portion of Haüy's doctrine which most riveted popular attention and applause, was his dissection of crystals, in a manner which was supposed to lead actually to their ultimate material elements. Yet it is clear, that since the solids given by cleavage are, in many cases, such as cannot make up a solid space, the primary conception of a necessary geometrical identity between the results of division and the elements of composition, which is the sole foundation of the supposition that crystallography points out the actual elements, disappears on being scrutinized: and when Haüy, pressed by this difficulty, as in the case of fluor-spar, put his integrant octohedral molecules together, touching by the edges only, his method became an empty geometrical diagram, with no physical meaning.

The real fact, divested of the hypothesis which was contained in the fiction of decrements, was, that when the relation of the derivative to the primary faces is expressed by means of numerical indices, these numbers are integers, and generally very small ones; and this was the form which the law gradually assumed, as the method of derivation was made more general and simple by Weiss and others.

"When, in 1809, I published my Dissertation," says Weiss,[1] "I shared the common opinion as to the necessity of the assumption and the reality of the existence of a primitive form, at least in a sense not very different from the usual sense of the expression. While I sought," he adds, referring to certain doctrines of general philosophy which he and others entertained, "a *dynamical* ground for this, instead of the untenable atomistic view, I found that, out of my primitive forms, there was gradually unfolded to my hands, that which really governs them, and is not affected by their casual fluctuations, the fundamental relations of those Dimensions according to which a multiplicity of internal oppositions, necessarily and mutually interdependent, are developed in the mass, each having its own polarity; so that the crystalline character is co-extensive with these polarities."

The "Dimensions" of which Weiss here speaks, are the *Axes of Symmetry* of the crystal; that is, those lines in reference to which, every face is accompanied by other faces, having like positions and properties. Thus a rhomb, or more properly a *rhombohedron*,[2] of

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[1] *Mem. Acad. Berl.* 1816, p. 307.

[2] I use this name for the solid figure, since *rhomb* has always been used for a plane figure.