lation. Winds and differences of barometric pressure are, as in inland seas, great factors in producing variable currents. (See Baltic Sea, Black Sea, Mediterranean Sea, Red Sea, &c.)

*Partially Enclosed Seas* may be (*a*) comparatively shallow irregular channels through which strong tides sweep, or (*b*) ocean basins cut off by barriers barely rising to the surface, or remaining permanently submerged, in which case there may be no break of continuity in the ocean surface to indi­cate the sea. Seas of the first description are related to shallow enclosed seas, but are much affected by tides and ocean currents ; the principal are the Kara Sea of the Arctic Ocean, Baffin Bay and North Sea of the Atlantic, Behring Sea and Japan Sea of the Pacific. They are subject to considerable temperature changes owing to their proximity to land. Seas coming under the second category combine the peculiarities of the open ocean and of deep inland seas. The Caribbean Sea of the Atlantic, the China Sea, Java Sea, and numerous small seas of the eastern archipelago of the Pacific are the best examples. Their chief peculi­arity is that the temperature of the water instead of falling uniformly to the bottom becomes stationary at some inter­mediate position corresponding to the top of the barrier. They are usually very deep. (See North Sea, Norwegian Sea, and Pacific Ocean.)

*Other Seas.—*Coral Sea, Arabian Sea, Sea of Bengal, are names, now dropping out of use, to designate parts of the ocean. “Sargasso Sea” is an expression devoid of geo­graphical meaning (see Atlantic Ocean, vol. iii. p. 20).

*Firths and Estuaries.—*A river entering the sea by a short estuary flows over the surface, freshening it to a con­siderable extent, and, if the force of its current is not too great, the rising tide slowly forces a wedge of sea water up between river and river bed, withdrawing it rapidly when ebb sets in. In a firth that is large compared with the river falling into it, judging from results recently obtained in the Firth of Forth, @@1 a state of equilibrium is arrived at, the water increasing in salinity more and more gradu­ally as it proceeds seawards, the disturbing influence of the tide becoming less and less, and the vertical distribution of salinity more and more uniform until the river water meets the sea, diffused through a nearly homogeneous mass with a density little inferior to that of the ocean. Between the extreme cases there are numerous gradations of estuary depending on the ratio of river to sea inlet.

*Deposits.—*All seas within about 300 miles of continental land, whatever may be their depth, are paved with terrige­nous débris, and all at a greater distance from shore are carpeted with true pelagic deposits (see Pacific Ocean).

*Marine Fauna and Flora.—*The mixing of river with sea water produces a marked difference in the fauna and flora of seas. Where low salinity prevails diatoms abound, probably on account of the greater amount of silica dis­solved in river water, and they form food for minute pelagic animals and larvæ, which are in turn preyed upon by larger creatures. In some seas, such as the North Sea, there are many celebrated fishing beds on the shallow banks of which innumerable invertebrate animals live and form an inex­haustible food-supply for edible fishes. Naturalists have remarked that in temperate seas enormous shoals of rela­tively few species are met with, while in tropical seas species are very numerous and individuals comparatively few. Organisms, such as the corals, which secrete carbonate of lime appear to flourish more luxuriantly in warmer and salter seas than in those which are colder and fresher.

The geological and dynamic aspects of seas are treated of in Geology (vol. x. p. 284 *sq.)* and Geography (Physical) ; and in Atlantic Ocean, Baltic Sea, Black Sea, Indian

Ocean, Mediterranean Sea, North Sea, Norwegian Sea, Pacific Ocean, Polar Regions, and Red Sea the general geographical and physical characters of oceans and seas are described. In Meteorology some account is given of the influence of the sea on climate, and chemical problems connected with the ocean are discussed in Sea Water.

SEA-CAT. See Sea-Wolf, *infra.*

SEA-DEVIL. See Fishing-Frog, vol. ix. p. 2G9. SEA-HORSE. Sea-horses *(Hippocampina)* are small marine fishes which, together with pipe-fishes (*Syn- gnathina),* form the order of Lophobranchiate fishes, as already noticed in Ichthyology, vol. xii. p. 694. The gills of the members of this order are not arranged in leaf-like series as in other fishes, but form a convex mass composed of small rounded lobes attached to the branchial arches, as shown in the accompanying figure (fig. 1) of the head of a sea-horse, in which the gill-cover has been pushed aside to show the interior of the gill-cavity. Sea­horses differ from pipe-fishes by having a prehensile and invariably finless tail ; it is long, slender, tapering, quad­rangular in a transverse section, and, like the rest of the body, encased in a dermal skeleton, which consists of horny segments, allowing of ventral, and in a less degree of lateral, but not of dorsal, flexion. The typical sea-horse *(Hippo­campus)* can coil up a great portion of its tail, and firmly attach itself by it to the stems of sea-weeds or other similar objects. The body is compressed and more or less elevated, and the head terminates in a long tubiform snout, at the end of which the small mouth is situated. The whole configuration of the fore part of the body, as well as the peculiar manner in which the head is joined to the neck-like part of the trunk, bears a striking resem­blance to a horse’s head ; hence the name by which these fishes are generally known. Sea-horses are bad swimmers and are unable to resist currents. With the aid of their

single dorsal fin, which is placed about the middle of the fish’s body and can be put into a rapid undulatory motion, they shift from time to time to some other object near them, remaining stationary among vegetation or coral where they find the requisite amount of food and sufficient

@@@1 Mill, *Proc. Roy. Soc. Ed.,* xiii. 29, 137, and 347.