

complex array of larval spines along the trunk, are typical illustrations. The young sharks, dogfishes, and rays are too familiar to demand more than a passing notice. Those not born alive—and many selachians are viviparous—are safely packed in a dense horny case secreted by a special gland in the oviduct, and comparable to the calcareous shell of the fowl's egg. This squarish egg-case is lined by a silky membrane enclosing abundant fluid, in which the young fish, attached to a large ball of yolk, floats securely. There is no amnion, such as reptiles, birds, and mammals possess, nor do large epidermal spaces develop beneath the larval skin, as in many bony fishes and cyclostomes, for these cartilaginous fishes remain during a long period within the egg-case, and are robust and even predaceous immediately on hatching out. Like young partridges they are well able to look after themselves at the moment of leaving the egg and entering upon their independent life in the outer world.

To speak of the invertebrates is beyond the scope of this paper, but reference must be made to one group of creatures, long classed as near relatives of the mollusca, viz., the tunicates, popularly known as the ascidians or sea-squirts, but now grouped by the more exact zoology of to-day in close intimacy with the *Vertebrata*. Amongst the solitary ascidians, *Appendicularia* (also called *Oikopleura*) is interesting, not only from the fact that certain vertebrate features are especially well-marked in it, but from a transient larval structure which it possesses, and which recalls the layers of membrane and fluid briefly described in the foregoing remarks. From the eggs of *Appendicularia* a strange little tailed creature like a wriggling gnat emerges. It is of glassy transparency, and undulates actively through the surface waters of the sea by the vigorous movements of its long blade-like tail. It possesses, as close examination reveals, an oval body with mouth, gill-slits, eye, ear, heart, and rod-like backbone—features which entitle it to rank high in the scale of animal life. An animal so perfectly organised would be in constant peril in the open sea, and the larva secretes, probably from the integument, a loose mass of clear jelly, which completely envelopes the body and leaves merely the muscular tail free. In this translucent blanket, usually called the "house" of the ascidian larva, it is protected from many dangers, though it pays