The Bamenda 'meteorite'.

FRAGMENTS of the mass from Bamenda, Cameroons, Nigeria, described by M. D. W. Jeffreys (1955)[1] as a meteorite, were recently received at the British Museum (Natural History); it was evident that the material was a fairly pure maghemite, and analysis confirmed this: Fe_2O_3 90·7, FeO 4·6, TiO_2 0·1%, Cu 80 p.p.m., Ni absent, H_2O present and amounting to 4·6% (by difference). The name Bamenda should be struck out from the list of meteorites.

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[1] M. D. W. Jeffreys, *Man*, London, 1955, vol. 55, p. 167 [M.A. **13**–81].

Humite and chondrodite in a Lewisian crystalline limestone from South Harris, Outer Hebrides.

THE presence of chondrodite in the Lewisian has only previously been recorded from the crystalline marbles of Glenelg (Read and Double).[1] During a recent re-examination of the South Harris metamorphosed limestones an isolated occurrence of humite and chondrodite has been found at Bay Steinigie near the Finsbay to Borve paragneiss belt. The Bay Steinigie paragneisses, which include diopside-amphibolites, quartzose biotite-schists and occasional lenses of forsterite- and diopside-marbles, form a long narrow xenolith within the metamorphosed intermediate (tonalitic) rocks of the South Harris igneous complex.

In one of these lenses a very small amount of humite and chondrodite is present. The rock consists mainly of calcite, dolomite, and rounded, partly serpentinized grains of forsterite, with which small grains of humite and chondrodite are sometimes associated. Other minerals present include phlogopite, pargasite, small laths of brucite, and minor amounts of sphene, graphite, and opaque iron oxides.

The humite and chondrodite typically occur in small yellow rounded grains (about 0·30 mm. across) and are usually found around the margins of the partly serpentinized forsterite crystals. They are often associated with brucite. The few grains in which cleavage is present may either show extinction parallel to this (001) parting (humite) or inclined at an angle of about 25° (chondrodite). The humite and chondrodite grains are highly birefringent and have pleochroism: α golden yellow, β and

γ pale yellow, $\alpha > \beta = \gamma$. One small elongated humite grain showing (001) parting and parallel extinction has a positive optic axial angle of about 68°.

In an extensive collection of specimens from the crystalline limestone lenses of the two paragneiss belts of South Harris, humite and chondrodite have only been found at this one locality in Bay Steinigie.

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[1] Min. Mag., 1935, vol. 24, p. 84.

BOOK REVIEWS

KORZHINSKY (D. S.). *Physicochemical basis of the analysis of the paragenesis of minerals.* Consultants Bureau, Inc. (New York), and Chapman & Hall (London), 1959. 142 pp., 86 text-figs. Price $7.50 or 63*s*.

Korzhinsky is concerned with elucidation of the factors that have led to the simultaneous formation of mineral assemblages, especially in metamorphic and metasomatic rocks. Relict and retrogressive minerals are therefore excluded from his analysis. In his view, processes of mineral formation represent reactions between two systems, one comprising the minerals in a rock and the other a pore fluid. Components of these systems are termed inert and mobile, respectively. He suggests that the circulation of mobile components in a chemically active pore fluid is essential for the occurrence of metamorphism. Korzhinsky sets up a thermodynamic model in which the chemical potentials of inert components are dependent upon their fixed masses and those of the mobile components are controlled by external conditions. The mobile components are then 'perfectly mobile' and their masses in a rock at any equilibrium stage depend only upon the content of inert components and the external conditions. The factors of equilibrium controlling mineral parageneses are thus the masses of the inert components (extensive parameters) and the intensive parameters pressure, temperature, and the chemical potentials of perfectly mobile components. The purpose of the book is to study the dependence of mineral parageneses on