

looked upon as a great discoverer, if his fame had not been dimmed by the more brilliant success of his contemporary Haüy.

Réné-Just Haüy is rightly looked upon as the founder of the modern school of crystallography; for all those who have, since him, pursued the study with success, have taken his views for their basis. Besides publishing a system of crystallography and of mineralogy, far more complete than any which had yet appeared, the peculiar steps in the advance which belong to him are, the discovery of the importance of *cleavage*, and the consequent expression of the laws of derivation of secondary from primary forms, by means of the *decrements* of the successive layers of *integrant molecules*.

The latter of these discoveries had already been, in some measure, anticipated by Bergman, who had, in 1773, conceived a hexagonal prism to be built up by the juxtaposition of solid rhombs on the planes of a rhombic nucleus.⁴ It is not clear⁵ whether Haüy was acquainted with Bergman's Memoir, at the time when the cleavage of a hexagonal prism of calcspar, accidentally obtained, led him to the same conception of its structure. But however this might be, he had the indisputable credit of following out this conception with all the vigor of originality, and with the most laborious and persevering earnestness; indeed he made it the business of his life. The hypothesis of a solid, built up of small solids, had this peculiar advantage in reference to crystallography; it rendered a reason of this curious fact;—that a certain series of forms occur in crystals of the same kind, while other forms, apparently intermediate between those which actually occur, are rigorously excluded. The doctrine of decrements explained this; for by placing a number of regularly-decreasing rows of equal solids, as, for instance, of bricks, upon one another, we might form a regular equal-sided triangle, as the gable of a house; and if the breadth of the gable were one hundred bricks, the height of the triangle might be one hundred, or fifty, or twenty-five; but it would be found that if the height were an intermediate number, as fifty-seven, or forty-three, the edge of the wall would become irregular; and such irregularity is assumed to be inadmissible in the regular structure of crystals. Thus this mode of conceiving crystals allows of certain definite secondary forms, and no others.

The mathematical deduction of the dimensions and proportions

⁴ *De Formis Crystallosum*. Nov. Act. Reg. Soc. Sc. Ups. 1773.

⁵ *Traité de Minér.* 1822, i. 15.