

Fleming rocks are very important, both on shore and at sea. The islets of the Mewstone, Eastern Blackstone, and Western Blackstone are all volcanic. The Mewstone, with its southern mass of diabase abutting on its northern vertical slates, is as like the green 'schist' and mica-schist at the Start as a raw egg is to a boiled one; and I fully believe their relations are very similar thereto. A. R. HUNT.

CAVITIES IN CRYSTALLINE ROCKS.

SIR,—I notice in the February number of the *GEOLOGICAL MAGAZINE* a letter from Professor Bonney on the subject of atmospherically eroded rocks. In this connection it may be of interest to put on record the fact that hollowed rocks, apparently quite like those described by Mr. Tuckett, Professor Bonney, and the Rev. R. Baron, were met with under totally different atmospheric conditions in the Antarctic. The examples there also occur in granite. They are found at an altitude of about 4,000 feet in latitude $77^{\circ} 49' S.$, longitude $163^{\circ} E.$, in South Victoria Land, and at least two types may be distinguished.

A. In fairly normal granite. The rock is a very ordinary grey to pink granite with felspars usually about a quarter of an inch long; it appears to be quite fresh even on the surface, and has a marked superficial glaze on both convex and concave surfaces. The most striking cavity is on the south and weather side of a large block, and therefore faces away from the sun; it is about eighteen inches across

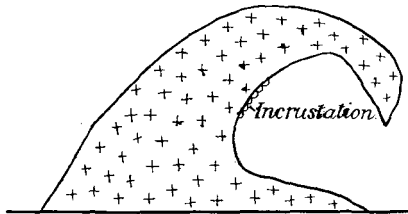


FIG. 1.—A large block of granite showing cavity on the south and weather side; 18 inches across at opening, diameter increasing to 2 feet inwards; depth of cavity more than a foot.

at the opening, and the diameter increases inwards to at least two feet. The depth of the cavity is a little more than a foot, and the back wall is partially covered with a hard mammillated or botryoidal crust, the surface of which is white and harsh to the touch. Pieces of this were brought home, and some of these Mr. Prior has kindly analysed for me: he says, "the incrustation consists mainly of carbonate of lime; there is a little silica left behind on solution in hydrochloric acid." The incrustation was lamellar, scarcely more than one-eighth of an inch thick on the average, but in the projecting botryoids, which are sometimes partially hollow, may be more. The incrustation was firmly fixed to the granite face, and it was impossible to make out whether the surface beneath it was or was not glazed.

B. In a very coarse granite with abundant large crystals of orthoclase. The hollowed blocks are rounded, but owing to the

rapid disintegration which the surface is undergoing it is roughened rather than glazed. The largest cavity is in a block 6 by 4 by 4 feet, which is hollowed almost to a shell. The cavity is four feet long, three feet deep, and two feet high, and has four apertures varying from a foot to 18 inches in diameter, and corresponding

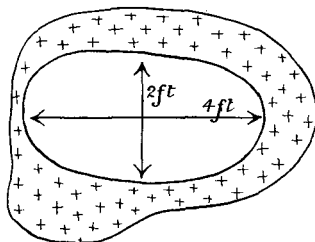


FIG. 2.—Cavity in a block of very coarse granite, $6 \times 4 \times 4$ feet. The cavity is 4 feet long, 3 feet deep, and 2 feet high, and has four apertures varying from a foot to 18 inches in diameter, one on each side of block.

in position to the centre points of the four sides of the original block. The lip of the apertures is exceedingly sharp, and the solid angle is certainly not greater than 30° . No incrustation was seen on the walls of this cavity, but on the floor is a sprinkling of the finer disintegration products of the granite which abundantly litter the surrounding area.

From this brief description it will be seen that the former type of Antarctic granite cavities closely resembles in shape and in superficial glaze the cavities described in Corsica and in Madagascar. As in Corsica, many saucer-like depressions and a few potholes were observed, and seem to mark stages in the development of the completed cavities. Internal incrustations do not seem to be recorded, but Mr. Baron mentions a "white powder alkaline to the taste" as occurring in the hollowed blocks of Madagascar.

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THE PROSPECTORS' PAN.

SIR,—May I be allowed to point out the advantages to be derived by the use of the prospector's pan as an aid to research in geology? Everyone interested in the subject is, of course, aware that minerals of economic importance may be traced to their original sites by successive pannings taken from the alluvium of a stream at points successively nearer to the source, due attention being paid to the incoming of tributaries; but the method is not in common use by the geologist.

The gold pan treats some 25 lbs. of medium gravel, containing small boulders, at one time, and the operation of panning can of course be stopped at any stage desired so as to include or exclude such minerals as tourmaline and hornblende. I would suggest that for investigations into the mineralogical composition of glacial deposits and the more compacted sediments this method of panning might be tried. In dealing with a hard rock, pounding in a mortar