

blishment of those parts which are to give mechanical support to each organic system in proportion as it is formed; while the foundations are also preparing for endowments of a higher kind, by the early development of the organs of the external senses, the functions of which so essentially minister to the future expansion of the intellectual faculties, embracing a wide range of perceptions and of active powers. Thus, in the early, as well as in all the subsequent periods of life, the objects of nature vary as the respective necessities of the occasion change. At first, all the energies of vitality are directed to the raising of the fabric, and to the extension of those organs which are of greatest immediate utility; but still having a prospective view to farther and more important ends. For the accomplishment of this primary object, unremitting exertions are made, commensurate with the magnitude of the design, and giving rise to a quick succession of varied forms, both with regard to the shape of each individual organ, and to the general aspect of the whole assemblage.

In the phenomena of their early evolution, Plants and Animals present a striking contrast, corresponding to essential differences in the respective destinations of these two orders of beings. The primary object of vegetable structures appears to be the establishment of the functions of nutrition; and we accordingly find that whenever the seed begins to germinate, the first indication of development is the appearance of the part called the *plumula*, which is a collection of feathery fibres, bursting from the enveloping capsule of the germ, and which, whatever may have been its original position, proceeds immediately to extend itself vertically; while, at the same time, slender filaments, or *radicles*, shoot out below to form the roots. Thus early are means provided for the absorption and the aeration of the nutrient matter, which is to constitute the materials for the subsequent growth of the plant, and for the support and protection of the organs by which these processes are to be carried on. But animal vitality, being designed to minister