

haupt⁴ attempted to discover the ingredients of minerals by their peculiarities of crystallization. The persuasion that there must be *some* connexion between composition and properties, transformed itself, in their minds, into a belief that they could seize the nature of the connexion by a sort of instinct.

This opinion of the independency of the science of external characters, and of its sufficiency for its own object, at last assumed its complete form in the bold attempt to construct a system which should borrow nothing from chemistry. This attempt was made by Frederick Mohs, who had been the pupil of Werner, and was afterwards his successor in the school of Freiberg; and who, by the acute and methodical character of his intellect, and by his intimate knowledge of minerals, was worthy of his predecessor. Rejecting altogether all divisions of which the import was chemical, Mohs turned for guidance, or at least for the light of analogy, to botany. His object was to construct a *Natural System* of mineralogy. What the conditions and advantages of a natural system of any province of nature are, we must delay to explain till we have before us, in botany, a more luminous example of such a scheme. But further; in mineralogy, as in botany, besides the *Natural System*, by which we *form* our classes, it is necessary to have an *Artificial System*, by which we *recognize* them;—a principle which, we have seen, had already taken root in the school of Freiberg. Such an artificial system Mohs produced in his *Characteristic of the Mineral Kingdom*, which was published at Dresden in 1820; and which, though extending only to a few pages, excited a strong interest in Germany, where men's minds were prepared to interpret the full import of such a work. Some of the traits of such a "Characteristic" had, indeed, been previously drawn by others; as for example, by Hatly, who notices that each of his Classes has peculiar characters. For instance, his First Class (acidiferous substances,) alone possesses these combinations of properties; "division into a regular octohedron, without being able to scratch glass; specific gravity above 3.5, without being able to scratch glass." The extension of such characters into a scheme which should exhaust the whole mineral kingdom, was the undertaking of Mohs.

Such a collection of marks of classes, implied a classification previously established, and accordingly, Mohs had created his own mineral system. His aim was to construct it, as we shall hereafter see that other natural systems are constructed, by taking into account *all* the

⁴ *Dresdn. Auswahl*, vol. ii. p. 97