

## CHAPTER III.

## DOCTRINE OF ELECTIVE ATTRACTIONS. GEOFFROY. BERGMAN.

THOUGH the chemical combinations of bodies had already been referred to attraction, in a vague and general manner, it was impossible to explain the changes that take place, without supposing the attraction to be greater or less, according to the nature of the body. Yet it was some time before the necessity of such a supposition was clearly seen. In the history of the French Academy for 1718 (published 1719), the writer of the introductory notice (probably Fontenelle) says, "That a body which is united to another, for example, a solvent which has penetrated a metal, should quit it to go and unite itself with another which we present to it, is a thing of which the possibility had never been guessed by the most subtle philosophers, and of which the explanation even now is not easy." The doctrine had, in fact, been stated by Stahl, but the assertion just quoted shows, at least, that it was not familiar. The principle, however, is very clearly stated<sup>1</sup> in a memoir in the same volume, by Geoffroy, a French physician of great talents and varied knowledge. "We observe in chemistry," he says, "certain relations amongst different bodies, which cause them to unite. These relations have their *degrees* and their *laws*. We observe their different degrees in this;—that among different matters jumbled together, which have a certain disposition to unite, we find that one of these substances always unites constantly with a certain other, preferably to all the rest." He then states that those which unite by preference, have "plus de rapport," or, according to a phrase afterwards used, more *affinity*. "And I have satisfied myself," he adds, "that we may deduce, from these observations, the following proposition, which is very extensively true, though I cannot enunciate it as universal, not having been able to examine all the possible combinations, to assure myself that I should find no exception." The proposition which he states in this admirable spirit of philosophical caution, is this: "In all cases where two substances,

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<sup>1</sup> *Mém. Acad. Par.* 1718, p. 202.