

phosphorescence seemed to be chiefly due to a large *Pyrosoma*, of which we took many specimens with the tow-net, and which glowed in the water with a white light like that from molten iron.

*Pyrosoma* is a free-swimming colony of simple ascidians having the form of a lengthened cylinder 100 mm. to 120 cc. in length, with a cavity within from 20 to 80 or 100 mm. in diameter, open at one end, and closed and coming to a point at the other; the separate individuals, often to the number of many thousands, each included in its proper transparent test of a consistency between jelly and cartilage, make up the wall packed vertically side by side, with all their inhalent openings turned outward, and the exhalent openings turned inward into the cavity of the cylinder. A perpetual current is driven through each animal by the action of the cilia bringing in freshly aerated water to a beautifully fenestrated gill-cavity, and supplying nourishment to a simple stomach and alimentary tract. The consequence of this arrangement is that the water, constantly flowing inward through the myriad mouths on the outer wall, and finding egress only by the open end of the cylinder, the colony is moved steadily through the water, the closed end first. Each animal is provided with a fairly developed nervous system, and the whole can act in concert so as to direct the general movements of the colony.

Besides *Pyrosoma*, there were large numbers of copepod crustaceans, each of which, on being shaken in the curls of the wave, emitted a spark of light of great intensity, and the breaking water seemed filled with these glittering points. The tow-net brought up during the day, but more particularly toward evening, an enormous number of pelagic animals, most of them more or less phosphorescent. Among them, perhaps predominating in numbers, were decapod crustaceans in the "zoëa" and "megalopa" stages of development; a great *Phyllosoma*, 12 cc. from tip to tip of the limbs; several species of *Leucifer*; a