so that each may be in sufficient force to accomplish the end for which it was created. We may observe that though the whale devours myriads of millions, yet the quantum of suffering is less than if he were enabled to make his meal off larger animals, and his jaws, like the shark's, were fitted with laniary teeth. In fact the gelatines are incapable of suffering pain, having no digested nervous system, and when cast upon the shore they dissolve into a fluid exactly resembling sea-water.

The *Echinoderms** form the second order of the Radiaries. This name was first given by Bruguières to a class formed solely of Linné's genera *Echinus* and *Asterias*, but Lamarck has added others to it. He has divided it into three sections, the *Stelleridans*, *Echinidans*, and *Fistulidans;* in all these the outward envelope is of a much harder substance than in the gelatines, in the first and last of these sections resembling leather, and in the other, consisting of the sea-urchins,† it is a crust in some degree like that of crabs and lobsters. The animals of this order, though their nervous system is obscure, have a high degree of muscular motion, and are fitted with motive organs.

To look at a *star-fish* one would wonder, at first, how it could move progressively, its rays seeming not at all calculated for that purpose; this however is wisely provided for. Those of one family send forth a number of tentacles from a furrow in the underside of the rays into which their body is divided, each tentacle terminating in a cup-shaped sucker, which they can lengthen or shorten, and fix to hard bodies. These tentacles, or legs, as Cuvier calls them, are similar in structure in all the Echinoderms. They are separately retractile, their form is nearly that of a long ampullaceous tube, filled with a subtle fluid; the elongated tubular part is that

* Echinodermata.

† Echinus.