

is that of the caterpillar; the second, that of the chrysalis; and the third, that of the moth. The whole canal and its appendages, have been separated from their attachments, and spread out so as to display all their parts; and they are delineated of the natural size, in each case, so as to show their comparative dimensions in these three states. In all the figures, *A* is the œsophagus; *B*, the stomach; *C*, the small intestine; *D*, the cæcal portion of the canal; and *E*, the colon, or large intestine. The hepatic vessels are shown at *F*; and the gizzard, which is developed only in the moth, at *G*, Fig. 328.

It will be seen that in the caterpillar, (Fig. 326,) the stomach forms, by far the most considerable portion of the alimentary tube, and that it bears some resemblance in its structure and capacity to the stomachs of the Annelida, already described.* This is followed by a large, but short, and perfectly straight intestine. These organs in the pupa (Fig. 327) have undergone considerable modifications, the whole canal, but more especially the stomach, being contracted both in length and width;† the shortening of the intestine not being in proportion to that of the whole body, requires its being folded upon itself for a certain extent. In the moth, (Fig. 328,) the contraction of the stomach has proceeded much farther; and an additional cavity, which may be considered as a species of crop or gizzard (*G*,) is developed: the small intestine takes a great many turns during its course, and a large pouch, or *cæcum*, has been formed at the part where it joins the large intestine.

The hepatic vessels are exceedingly numerous in the Crustacea, occupying a very large space in the general cavity; and they compose by their union an organ of considerable size, which may be regarded as analogous in its functions to

* See the figures and description of those of the Nais and the leech, p. 77 and 78.

† Carus states that he found the stomach of a pupa, twelve days after it had assumed that state, scarcely half as long, and only one-sixth as wide as it had been in the caterpillar.