

CHAPTER XII.

SECRETION.

THE capability of effecting certain chemical changes in the crude materials introduced into the body, is one of the powers which more especially characterize life; but although this power is exercised both by vegetable and by animal organizations, we perceive a marked difference in the results of its operation in these two orders of beings. The food of plants consists, for the most part, of the simpler combinations of elementary bodies, which are elaborated in cellular or vascular textures, and converted into various products. The oak, for example, forms, by the powers of vegetation, out of these elements, not only the green pulpy matter of its leaves, and the light tissue of its pith, but also the densest of its woody fibres. It is from similar materials, again, that the olive prepares its oil, and the cocoa-nut its milk; and the very same elements in different states of combination, compose, in other instances, at one time the luscious sugar of the cane, at another the narcotic juice of the poppy, or the acrid principle of the euphorbium; and the same plant which furnishes in one part the bland farina of the potato, will produce in another the poisonous extract of the nightshade. Yet all these, and thousands of other vegetable products, differing widely in their sensible qualities, agree very nearly in their ultimate chemical analysis, and owe their peculiar properties chiefly to the order in which their elements are arranged; an order dependent on the processes to which they have been subjected in the system of each particular vegetable.