The animal of the same species of Brachiopod is, moreover, capable of existing at different depths without any observable modification in shape and character. It has also been clearly ascertained that the Brachiopoda, although widely distributed, are very much localised, and usually occur in great numbers in their respective haunts. If we examine the nature of the sea-bottom from which the Challenger specimens were obtained, we find that they were dredged eleven times from sea-bottoms composed of rock and clay, twice from stones and gravel, three times from sand, and twelve times from soft bottoms composed of mud, globigerina, or grey ooze; but, as previously stated, as a rule, they prefer rocky bottoms and coral reefs. Brachiopoda are also found clustering together in vast numbers, adhering to one another by their peduncles, or massed together, one above the other, till they sometimes form a living aggregation of considerable breadth and thickness, as is the case with *Discina lamellosa*, *D. lævis*, and other species. The young shell is even very often found attached to the peduncle of its neighbour, but according to Morse and other zoologists who have made the embryology of the class their special study, the fry before becoming attached swims, or whirls head foremost by means of the vibratile cilia covering the body. *Lingula* and *Glottidia*, it is well known, abound in particular haunts, and live at about half-tide mark, and partly buried in mud at depths varying from 3 or 4 inches from the surface to 7, 10, 17, and 60 fathoms; but the ranges of depth of six or seven of the species are still unknown.[1]

Observations connected with the living animal are especially needed, but these can only be made when the animal is brought up alive and placed for some time in jars of sea-water.

It is somewhat remarkable that the Challenger Expedition failed to obtain, with the exception of *Lingula anatina* and one example of *Megerlia sanguinea*, any of those brilliantly coloured species which abound in many localities; but to compensate for this deficiency several remarkable new forms were dredged, such as *Terebratula wyrillii* and *Terebratulina wyrillii*, this last being the finest and largest species of the sub-genus *Terebratulina* hitherto discovered, either in the recent or fossil condition.

[1] In his paper on Japanese *Lingulæ* in the American Journal of Science and Arts, vol. xv., 1878, Professor E. Morse observes that his studies of *Lingula* have brought out many points new to science. The discovery of auditory capsules in the class of Brachiopoda is one of the most important. These organs he determined in a species of *Lingula*, and their position and general appearance recall the auditory capsules as figured by Claparède in certain tubicolous annelids. He has also cleared up many of the obscure points in regard to the circulation, and is prepared to maintain the absence of anything like a pulsatory organ, the circulation being entirely due to ciliary action. Mr Morse also described some of the habits of *Lingula*. While partially buried in the sand the anterior border of the pallial membranes contract in such a way as to leave three large oval openings, one in the centre and one on each side. The bristles, which are quite long in this region of the animal, arrange themselves in such a way as to continue these openings into funnels, and entangle the mucus which escape from the animal. These funnels have firm walls, a continual current is seen passing down the side funnels, and escaping by the central one. They bury themselves very quickly in the sand, and the peduncle agglutinates a sand tube. They attach themselves by means of this tube to the bottom of dishes in which they are confined.