

apparatus provided with nerves and blood-vessels, and the seat of a special organ of sense. In fact, the Vertebrates alone have a real mouth; and the opening leading to the digestive cavity in other animals is in no way homologous to their mouth, and ought to be called by another name, and by a different name in each type, according to the general homologies of its structure. The so-called mouth of the Articulates is as different from that of the Vertebrates, as it is from that of the Mollusks and that of the Radiates. And if the name *mouth* is to be retained for all, it must be with the distinct understanding that the mouth is essentially different, both in its relations and in its structure, in Radiates, in Mollusks, in Articulates, and in Vertebrates. I do not consider innovations in the nomenclature as favorable to the progress of science, as long as it is possible to convey clear and distinct ideas by the use of ordinary language; but I believe, nevertheless, that a new name, applied to an object long known under another appellation, impresses more forcibly the difference it is intended to express, than a mere qualification of a generally received name. I would, therefore, propose to designate henceforth the mouth of the Radiates by the name of *Actinostome*, that of the Articulates by the name of *Arthrostome*, and that of the Mollusks by the name of *Malucostome*, in allusion to the typical structure of these animals. I shall introduce similar changes in the nomenclature of other parts as often as, in the progress of my exposition, I may have an opportunity of showing, not only the necessity of the change, but also, by a fuller illustration of the homologies of these parts, the propriety of adopting the new name proposed.

The class of Echinoderms is characterized by as different a mode of execution of the plan of structure, involved in the idea of radiation, as the Acalephs and Polyps are; but the plan itself is the same in all. The peculiarity lies in the construction only. The body-wall in Echinoderms forms a radiating cavity, in which are suspended different systems of organs, distinct from the walls themselves, but in various ways connected with them. The ambulacral system, which is homologous to the radiating tubes of the Acalephs and to the radiating chambers of the Polyps, stands in the closest relation to the walls of the body. It traverses them in the form of tubes, radiating from one pole of the body to the other, and emitting, in most of them, external suckers, arranged in rows upon the surface. The alimentary canal, connected with the walls of the body only at the central opening, and, in some, also at the opposite end, extends as a distinct tube or sac, free in the main cavity, and is not circumscribed by the perisome or *spherosome*¹ itself, as in Acalephs. The reproductive apparatus consists also of distinct organs,

¹ I call *spherosome* the body-wall of a radiated animal. I prefer the name of *spherosome* to that of *perisome* because that of *perisome* has already been applied with different meanings.