

derive it from the rhombic prism, why should the acute angles always suffer decrements corresponding in a certain way to those of the obtuse angles, as they must do in order to give rise to a square pyramid?

The introduction of the method of reference to Systems of Crystallization has been a subject of controversy, some ascribing this valuable step to Weiss, and some to Mohs.³ It appears, I think, on the whole, that Weiss first published works in which the method is employed: but that Mohs, by applying it to all the known species of minerals, has had the merit of making it the basis of real crystallography. Weiss, in 1809, published a Dissertation *On the mode of investigating the principal geometrical character of crystalline forms*, in which he says,⁴ "No part, line, or quantity, is so important as the axis; no consideration is more essential or of a higher order than the relation of a crystalline plane to the axis;" and again, "An axis is any line governing the figure, about which all parts are similarly disposed, and with reference to which they correspond mutually." This he soon followed out by examination of some difficult cases, as Felspar and Epidote. In the Memoirs of the Berlin Academy,⁵ for 1814-15, he published *An Exhibition of the natural Divisions of Systems of Crystallization*. In this Memoir, his divisions are as follows:—The *regular* system, the *four-membered*, the *two-and-two-membered*, the *three-and-three-membered*, and some others of inferior degrees of symmetry. These divisions are by Mohs (*Outlines of Mineralogy*, 1822), termed the *tessular*, *pyramidal*, *prismatic*, and *rhombohedral* systems respectively. Hausmann, in his *Investigations concerning the Forms of Inanimate Nature*,⁶ makes a nearly corresponding arrangement;—the *isometric*, *monodimetric*, *trimetric*, and *monotrimetric*; and one or other of these sets of terms have been adopted by most succeeding writers.

In order to make the distinctions more apparent, I have purposely omitted to speak of the systems which arise when the *prismatic* system loses some part of its symmetry;—when it has only half or a quarter its complete number of faces;—or, according to Mohs's phraseology, when it is *hemihedral* or *tetartohedral*. Such systems are represented by the singly-oblique or doubly-oblique prism; they are termed by Weiss *two-and-one-membered*, and *one-and-one-membered*; by other writers, *Monoklinometric*, and *Triklinometric* Systems. There are also other

³ *Edin. Phil. Trans.* 1823, vols. xv. and xvi.

⁴ pp. 16, 42.

⁵ *Ibid.*

⁶ Göttingen, 1821.