

broadest in the middle, lanceolate above and below (figs. 8, 12, *gn*). They communicate with the simple central space of the basal stomach by four narrower longitudinal clefts, and correspond to the four peduncle chambers of *Lucernaria* (Pls. XVI., XVII., *gn*). The transverse section is therefore the same in both cases, and shows the form of a Maltese cross; but with this difference, that in *Lucernaria* (Pl. XVII. fig. 13) as in *Pericolpa* and *Peripalma* the four interradial tæniola are solid selvages, whilst in *Periphylla* (Pl. XXI. fig. 14) as in *Periphema* and *Pericrypta* they are hollow cones. Two diverging phacelli (or longitudinal rows of gastral filaments) beset the entire length of the hollow cone, and diverge from each other below at the pylorus, in such a way that the two phacelli of each two adjacent cones which are turned to each other meet in the four perradial angles of the pylorus. From thence they diverge further upon the margin of the gastral openings.

The tæniola ("tæniola gastralia," gastral longitudinal selvages, *ft*). The axial principal intestine of *Periphylla*, whose three divisions have been already described, has apparently an extremely complicated character, which separates it in a striking manner from other Medusæ. A clear, simple explanation of this may, however, be gained by comparing this axial intestine with the more simple principal intestine of the Lucernaridæ and Tesseridæ. If we abstract the secondary differentiations, and only bring forward the primary principal conditions, we are able to refer all these formations to the simple, common ancestral form, to the primary intestine of the scyphopolyps, *Scyphostoma* (comp. my System der Medusen, pp. 364, 367, 384, 403, &c.). The four endodermal interradial tæniola are already developed from this primary intestine, divide the periphery into four perradial niches or pouches, and traverse the whole length of the gastral wall, from the aboral peduncle base to the oral margin. These then characterise pre-eminently the section of the Acraspedæ, and develop the peculiar typical "gastral filaments." In their common parent form, *Tessera* as in *Scyphostoma*, we can distinguish two sections in each tæniolum, the umbral at the umbrella wall and the sub-umbral at the peristome wall; the two touch at the umbrella margin. From beginning to end, from the aboral central point to the oral margin, the interradial tæniola and their products show a steady tendency to centripetal growth, whilst on the contrary the perradial pouches between them show the same tendency to centripetal growth. In our *Periphylla* (1) the four funnels of the basal stomach and their rows of filaments, (2) the obelisk plates of the central stomach with rows of filaments, (3) the buccal columns of the buccal stomach with their wings and oral filaments belong to the centripetal system of the four interradial tæniola. On the other hand, (1) the four niches of the basal stomach, (2) the gastral openings of the central stomach leading into the peripheric coronal intestine, (3) the buccal pouches and wing pouches of the buccal stomach belong to the centrifugal system of the four perradial pouches. The correctness of this view is proved directly by the distribution of the eight phacelli or rows of filaments, of which each two