

view (*Fig. 12, a<sup>1</sup>*). The innermost wall (*Figs. 10, b, and 14, c*) is papillate on its inner surface (*Figs. 10, b, 13, a b, and 14, c<sup>2</sup>*), owing to the slightly projecting ends of the cells. The cells (*Pl. XIX. Fig. 14<sup>b</sup>*) are much smaller than those of the outer wall, and also differ in having distinct granular contents, a smaller mesoblast (*b*), not granulated, and a much more conspicuous, but smaller, dot-like, dark entoblast (*c*).

When the medusa is fairly free from the restraint of the horny sheath, and has had a few hours to expand itself, the individual cells of the different walls are found to have dilated considerably. The cells which compose the outer wall of the disk and its transverse septum, are in one layer, excessively transparent, and very difficult to recognize. They are usually six-sided (*Pl. XIX. Fig. 22*), and nearly symmetrical, with smaller and fainter mesoblasts (*a*) than those of the last phase, and mere dot-like entoblasts (*b*). An extremely faint granulation pervades the whole cell. Freshwater swells these cells (*Fig. 21*), and causes the granulation to vanish, but does not seem to affect the mesoblasts. At the base of the tentacles, the outer wall of the bulb (*Pl. XIX. Fig. 26*) is a solid mass of very transparent, small, rounded cells, hardly larger than the mesoblasts of the disk cells (*Fig. 22*). The surface of this bulb is covered by large lasso-cells (*Fig. 25*). The outer wall (*Pl. XX. Fig. 9, c*) of the tentacles is more transparent than the outer wall of the disk, and does not afford the least trace of cellular structure, except in the case of the lasso-cells (*b*), which are imbedded in heaps within its thickness. A few scattering cylindrical papillæ (*a*) give a peculiar appearance to the tentacle at this age, but they disappear very soon. By plunging a fully-grown medusoid into freshwater, the cellular structure of the radiating tubes was brought out very clearly. In profile (*Pl. XIX. Fig. 27, b*), the wall presents only a single layer of broad and short cells, closely resembling those of the inner wall of the tentacles. Each cell contains a single, moderate-sized mesoblast. Viewed in front (*a*), these cells appear polygonal, and much broader transversely to the axis of the tube. The middle wall of the disk shows no trace of organization, beyond the parallel horizontal striæ (*Pl. XIX. Fig. 24*), which have been pointed out in the last phase. In this case, they were seen in a natural state, and appear to be wider apart than when heretofore noticed. Where this wall is continued into the proboscis (*Pl. XIX. Figs. 15, l<sup>2</sup> h<sup>1</sup> h, and 16, l<sup>2</sup> h*), and constitutes its inner wall, the cellular structure is very easily discerned. In the pendent part of the proboscis (*Figs. 15, h h<sup>1</sup>, and 16, h*), the cells are very large and transparent. In profile they are seen to vary in shape, according to the degree of contraction or expansion of the proboscis; sometimes having a broad cylindrical shape (*Fig. 16, h*), or, at another time, being prismatic and conical (*Fig. 15, h*), with the apex inward, forming the inner surface of the cavity of the proboscis, and the broader end