

he speaks⁸ with entire decision on this subject: "Nevertheless since there is here a principle of crystallization, the inclination of the planes and of the angles is always constant." He even anticipates, very nearly, the views of later crystallographers as to the mode in which crystals are formed from elementary molecules. From this time, many persons labored and speculated on this subject; as Cappeller, whose *Prodromus Crystallographiæ* appeared at Lucern in 1723; Bourguet, who published *Lettres Philosophiques sur la Formation de Sels et de Cristaux*, at Amsterdam, in 1792; and Henckel, the "Physicus" of the Elector of Saxony, whose *Pyritologia* came forth in 1725. In this last work we have an example of the description of the various forms of special classes of minerals, (iron pyrites, copper pyrites, and arsenic pyrites;) and an example of the enthusiasm which this apparently dry and laborious study can excite: "Neither tongue nor stone," he exclaims,⁹ "can express the satisfaction which I received on setting eyes upon this sinter covered with galena; and thus it constantly happens, that one must have more pleasure in what seems worthless rubbish, than in the purest and most precious ores, if we know aught of minerals."

Still, however, Henckel¹⁰ disclaims the intention of arranging minerals according to their mathematical forms; and this, which may be considered as the first decided step in the formation of crystallographic mineralogy, appears to have been first attempted by Linnæus. In this attempt, however, he was by no means happy; nor does he himself appear to have been satisfied. He begins his preface by saying, "Lithology is not what I plume myself upon." (*Lithologia mihi cristas non eriget.*) Though his sagacity, as a natural historian, led him to see that crystalline form was one of the most definite, and therefore most important, characters of minerals, he failed in profiting by this thought, because, in applying it, he did not employ the light of geometry, but was regulated by what appeared to him resemblances, arbitrarily selected, and often delusive.¹¹ Thus he derived the form of pyrites from that of vitriol;¹² and brought together alum and diamond on account of their common octohedral form. But he had the great merit of animating to this study one to whom, more perhaps than to any other person, it owes its subsequent progress; I mean Romé de Lisle. "Instructed," this writer says, in his preface to his *Essais de Crystallographie*, "by the works of the celebrated Von Linnée, how

⁸ p. 83.⁹ p. 343.¹⁰ p. 167.¹¹ Marx. *Gesch.* p. 97.¹² *Syst. Nat.* vi. p. 220.