

been produced by the *union* of the ingredients presented to each other ; for when examined it is found that nothing has been *lost*, the weight of the whole mixture being the sum of the weights mixed. Yet the potash and tartaric acid have disappeared entirely, and the weight of the new product is found to be exactly equal to that of the tartaric acid and potash employed, taken together, abating a small portion held in solution in the liquid, which may be obtained however by evaporation. They have therefore combined, and adhere to one another with a cohesive force sufficient to form a solid out of a liquid ; a force which has thus been called into action by merely presenting them to each other in a state of solution.

(334.) It is the business of chemistry to investigate these and similar changes, or the reverse of such changes, where a single substance is resolved into two or more others, having different properties from it, and from each other, and to inquire into all the circumstances which can influence them ; and either determine, modify, or suspend their accomplishment, whether such influence be exercised by heat or cold, by time and rest, or by agitation or pressure, or by any of those agents of which we have acquired a knowledge, such as electricity, light, magnetism, &c.

(335.) The wonderful and sudden transformations with which chemistry is conversant, the violent activity often assumed by substances usually considered the most inert and sluggish, and, above all, the insight it gives into the nature of innumerable operations which we see daily carried on around us, have contributed to render it the most popular, as it is one of the most extensively useful, of the sciences ; and we shall, accordingly, find none which have sprung forward, during the last century, with such extraordinary vigor, and have had such extensive influence in promoting corresponding progress in others. One of the chief causes of its popularity is, perhaps, to be sought for in this, that it is, of all the sciences, perhaps, the most completely an experimental one ; and even its theories are, for the most part, of that generally intelligible and readily appli-