

clear cells; but here the lateral position of some of them, and their variable size, testify to their reality, whilst the application of water brings them out more strongly. Our figure gives a good idea of their appearance under this influence.

We have been fortunate enough to recognize these cells in an egg which had already been laid as long as eighteen days, and in it they were seen undergoing self-division (Pl. 9a, fig. 27). A greater part of the mesoblasts were double, and more or less separated from each other; and here and there were those which, partially constricted, already contained two entoblasts. The size of these double mesoblasts is exactly that which would follow the division of a single mesoblast like those observed in the younger phases of the same kind of cells. The same transparency and angularity as we have formerly observed prevail here, so that their identity is beyond question.

A longitudinal section of an embryo, of about the age of that represented in Pl. 12, fig. 1, shows that this layer (Pl. 9d, fig. 1, . . . .) follows closely every folding and bending of the germinal layer, (Pl. 9d, fig. *a*, *a*<sup>1</sup>, *a*<sup>2</sup>, *a*<sup>3</sup>, and *a*<sup>4</sup>,) whether it be over the curved back of the "embryo," or into the furrow which forms the incipient spinal tube, (Pl. 24, fig. 13a, *c*, *c*,) or close to its now very much depressed head, or backwards and upwards again with the folds of the amnios.

In later periods, when the amnios is closed over, the embryonal membrane forms an inner lining (Pl. 9e, fig. 7, . . . .) to the amniotic sac; a portion is also inclosed within the spinal tube, as its approaching edges unite above; and, in a transverse section of this tube, totally shut, a thin film (Pl. 9e, fig. 6, . . . .) was apparent, but evidently undergoing a change, no doubt tending to resorption. That portion of it, however, which surrounds the whole yolk, remains distinct until the young animal is hatched; but in these latter days it is evidently decomposing, (Pl. 9a, fig. 31, *a*, 31a, *a*,) at least its cells were more or less separated from each other, and their walls ragged, as well as those of the mesoblasts. In some cells two mesoblasts were still visible.

## SECTION VII.

### FECUNDATION.

Ever since I have known that our Turtles lay only once a year, I have been struck with the fact that the ovary nevertheless contains eggs of very different sizes. I was led by this observation to inquire into the duration of the growth of the ovarian eggs, when I further noticed that these eggs appear in well-marked sets