

left correspond to an inter- and an intraseptal space, whilst those to the right correspond to an intraseptal and two interseptal spaces. In order to explain the ultimate arrangement on this plan, it would be necessary to suppose that a fusion takes place between the two median transverse mesenteries, and that the interseptal space between them is thus lost. There does not, however, appear to be any evidence in favour of this view. It would also be difficult to understand the extremely rudimentary character of two pairs out of the six, the tentacles corresponding to them being quite normal. Perhaps v. Koch's theory of degeneration might suggest an explanation, but there does not at present appear to be sufficient evidence in its favour. Again, the tentacles may be presumed to have originally corresponded to intraseptal chambers, and those in the sagittal axis still continue to do so on this view. It may further be supposed that by an imperfect development of one member of a pair in other parts, the tentacles come to correspond below with a wider section of the coelenteron. An elongation of the body in the transverse axis should then cause an increase in the size of the interseptal spaces, so that mesentery 2 would become removed further from mesentery 1, and so on. Such, however, does not appear to be the case. In *Leiopathes* and several other forms, mesenteries 1 and 2, 5 and 6, 7 and 8, and 11 and 12 remain relatively close to one another so long as the "secondary" members of each couplet are present (*cf.* fig. 2). The close relation between mesenteries 3-4 and 9-10 respectively is also very interesting. If one traces the course of these mesenteries from above downwards, their mutual relationship is well seen. For instance, number 3 approaches the transverse axis and becomes more important in proportion as its fellow becomes reduced.

An alternative explanation of the arrangement of mesenteries in *Leiopathes* may now be mentioned, if only in order to exhaust the possible arrangements in pairs consisting of *adjacent* mesenteries. I refer to the possibility of the mesenteries on each side of the median transverse axis forming a pair. On this basis the mesenteries numbered 1-2, 3-4, 5-6, &c., would form pairs, in which case each pair would consist of a primary well-developed mesentery and a secondary imperfect one. There would then be no pairs of "directives" corresponding to those of other Anthozoa, which seems a great difficulty. Although I do not consider this a probable explanation of the arrangement in Antipathidæ, a consideration of its bearings brings out an interesting point. The pairs would be situated one on each side of the sagittal axis at each extremity of the mouth, and a pair in the transverse axis on each side of the mouth. The reduction in the number of mesenteries affects one member of every pair, but those are first to disappear which are situated in the transverse axis. A glance at fig. 16 will show the effect of this arrangement; the primary mesenteries are indicated in thicker outline. The bilateral arrangement, on such an interpretation, is peculiar. Supposing mesenteries 1 and 12 to occupy the "anterior" extremity, the mesenteries which are incompletely developed are the *posterior* members of the first and second pairs on each