

classifications of Acalephs the more interesting to the philosophical student; and a comparison of these different arrangements may teach us how to proceed in our attempts to improve the classification of animals generally.

Though, from the beginning of his brilliant career, Cuvier had turned his attention to the study of the Acalephs, and published his anatomy of *Rhizostoma* long before the "Règne animal" appeared, his "Tableau élémentaire," published in 1798, contains nothing of importance upon these animals. It was Lamarck who took the lead in their systematic arrangement.

CLASSIFICATION OF LAMARCK, 1801 and 1816.

In his "Système des Animaux sans Vertèbres," published in 1801, Lamarck unites the Acalephs and Echinoderms in one and the same class under the name of *RADIAIRES*, separating them, however, as two distinct orders of that class, as *Radiaires Echinodermes* and *Radiaires Mollasses*. The second order, which corresponds to the Acalephs, embraces the following genera: *Medusa*, *Rhizostoma*, *Beroë*, *Lucernaria*, *Porpita*, *Velella*, *Physalia*, *Thalis*, and *Physophora*. The Hydroids proper are referred to the class of Polyps. In proposing this arrangement, Lamarck made the first step towards recognizing the natural limits of the class of Acalephs.

In the "Histoire naturelle des Animaux sans Vertèbres," published from 1815 to 1822, he adopts the same general classification of these animals; but subdivides the Acalephs in the following manner:—

- 1st Section. *RADIAIRES ANOMALES*:—1° *Stephanomia*. 2° *Cestum*, *Callianira*, *Beroë*, *Noctiluca*, *Lucernaria*. 3° *Physophora*, *Rhizophysa*, *Physalia*, *Velella*, and *Porpita*.
- 2d Section. *RADIAIRES MÉDUSAIRES*:—1° *Eudora*, *Phorecynia*, *Carybdea*, *Æquorea*, *Callirhoe*, *Dianea*. 2° *Ephyra*, *Obelia*, *Cassiopea*, *Aurelia*, *Cephea*, *Cyanea*.

The classification of Lamarck is evidently based upon a mere general appreciation of the relationship of the animals considered by him in detail. Comparative anatomy was not yet sufficiently advanced to furnish definite characteristics of the different groups adopted by the systematic writers of that period. The reunion of the Acalephs and Echinoderms as one class, for instance, is undoubtedly a great exaggeration of their affinity; but it marks, nevertheless, an important progress in the natural history of the lower animals, since such a combination could only be proposed by one who had already freed himself, at least partially, from the impression that the presence or absence of a solid frame was an essential character of these animals, and who began to perceive that the plan of structure, or at least the degrees of complication of that structure, was of higher importance, in a natural classification, than such secondary features. In this connection, it is important to remember that Lamarck was one of the naturalists who knew the Echinoderms best, and that he never could have united the *Medusæ* with them, had he not perceived the structural relation which forever will unite into one and the same great division such animals as *Aurelia* and *Scutella*.