

forming on the summit, and the mud-line is met with on either side of this ridge at about 300 fathoms. In basin-like depressions within the 100-fathom line—like the Silver Pits of the North Sea—mud is formed, while it cannot rest on the rims of these basins. All the minute organic particles washed down from the land, carried away from the shallow waters by currents, or derived from the decay and death of pelagic organisms, ultimately find a resting place on the bottom in deep water, principally just about and beyond the mud-line. Here is situated the great feeding ground in the ocean. When tow-nets are dragged a foot or two immediately over this mud deposit myriads of young and adult Crustaceans are captured, nearly all of the red or brown colour characteristic of deep water, such as species of *Calanus*, *Euchæta*, *Pasiphæa*, *Crangon*, *Calocaris*, *Pandalus*, *Hippolyte*, many Amphipods, Isopods, and immense numbers of Schizopods. Fishes and Cephalopods are likewise abundant and are captured along with the Crustaceans when the trawl can be dragged near, but without touching, the bottom. The Crustaceans, many of them furnished with phosphorescent organs, are scavengers, and feed upon the organic particles that fall from the surface or are washed from shallower waters seawards and finally settle on the bottom in the quiet deep waters about and beyond the mud-line. In their turn these Crustaceans, and the other organisms about the mud-line furnish most abundant food for many migratory species, such as the herring and the salmon. The stomachs of whales and narwhals are likewise frequently crammed with Cephalopods, Schizopods, Pasiphæas, and Calanids of a deep-red colour, evidently devoured in depths of several hundred fathoms. It has been observed that ascending bodies of water, produced by tidal currents or by strong winds, frequently bring great numbers of the young and immature individuals of these mud-line animals into the surface and sub-surface waters near land masses. The majority of the animals living about and beyond the oceanic mud-line appear to have a direct development or have no free-swimming larval stage, and the same is the case with deep-sea and shallow-water polar animals. From these and other considerations it seems legitimate to suggest that these marine faunas are genetically connected with, and were originally derived from, the mud-line fauna of the present period and of the not very remote geological past. On the other hand, the great majority of the animals attached to or living on the hard bottom in shallow water above and within the mud-line in sub-tropical and especially in tropical and coral-reef regions, have pelagic larvæ, and were probably for the most part derived from the Mud-line fauna at a much more ancient date.

THE MUD-LINE
THE GREAT FEED-
ING-GROUND IN
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The difficulties connected with trawling and dredging in deep water are no doubt much greater than in shallow depths, and on the whole the explorations in very deep water have been rather limited; but taking all this, as well as the number of the Challenger's trawlings and dredgings in each zone of depth into consideration, it may be regarded as a well-established fact that the aggregate number of species and individuals is