

ulty of perceiving light, without the power of distinguishing objects. The keen eye of the bird, on the contrary, discerns minute objects at a great distance, and when compared with the eye of a fly, is found to be not only more perfect, but constructed on an entirely different plan. It is the same with every other organ.

15. We understand the faculties of animals, and appreciate their value, just in proportion as we become acquainted with the instruments which execute them. The study of the functions or uses of organs, therefore, requires an examination of their structure; they must never be disjoined, and must precede the systematic distribution of animals into classes, families, genera, and species.

16. In this general view of organization, we must ever bear in mind the necessity of carefully distinguishing between *affinities* and *analogies*, a fundamental principle recognized even by Aristotle, the founder of scientific Zoölogy. *Affinity* or *homology* is the relation between organs or parts of the body which are constructed on the same plan, however much they vary in form, or even serve for very different uses. *Analogy*, on the contrary, indicates the similarity of purposes or functions performed by organs of different structure.

17. Thus, there is an analogy between the wing of a bird and that of a butterfly, since both of them serve for flight. But there is no affinity between them, since, as we shall hereafter see, they differ totally in their anatomical relations. On the other hand, there is an affinity between the bird's wing and the hand of a monkey; since, although they serve for different purposes, the one for flight, and the other for climbing, they are both constructed on the same plan. Accordingly, the bird is more nearly allied to the monkey than to the butterfly, though they both have in common the faculty of flight. Affinities, and not analogies, therefore, must guide us in the arrangement of animals.