No distinct radial shields are yet visible; but along the margin of the disk are overlapping plates, which, increased in number and size, may be found under the skin of the adult. A ring, consisting of two large side arm plates (occupying the under surface) and four pieces representing upper arm plates, surrounds the arm (fig. 2). Fig. 1 gives a lower view of the entire animal of figs. 2 and 3 before drying. All the lower plates are concealed by the thick skin, although the upper ones may be distinguished. There are, as yet, but two arm forks, and the first one is far from the disk, as in *Trichaster*. There is one madreporic plate in the usual position of a mouth shield. It looks like a little pimple, but has been omitted by the lithographer. Tentacle scales, like little hooks, are found as far as the joint where the arm joins the disk. By the time the disk has attained a diameter of 7 mm. considerable changes have taken place. The granulations, which had only appeared as lines in the younger stage, now almost wholly hide the plates, both above and below (fig. 17). The genital plates and scales (*o*,*n*) not noticed before are now prominent. The madreporic shield (*a*) is swollen and perforated; and the jaw has a well-marked jaw plate, and on the sides mouth papillæ. In a fully grown specimen traces of the young stage may still be followed. On removing the skin from the mouth angles of a disk 60 mm. in diameter (fig. 19) there appear a jaw and jaw plate (*c*,*e*) more rounded and less elongated than in the young. Outside these, but of comparatively small size, are the side mouth shields (*b*), and, again outside these, the madreporic shield (*a*). The copious granulation, which, during the middle stage, covered the lower interbrachial space (fig 17) has essentially disappeared, as have the disk plates, which ceased to grow and were obliterated in the thick skin. Above, the disk shows no granulation (*Gorgonocephalus agassizii*) save in form of a few small spines whose bases are surrounded by grains; just at the margin may be recognised the lines of plates already referred to. The chief features of the roof of the disk are the high and long radial shields, so characteristic of the group.

Thus, a disk, flat at the beginning and covered with plates quite as among ordinary Ophiurans, proceeds to change, first by covering itself with a close granulation; secondly, by the disappearance or atrophy not only of this granulation but of the disk plates, except those of the margin which continue to grow and multiply; thirdly, by the great development in length and height of the radial shields.

The beginning of an arm, as illustrated at its tip, differs in no essential from that of Ophiurans.[1] A small swelling or knob makes the end, and indicates the beginning of the next new joint (figs. 4, 5). The penultimate joint is divided lengthwise, above and below, making the side arm plates (*i*) which enclose the arm. From the outer edge of these plates springs a slender projection of lime spicules which, by a constriction near its base, becomes a small jointed spine. This bends at its point, throws out an additional curved branch, and becomes a double tentacle hook (fig. 14), homologous with those in *Ophiothrix* and

[1] Bull. Mus. Comp. Zool., vol. iii., part 10, pl. v. figs. 2, 8, 12.