

## III.—An Early Anadidymus of the Chick.

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The embryo which is described in the following pages was prepared and sectioned in June, 1905, for class purposes but its abnormality did not attract attention until it was brought into the laboratory. I am, therefore, unable to figure the surface view, and so far have not had leisure to model out its most interesting features.

The series contains 200 sections of 15 microns in thickness, corresponding to a length of 3 mm. in the hardened condition. The egg had been in the incubator for 24 hours, but, 10 somites having been observed, it was marked as practically equivalent in age to Duval's embryo of 29 hours (No. 1, Fig. 89 and Pl. XVI).

It was noted that the incubator was running at a temperature somewhat higher than the normal, which may account not only for its more rapid development but also for its abnormality, as may be inferred from Dareste (No. 2, page 121).

Hertwig (No. 3:—d. I, p. 993) and others have remarked on the rarity of cases of Anadidymus in Sauropsida in comparison with the Ichthyopsida. This case is of particular interest, because, unlike Hoffmann's (No. 4, page 40) there appears to be no indication of a double primitive streak, and, therefore, it is to be placed in the same category with Dareste's embryo (No. 2, Plate 16, Figs. 5 and 6), and possibly with that of Mitrophanow (whose paper I have not been able to consult) and Kaestner (No. 5, page 88). The occurrence of such a case may, in my opinion, invalidate the argument of Kaestner that embryos are primitively double (No. 6, page 141), because it depends upon the degree, locality and method of the interference of the two components, whether an organ shall appear double or single. The case of section 131 (Fig. 13) would not be suspected of being an embryo otherwise than normal, while the inspection of section 120 (Fig. 12) at once shows that each half of it in reality is a double embryo. From this point, the interference becomes more complete than cephalad, so that in the backward growth of the primitive streak region (cf. Hertwig, No. 2, pp. 895 and 896, the embryo appears to be single.