and by the incurrent canals (Pl. IV. fig. 4). The saccular chambers which lie adjacent to one another have either grown together laterally, at the points of contact, so as to form narrow longitudinal stripes, or are connected by means of short beams (Pl. IV. figs. 4, 6).

The interspaces and canals extending from the apertures of the outer trabecular framework, and passing in between the chambers, are terminated by a connecting membrane which is stretched, as a direct continuation of the chamber walls, between the margins of the chamber orifices.

The inner trabecular framework, on the other hand, together with the internal perforated skin, which is known as the *gastral membrane*, enters the excurrent canals and lines them as far as the orifices of the chambers (Pl. IV. fig. 4).

Without entering here more minutely into the histological relations of the soft parts thus generally referred to, I would merely note, that in some cases I found, both in the inner and in the outer trabecular framework, numerous sperm-balls, and also ova of different sizes (up to 0·3 mm. in diameter), filled with round yolk-granules. In all these ova it was peculiarly remarkable that the germinal vesicle which contained a large nucleolus was protruded outwards, and lay on the surface in a round hollow pit-like depression of the surface.

The Skeleton.—The filagree-like lattice framework, which is readily obtained by macerating older specimens, as also the spicules which lie freely in the soft tissue, are so well and so accurately described by such earlier observers as Owen, Claus, Marshall, and Carter, that I content myself with referring to their excellent works, and will here only briefly note the more important points in connection with the architecture of the skeleton, characterise the different kinds of spicules according to their form and arrangement, and discuss, at greater length, some points which have hitherto been but little noted.

The groundwork of the entire continuous tube-skeleton consists of two layers of beams crossed at right angles. One of these layers, the inner, is composed of circular strands of fibres, while those of the outer have a longitudinal direction. Both together form a lattice-work which is more clearly recognisable on the inner side, and which exhibits quadrate meshes, varying from 3 to 5 mm. in breadth. Outside these two layers of beams, and partly also between them, are two other systems of intersecting fibres, which run diagonally to the former, and surround the tube in opposite directions in *oblique spirals*. They are particularly obvious on the outer side of these quadrate meshes of the main lattice-work which neither have parietal pores, nor are covered by external ridges. These externally protruding elevations or ridges are supported by two layers of steeply-set beams, which lie just beneath the two lateral surfaces, and which, like the opposite rafters of a very steep roof, have their outer ends united at an acute angle corresponding to the sharp edge of the ridges. They are also firmly fused laterally to one another, and to the strong lattice-work of the tube (Pl. IV. fig 3). These rafter-like