

analogy, as we shall afterwards have occasion to notice, to that of the poisonous fangs of serpents.

The purposes answered by the down, which covers a great number of plants, are not very obvious. It, perhaps, serves as a protection from the injurious effects of cold winds on the tender surface; or it may have a relation to the deposition of moisture: or, as it may be farther conjectured, the number of points which are thus presented to the air may be designed to convey electricity from the atmosphere, or to restore the electric equilibrium, which may have been disturbed by the processes of vegetation.

In the smaller parts of plants, as in the general fabric of the whole, we find, on examination, the most admirable provision made, according to the particular circumstances of the case, for the mechanical objects of cohesion, support, and defence. Thus, the substance of the leaf, of which the functions require that a large surface should be expanded to the air and light, is spread out in a thin layer upon a frame-work of fibres, like rays, connected by a net-work of smaller fibrils, and constituting what is often called the skeleton of the leaf.

In all these vegetable structures, while the objects appear to be the same, the utmost variety is displayed in the means for their accomplishment, in obedience, as it were, to the law of diversity, which, as has been already observed, seems to be a leading principle in all the productions of nature. It is more probable, however, judging from that portion of the works of creation which we are competent to understand, that a specific design has regulated each existing variation of form, although that design may in general be placed beyond the limited sphere of our intelligence.

§ 4. *Animal Organization.*

THE structures adapted to the purposes of vegetable life, which are limited to nutrition and reproduction, would be quite insufficient for the exercise of the more active functions and higher energies of animal existence. The power of locomotion, with which animals are to be invested, must alone introduce essential differences in their organization, and