

SECTION II.

THE ABACTINAL SYSTEM OF CYANEA.

It has already been shown, in the preceding chapter, that the so-called umbrella of the Discophoræ represents the abactinal system of the Radiates generally, and more particularly corresponds to the abactinal area of the Asterioids, since in these the actinal area is stretched out in one plane with the mouth or actinostome, as in the Medusæ proper.

A view of the disk from above (Pl. V.) shows plainly that the whole body of Cyanea is symmetrically divided, along its margin, by eight deep indentations into eight identical parts, each of which shows again two minor emarginations. The edge of each of these eight equal parts is thus divided into four lobes, two smaller ones in the middle, and two broader ones, of which there is one on each side of the smaller. Such an eighth part of the whole disk appears circumscribed by lines easily seen from above, reaching an inner circle, the interior of which is divided into unequal small fields. The lines which indicate the separations of the eight equal parts converge from the deep emarginations to the inner circle and other lines, passing between the two smaller middle lobes, and also reaching to the inner circle, subdivide each eighth of the body into symmetrical halves. Thus the whole disk is divided into sixteen equal parts, in such juxtaposition that two and two form an eighth of the whole. Besides these straight lines, there are, nearly upon the middle of each of these sixteenths, other lines running, in a somewhat crooked course, from the smaller emarginations, between the larger and smaller lobes, inward toward the inner circle, which they, however, do not reach. These bent lines are broader toward the centre than toward the circumference. There appear, also, at some distance from the edge, and facing the large emarginations, broken lines extending from one crooked line to another, the angular projection of which is turned toward the centre. Similar broken lines, but shorter, more waving, and nearer the margin, exist also in front of the lesser emarginations, between these and the eyes. In order to be able to designate these different outlines with more precision, and without circumlocution, I propose to call the short radiating lines between the deep emarginations and the inner circle, the short junctions, and the longer radiating lines, extending from the small emarginations to the inner circle, the long junctions. These names are justifiable inasmuch as they do not designate lines marked on the surface, but indicate the points where the long side and the short side of each sixteenth segment of the disk unite with the corresponding