of the legs, always been considered as a very important support for the belief in the near relationship between the Pycnogonida and the Arachnida, and more especially the Phalangida.

Morphologically, the œsophagus extends from the mouth to behind the œsophageal commissures. Taking the function of the organs into consideration, I believe that only an extremely small part should bear the name of œsophagus. At a very short distance from the mouth the œsophagus widens considerably. This widened part, which shows its greatest dilatation in front of the middle of the proboscis, slopes again backwards, and imperceptibly passes over into a much narrower canal, which extends immediately behind the œsophageal commissures. The widened part of the œsophagus, which almost reaches to the end of the proboscis, is invested by a chitinous wall. This wall is beautifully beset with thin parallel chitinous bands, which are furnished with numerous thin spines. In the front part these are wanting. They begin on the two ventral parts of the inside a little before they are found on the dorsal part. These foremost spines have the form of short teeth, and only further back do they assume the form of long thin spines or needles. From the wall of this part of the œsophagus numerous bundles of transversely striated muscles extend till they reach the outer wall of the proboscis, their distribution being in *Nymphon*, *e.g.*, such that two longitudinal rows are attached to each of the three parts of which the inner wall of the œsophagus is composed (Pl. XVIII. fig. 9). As to the function of this part of the œsophagus, judging from these muscles and from its internal armature, I think it not very hazardous to compare it with the cardiac portion of the stomach of the Crayfish. It is a masticating apparatus.

Posteriorly it passes over into a very long (slender species of *Nymphon*), or rather short (*Colossendeis*) cylindrical tube, the wall of which is still divided into three longitudinal parts, which on a transverse section are triangular and leave an extremely narrow canal in their middle. I studied the histological structure of this part of the wall, which extends to beyond the œsophageal commissures. Its cells are of a long cylindrical form, longer in the middle and shorter on both sides of the triangular part. They are furnished with distinct nuclei, which sometimes are all placed near the outwardly directed extremity of these cells, but sometimes also are found more in the middle. Between these cylindrical cells there are some of a long conical shape, the base of the cones being, as a rule, directed outwards. Inside, the surface of these cells is invested by a structureless membrana intima, and outside a similar cuticular formation is present (Pl. XXI. fig. 6). This epithelial covering does not end abruptly immediately behind the œsophageal commissures. In the interior of the succeeding part of the intestine it forms three glandular bodies, which hitherto have not been observed, and whose function, judging from their position, must be, I believe, pancreatic. In fig. 7 on Plate XXI. I show the place occupied by these glands, and in fig. 8 of the same plate a transverse section near the extremity of the two