

in our present lands or waters. We need only mention the hundreds of species of ammonites and other chambered shells, the encrinites, or lily-shaped zoophytes, and the remarkable forms of the extinct fishes. In this, as in many other things, geology carries us in our inferences far beyond what the data of merely contemporaneous natural history could conduct us. The extinction not only of species, but of entire families of organic beings, proves beyond all doubt that the course of events in creation is not one of fixed and inflexible necessity, in which there is room for nothing but development, and for a mere expansion of certain forms and organs. On the contrary, there is every conceivable variation, under uniform laws, and a series of arrangements beyond what is requisite for mere existence, and which adds to the beauty and happiness of creation. We find not merely displays of power and wisdom, but of benevolence and goodness.

III.

DOCTRINE OF THE TRANSMUTATION OF SPECIES.

Biology, or the science of life and vital phenomena, has its principles and rules of philosophis-