

a horny substance called an operculum, that serves as a door to close the shell, when the animal withdraws into it. In many species of univalves, the animal can fold the mantle so as to form a tube which protrudes into the water, while the head and foot remain in the shell. Some species of univalves are carnivorous, others are herbivorous, and the nature of their food determines their residence either near the shore or in deep water.

Fig. 15. represents the shell and animal of a species of *Buccinum*, which agrees with the above description of the inhabitants of univalve shells. The foot on which it crawls is on the left hand, with the oval operculum near the end of it. On the right hand of the figure, at the top, the mantle is represented folded, to form a tube, as above described.

In some species, both of bivalve and univalve shells, the animals depart considerably from the general character of the class to which they belong. There are some bivalves which have the cavities of the shells divided by partitions, the uses of which are not known; and some univalves have an apparatus for swimming on the surface of the water.

The Hippurite, a remarkable fossil bivalve, with a deep conical under shell, and a fiat lid, is represented fig. 14. It is classed by Cuvier with the oyster family; and, by Parkinson, with chambered shells. The nature of the animal is unknown. The shell is divided by transverse septa, or partitions, on which account Mr. Parkinson places it among other species of chambered fossils. The existence of a lid seems to prove, that it was not an internal shell, but the habitation of the animal. A fossil hippurite has recently been found in the chalk hills of Sussex, by Mr. Mantell.

The *Janthina* is a beautiful purple-coloured univalve shell, nearly resembling in form the snail; Lamarck discovered, that it could not crawl on its foot, but that the foot is covered with air bladders, which enable the animal to rise and swim on the surface of the water. The *Janthina* is common in the Mediterranean; when touched, it excretes a deep purple liquor, which tinges the surrounding water. (Cuvier, *R. A.* tom. iii.) There are other animals occupying univalve shells, that have the power of swimming. The *Lymnea stagnalis*, an inhabitant of ponds, swims on the surface of the water in a reversed position. It descends by compressing itself within the shell, and expelling the air, and thus sinks immediately to the bottom. Mr. Parkinson rightly conjectures, that the shells resembling the *Helix*, or snail, in the older strata, were constituted for swimming, like the *Janthina*: they could scarcely have used a foot for crawling, at the bottom of a deep and agitated ocean.

We come now to another division of the animal kingdom, called by Cuvier *Radiated*. See Chap. II. Some of the animals comprised in this division have left abundant remains in the fossil state, particularly the encrinite and the pentacrinite. These animals had a stem, composed of numerous plates, and terminating in branches surrounding the mouth, resembling the stem and branches of a vegetable. Both these species were supposed to be extinct; but a living pentacrinus has been discovered in the West Indies, and a smaller species, more recently, in the Cove of Cork. This has been described by Mr. J. V. Thompson, of Cork. A drawing of this animal, taken by Mr. Thompson, is given (Plate VIII. fig. 17. A cut of a remarkable species