

tion of an arm of Aurelia, shows the same marginal tentacles (*b b*) along its edge, as we have in Polyclonia (Pl. XIII. *Figs.* 15 and 16, *l l*), and the narrow openings (*s s*), leading into their channels, correspond to the fissure which extends between the same tentacles in Aurelia (Pl. VII. *Fig.* 7), and leads, also, into the main channel (*a*) of the arm. If we can speak of a mouth among Radiates, it is, therefore, the whole extent of the margin of the branching arms which forms its outline, exactly as in Aurelia, Pl. VI. *Fig.* 3. But for a mouth so constructed, a distinct name was needed, and as that structure is homologous throughout the type of Radiates, I have called it actinostome. The actinostome of Polyclonia has only this peculiarity, that near the base of the arms, where their margins are entirely soldered together, there are no apertures at all leading into the main cavity, and yet, even here, the sutures of these margins may be noticed as shallow furrows along the middle of the main branches of the arms (Pl. XIII^a. *Fig.* 5, *s s*), while at their extremities (*d d*) the terminal marginal lobules conceal these furrows, as well as the pores, or fissures, scattered along their course (Pl. XIII. *Figs.* 15 and 16, *s s*). Besides the mere fissures, indicating the points at which the margins of the arms are not soldered together, there are specialized pores, or small rounded apertures, scattered, at greater intervals, along the soldered margins of the arms, *Fig.* 2, well seen upon the arms of segments 4 and 5, in which the marginal lobules are removed. Two such pores are particularly noticeable, about the centre of the lower floor, *Fig.* 2, in a position which is homologous to the extremities of the straight line formed by the closing of the margins of the arm, across the mouth, in Aurelia, Pl. VI. *Fig.* 1. The outer surface of the arms is rounded and smooth (Pl. XIII^a. *Figs.* 1 and 4).

In the centre of the lower floor, between the connected base of the arms, hang peculiar appendages, consisting of a variety of papillæ, or lasso-tentacles, of a most diversified size and form. They are thinner, larger, and more pointed (*Fig.* 11) upon the ramifications of the arms, and more club-shaped (*Fig.* 10) upon the centre of the actinostome; here and there there are large ones, paddle or shovel-shaped, or cylindrical, with one or several patches of lasso-cells, either on one side only or on both sides (*Figs.* 8 and 9) of the papillæ. The lasso-patches are white, with yellow specks; the stems of the lasso-tentacles are greenish, and their lobes yellow, and the tentacles themselves white. The microscopic structure of these singular appendages is very peculiar; the yellow patches consist of clusters of strongly pigmented cells (Pl. XIII. *Fig.* 12, *y*); the position of these patches upon the tentacles may be seen in *Fig.* 14, *y y*. The shovel-shaped tentacles with lasso-patches (*Fig.* 13) have a similar structure as the preceding, but on opposite sides there are comparatively broad patches of lasso-cells, closely packed together, and varying somewhat in size and structure (Pl. XIII. *Fig.* 17, *a b c d e*); when uncoiled, these cells exhibit