are not simply the most highly recrystallized chondrites but clearly were partly or totally melted and should not be called type 7. p. 19, 20, Tables 2.1, 2.2: These tables would be more useful if the LL-group chondrites had been separated from those of the L-group. p. 22, 1.1: Figure 2.3 (not 2.2); in the text, chondrites are discussed in terms of Ni/Fe ratios, whereas in the associated Figure 2.3, data are plotted as Fe/Ni. This is confusing. Furthermore, the meteorite Segowlie (SE) is not indicated in Fig. 2.3. p. 25: Although ordinary chondrites of types 3–6 are related by recrystallization, this is clearly not the case for the carbonaceous chondrites of types 1–3 (*e.g.*, type 2 carbonaceous chondrites are mechanical mixtures of low- and high-temperature phases). It is high time that this erroneous aspect of the otherwise useful van Schmus-Wood petrologic chondrite classification is recognized and acknowledged. p. 50: The CAIs were first identified by both Christophe (1969) in Lance, and Keil *et al.* (1969) in Leoville (Keil *et al.* reported at the same meeting and published in the same book). p. 77: The ordinary chondrites are not necessarily the most abundant meteorites in the vicinity of the earth, only among those that survive entry and are found on earth. p. 119, l. 10t: Bovedy is an L-group chondrite, not H; l. 11t: delete L.

Although the book presents an encyclopedic amount of data, it is exceedingly well-written and very readable and should be useful to specialists and non-specialists alike. Graduate students should find it to be an outstanding supplementary text to courses dealing with cosmochemistry, planetary sciences, and meteoritics. This is simply an outstanding monograph that presents a comprehensive, authoritative, modern treatment of the mineralogy, petrology and chemistry of meteorites to which the author is to be congratulated. No meteorite researcher can afford not to read this book from cover to cover, and the only thing that may prevent him from doing so is the exorbitant price of the book.

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