belong. This view, again, I consider to be a mistaken appreciation of the facts, to which Cuvier has already called attention, though his warning has remained unnoticed.[1] There is in reality no difference in the plan of animals belonging to different classes of the same branch. The plan of structure of Polypi is no more a modification of that of Acalephæ, than that of Acalephæ or Echinoderms is a modification of the plan of Polyps; the plan is exactly the same in all three; it may be represented by one simple diagram, and may be expressed in one single word, radiation; it is the manifestation of one distinct, characteristic idea. But this idea is exhibited in nature under the most different forms, and expressed in different ways, by the most diversified combinations of structural modifications and in the most varied relations. In the innumerable representatives of each branch of the animal kingdom, it is not the plan that differs, but the manner in which this plan is executed. In the same manner as the variations played by a skilful artist upon the simplest tune are not modifications of the tune itself, but only different expressions of the same fundamental harmony, just so are neither the classes, nor the orders, nor the families, nor the genera, nor the species of any great type, modifications of its plan, but only its different expressions, the different ways in which the fundamental thought embodied in it is manifested in a variety of living beings.

In studying the characteristics of classes we have to deal with structural features, while in investigating their relations to the branches of the animal kingdom to which they belong, we have only to consider the general plan, the framework, as it were, of that structure, not the structure itself. This distinction leads to an important practical result. Since, in the beginning of this century, naturalists have begun, under the lead of the German physiophilosophers, to compare more closely the structure of the different classes of the animal kingdom, points of resemblance have been noticed between them which had entirely escaped the attention of earlier investigators, structural modifications have been identified, which, at first, seemed to exhibit no similarity, so much so, that step by step these comparisons have been extended over the whole animal kingdom, and it has been asserted, that, whatever may be the apparent differences in the organization of animals, they should be considered as constructed of parts essentially identical. This assumed identity of structure has been called homology.[2] But the progress of science is gradually restricting these comparisons within narrower limits, and it appears now, that the structure of animals is homologous only as far as they belong to the same branch, so much so, that the study of homologies is likely to afford one of the most trustworthy means of testing the natural limits of any of the

[1] CUVIER, Règn. An., 2d edit., p. 48.

[2] See Chap. I., Sect. 5.