

*Gasteropoda*, or inhabitants of univalve shells, this opening is usually wide. In the *Acephala*, or bivalve mollusca, the gills are spread out, in the form of laminæ, round the margin of the shell, as exemplified in the oyster, where it is commonly known by the name of *beard*. The aerated water is admitted through a fissure in the mouth, and when it has performed its office in respiration, is usually expelled by a separate opening. The part of the mouth through which the water is admitted to the branchiæ is sometimes prolonged, forming a tube, open at the extremity, and at all times allowing free ingress and egress to the water, even when the animal has withdrawn its body wholly within its shell. Sometimes one, and sometimes two tubes of this kind are met with; and they are often protected by a tubular portion of shell, as is seen in the *Murex*, *Buccinum*, and *Strombus*; in other instances, the situation of the tube is only marked by a deep notch in the edge of the shell. In those mollusca which burrow in the sand, this tube can be extended to a considerable length, so as to reach the water, which is alternately sucked in and ejected by the muscular action of the mouth. In those *Acephala* which are unprovided with any tube of this kind, the mechanism of respiration consists simply in the opening and shutting of the shell. By watching them attentively, we may perceive that the surrounding water is moved in an eddy by these actions, and that the current is kept up without interruption. All the *Sepiæ* have their gills enclosed in two lateral cavities, which communicate with a funnel-shaped opening in the middle of the neck, and alternately receiving and expelling the water by the muscular action of its sides. The forms assumed by the respiratory organs in this class are almost infinitely diversified, while the general design of their arrangement is still the same.

As we rise in the scale of animals, the respiratory function is performed under the same circumstances. Similar currents of water, according to the recent observations of Mr. Lister, and apparently determined by the same mechanism of vibratory cilia, take place in the branchial sac of *Ascidia*.