

The number of the individual polyps and their arrangement on the surface of the body is almost the same in both the colonies investigated. Eight polyps are uniformly distributed along that circumference which divides the upper half of the shell from the lower when the *Pagurus* is crawling about on the bottom; the polyps just mentioned are the largest and most powerful of the colony, and are plainly most favourably placed for acquiring nutriment, as they are always at a little distance from the bottom (Pl. III. fig. 2). A medium-sized polyp rises nearly in the middle of the convex upper side of the colony, and in one colony a second smaller polyp lay close beside it. On the lower side an obviously rudimentary polyp grows on the posterior margin of the opening of the shell (fig. 9); it has the best position on the lower side, which is on the whole disadvantageous to development, as it is raised from the bottom as long as the *Pagurus* is crawling about, and only lies upon it when the *Pagurus* has retreated into the shell. In the colony consisting of eleven individuals there was the indication of a twelfth between the eight marginal polyps. It may be taken as a general rule that the distribution of the polyps on the surface of the colony is not accidental, but that those spots are preferred in which the animal has room for free development, and also a convenient position for acquiring nutriment.

The whole surface of the colony is covered by a dirty yellow substance permeated by sand granules, which can be easily scraped off; underneath this the fundamental substance of the wall becomes visible, which resembles cartilage in consistency and colour, and is also hardened superficially by sand granules. This hardened layer is so thin that it can be removed by sections parallel to the surface, and yet leave sufficient fundamental substance both in the cœnenchyma and the wall for transverse sections. These conditions were extremely favourable to examination, so that I regretted the more that the colonies were not better preserved.

The large marginal polyps were 2–2.5 cm. high, 1.4–1.7 cm. broad, and slightly flattened from above downwards. The upper part of the wall is inverted, and forms a horizontal roof; this might be taken at first sight for the oral disk, as it is separated from the bulk of the wall by a circular furrow, and also differs in its structure, being furnished with numerous (about forty) radial ridges, already observed by Verrill, which are broad where they begin at the margin and become narrower as they run inwards. The radially striated part of the wall is distinguished from the oral disk by being encrusted with sand granules like the rest of the wall. In the middle of this horizontal roof is a fissure running parallel to the margin of the colony, through which, in many polyps, the points of the incompletely retracted tentacles peep out. Through this fissure we may reach the inside of the polyp, first passing through the space lying above the oral disk.

The fundamental substance of the wall is homogeneous, but in transverse and longitudinal sections it shows a striation parallel to the surface of the body, which looks as if it were deposited in layers (Pl. XIV. fig. 5). The striated layers are crossed by fine