

ascertain what were the species the authors of such condensed descriptions had before them. But for the tradition which has transmitted, generation after generation, the knowledge of these species among the cultivators of science in Europe, this confusion would be still greater; but for the preservation of most original collections it would be inextricable. In countries, which, like America, do not enjoy these advantages, it is often hopeless to attempt critical investigations upon doubtful cases of this kind. One of our ablest and most critical investigators, the lamented Dr. Harris, has very forcibly set forth the difficulties under which American naturalists labor in this respect, in the Preface to his Report upon the Insects Injurious to Vegetation.

SECTION VII.

OTHER NATURAL DIVISIONS AMONG ANIMALS.

Thus far I have considered only those kinds of divisions which are introduced in almost all our modern classifications, and attempted to show that these groups are founded in nature and ought not to be considered as artificial devices, invented by man to facilitate his studies. Upon the closest scrutiny of the subject, I find that these divisions cover all the categories of relationship which exist among animals, as far as their structure is concerned.

Branches or *types* are characterized by the plan of their structure,

Classes, by the manner in which that plan is executed, as far as ways and means are concerned,

Orders, by the degrees of complication of that structure,

Families, by their form, as far as determined by structure,

Genera, by the details of the execution in special parts, and

Species, by the relations of individuals to one another and to the world in which they live, as well as by the proportions of their parts, their ornamentation, etc.

And yet there are other natural divisions which must be acknowledged in a natural zoölogical system; but these are not to be traced so uniformly in all classes as the former,—they are in reality only limitations of the other kinds of divisions.

A class in which one system of organs may present a peculiar development, while all the other systems coincide, may be subdivided into sub-classes; for instance, the Marsupialia when contrasted with the Placental Mammalia. The characters