

anatomical and zoölogical characters, is not correct, in the sense in which it is generally understood; but that so-called anatomical characters are either characters of the classes or of the orders, and, to some extent also, of the families, while the so-called zoölogical characters are more properly generic or specific characters, and the features generally considered in what is now called Philosophical Anatomy, and in Morphology, are mostly characters of the great types or branches of the animal kingdom. The separation of Comparative Anatomy from Zoölogy, as a distinct branch of science, is therefore only justifiable in so far as the proper meaning of those peculiarities of the structure of animals which characterize classes or orders, or families or genera, have not yet been satisfactorily ascertained; but I look forward to the time when the more comprehensive groups of the animal kingdom shall be illustrated in our zoölogical works with that fulness of structural illustrations which is now generally supposed to belong to anatomical works only, and with that searching care which alone can insure a proper discrimination between organic features of different kinds.

Such a method will, in due time, relieve our science of all the exaggerations respecting homologies, with which it has of late been incumbered. As soon as it is understood, that the great branches of the animal kingdom are characterized by different plans of structure, and not by peculiar structures, we shall have fewer of those unsuccessful attempts to force every peculiarity of every type into a diagram, by which, renouncing almost entirely the study of the wonderful combinations of thought which are manifested in the endless diversity of living beings, authors substitute for them a dead formula of their own making. Having once understood, for instance, what constitutes the peculiar plan of Vertebrates, we shall be prepared to find it executed in a variety of ways and with innumerable complications, and we shall no longer try to force the framework of a Fish into a Procrustean bed, to which we may reduce at the same time all other Vertebrates, with Man. When the axis of the body consists of a simple dorsal cord, we shall be willing to acknowledge that it is not to be considered as an articulated backbone; when the skull-box consists of a continuous cartilage, that it is not to be artificially divided into isolated parts; and, when there are no limbs at all, we shall not assume that they exist potentially in the same degree of complication as in animals more favorably endowed. And, let it not be supposed, that such a sobriety of views excludes general comparisons; it only withdraws them from the field of fancy to the rich field of life.

Suppose, for a moment, that we should attempt to homologize the different parts of the solid shield of a Turtle with the complicated system of muscles which intervene between the ribs and the skin in the trunk of other Vertebrates, or assume, perhaps, that the few scales which cover their back are to be considered