

not sufficient to describe the mere outlines or the figure of its representatives, but it is indispensable to point out the structural elements which determine the particular form, characteristic of the family under consideration. I may add, from the attempts I have made to characterize the natural families of different classes of animals, that this is one of the most difficult tasks a zoölogist can undertake; but I am at the same time satisfied, from the results at which I have already arrived, that it is one of the most profitable sources of new and interesting discoveries.

It may perhaps be objected, that the limitation of families depends, in a great measure, upon preconceived views; and that naturalists disagree entirely in their estimate of the natural range of most of them. This is undoubtedly the case at present; but let those who think that they may divide animals as they please, conscientiously try to distinguish the different categories of characters of those classes of animals with which they are particularly familiar, and they will soon perceive how much this method will improve their studies, and how easily order will replace the chaotic accumulation of characters which are generally given as diagnoses of the groups they consider, whether they apply themselves to the description of species or genera or families or orders or classes or branches. And as to families in particular, they will soon find out how fully the term form, understood as the pattern of a definite figure, expresses the general character of families; and they will also be made to feel how difficult it is correctly to investigate the essential elements of these family forms, and what extensive anatomical investigations are required before a single one can be satisfactorily described. An acquaintance with the changes which animals undergo during their embryonic growth is particularly useful in this kind of investigations. In Ctenophoræ, the family characters rest chiefly in the various combinations of the different systems of motory cells which make up the bulk of the spherosome.

Another objection may perhaps be raised upon the ground, that if every modification in the form of animals is to be considered as the basis of a distinct family, the number of families will be increased beyond measure. Supposing, for a moment, it were so; if the investigation of the structural elements determining the form should reveal to us, in the course of time, an unexpected number of structural patterns unknown at present, this would be a decided gain for science, and not an objection to our method. But I may say that nothing of the kind is to be apprehended, if I may judge from those classes to which I have thus far paid the most special attention. The analytical method I propose has in most cases only helped me to define with greater precision, families already pointed out or partially characterized, and in a few instances only rendered necessary the further subdivision of certain families and the reunion of others. In this connection, it is of the