XXXIV. On the crystallographical identity of certain minerals

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XXXIV. *On the Crystallographical Identity of certain Minerals.* By H. J. BROOKE, Esq., F.R.S., &c.*

[With Figures : Plate I.]

I. *Of Zeagonite, Gismondin, Abrazite, Aricite, and Phillipsite.*

THE figures 1 to 4, Plate I., will explain the crystalline relations of these differently named minerals. Fig. 1. is the form of Phillipsite, the crystals being composed of two or four simple crystals arranged in a manner analogous to those of Harmatome; I am not, however, aware that any crystals have yet been found which exhibit this structure as distinctly as in Harmatome.

The line *ab*, fig. 1, is in most crystals slightly raised above the surface, marking the lines of junction of the twin crystals; but in some crystals it is scarcely perceptible, and I have found the inclination of *c'c''*, fig. 2, on crystals with bright faces, differing so little from 90° as to induce my assuming that as the true angle. On one specimen in my possession there are both opaque and transparent crystals resembling fig. 1, proving that opacity is not a distinguishing character of this variety of Zeagonite.

Fig. 2 exhibits the first step in the passage of fig. 1 into figs. 3 and 4. I have several instances of two crystals, or bunches of crystals, crossing at right angles and producing the rudiment of the octahedron, fig. 3, the faces of this octahedron being so marked in all the crystals I have seen as to indicate its compound structure. I have observed three minute crystals crossed as in fig. 2, on a specimen in the British Museum explanatory of the crossed octahedron, fig. 4, for a very distinct specimen of which I am indebted to the liberality of Mr. Heuland.

It thus appears that there is no other difference between the crystals of Phillipsite and the other varieties of Zeagonite than in the greater or less complexity of crystalline composition.

II. *Of Murchisonite, Moonstone, and the iridescent Felspar from Fredricksvarn, Norway.*

These have the same cleavages, the same angular measurements; and the play of light is observable in the same direction on the particular cleavage plane, by which Mr. Levy distinguished the Devonshire Murchisonite from common felspar.

The three varieties may therefore now be classed together as Murchisonite †.

* Communicated by the Author.

† Mr. Levy's original paper upon Murchisonite will be found in Phil. Mag. and Annals, N.S. vol. i. p. 448.—EDIT.

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

Syngamus trachealis.