

## SHORT COMMUNICATIONS

*Bavenite from the Meldon aplite quarries, Okehampton, Devonshire.*

THE Meldon aplite quarries are situated on both banks of the Red-a-ven Brook about  $2\frac{1}{2}$  miles south-west of Okehampton on the northern border of Dartmoor. Worth<sup>1</sup> described and illustrated the working on the north side of the brook. Here in a vertical dip section thinly bedded calc flintas dipping at  $35^\circ$  northwards are crossed by four counter-dipping aplite dykes. On the southern side of the quarry the dip of the dykes is  $55^\circ$ , but this decreases to  $25^\circ$  as the northern face is approached. Here both aplite and calc flinta are crossed by a strong joint system inclined sub-parallel to the dyke walls in the southern face, and these have served as channels for pneumatolysis associated with the main Dartmoor granites. Joints within the wall rocks are lined with thin films of axinite, but on entering aplite these spread out as reaction veins up to 2 inches in thickness. The complete mineral assemblage of these veins is axinite, datolite, fluorite, prehnite, calcite, pyrrhotine, quartz, albite, and these frequently project as finely developed crystals into a central fissure.

One narrow fissure was found to be lined with small crystals of quartz, albite, and octahedral fluorite. Filling this cavity at one point was an incomplete rosette of bavenite laths, 5 cm. in diameter. On free surfaces at the margin of the rosette bavenite has crystallized as terminated tablets (fig. 1) projecting radially into the cavity. These crystals are colourless, though the massive material has a pale lilac hue. They attain a length of 6 mm., and a width of up to 2 mm., are set with the largest

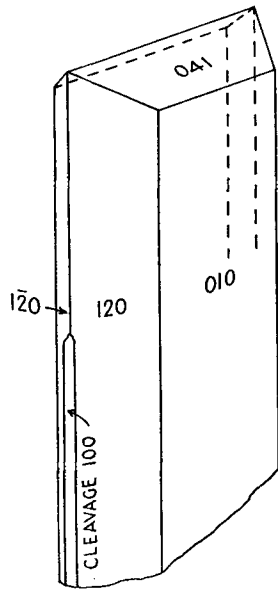


FIG. 1. A typical crystal of bavenite from the Meldon aplite quarries, Okehampton.

<sup>1</sup> R. H. Worth, *Quart. Journ. Geol. Soc.*, 1919, vol. 75, p. 77.

faces normal to the vein walls, and in places are encrusted with other vein minerals. Beyond the margin are parallel growths of doubly terminated rectangular tablets of bavenite from 0.1 to 0.5 mm. in width and up to 1 mm. in length.

The faces observed (fig. 1) have been indexed using the unit-cell dimensions of Claringbull<sup>1</sup> and the orientation of Ksanda and Merwin.<sup>2</sup> As in the Swiss occurrences described by Claringbull<sup>1</sup> the mineral is elongated parallel to [001] with a perfect cleavage parallel to (100), the largest faces (010) modified by (120) are striated in the direction of the *c*-axis from repetition of the two forms. Crystals are terminated by bright faces of the form (041). The refractive indices  $\alpha$  1.584,  $\beta$  close to  $\alpha$ ,  $\gamma$  1.590, optic plane (010),  $\alpha = c$  [001],  $2V\gamma = 48^\circ$ , and  $D_4^{19}$  2.73 agree closely with published data.

The identity of the mineral was suggested by preliminary optical examination and confirmed by an X-ray powder photograph. A qualitative spectrographic examination showed calcium, germanium, aluminium, and silicon. Germanium was previously detected in bavenite from the type locality but not in Swiss specimens.<sup>1</sup>

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<sup>1</sup> G. F. Claringbull, *Min. Mag.*, 1940, vol. 25, p. 495.

<sup>2</sup> C. J. Ksanda and H. E. Merwin, *Amer. Min.*, 1933, vol. 18, p. 341 [M.A. 5-474].

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### *Relation between square net and Weissenberg net: a visual aid.*

A VERY simple, easily constructed device enables one to demonstrate the relationship between the orthodox plane net with rectangular coordinate axes and straight grid-lines and the Weissenberg net with straight, mutually parallel coordinate axes and curved grid-lines. The apparatus consists of a card, on which is drawn a square net, and a cylindrical mirror (fig. 1). The dimensions of the various parts as used in this department are as follows: card 20"  $\times$  20", net 3 cms. square, mirror 5" high  $\times$  1½"