Leaving aside, for the present, some farther complication in the structure of Echinoderms, which we shall consider more fully in the latter part of this monograph, it can, finally, be said, that the Echinoderms are Acalephoid animals, the body-wall of which is loaded with limestone. Lamarck had truly perceived this close affinity between the Acalephs and Echinoderms when he united them into one great division under the name of Radiaires to the exclusion of the Polyps, calling the Acalephs "Radiaires Mollasses," and the Echinoderms "Radiaires Echinodermes." In thus closely combining these two types into one class, however, he committed an error similar to that of Leuckart, who united the Polyps with the Acalephs in one larger group, from which he excludes the Echinoderms. But the reference already made to the homology of their structure is in itself sufficient to show that Polyps, Acalephs, and Echinoderms are constructed upon the same plan, and ought therefore to be united in one and the same primary division, for which the name of Radiata, proposed by Cuvier, seems to be the most appropriate. This once settled, the question of the subdivision of the Radiata into classes becomes comparatively easy.

I take it for granted, that the distinction I have attempted to make[1] between the *plan of structure* in animals and the *mode of execution* of the plan is, if not admitted by other naturalists, at least fully understood by them; and upon this basis I now propose to discuss the limitation of the classes of Radiata. Admitting the *plan* of structure to be the criterion by which the primary groups of animals are distinguished, we have seen that Echinoderms cannot be separated from the other Radiates, since they differ only in structural complications, but not in the plan of their structure. Admitting, next, that the *mode of execution* of a given plan of structure constitutes the essential difference between classes, we have now to consider in what way the idea of radiation (upon which the plan of structure of the Radiates is founded) is carried out in different types of this branch of the animal kingdom, and with what means their body is built up; and this will furnish us with a key to find the natural limits of their classes.

The leading characteristics which distinguish the Polyps, the Acalephs, and the Echinoderms, are so obvious that it is only necessary here to allude to their most prominent features, in order to show that they are essentially different in their anatomical structure, though built upon the same plan. In Polyps, the body has the form of a sac, from the inner surface of which project radiating partitions, leaving an open space in the centre, however, which is the main cavity of the body. This central cavity is in free communication with the radiating chambers enclosed between the radiating partitions, for the whole height of the body. In

[1] See Vol. 1 of this work, pp. 137 and 145.