

right angles into the corresponding pieces of the marginal canal. The marginal canal ("canalis marginalis," *cm*) which runs along the proximal side of the urticating ring, is not however the usual marginal "circular canal" of the Medusæ margin, but consists of eight completely distinct pieces, separated from each other by the distal ends of the peronia. Each of these independent "octants of the marginal canal" runs at the two ends into a peronial canal, the two branches thus forming a horseshoe-shaped "lobe canal." Each lobe canal opens with two separate mouths into the gastral cavity beside the base of insertion of each two tentacles. The two peronial canals of each double canal and their two gastral openings (at both sides of a tentacle) therefore belong to two different "lobe canals." The eight lobe canals form collectively the eight-lobed "festoon canal," and this is phylogenetically only a peculiar modification of the primarily simple "circular" canal, caused by the dorsal change of position of the tentacles and the formation of peronia connected with it.

The sixteen subradial reproductive pouches of *Æginura* show essentially the same formation already described by Mertens in *Æginopsis laurentii* (1838, *loc. cit.* Pl. VI.). They are quadrangular, almost rectangular, and distributed in such a way that a large and a small pouch is placed on each of the eight collar lobes (Pl. XIII. fig. 1, 2). The pouches, consequently, lie in internemal pairs, a pair between each two tentacles and peronia. It appears, however, on closer inspection that, as in *Æginopsis laurentii*, all the sixteen pouches actually belong to four primary groups. Two smaller pouches are placed on both sides of the four larger perradial tentacles, and two larger pouches on both sides of the four smaller interrarial tentacles. If the whole umbrella be divided into four quadrants, whose middle lines form the four perradial peronia and the border lines the four interrarial peronia, a group of pouches consisting of two small medial pouches and two large lateral pouches falls in each of the quadrants. The same condition is shown, if we suppose each of the eight lobe pouches of *Cunarcha* already described (Pl. IX. figs. 2-4, *bl*) divided by a centripetal incision of their distal margin into two pouches of unequal size, and the four proximal (perradial gastral pouches), formed by the bifurcation of the eight lobe pouches, to have undergone retrograde formation. It is then clear that each group of four associated reproductive pouches belonging together in *Æginura*, is simply the double bifurcated distal part of a perradial gastral pouch, whose undivided proximal part has undergone retrograde formation (or become part of the central stomach).

In fact, it is only by such morphological comparison that we can understand phylogenetically the remarkable and varied conditions of vascular formation in the *Æginidæ*. The peculiar, apparently isolated, gastrovascular system of the *Æginidæ*, is, therefore, naturally derived from that of the *Cunoctonidæ*, from those *Cunanthidæ* (*Cunarcha*, *Cunoctona*, *Cunissa*) in which each radial canal (or each "pernemal gastral pouch") is cleft at the distal margin into two cæcal lobe pouches. If these paired lobe pouches become larger, and the undivided proximal piece of the pernemal gastral pouch under-