

primitive myo- and neuro-epithelia, not so fully differentiated as in the ectoderm. In the Antipathinæ the entoderm has a structure which comes closer to that of Cerianthidæ than to the condition found in Hexactinidæ. This is due to the fact that in Antipathinæ the gland cells are numerous, and usually regularly distributed in all parts of the entoderm.

In *Antipathella subpinnata* the entoderm varies considerably in thickness in different parts of the polyp. That of the tentacles has a diameter of 14 to 21 μ ; in portions of the body-wall the layer attains a thickness of 32 μ or more. The entoderm is everywhere chiefly composed of hyaline gland cells, which remain quite transparent in borax-carminé preparations, but in hæmatoxylin the cell-wall stains slightly. Each cell contains a single deeply-stained nucleus, sometimes placed near the centre, at others near the base. The gland cells vary considerably in shape. Many are subtriangular with one side resting on the base of the layer; others are broadly oval, whilst others again are more elongate and slender. They vary from 9 to 20 μ in length, and from 4 to 10 μ in breadth. The appearance of the entoderm in the tentacles (when stained in borax-carminé) is shown in Pl. XIII. fig. 8, *en*; that of the stomodæum, under similar conditions, in Pl. XIII. fig. 10, *en*. In both cases, adjoining the mesogloea, a thin, granular, or semifibrous layer occurs, in which the bases of the gland cells are imbedded. This probably represents the nervous layer of Actiniaria. Ganglion cells have occasionally been observed at its base; one of these is represented about the middle of the entodermal nervous layer in Pl. XIII. fig. 10. Between the hyaline gland cells a number of elongate fibrous cells occur, the course of which is difficult to follow, but they appear to reach the surface of the layer and contain large round or oval nuclei. The hyaline gland cells are frequently so elongate as to reach the surface of the entoderm, or are only separated from it by an irregular layer of cubical cells, each with a large nucleus. In other cases, however, where the gland cells are not so elongate, the surface of the entoderm is occupied by a number of short, ribbon-like, ciliated epithelial cells, which appear to taper below and to be pushed in between the glandular elements. These cells are not well defined in either hæmatoxylin or borax-carminé preparations. The gland cells are practically all of the hyaline type, but a small isolated granular gland cell has occasionally been noticed having a similar position and structure to those of the stomodæal ectoderm. No nematocysts have been observed in the entoderm. The entodermal muscular system appears to be extremely rudimentary, but a few circular fibres appear to be present in certain parts; in the greater portion of the layer it appears more probable that the myo-epithelial cells have not given rise to a definite layer of muscular fibres. Borax-carminé does not appear to bring out the muscular fibres clearly; they have been seen most distinctly in transverse vertical sections of the stomodæum stained in hæmatoxylin.

Ova.—The ova are contained within dilations of the transverse mesenteries, the