

Following on the steps of Ray, Linnæus (1707-1778) established the binomial system of nomenclature, and the grades of classification (class, order, genus, species, variety). His great work, the *Systema Naturæ*, which forms the starting-point of modern taxonomy, passed through twelve editions in the course of his lifetime. (12th ed. 1768).

The rapid progress of anatomy, now rendered more precise by the example of Linnæus, led to a multiplication in the number of classes. Linnæus had
 Lamarck. recognized six—Mammals, Birds, Amphibians (including Reptiles), Fishes, Insecta, and Vermes; it was one of Lamarck's achievements to do something towards the setting the great lumber-room of "Vermes" in order. He established sixteen classes instead of six, and his list of genera was ten times longer than that of Linnæus. His classification (1801-1812) represents the climax of the attempt to arrange the groups of animals in linear order from lower to higher, in what was called a *scala naturæ*.

We may trace to Cuvier four distinct contributions to classification:—

(1) More than the best of his predecessors he placed classification on an anatomical basis. This is a sure
 Cuvier. foundation in proportion as the anatomy is accurate and thorough, which could not always be said even of Cuvier's. Thus in his *Règne Animal* (Paris, 1829) the barnacles are still among Molluscs, and the Batrachians among Reptiles.

(2) He opposed the erroneous conception of a *scala naturæ*, and sought to establish the idea of diverging branches or "*embranchements*", the beginning of what we would now call a genealogical tree. The branches he recognized—Vertebrata, Mollusca, Articulata, and Radiata—were indeed too few, and only the first remains now in the minds of zoologists very much as Cuvier saw it, but his leading idea of divergent lines represents a great step in classification. It must be remembered, however, that these lines did not mean to Cuvier, as they might have meant to his contemporary Lamarck, lines of evolution. The idea in Cuvier's mind was quite static.

(3) In founding palæontology, Cuvier did a twofold service to classification. He showed that the extinct forms were just as much subjects of scientific inquiry as the living forms; he also showed that just as the anatomy of recent animals aided in a