fera. Some of the more delicate Foraminiferous shells, like *Candeina*, disappear at the same depths as the Pteropod shells, but the denser shells of *Sphæroidina* and *Pulvinulina* persist to greater depths. In all cases the greater the surface of shell exposed to the action of sea-water in proportion to its total mass the sooner does the shell appear to be dissolved. In Molluscan shells the conchioline may for a time protect the calcareous structures, but when putrefaction sets in it accelerates solution.

Gasteropoda and Lamellibranchiata.—The pelagic species, *Ianthina rotundata*, having the same habitat and distribution as the Pteropods, may be found associated with these pelagic shells, but it never occurs in any great abundance in deposits. Many larval shells of Gasteropods and Lamellibranchs are also frequently present along with Pteropod shells in the shallower deposits not far removed from coasts. The shells of adult Gasteropods and Lamellibranchs are well known to form extensive beds in many shallow-water areas, and the shells of these Molluscs make up a considerable proportion of the carbonate of lime in all deposits near the shores of continents and islands. In nearly all the pelagic deposits the shells of Gasteropods and Lamellibranchs, or their fragments, can be detected when any considerable quantity of the deposit is examined, but they never form more than a small percentage of the carbonate of lime present.[1] On the whole the Gasteropods and Lamellibranchs are poorly represented in the abyssal regions, and their shells are thin and fragile. In this respect alone there is a wide difference between the Pteropod and Globigerina Oozes of recent seas and the white chalk of the Cretaceous period, which was evidently laid down in much shallower water than these organic oozes.

Cephalopoda.—The only fragments of this order that have been observed in deep-sea deposits are the beaks, and these are occasionally found even in a small specimen from the sounding tube; they can nearly always be picked out from the washings when a large quantity of ooze is passed through fine sieves. In some shore dredgings, however, fragments of cuttle-fish bones have been met with.[2]

Fishes.—When we remember the enormous numbers of fishes that inhabit the ocean, the rarity of their remains in nearly all marine deposits is a very striking fact.[3] In only three or four instances were any fish bones, other than otoliths and teeth, observed in the deposits brought up in the dredges and trawls. In 1875 fathoms, off the coast of Japan, two vertebræ were found, and on other occasions a scapula and a vertebra. The otoliths of fish are, however, tolerably abundant in all the calcareous oozes, and are frequently present in Red Clays. That otoliths can resist the solvent action of sea-water better than the other bones probably arises from the dense structure of these bones, and possibly also from the difference in their composition when compared with the other bones of fish, the otoliths being mostly composed of carbonate of lime, while

[1] See Watson, Report on the Gasteropoda, Zool. Chall. Exp., pt. xlii.; Smith, Report on the Lamellibranchiata, Zool. Chall. Exp., pt. xxxv.

[2] See Hoyle, Report on the Cephalopoda, Zool. Chall. Exp., pt. xliv.

[3] See Günther, Report on the Fishes, Zool. Chall. Exp., pts. vi., lvii., and lxxviii.