

from extraneous matters, as to be obtained in a state of purity, and thus be made to assume the crystallized form ; and those which cannot under any circumstances be made to crystallize. The first substance of the crystallizable class which we shall notice, is *Sugar*.

Sugar has been ascertained, and is now generally admitted, to consist of three essential elementary principles—hydrogen, oxygen, and carbon ; it is besides remarkable, that the hydrogen and the oxygen in sugar, are exactly in the proportion to each other, in which they form water. It has been, therefore, with great probability inferred, that these two elements are really so associated in sugar ; consequently, that sugar is a compound of water and carbon ; or, in the language of Chemists, is a *Hydrate* of Carbon. We cannot, however, produce artificially either sugar, or any other organic compound, by directly combining their elements ; because we cannot bring the elements together, precisely in the requisite states and proportions. Still, there is no doubt, that if the elements could be so brought together, the compound thence resulting, would be the same as the natural compound. For, as hereafter we shall endeavour to show, the organic agent does not change the properties of the elements ; but simply combines them in modes which we cannot imitate.

*Vinegar* is another well known proximate principle, which does not only form crystallized com-