vature as the outer surface. Thus every layer of the *interambulacral system* is doubly convex, and therefore thickest along the median line of the lobe, and thins out nearly to an edge, on each side, where it meets the ambulacral layer. It also thins out at the actinal and abactinal ends, and finally terminates (*Fig.* 23 n^3 n^5) on a line with the ends of the rows of locomotive flappers. The longer axes of the cells of this system trend more or less parallel with the surface of each band (*Fig.* 21 n n^1) to which they severally belong, and directly across from one ambulacral row to another (*Fig.* 23 n^3 n^5). Therefore, when they contract longitudinally they tend to draw the rows of locomotive flappers closer to each other, and consequently decrease the peripheric extent of the spherosome. This, we shall see hereafter, has an important bearing upon the peristaltic movements of the body.

A band of similar cells (*Fig.* 21 m^1) — the *oral system* — encircles the mouth, the longer cells trending parallel to the edge of the lips, so that, when the mouth is open and rounded, they are parallel also to the longer axes of those which constitute the interambulacral system. In fact, the boundaries of the two systems — the oral and the interambulacral — merge one into the other, at least at the corners of the mouth, but more faintly at right angles to these points.

The *ambulacral system* consists of bands of cells (*Fig.* 26 x^1 x^2 x^3), which are identical in their nature with those of the interambulacral layers, and are eight in number, one of each underlying a row of flappers (u). The thickness of a band is equal to the distance between the ambulacral tube (r) and the surface of the body, and its lateral expanse corresponds to the breadth of the row of flappers which it underlies; although it cannot be said whether this system belongs exclusively to the locomotive apparatus, or takes part in the peristaltic movements of the body in common with the interambulacral system into which it so gradually passes. The latter agency most unquestionably obtains in the area about the mouth and on the opposite pole, where the different peripheric systems merge into each other, and where neither the ambulacral tubes nor the flappers are present: but in the ambulacral region, the specialization of these cells, for the purpose of locomotion, no doubt, is predominant; and, perhaps, as we shall presently see, some of them are exclusively devoted to the flappers. This assertion will appear to be true upon inspecting *Fig.* 26, in the region (w^1) from which the flappers (u) arise. The ridge (w) upon which each flapper is based is a simple projection from the surface of the body; but its cellular constituents (w^1) are arranged in a peculiar manner, which indicates, as we think, the particular and exclusive use to which they are appointed. The longer axes of these cells each and all trend outwardly in the direction of the base of the flapper; and, unless we misinterpret appearances, they may be recognized in the flapper itself, where their outlines appear as longitudinal striæ. In plain terms, we would say that it is our conviction that these cells are arranged