

ings. This important office is consigned to the vegetable kingdom. Receiving the simple food furnished by nature, which consists chiefly of water, air, and carbonic acid, together with a small proportion of other substances, plants convert these aliments into products, which not only maintain their own vitality, but serve the farther purpose of supporting the life of animals. Thus was the creation and continuance of the vegetable kingdom a necessary step towards the existence of the animal world; as well as a link in the great chain of being, formed and sustained by Almighty power. The physiology of Vegetables presents many topics of great interest with relation to final causes, and will in this Treatise be reviewed with special reference to this important object.

Nutrition, both in the vegetable and animal systems, comprises a very extended series of operations. In the former it includes the absorption of the crude materials from the surrounding elements,—their transmission to organs where they are aerated, that is, subjected to the chemical action of the air;—their circulation in the different parts of the plant,—their farther elaboration in particular vessels and receptacles—their deposition of solid materials—and their conversion into peculiar products, as well as into the substances which compose the several organs;—and, finally, the growth and development of the whole plant. Still more various and complicated are the corresponding functions in animals. Their objects may be arranged under the following general heads; each, again, admitting of farther subdivision. The first end to be accomplished is to animalize the food; that is, to convert it into a matter having the chemical properties of the animal substances with which it is to be afterwards incorporated. The entire change thus effected is termed *Assimilation*, of which *Digestion* forms a principal part. The second object is to collect and distribute this prepared nutriment, which is the blood, to the different organs, or wherever it may be wanted. The necessary motions for these purposes are given to the blood by the organs of *Circulation*, consisting of the *Heart*, which impels it through