

Other considerations, equally important in a physiological point of view, and derived from the essential nature of organization, which also produce a continual demand for these supplies; and these I shall now endeavour briefly to explain.

Constant and progressive change appears to be one of the leading characteristics of life; and the materials which are to be endowed with vitality must therefore be selected and arranged with a view to their continual modification, corresponding to these ever varying changes of condition. The artificer, whose aim is to construct a machine for permanent use, and to secure it as much as possible from the deterioration arising from friction or other causes of injury, would, of course, make choice for that purpose of the most hard and durable materials, such as the metals, or the denser stones. In constructing a watch for instance, he would form the wheels of brass, the spring and the barrel-chain of steel; and for the pivot, where the motion is to be incessant, he would employ the hardest of all materials,—the diamond. Such a machine, once finished, being exempt from almost every natural cause of decay, might remain for an indefinite period in the same state. Far different are the objects which must be had in view in the formation of organized structures. In order that these may be qualified for exercising the functions of life, they must be capable of continual alterations, displacements, and adjustments, varying perpetually, both in kind and in degree, according to the progressive stages of their internal development, and to the different circumstances which may arise in their external condition. The materials which nature has employed in their construction, are, therefore, neither the elementary bodies, nor even their simpler and more permanent combinations; but such of their compounds as are of a more plastic quality, and which allow of a variable proportion of ingredients, and of great diversities in the modes of their combination. So great is the complexity of these arrangements, that although chemistry is fully competent to the analysis of organized substances into their ultimate elements, no hu-