

pagated are the peculiar products of the lining of the abdominal cavity. The ova sometimes originate in its lamellæ, sometimes from the interspaces, and in other cases from the walls of the permeating canals. In *Pennatula* we first detect them between the membranes of the polypiferous pinnæ; in *Alcyonium* in the cartilaginous canals which are traced through the polype-mass, or in the abdominal sac sprouting from the plaits; and in *Gorgonia*, Cavolini informs us, they germinate in eight distinct "ovaria at the base of each polypus." They first appear like a minute smooth wart which gradually rises up from the surface, enlarging itself at the same time, and when a certain size has been attained, the wart becomes constricted at its base, then shortly pedicelled, and at last it separates a free egg by the absorption of this retaining neck or umbilical cord. (Plate xxvi. Fig. 6.) The eggs now at liberty to move, gradually approach the base of the stomach, which, as already mentioned, is perforated with an opening that can be made wider or closed by means of its sphincter muscle. After several approaches and as many repulsions, the aperture at length allows the egg to pass through into the stomach, whence it is ejected through the mouth into the open sea. Professors Grant and Milne-Edwards have witnessed this process in the *Alcyonia*, and the former also in the *Pennatula* and *Virgularia*; but in the *Gorgonia*, according to Cavolini, the ova pass upwards "through eight small oviducts," and are discharged, by as many apertures, "between the bases of the eight tentacula." *

The structure of the ova has been well described by Cavolini, and more especially by Professor Grant. Before their detachment they seem, in general, to be white, but when mature they are almost always vividly coloured, globular, and apparently smooth, but clothed, as the microscope shews, with short ciliæ, which by their vibration cause them to move to and fro as if they were actuated by volition. They are membranous capsules filled with a gelatinous matter composed of very minute transparent globules similar to those which compose almost all the soft parts of animals, or like the sporules of the lower cryptogamic plants. The investing capsule is soft and irritable, for during their motions the ova are seen frequently to contract themselves

* Edin. New Phil. Journ. i. 152.