

the complication of structure; for, where there is but one representative of a type, there is no room for the question of its superiority or inferiority in comparison to others within the limits of the class, orders being groups subordinate to one another in their class. Yet, even in this case, the question of the standing of *Articulata*, as a type among the other great branches of the animal kingdom, would be open to our investigations; but it would assume another aspect from that which it now presents, as the comparison of *Articulata* with the other types would then be limited to the *Lobster*, and would lead to a very different result from that to which we may arrive, now that this type includes such a large number of most extensively diversified representatives, belonging even to different classes. That such speculations are not idle must be apparent to any one who is aware, that, during every period in the history of our globe in past geological ages,¹ the general relations, the numeric proportions, and the relative importance of all the types of the animal kingdom, have been ever changing, until their present relations were established. Here, then, the individuals of one species, as observed while living, simultaneously exhibit characters, which, to be expressed satisfactorily and in conformity to what nature tells us, would require the establishment, not only of a distinct species, but also of a distinct genus, a distinct family, a distinct class, a distinct branch. Is not this in itself evidence enough that genera, families, orders, classes, and types have the same foundation in nature as species, and that the individuals living at the time have alone a material existence, they being the bearers, not only of all these different categories of structure upon which the natural system of animals is founded, but also of all the relations which animals sustain to the surrounding world,—thus showing that species do not exist in nature in a different way from the higher groups, as is so generally believed?

The divisions of animals according to branch, class, order, family, genus, and species, by which we express the results of our investigations into the relations of the animal kingdom, and which constitute the first question respecting the scientific systems of Natural History which we have to consider, seem to me to deserve the consideration of all thoughtful minds. Are these divisions artificial or natural? Are

¹ A series of classifications of animals and plants, exhibiting each a natural system of the types known to have existed simultaneously during the several successive geological periods, considered singly and without reference to the types of other ages, would show in a strong light the different relations in which the classes, the orders, the families, and even the genera and species, have stood to one another during each epoch. Such classifications would illustrate, in the most impressive manner, the importance

of an accurate knowledge of the relative standing of all animals and plants, which can only be inferred from the perusal even of those palaeontological works in which fossil remains are illustrated according to their association in different geological formations; for, in all these works, the remains of past ages are uniformly referred to a system established upon the study of the animals now living, thus lessening the impression of their peculiar combination for the periods under consideration.