An examination of the arrangement of the tentacles may readily be made by cutting them off at their base, as in Pl. IV. Fig. 1 a, or by an inspection of the inner surface of the lower floor, Pl. IV. Fig. 7, where the round apertures, arranged in rows, indicate the lumen of the tentacles. It is then seen, that those nearer to the concentric and radiating folds are the larger ones, and those more outward, towards the margin, the smaller ones; while it also appears that these rows, which follow the outlines of the folds, form, in their combination, a crescent-like figure, the arms of which are but slightly open. This, again, explains the peculiar appearance of the bunches, as seen in Plate III., in which the two middle bunches are visible from the outside, so that the smaller and shorter tentacles are in front, and the larger and longer ones further backward, in the convex part of their surface of attachment; while the lateral bunches of the same figure are brought to view in such a position that the part nearer the middle bunches is seen from the inner side of the crescent-shaped surface of attachment, and the further part, from its The aspect presented by all these tentacles, taken as a whole, is further outside. rendered more varied by the difference in their color; the majority of them are of a purplish-red tint, similar to that of the surface of the disk, but there are always a number which have a more yellowish, or orange tint, and others which are more reddish, and when all tentacles are in full play, the changes of color add greatly to the effect of the motion.

A comparison of the tentacles with the folds of the lower floor discloses, between them, an unexpected resemblance, which can leave no doubt in the mind that, after all, the most diversified organs of these animals are only modifications of very simple structural elements. Like the folds and the lower floor itself, the tentacles consist of two distinct layers of cells, between which there is a larger or smaller amount of the characteristic gelatinous mass of the Acalephs, and the chief difference between the tentacles and the pouches of the folds consists in their form, as Fig. 7 of Pl. IV. shows. In the folds, the cavities are the result of straight plications, intersecting one another, and thus forming angular sacs, projecting but slightly; in the fields occupied by the tentacles, which are immediately adjoining the folds, we have similar pouches, with rounded outlines, projecting enormously in the shape of hollow cylinders, and lined by a prolongation of the inner layer of the floor, while the outer surface is the direct prolongation of the outer layer. Between these two layers there are larger or smaller masses of gelatinous substance, varying in thickness near the base of the tentacle, or between the folds of the pouches, according to their various stages of development with an advancing age.

The genital pouches themselves share this structure, being, in fact, large sacs, formed by a projection of the whole thickness of the lower floor, between the pillars to which the actinostome is suspended; Pl. IV. Fig. 2, and Pl. V<sup>\*</sup>. Fig. 15,