

reform of Linnæus. But besides the defects of Mohs's system, he had not prepared his verbal novelties with the temperance and skill of the great botanical reformer. He called upon mineralogists to change the name of almost every mineral with which they were acquainted; and the proposed appellations were mostly of a cumbrous form, as the above example may serve to show. Such names could have obtained general currency, only after a general and complete acceptance of the system; and the system did not possess, in a sufficient degree, that evidence which alone could gain it a home in the belief of philosophers,—the coincidence of its results with those of Chemistry. But before I speak finally of the fortunes of the Natural-history System, I will say something of the other attempt which was made about the same time to introduce a Reform into Mineralogy from the opposite extremity of the science.

*Sect. 2.—Chemical System of Berzelius and others.*

IF the students of external characters were satisfied of the independence of their method, the chemical analysts were naturally no less confident of the legitimate supremacy of their principles: and when the beginning of the present century had been distinguished by the establishment of the theory of definite proportions, and by discoveries which pointed to the electro-chemical theory, it could not appear presumption to suppose, that the classification of bodies, so far as it depended on chemistry, might be presented in a form more complete and scientific than at any previous time.

The attempt to do this was made by the great Swedish chemist Jacob Berzelius. In 1816, he published his *Essay to establish a purely Scientific System of Mineralogy, by means of the Application of the Electro-chemical Theory and the Chemical Doctrine of Definite Proportions*. It is manifest that, for minerals which are constituted by the law of Definite Proportions, this constitution must be a most essential part of their character. The electro-chemical theory was called in aid, in addition to the composition, because, distinguishing the elements of all compounds as electro-positive and electro-negative, and giving to every element a place in a series, and a place defined by the degree of these relations, it seemed to afford a rigorous and complete principle of arrangement. Accordingly, Berzelius, in his First System, arranged minerals according to their electro-positive element, and the elements according to their electro-positive rank;