

of these secondary forms;—the invention of a notation to express them;—the examination of the whole mineral kingdom in accordance with these views;—the production of a work^o in which they are explained with singular clearness and vivacity;—are services by which Haüy richly earned the admiration which has been bestowed upon him. The wonderful copiousness and variety of the forms and laws to which he was led, thoroughly exercised and nourished the spirit of deduction and calculation which his discoveries excited in him. The reader may form some conception of the extent of his labors, by being told—that the mere geometrical propositions which he found it necessary to premise to his special descriptions, occupy a volume and a half of his work;—that his diagrams are nearly a thousand in number;—that in one single substance (calcspar) he has described forty-seven varieties of form;—and that he has described one kind of crystal (called by him *fer sulfuré parallélique*) which has one hundred and thirty-four faces.

In the course of a long life, he examined, with considerable care, all the forms he could procure of all kinds of mineral; and the interpretation which he gave of the laws of those forms was, in many cases, fixed, by means of a name applied to the mineral in which the form occurred; thus, he introduced such names as *équiaxe*, *métastatique*, *unibinaire*, *perihexahèdre*, *bisalterne*, and others. It is not now desirable to apply separate names to the different forms of the same mineral species, but these terms answered the purpose, at the time, of making the subjects of study more definite. A symbolical notation is the more convenient mode of designating such forms, and such a notation Haüy invented; but the symbols devised by him had many inconveniences, and have since been superseded by the systems of other crystallographers.

Another of Haüy's leading merits was, as we have already intimated, to have shown, more clearly than his predecessors had done, that the crystalline angles of substances are a criterion of the substances; and that this is peculiarly true of the *angles of cleavage*;—that is, the angles of those edges which are obtained by cleaving a crystal in two different directions;—a mode of division which the structure of many kinds of crystals allowed him to execute in the most complete manner. As an instance of the employment of this criterion, I may mention his separation of the sulphates of baryta and strontia, which had

^o *Traité de Minéralogie*, 1801, 5 vols.