

construction in all the *Coleoptera*, or beetles, the rings have an imbricated arrangement; that is, each overlaps the next, often to the extent of two-thirds of its breadth: so that they present a succession of spheroidal hoops, capable of being drawn out, to a certain extent, like the tubes of a telescope. This very artificial construction is manifestly designed to allow of a great variety of movements, determined by the position of the muscles they enclose: for since the surfaces which receive, as well as those which are received, are segments of spheroids, this structure admits of a twisting motion; and the latter segment may be pushed more or less into the cavity of the former, either generally, or on one side.

Each segment, besides being separate from the rest, is farther divided into an upper, or dorsal, and a lower, or ventral portion; each portion having the form of a semicircle, or rather of an arch of a circle. These are connected at the sides by a ligamentous band, which runs the whole length of the abdomen. Great advantage results from this division of the circles, allowing of the upper and lower portions of the abdominal covering being at one time separated, and at another brought nearer together; for thus the cavity is capable of being enlarged or contracted in its dimensions, and adapted to the variable bulk of its contents. It is deserving of notice that, during the process of transformation, some of the abdominal segments, which are present in the larva, disappear entirely, or leave only imperfect traces of their former existence. Sometimes the posterior segments become so exceedingly contracted in their diameter as to give rise to the appearance of a tail: this is exemplified in the *Panorpa*.

The junction of the abdomen with the trunk is effected in various ways. In all the *Coleoptera*, it is united by the whole margin of its base, without having a narrower part: in other tribes there is a visible diminution of diameter, forming a groove all round, or an *incision*, as it is technically termed. In the *Hymenoptera*, this incision is so deep as to leave only a narrow pedicle like a neck, connecting these