

was to take into account the quantities of the elements which combined ; but this leads us into a new train of investigation, which was, indeed, a natural sequel to the researches of Geoffroy and Bergman.

In 1803, however, a chemist of great eminence, Berthollet, published a work (*Essai de Statique Chimique*), the tendency of which appeared to be to throw the subject back into the condition in which it had been before Geoffroy. For Berthollet maintained that the rules of chemical combination were not definite, and dependent on the nature of the substances alone, but indefinite, depending on the quantity present, and other circumstances. Proust answered him, and as Berzelius says,<sup>4</sup> "Berthollet defended himself with an acuteness which makes the reader hesitate in his judgment ; but the great mass of facts finally decided the point in favor of Proust." Before, however, we trace the result of these researches, we must consider Chemistry as extending her inquiries to combustion as well as mixture, to airs as well as fluids and solids, and to weight as well as quality. These three steps we shall now briefly treat of.

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#### CHAPTER IV.

##### DOCTRINE OF ACIDIFICATION AND COMBUSTION.—PHLOGISTIC THEORY.

**P**UBLICATION of the Theory by *Beccher and Stahl*.—It will be recollected that we are tracing the history of the *progress* only of Chemistry, not of its errors ;—that we are concerned with doctrines only so far as they are true, and have remained part of the received system of chemical truths. The Phlogistic Theory was deposed and succeeded by the Theory of Oxygen. But this circumstance must not lead us to overlook the really sound and permanent part of the opinions which the founders of the phlogistic theory taught. They brought together, as processes of the same kind, a number of changes which at first appeared to have nothing in common ; as acidification, combustion, respiration. Now this classification is true ; and its importance remains undiminished, whatever are the explanations which we adopt of the processes themselves.

The two chemists to whom are to be ascribed the merit of this step, and the establishment of the *phlogistic theory* which they connected

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<sup>4</sup> *Chem.* t. iii. p. 23.