who have added in this way to the stock of knowledge, would be superfluous.

Nor need I dwell long on those who added to the knowledge which Haüy left, of derived forms. The most remarkable work of this kind was that of Count Bournon, who published a work on a single mineral (calcspar) in three quarto volumes.[2] He has here given representations of seven hundred forms of crystals, of which, however, only fifty-six are essentially different. From this example the reader may judge what a length of time, and what a number of observers and calculators, were requisite to exhaust the subject.

If the calculations, thus occasioned, had been conducted upon the basis of Haüy's system, without any further generalization, they would have belonged to that process, the natural sequel of inductive discoveries, which we call *deduction;* and would have needed only a very brief notice here. But some additional steps were made in the upward road to scientific truth, and of these we must now give an account.

CHAPTER IV.

Establishment of the Distinction of Systems of Crystallization.—Weiss and Mohs.

In Haüy's views, as generally happens in new systems, however true, there was involved something that was arbitrary, something that was false or doubtful, something that was unnecessarily limited. The principal points of this kind were;—his having made the laws of crystalline derivation depend so much upon cleavage;—his having assumed an atomic constitution of bodies as an essential part of his system; and his having taken a set of primary forms, which, being selected by no general view, were partly superfluous, and partly defective.

How far evidence, such as has been referred to by various philosophers, has proved, or can prove, that bodies are constituted of indivisible atoms, will be more fully examined in the work which treats of the Philosophy of this subject. There can be little doubt that the

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[2] *Traité complet de la Chaux Carbonatée et d'Aragonite*, par M. le Comte de Bournon. London, 1808.