

by their forms. I would also further remark, that there is one question relating to the form of animals, which I have not touched here, and which it is still more important to consider in the study of plants, namely, the mode of association of individuals into larger or smaller communities, as we observe them, particularly among Polyps and Acalephs. These aggregations have not, as far as their form is concerned, the same importance as the form of the individual animals of which they are composed, and therefore seldom afford trustworthy family characters. But this point may be more appropriately considered in connection with the special illustration of our Hydroids, to which my next volume is to be devoted.

I have stated above, that botanists have defined the natural families of plants with greater precision than zoölogists those of animals; I have further remarked also, that most of them make no distinction between orders and families. This may be the result of the peculiar character of the vegetable kingdom, which is not built upon such entirely different plans of structure as are animals of different branches. On the contrary, it is possible to trace among plants a certain gradation between their higher and lower types more distinctly than among animals, even though they do not, any more than animals, constitute a simple series. It seems to me, nevertheless, that if Cryptogams, Gymnosperms, Monocotyledons, and Dicotyledons can be considered as branches of the vegetable kingdom, analogous to Radiata, Mollusks, Articulata, and Vertebrata among animals, such divisions as Fungi, Algæ, Lichens, Mosses, Hepaticæ, and Ferns in the widest sense, may be taken as classes. Diatomaceæ, Confervæ, and Fuci may then be considered as orders; Mosses and Hepaticæ as orders; Equisetaceæ, Ferns proper, Hydropterids, and Lycopodiaceæ as orders also; as they exhibit different degrees of complication of structure, while their natural subdivisions, which are more closely allied in form or habitus, may be considered as families; natural families among plants having generally as distinct a port, as families among animals have a distinct form. We need only remember the Palms, the Coniferæ, the Umbelliferæ, the Compositæ, the Leguminosæ, the Labiata, etc., as satisfactory examples of this kind.

SECTION V.

GENERA.

Linnæus already knew very well that genera exist in nature, though what he calls genera constitute frequently groups to which we give at present other names, as we consider many of them as families; but it stands proved by his writings