

the mesoderm of the body-wall of the polyp the skeletal elements may be greatly developed, so as to constitute the former a stiffened cylinder. The first beginning of such is to be seen in some species of *Telesto*, where the spicules of the body-wall so interlock as to produce a marked rigidity. Such a support is, however, well developed in *Tubipora*, where the spicules of the mesoderm coalesce with one another, so as to transform both the mesoderm of the polyps and of the stolons into solid tubes. In *Heliopora*, finally, we see crystalline calcareous masses appearing in the abundantly developed cœnenchyma, and the colony becomes a porous coral mass.

Another series of progressive modifications may be traced on the separate individuals of the various colonies, which have for their object the protection of the soft parts of the polyps, especially the oral region and the tentacles. These modifications are not unimportant as characterising the main divisions, and are of much use in determining the mutual relations of some of the families and genera. In the simplest cases, when the polyp contracts, its oral region is invaginated, and it folds the tentacles over the oral aperture. If the tentacles are on their abactinal surface furnished with spicules, they act in virtue of their position as a certain protection against external assault. Such conditions are exhibited by the species of several families and genera; thus among the Alcyonacea in Cornulariidae (*Rhizoxenia* and *Anthelia*); among the Scleraxonia in many Briareidae; among the Holaxonia in the Dasygorgidae. A progressive step in this adaptation of the tentacles for protective purposes is exhibited by many polyps, in which under the bases of their tentacles long spine-like spicules have developed. These surround the tentacles and oral region as a circle of sharp projecting spines, as in several species of *Spongodes*, *Ceratoisis*, and *Acanthogorgia*. If these spicules be broad triangular discs which may be laid down over the infolded tentacles, opercula are formed which close the entrance to the soft parts, as in the Primnoidae. At the same time the body-wall of the polyp always forms by means of embedded calcareous spicules a more or less rigid structure.

In Muriceidae the polyps exhibit a still more differentiated structure. In these each polyp consists of a basal portion thickly beset with spicules, which projects from the cœnenchyma of the calyx, then of an œsophageal region which is soft and without spicules, and lastly of an oral region including the oral disc and the tentacles, which at their bases are surrounded by a collar of spicules. The bases of the tentacles are on their abactinal surfaces thickly beset with spicules. The entire œsophageal portion may be invaginated within the calyx, and over this the armed tentacles form an operculum. In its expanded condition the polyp is able to bend its body in diverse ways, since no spicules hinder the free mobility of its œsophageal portion.

A still greater freedom of motion is attained when the base of the polyp being rigid, the rest of the body remains soft and without, or with very few, spicules. The flaccid body can then be completely invaginated within the calyx, and closed by the