

of the branch of Mollusks. These differences, however, constitute only class characters and exhibit in no way a different plan. It is, indeed, by no means difficult to homologize all the systems of organs of the Cephalopods with those of the other Mollusks; and with this evidence, the proof is also furnished that the Cephalopods constitute only a class among the Mollusks.

As to the differences in the development of the Cephalopods and the other Mollusks, the type of Vertebrata teaches us that partial and total segmentation of the yolk are not inconsistent with unity of type, as the eggs of Mammalia and Cyclostomata undergo a total segmentation, while the process of segmentation is more or less limited in the other classes. In Birds, Reptiles, and Selachians, the segmentation is only superficial; in Batrachians, and most Fishes, it is much deeper; and yet no one would venture to separate the Vertebrata into several distinct branches on that account. With reference to Bryozoa, there can be no doubt, that their association with Polypi or with Worms is contrary to their natural affinities. The plan of their structure is in no way radiate; it is, on the contrary, distinctly and essentially bilateral; and as soon as their close affinities with the Brachiopods, alluded to above,<sup>1</sup> are fully understood, no doubt will remain of their true relation to Mollusks. As it is not within the limits of my plan to illustrate here the characters of all the classes of the animal kingdom, I will only state further, that the branch of Mollusks appears to me to contain only three classes, as follows:—

1st Class: *Acephala*; with four orders, Bryozoa, including the Vorticellæ, Brachiopods, Tunicata, and Lamellibranchiata.

2d Class: *Gasteropoda*; with three orders, Pteropoda, Heteropoda, and Gasteropoda proper.

3d Class: *Cephalopoda*; with two orders, Tetrabranchiata and Dibranchiata.

The most objectionable modification introduced in the general classification of the animal kingdom, since the appearance of Cuvier's *Règne Animal*, seems to me to be the establishment of a distinct branch, now very generally admitted under the name of VERMES, including the Annulata, the Helminths, the Rotifera, and as Leuckardt would have it, the Bryozoa also. It was certainly an improvement upon Cuvier's system, to remove the Helminths from the type of Radiates, but it was at the same time as truly a retrograde step to separate the Annelides from the branch of Articulata. The most minute comparison does not lead to the discovery of a distinct plan of structure, uniting all these animals into one natural primary group. What holds them together and keeps them at a distance<sup>2</sup> from other groups is not a common plan of structure, but a greater simplicity in their

<sup>1</sup> Chap. I., Sect. 18, p. 72.

<sup>2</sup> Chap. II., Sect. 7, p. 171, 172.