

quently made to undergo in the course of circulation, and when subjected to the action of the nutrient vessels and secreting organs; being ultimately converted into the various textures and substances which compose all the parts of the animal frame. All the modifications of cellular substance, in its various states of condensation; the membranes, the ligaments, the cartilages, the bones, the marrow; the muscles, with their tendons; the lubricating fluid of the joints; the medullary pulp of the brain; the transparent jelly of the eye; in a word, all the diversified textures of the various organs, which are calculated for such different offices, are derived from the same nutrient fluid, and may be considered as being merely modified arrangements of the same ultimate chemical elements.

In what, then, we naturally ask, consists this subtle chemistry of life, by which nature effects these multifarious changes; and in what secret recesses of the living frame has she constructed the refined laboratory in which she operates her marvellous transformations, far surpassing even those which the most visionary alchemist of former times had ever dreamed of achieving? Questions like these can be fairly met only by the confession of profound ignorance; for, although the subject of secretion has long excited the most ardent curiosity of physiologists, and has been prosecuted with extraordinary zeal and perseverance, scarcely any positive information has resulted from their labours, and the real nature of the process remains involved in nearly the same degree of obscurity as at first.\* It was natural to ex-

\* It is not yet precisely determined to what extent the organs of secretion are immediately instrumental in producing the substance secreted; and it has been even suggested that possibly their office is confined to the mere separation, or filtration from the blood, of certain animal products, which are always spontaneously forming in that fluid in the course of its circulation. This hypothesis, in which the glands, and other secreting apparatus are regarded as only very fine strainers, is supported by a few facts, which seem to indicate the presence of some of these products in the blood, independently of the secreting processes by which they are usually supposed to be formed; but the evidence is as yet too scanty and equivocal to warrant the deduction of any general theory on the subject.