

of molluscs and zoophytes which glitter with a radiance originated by themselves. They emit a fluid so susceptible of expansion that, when swimming zigzag, they describe upon the water a series of brilliant tracks which extend with singular rapidity.

One of the most remarkable is a species of *Pyrosoma*, which we may describe as a kind of viscous pouch, about an inch in length: if thrown on a vessel's deck, it gives forth as much light as iron heated to a white heat. Sir John Herschel has remarked on the surface of very tranquil waters a curious form of this phosphorescence; polygons with rectilineal outlines, several feet square superficially, intermittently illuminating themselves with a vivid light which swiftly passes through them.

The phosphorescence of the sea may also result from another cause. When animal matters putrify, they sometimes become phosphorescent. The bodies of certain fishes, when decomposed, emit a light of tolerable intensity. Messrs. Becquerel and Breschet have observed some fine effects of phosphorescence produced by this cause in the waters of the Brenta, at Venice.

Animal matter in a state of decomposition—such as dead fish—floating on the surface of ponds and pools, sometimes produces large oily spots which, shining upon the liquid, communicate to it, over a considerable space, the phosphorescent aspect.

Whatever may be the local cause, the colouring of the waters has procured for numerous rivers designations in allusion to it. The *Guainia*, or Rio Negro, is of a deep dark brown, which, however, does not in the least affect the limpidity of its wave. The Orinoco and the Cassiquiare have also a brown colour; the Ganges is of a turbid brown, while the Jumna, which flows into it, is green or blue. A milky hue belongs to the Rio Blanco, or *White River*, and to a host of other streams. The Ohio in America, the Torjedala, the Goetha, and most of the Norwegian rivers, the Traun at Ischl, the Forth at Aberdour, are of a beautiful transparent green. The Yellow and Blue Rivers of China are distinguished by the characteristic tint of their waters. The Arkansas, the Red River, the Llobregat in Catalonia, are remarkable for their redness, which they owe to the clay held in suspension in their waters.

Sea-water is essentially *salt*; that is, it contains a great number of mineral and other salts, which give it a disagreeable taste, and render it unfit for economic purposes. We find in it nearly all the soluble matters existing on the globe, but principally chloride of sodium, or sea-salt, and the sulphate of magnesia, potassa, and lime. Sea-water contains more than 30.0 of its own weight of dissolved