

CHAPTER II.

EPOCH OF ROMÉ DE LISLE AND HAÜY.—ESTABLISHMENT OF THE FIXITY OF CRYSTALLINE ANGLES, AND THE SIMPLICITY OF THE LAWS OF DERIVATION.

WE have already seen that, before 1780, several mineralogists had recognized the constancy of the angles of crystals, and had seen (as Démeste and Werner,) that the forms were subject to modifications of a definite kind. But neither of these two thoughts was so apprehended and so developed, as to supersede the occasion for a discoverer who should put forward these principles as what they really were, the materials of a new and complete science. The merit of this step belongs jointly to Romé de Lisle and to Haüy. The former of these two men had already, in 1772, published an *Essai de Crystallographie*, in which he had described a number of crystals. But in this work his views are still rude and vague; he does not establish any connected sequence of transitions in each kind of substance, and lays little or no stress on the angles. But in 1783, his ideas¹ had reached a maturity which, by comparison, excites our admiration. In this he asserts, in the most distinct manner, the *invariability* of the angles of crystals of each kind, under all the changes of relative dimension which the faces may undergo;² and he points out that this invariability applies only to the *primitive forms*, from each of which many secondary forms are derived by various changes.³ Thus we cannot deny him the merit of having taken steady hold on both the handles of this discovery, though something still remained for another to do. Romé pursues his general ideas into detail with great labor and skill. He gives drawings of more than five hundred regular forms (in his first work he had inserted only one hundred and ten; Linnæus only knew forty); and assigns them to their proper substances; for instance, thirty to calcspar, and sixteen to felspar. He also invented and used a goniometer. We cannot doubt that he would have been

¹ *Cristallographie, ou Description de Formes propres à tous les Corps du Règne Minéral.* 3 vols. and 1 vol. of plates.

² p. 66.

³ p. 73.