

class of Fishes, and that this class assumes only its proper characters after the introduction of the class of Reptiles upon earth. Similar relations may be traced between the Reptiles and the classes of Birds and Mammalia, which they precede. I need only allude here to the resemblance of the Pterodactyli and the Birds, and to that of Ichthyosauri and certain Cetacea. Yet, through all these intricate relations, there runs an evident tendency towards the production of higher and higher types, until at last, Man crowns the whole series. Seen as it were at a distance, so that the mind can take a general survey of the whole, and perceive the connection of the successive steps, without being bewildered by the details, such a series appears like the development of a great conception, expressed in such harmonious proportions, that every link appears necessary to the full comprehension of its meaning, and yet, so independent and perfect in itself, that it might be mistaken for a complete whole, and again, so intimately connected with the preceding and following members of the series, that one might be viewed as flowing out of the other. What is universally acknowledged as characteristic of the highest conceptions of genius, is here displayed in a fulness, a richness, a magnificence, an amplitude, a perfection of details, a complication of relations, which baffle our skill and our most persevering efforts to appreciate all its beauties. Who can look upon such series, coinciding to such an extent, and not read in them the successive manifestations of a thought, expressed at different times, in ever new forms, and yet tending to the same end, onwards to the coming of Man, whose advent is already prophesied in the first appearance of the earliest Fishes!

The relative standing of plants presents a somewhat different character from that of animals. Their great types are not built upon so strictly different plans of structure; they exhibit, therefore, a more uniform gradation from their lowest to their highest types, which are not personified in one highest plant, as the highest animals are in Man.

Again, Zoölogy is more advanced respecting the limitation of the most comprehensive general divisions, than Botany, while Botany is in advance respecting the limitation and characteristics of families and genera. There is, on that account, more diversity of opinion among botanists respecting the number, and the relative rank of the primary divisions of the vegetable kingdom, than among zoölogists respecting the great branches of the animal kingdom. While most writers<sup>1</sup> agree in admitting among plants, such primary groups as Acotyledones, Monocotyledones, and Dicotyledones, under these or other names, others would separate the Gymnosperms from the Dicotyledones.<sup>2</sup>

It appears to me, that this point in the classification of the living plants cannot

<sup>1</sup> GÜPPERT, etc., q. n., p. 93.

<sup>2</sup> AD. BRONGNIART, etc., q. n., p. 93.