

through the oviduct; nay, even that the ovarian egg is essentially the animal itself, developed to a certain degree of complication, which, if freed from the parent and cast into the world without passing through the last fecundation, finds itself in an unnatural element, and dies; but, if subjected to this vivifying impulse, is sustained for a much longer period. The antagonism observed between the elements of the egg, during its ovarian growth, is carried out further, during the whole life of the growing animal. The region at first occupied by the Purkinjean vesicle corresponds afterwards to the cerebro-spinal side of the embryo, whilst the vitelline region marks the nutritive or intestinal sphere of the new being.

However much the nature of the immature egg, as described above, may seem to identify it with the budding progeny of some animals, we are not prepared to admit a parallelism between the two; on the contrary, knowing the mode of origin of the former and the totally diverse derivation of the latter, we cannot see any common ground upon which the two processes could be identified.

We hope, in another volume, probably the next, fully to discuss this subject, in connection with another type of animals, the Hydroid Medusæ, in which these two modes of procreation obtain in the utmost diversity of combinations.

## SECTION VI.

### THE GRAAFIAN FOLLICLE, AND THE MEMBRANES OF THE EGG.

*The Stroma.* We have very little to say in regard to the mode of development of this layer, and can only offer a few suggestions, which may lead to further investigations hereafter. An egg hardly yet visible to the naked eye is covered by very faint traces of a semi-fibrous, semi-cellular, exceedingly transpar-

the genesis of the embryo. This mode of origin alone, we maintain, is sufficient to show that the very foundation upon which its importance is laid cannot be tenable, in this light. The Purkinjean vesicle, therefore, loses all its advocated claims to preponderance over the rest of the egg constituents; to say nothing of the fact that it takes no part in the building up of the blastoderm, excepting that its discharged contents may become absorbed in the endosmotic and exosmotic interchanges of substances between the oily yolk cells, and the albuminous matter in which they

float. True enough, the region about this vesicle exhibits a specialized nature; it is there that the embryo first develops certain of its characteristics, previous to its further extension; but it does not follow, that, because the Purkinjean vesicle is situated thereabout, it is the basis of this evolution, or in any way causatively connected with it. On the contrary, its presence is itself rather the result of certain tendencies, for instance, the concentration of albumen in that direction; and its disappearance also is the consequence of the consummation of these tendencies.