

matter resulting from the operation of an **organizing agency** on the one hand and of chemico-physical forces on the other ; which, acting as they do reciprocally, serve to produce a definite relative arrangement in the particles of matter so as to form and maintain the condition of organization.—Having now discussed these preliminary considerations, for the better elucidation of the process of Nutrition, let us now proceed to enter into detail respecting the nutritive process itself, as manifested to us in the simplest as well as in the more complex forms of life ; and notice those intimate changes observed to take place in all textures, from the time they are becoming organized to the period when disorganization or decomposition takes place.

And, in the first place, let us remark that all organized or **organizable matter** is derived more or less directly from the inorganic world. Every atom, particle or cell, both animal and vegetable—simple as it is organically—is constituted of inorganic elements, which, taken up singly, combine in certain definite proportions, at the same time influenced by a new power which subjects them to an arrangement fitted for their organization. This transference of inorganic to organic matter—this transformation of inorganic elements into organized structure—is very beautifully marked out to us in the vegetable world.

Do we not find an intimate relation between the inorganic and vegetable kingdoms of nature ? Have we not discovered the fact that a correspondence relates between the consumption of certain elements of the one and a proportionate appropriation and development or growth in the other ? The vegetable seed sown in the soil and placed in circumstances favorable to its development, is duly excited to activity by the mutual operation, on the one hand, of that organizing agency which previously lay dormant in it, and on the other, of the forces resident in the inorganic matter which surrounds it. Thus stimulated to action, it appropriates certain materials from the soil, with which it builds up its structure. The inorganic elements taken up observe an arrangement favorable to their being organizable. They become organized, and in their organization they virtually become a portion of the vegetable, which is nourished by a process of selection and assimilation. But, connected with the process of organization, we observe another change of quite an opposite nature continually going on. This change consists in the destruction of part of the organized texture, its decomposition and return to its primitive elements, which are inorganic. But this decomposition is accompanied by a process of elimination or separation of the decomposed elements from the vegetable. This process of elimination of effete matter is essential to the preservation of the organized structure, for by these