

area may be seen undergoing further segmentation, (Pl. 10, fig. 11,) either by single furrows or by two or three or four or more; and beyond these the cone-shaped bodies radiating around its periphery appear in the act of extending their longitudinal division, and throwing off masses from their apex by transverse constrictions (fig. 9, *a'*, and 11, *a'*). We would ask particular attention to these cone-shaped, radiating bodies, as hereafter they will have a special bearing upon the question of the extent of segmentation over the area of the germinal layer. From the earliest stages of segmentation, up to the time when the embryonic disc is perfectly formed and well defined, a yellowish white color pervades its surface; but it becomes more yellow outside of the circumscribed area, where the thinner germinal layer allows the yolk to shine through.

Comparing the size of a smooth and sharply defined embryonic disc, (Pl. 10, fig. 15, 15a,) found in an animal opened on the 29th of May, with that of some of the preceding eggs, (fig. 11b,) it appears that here segmentation must have already progressed beyond the boundaries of the embryonic disc, and encroached upon the space devoted to the vascular area. This assertion is borne out, not only by the presence of the above-mentioned cone-like bodies outside of the embryonic disc of an egg from another species (*Nanemys guttata*) with well marked boundaries, and encircled by a clear, transparent, narrow ring, the area pellucida, (Pl. 10, fig. 12, *a'* and 13,) but also by the presence, in a similar position, of large numbers of rounded segment masses, (fig. 14, *c, c'*) in the egg of *Chrysemys picta*. There is no chance here to mistake the relation of the parts; and it cannot be doubted, therefore, that segmentation does not belong exclusively to the embryonic disc, but extends also, for a certain distance, to the surface exterior to it. Of this we have ocular evidence; but whatsoever reason there may be to believe that it goes on beyond this must be based upon induction; and yet, even here, to any one who has followed the series of preparatory steps through which the yolk passes in this region, and has noted the peculiar physiognomy which it bears when thus specialized, in a certain manner proper to itself, all over the surface of the vitelline mass, the almost certain conviction arises, that segmentation must spread over any surface to which this layer extends, and to whatever depth it may eventually plunge, even though, in the end, it included the whole bulk of the yolk.

It may seem an unwarrantable inference from premises of insufficient weight to assert the belief, that, in Testudinata, the whole egg undergoes segmentation, and not the surface only, at a definite point. This much, however, is certain: this process goes on, to a known extent, in the region of the vascular area. But what is the final expanse of this area? It is not limited within a certain circle to the surface of the yolk only; it spreads eventually all over the