

a curve, following an upward or a downward course, that is, trending toward the apex, or base of the stem; and occasionally a cell has a double curve, in a plane parallel to the axis, and also laterally (*Fig. 13*). The perpendicular curvature accounts for the fact, that in breaking a stem, the surface of fracture is usually curved, the stem naturally giving way along the line of least resistance.

A structure like this does not occur among the Corals of the class of Polyyps; it is peculiar to the Tabulata, as a comparison with those of Pocillopora and Seriatopora, described in the following sections, unquestionably shows. I am, therefore, satisfied that the whole group of Tabulata must be referred to the class of Acalephs, in which they find naturally their place, among the Hydroids.

## SECTION II.

### POCILLOPORA DAMICORNIS LMK.

*The Corallum.*—The youngest cells (Pl. XV. *Fig. 14, a*) of the corallum are about as strictly defined as the older ones; there is none of the uncertain, irregular limitation between the outlines of the cells and the spaces intervening, as we have observed in Millepora, but the corallum is deposited in a solid mass (*Fig. 14<sup>a</sup>, c*), close up to the boundaries of the pits. The intervals, at first, are very thin and fragile, and crested by rather irregular, spiniform projections, which are arranged, generally speaking, in a single row. Similar spines, but shorter and more conical, are scattered all over the sides and bottom of the cells. In consequence of this close proximity of the cells, they are necessarily polygonal, and usually five or six-sided. After a cell has developed to a certain degree, and obtained a depth equal to one third its width (*Fig. 14<sup>a</sup>, a b*), it loses its simple character, and becomes transversely partitioned, and, at the same time, excepting at the forks of the branches, where the hydroids are crowded to a certain extent, changes its contour, and becomes more circular; and, finally, the intervals widen, sometimes to such an extent, that, in the oldest part of the stem, they are as broad as the cells between which they lie. All the chambers which are shut off from the outermost or youngest division of the cell, are perfectly smooth, the intervals between the spinules being filled up by calcareous deposit, which, at the same time, thickens the intervening walls of adjacent cells to a greater or less extent. The transverse diaphragmic partitions are quite firm, and sometimes of considerable thickness, and are usually slightly arched across the cell, and imperforated (*Fig. 14<sup>b</sup>*). In the oldest cells, three quarters of an inch deep, there are at least from thirty to