

## CHAPTER I.

### IMPROVEMENT OF THE NOTION OF CHEMICAL ANALYSIS, AND RECOGNITION OF IT AS THE SPAGIRIC ART.

THE doctrine of "the four elements" is one of the oldest monuments of man's speculative nature; goes back, perhaps, to times anterior to Greek philosophy; and as the doctrine of Aristotle and Galen, reigned for fifteen hundred years over the Gentile, Christian, and Mohammedan world. In medicine, taught as the doctrine of the four "elementary qualities," of which the human body and all other substances are compounded, it had a very powerful and extensive influence upon medical practice. But this doctrine never led to any attempt actually to analyse bodies into their supposed elements: for composition was inferred from the resemblance of the qualities, not from the separate exhibition of the ingredients; the supposed analysis was, in short, a decomposition of the body into adjectives, not into substances.

This doctrine, therefore, may be considered as a negative state, antecedent to the very beginning of chemistry; and some progress beyond this mere negation was made, as soon as men began to endeavor to compound and decompound substances by the use of fire or mixture, however erroneous might be the opinions and expectations which they combined with their attempts. Alchemy is a step in chemistry, so far as it implies the recognition of the work of the cupel and the retort, as the produce of analysis and synthesis. How perplexed and perverted were the forms in which this recognition was clothed,—how mixed up with mythical follies and extravagancies, we have already seen; and the share which Alchemy had in the formation of any sounder knowledge, is not such as to justify any further notice of that pursuit.

The result of the attempts to analyse bodies by heat, mixture, and the like processes, was the doctrine that the first principles of things are *three*, not four; namely, *salt*, *sulphur*, and *mercury*; and that, of these three, all things are compounded. In reality, the doctrine, as thus stated, contained no truth which was of any value; for, though the chemist could extract from most bodies portions which he called salt,