

1 and 2). The embryonic area of the egg next to that of fig. 9 in the right oviduct was the most minutely segmented (fig. 11b); the one next to it in this respect (fig. 11) was, on the contrary, the most anterior in the same oviduct, whilst another, (Pl. 10, fig. 9,) intermediate in position, in the oviduct of the same side, consisted of coarser masses than the two preceding; and the youngest (Pl. 10, fig. 10) was second from the front, in the left oviduct. This shows distinctly that the progress of segmentation does not correspond to the age of the eggs.

It is to be regretted that the opportunity was missed of making special investigations as to the nature of the substance which held together the components of the segment masses, and that it was not ascertained from the living egg whether a membrane was formed around each of these masses, as their smooth exterior would lead one to suppose, or whether they were merely enveloped in the albuminous fluid that had already begun to be absorbed from the outside through the yolk sac. After some researches upon this subject, made subsequently upon carefully preserved alcoholic specimens, we are very much inclined toward the latter view. It is true, the altering effects of the preserving fluid may be objected to; but this much we may say in favor of this opinion, that, in the specimens examined, the ectoblasts of that portion of the yolk which was not yet fissurated, at the lower side of the egg, although of excessive tenuity and tenderness, were in many instances nearly as distinct as ever, excepting a slight wrinkling or flattening by contact with each other, and that the mesoblasts, which are so susceptible of change in a fluid not natural to them, were in this instance very often entirely unchanged. Now, under such favorable circumstances it is quite reasonable to expect that a membrane of tolerable consistency would still be found, if it ever existed, around the segment masses; but, after prolonged search, not the least trace of any such membrane could be discovered. In fact, all indications of furrows had disappeared; and only very faint remnants of heaps among the cells broke the homogeneity of the embryonic area. In all probability the alcohol had dissipated the albumino-oleaginous, glairy substance that inclosed the masses. But, even supposing that such a membrane had been present for a time, it certainly disappears in the natural course of the changes which the vitellus undergoes, since nothing of the kind existed in well defined embryonic discs, where the segmentation had gone through its phases till no two cells were left together. This has been specially noted in the description of the progress of the self-division of the mesoblast.<sup>1</sup>

Under a low magnifying power, some of the larger masses of the embryonic

<sup>1</sup> Compare p. 521.