

character, as to designate the primary divisions of the animal kingdom. We speak, for instance, of specific types, generic types, family types, ordinal types, classic types, and also of a typical structure. The use of the word type in this sense is so frequent on almost every page of our systematic works, in Zoölogy and in treatises of Comparative Anatomy, that it seems to me desirable, in order to avoid every possible equivocation in the designation of the most important great primary divisions among animals, to call them branches of the animal kingdom, rather than types.

That, however, our systems are more true to nature than they are often supposed to be, seems to me to be proved by the gradual approximation of scientific men to each other, in their results, and in the forms by which they express those results. The idea which lies at the foundation of the great primary divisions of the animal kingdom is the most general conception possible in connection with the plan of a definite creation; these divisions are, therefore, the most comprehensive of all, and properly take the lead in a natural classification, as representing the first and broadest relations of the different natural groups of the animal kingdom, the general formula which they each obey. What we call branches expresses, in fact, a purely ideal connection between animals, the intellectual conception which unites them in the creative thought. It seems to me that the more we examine the true significance of this kind of groups, the more we shall be convinced that they are not founded upon material relations. The lesser divisions which succeed next are founded upon special qualifications of the plan, and differ one from the other by the character of these qualifications. Should it be found that the features in the animal kingdom which, next to the plan of structure, extend over the largest divisions, are those which determine their rank or respective standing, it would appear natural to consider the orders as the second most important category in the organization of animals. Experience, however, shows that this is not the case; that the manner in which the plan of structure is executed leads to the distinction of more extensive divisions (the classes) than those which are based upon the complication of structure (the orders). As a classification can be natural only as far as it expresses real relations observed in nature, it follows, therefore, that classes take the second position in a system, immediately under the branches. We shall see below that orders follow next, as they constitute naturally groups that are more comprehensive than families, and that we are not at liberty to invert their respective position, nor to transfer the name of one of these divisions to the other, at our own pleasure, as so many naturalists are constantly doing.