oftentimes be observed when here and there one or several project for a while at a different angle from the rest, and then fall back to the common inclination, whilst others rise up or subside in the like manner at different points of the body. The trend of the cilia depends upon the velocity of the body as it bores its way through the water: when going swiftly, the cilia point obliquely backwards, at an angle of thirty or forty degrees to the longer axis; but when progressing slowly, they either vibrate with much less rapidity, or else, keeping up the energy of their motions, they assume a trend more nearly at right angles to the axis of revolution, and thus the body rotates very fast, without, however, advancing at a corresponding rate. Thus oftentimes we may see the embryo progressing very rapidly, and all at once almost or altogether cease its forward motion, without retarding the velocity of its rotation.

In the next phase (*Figs.* 5 and 5ª) the body is elongate cylindrical, and, being more active than in the last stage, the motions forward and backward, and the rotations and retroversions, excite the attention more readily. There is another mode of progress sometimes adopted by the embryo, which reminds one of the movements of certain forms of the so-called Infusoria, such as Leucophrys and Paramecium: we refer to its unaccountable habit of whirling over, end for end, as a club does when hurled through the air. This it will do occasionally without moving from the spot, and so persistently and rapidly that the eye sees hardly any thing but a flitting shadow. The outer layers of cells are very clear, and have a crystalline brilliancy, which would seem to result from the sharply polygonal form of the cells; the interior of the body is wholly opaque, and colored deep orange red. It would seem from this, that the clear interior mass had become totally changed into pigment cells; but of this we cannot speak decidedly, since the animal has powers of contraction so great that it is possible the clear centre is reduced to a very small size, and hidden from view by the opacity of the pigment cells. *Fig.* 6, compared with *Fig.* 5, is an example of the variation in size which the embryos exhibit at this age.

As a further step in development the embryo becomes oval in outline, and a hollow space appears in the interior, near one end (*Fig.* 7 *d*). In the numerous embryos which we have examined, this space has always appeared at that part of the body which is behind when the animal swims; yet it may vary in its position, as occurs in a later stage, when the whole of one end of the embryo is hollowed out so as to leave a remarkably clear space (*Fig.* 8 *d*). This space, as in the last stage, is usually seen behind; but occasionally the animal shifts, as it were, its opaque load of orange red pigment to the opposite end. Whether the orange mass within is really loosened from the outer transparent layer, or the embryo has the power of suddenly forming a hollow space where it pleases, we cannot