Spheroidal cavities occur excavated in the cœnosteum at a very slight depth from the surface. These contain the gonophores in the recent state of the coral, and may be called ampullæ. They are in this genus entirely buried beneath the surface, whereas in most genera of Stylasteridæ they project above it often to a very conspicuous extent. They communicate with the exterior when mature by means of small slit-like apertures placed at the bottoms of small irregularly shaped depressions which are to be seen with some difficulty scattered over the coral surface (Pl. II. fig. 2, GG). Only male specimens of *Sporadopora* have been obtained as yet. No doubt, in the case of ampullæ containing female gonophores, a comparatively wide opening in the surface of the cœnosteum is formed to allow of the escape of the fully formed planula.

This actual tissue of the cœnosteum must be in *Sporadopora* and in most other Stylasteridæ excessively dense and compact, since the masses formed by it, although, as described, excavated by canals in all directions, are heavy.

In the older parts of the stems and their bases, the cœnosteum appears to become compact and stony, and crystalline in fracture by obliteration of the canals and pores. In some specimens, portions of the surfaces of the stems which have once been dead have undergone rejuvenescence by the spreading of a thin layer of living coral over them from adjacent healthy regions.

The dead cœnostea are overgrown by a *Flustra* and other Bryozoa, and form bases of attachment to large masses of other Stylasteridæ, such as *Errina labiata*.

Since the calcareous meshwork is closer at the surface of the cœnosteum, its meshes must necessarily become enlarged by reabsorption as growth proceeds. Cavities also such as those of the ampullæ must be filled up as the cœnosteum grows. The irregular cavities existing beneath the ampullæ in some cases, as shown in Plate XXXV. fig. 1, probably represent spaces occupied in an earlier condition of the coral by gonophores. Sometimes also old ampullar cavities remain unfilled up, situate beneath the more superficial and active ones.

The tissue of the cœnosteum is very like that of *Millepora* in histological structure, but appears somewhat more granular in texture, and less fibro-crystalline than it.

Soft structures of *Sporadopora dichotoma* (Pl. III.).

Cœnosarc.—The tortuous canals and pores by which the cœnostea of all the Stylasteridæ are traversed, are occupied in all the genera alike, in the living condition of the coral, by a series of meshworks of correspondingly branching, twisting, and anastomosing canals, which compose the cœnosarc or common body of the compound organism in each case. In *Sporadopora* only a comparatively thin layer on the surface of the coral is occupied by living soft structures. These living structures are separated from the non-living deeper masses of the cœnosteum by the action of acids, and then appear as a sheet of soft