the different stages by which the ectodermal muscles are transformed into mesodermal. As far as I could observe the supporting substance rises on the surface of the disk in numerous folds covered with muscular fibrillæ.

The tentacles are placed in two alternating rows, those of the inner row being rather shorter and weaker than those of the outer row, whose length in a contracted condition was 1·0–1·3 cm. They are thick-walled at the base, and run out into a fine point, without any terminal opening. They are all strongly bent inwards, and have a hook-like shape, which is caused by the distribution of the muscles. In most Actiniæ, as we know, the muscles surround the tentacles uniformly, but in *Paractis excavata* they are crowded together towards the adaxial side where they form a muscular pad, which I have never found equalled in strength in any other Actinia. In the tranverse sections (Pl. XI. fig. 14) the muscular fibrillæ lie close together, and the framework of connective tissue is completely hidden, and only becomes distinct by appropriate staining; it forms a network whose meshes are small near the supporting lamella, but large and longish towards the epithelium, enclosing spaces lying perpendicular to the surface of the tentacle. The surface of the tentacles was not well preserved, so that I could not determine whether these spaces were completely closed, or whether they communicate here and there with the epithelium, which appears to me more probable.

Over one half the circumference of the tentacle the muscular layer is of uniform thickness, but thins out over the remaining half into a delicate membrane, which seemed to me to be wanting at the base of the tentacle, unless perhaps it had been rubbed off. In spite of the varying strength of muscular layer, the thickness of the tentacle wall is essentially the same all through in transverse section, as the connective tissue substance becomes thinner in proportion as the muscular layer becomes thicker.

It is, however, only the lower third of the tentacle which comports itself in the manner above described, a transverse section through the point presents an essentially different figure. The muscular layer is weaker indeed but present on all sides, it merely becomes a little smaller for a short space on the abaxial side than on other parts of the transverse section. A series of transverse sections rising from the base to the point shows all the transitions between the two extremes, and we can follow step by step the process by which the muscular layer, which originally lies only on one side of the tentacle, gradually surrounds it entirely. I have only figured three transverse sections of such a series, of which one is taken at the base (fig. 13, *c*), the second (fig. 13, *b*) from the middle, and the third (fig. 13, *a*) from the point. In all of these the thickness of the muscular layer is indicated by hatching.

The œsophagus is very short, corresponding to the height of the animal; it is furnished with two œsophageal grooves, and eighteen longitudinal swellings. Six pairs of septa of the first order, and six pairs of the second order, are inserted in the œsophagus,