

beyond the main cavity, it is inverted into it, the outer surface assuming digestive functions. We may compare this part to the neck of a bottle, which in Polyps would be turned inside, while in *Acalephs* it is turned out and divided into a number of distinct lobes. In this connection, it is essential to notice that the genital apparatus, extending in Polyps along the free edge of the radiating partitions, is double; so that there is nothing extraordinary in the position of these organs along the radiating chymiferous tubes of the *Acalephs*. This does not indicate a different position, but is the result of the great thickness and width of the interambulacral zones of these animals, in consequence of which the genital organs are divided into two rows, one on each side of an interambulacrum, while they appear to be in pairs on each side of an ambulacrum.

The class characters of the *Acalephs* are as distinct as their homologies with the other classes of *Radiates* are intimate. The bulk of the body is a continuous mass, traversed by narrow tubes arising from a central cavity, the opening of which forms a more or less prominent proboscis. Even the most Polyp-like Hydroids have no trace of radiating partitions. The central cavity corresponds to the main cavity of the body of Polyps, and the radiating tubes to the radiating chambers. As in Polyps, the primary tentacles are in the direct peripheric prolongation of the ambulacral system; but, in consequence of the great development of the interambulacra, the genital organs are more differentiated, and often assume an extraordinary development, in connection with a system of special interambulacral radiating tubes, as exist, also, in some *Echinoderms*. The periphery of the ambulacral system becomes connected, either by a marginal circular tube, or by a network of anastomoses, which are also to be found in many *Echinoderms*. The proboscis, when it assumes the shape of a tube, and the so-called arms, around the mouth, which are only a special mode of development of the proboscis, are homologous to the inverted neck of the Polyps, suspended in their main cavity. As the special homologies of the different orders of *Acalephs* have already been discussed in this volume, I need only say here, that, whether the members of this class are as simple as the Hydroids and naked-eyed Medusa, or as complicated as the highest *Discophoræ* and *Ctenophoræ*, the same homologies may be traced among them all, with corresponding class differences. It does not matter, for instance, whether the radiating tubes are simple or branching; whether their course is limited to the ambulacra or extends to the interambulacral zones; whether they trend in the same plane, or branch up and down in the direction of the actinal and abactinal areas; whether tentacles exist only in the prolongation of the ambulacral tubes, or are also scattered along the circular tube; even their presence or absence, and the presence or absence of eyes upon or between them, are of subordinate importance, as are also the preponderance of the actinal over the abactinal area, and