are transferred into two tubes *(Solenophoridae)*; and by the closure of the lower aperture reconstituted into two suckers, the margins of which arc produced and folded so as to resemble the leaf-like outgrowths of the next group. In this division (Tetraphyllidea) four suckers or bothria are developed on the scolex, but their cavities are extremely shallow and their lips extremely mobile and variable in shape. Hence they are called phyllidia (fig. 4). These organs ' may be raised on a short stalk, their cavity subdivided into loculi, and provided in some cases with hooks. A peculiar modification of this type of scolex occurs in the *Echinobothridae,* in which the axial part of the organ (the rostellum) is elongated and provided with several rows of hooks, whilst the phyllidia have partially fused. This elaborate type of scolex appears to be an adaptation to grasp the spiral intestinal valve of sharks and rays. But perhaps the most elaborate scolex is that of the Tetrarhyncha (fig. 5), which are also parasitic in Selachians. The four suckers are here united to form two pairs or fused into a single pair. Internal to the suckers are the four complex hooked proboscides. Each con­sists of an eversible hollow tentacle provided with hooklets and capable of introversion within a mem­branous sheath filled with fluid. The sheath terminates in an elongated muscular bulb. The muscles are arranged in ten or more layers, and are transversely striated. These complex organs have apparently arisen by the increase in depth and differentiation of an accessory sucker such as is borne on the phyllidia of the former group. Lastly, the scolex of the more familiar *Taeniidae* (Tetracotylea) carries a rostellum en­circled with hooks and four cup-shaped suckers the margins of which do not project beyond the surface of the body. It seems probable that these suckers are not the true “ bothria ” but are developed from accessory suckers, the bases of which have dis­appeared almost completely. In one genus (*Polypocephalus)* the place of a rostellum is taken by a crown of retractile tentacles. This order is almost exclusively parasitic in warm-blooded animals.

The extraordinary variety of form and complication of structure exhibited by the appendages of the scolex are adaptations to fix the worm and to resist the peristaltic action of the intestine in which it lives, and are not connected directly with the absorption of food.

*Proglottides.—*The segments into which the body is divided vary considerably in number, size and form. *Taenia echinococcus* has only three, *Echinobothrium* four, *Bothriocephalus* three thousand. In every species the segments develop from the scolex distally and increase in size with the maturation of the contained female genital organs. When this is reached, growth of the proglottides ceases. As a general rule the ripe proglottides arc detached in chains and replaced by others which in their turn become detached, the process being repeated for a year or so until the worm weakens and is cast

out. In special cases, however, a proglottis may be detached before attaining full growth, and with its generative organs in an imperfectly developed condition. The minute *Taenia (Davainea) proglottina* (∙5 to 1 mm. in length) from the common fowl detaches its four or five segments into the intestine, where they attain a length of *2* mm., and a breadth of 1·25; that is, more than twice the size of the parent. The Cestodes of Elasmobranch fish offer more convincing examples of independent growth of the pro­glottides, for these are often set free with only the male organs developed, and each attains twice the size of the parental strobila.

The form of the proglottides is most generally a rhombic or trapezoidal figure. The hinder border is often drawn out into mobile processes and hollowed out around the insertion of the next

segment. At this neck-like zone the muscles are absent, and across it falls the line of fracture when the proglottis separates from its fellows.

*Structure.—*The anatomy of the Cestoda differs in only two or three important features from that of Trematodes. In both classes the body is encased by a thick non-cellular cuticle, the deepest layer of which—the subcuticle or basal membrane (fig. 6 *b*)--is perforated by the branched free ends of the isolated epidermal cells, which have sunk into the body, and by the endings of gland-cells and nerve­cells (fig. 6). The mass of the body consists of richly branched stellate cells—the mesenchyma—and imbedded in this plasmic tissue are the nervous, excretory, muscular and generative organs.