

2. So soon as we have ascertained the characters of a considerable number of species, we find that in their nearest resemblances these do not constitute a linear series, but arrange themselves in groups more or less separated from each other like constellations in the heavens, and having relationships tending with more or less force in different directions. This not only introduces complexity into our systems, but renders it impossible to represent them adequately in written or spoken discourse, or even by tables or diagrams. We think and speak of things in series, but nature's objects are not so arranged, but in groups radiating from each other like the branches of a tree; and our imperfect modes of thought and expression are severely tested in the attempt to understand nature, or to convey ideas of classification to the minds of others.

3. The considerations above stated oblige us to enquire what leading characters we may take as the principal thread of our arrangement, so as to make this as natural as possible and at the same time intelligible. It is simplest to take only one obvious character, as if for example we were to arrange all animals according to their colour or to the number of their limbs; but the greater the number of characters we can use, or the more completely we can represent the aggregate of resemblances and differences, the more natural will our arrangement be, and consequently also the more scientific and useful.

In attempting to weigh the several characters presented by any object, we find some that are of leading importance, others that are comparatively unimportant, though still not to be neglected; and we find that some indicate grades of complexity, others are connected with adaptations to certain uses, and others indicate plan of construction. Due weight must be given to all these kinds and degrees of characters. It is perhaps in the proper estimation and value of their relative importance and different modes of application that the greatest failures have been made.

Keeping in view these difficulties of the subject, we may now proceed to the consideration of the more elementary of the groups in which we arrange animals.

2. THE SPECIES IN ZOOLOGY.

We cannot consider the animals with which we are familiar without perceiving that they constitute kinds or *Species*, which do not appear to graduate into each other, and which can be distin-