

## SECTION IV.

## PERIOD OF CUVIER, AND ANATOMICAL SYSTEMS.

The most important period in the history of Zoölogy begins, however, with the year 1812, when Cuvier laid before the Academy of Sciences in Paris the results of his investigations upon the more intimate relations of certain classes of the animal kingdom to one another,<sup>1</sup> which had satisfied him that all animals are constructed upon four different plans, or, as it were, cast in four different moulds. A more suggestive view of the subject never was presented before to the appreciation of investigators; and, though it has by no means as yet produced all the results which certainly are to flow from its further consideration, it has already led to the most unquestionable improvements which classification in general has made since the days of Aristotle, and, if I am not greatly mistaken, it is only in as far as that fundamental principle has been adhered to that the changes proposed in our systems, by later writers, have proved a real progress, and not as many retrograde steps.

This great principle, introduced into our science by Cuvier, is expressed by him in these memorable words: "Si l'on considère le règne animal d'après les principes que nous venons de poser, en se débarrassant des préjugés établis sur les divisions anciennement admises, en n'ayant égard qu'à l'organisation et à la nature des animaux, et non pas à leur grandeur, à leur utilité, au plus ou moins de connaissance que nous en avons, ni à toutes les autres circonstances accessoires, on trouvera qu'il existe quatre formes principales, quatre plans généraux, si l'on peut s'exprimer ainsi, d'après lesquels tous les animaux semblent avoir été modelés et dont les divisions ultérieures, de quelque titre que les naturalistes les aient décorées, ne sont que des modifications assez légères fondées sur le développement ou l'addition de quelques parties, qui ne changent rien à l'essence du plan."

It is therefore incredible to me how, in presence of such explicit expressions, Cuvier can be represented, as he is still occasionally, as favoring a division of the animal kingdom into Vertebrata and Invertebrata.<sup>2</sup> Cuvier, moreover, was the first to recognize practically the inequality of all the divisions he adopts in his system; and this constitutes further a great and important step, even though he may not have found the correct measure for all his groups. For we must remember that at the time he wrote, naturalists were bent upon establishing one con-

<sup>1</sup> Ann. du Muséum d'Histoire Naturelle, vol. xix., Paris, 1812.

<sup>2</sup> EHRENBURG, (C. G.) Die Corallenthiere des rothen Meeres, Berlin, 1834, 4to., p. 30, note.