

left. When it has reached the bottom of the visceral mass the intestine turns off to the right, and coils round its anterior side. It follows the watch-hand, until it has reached the hinder part of the disk, behind the commencement of the first coil (fig. 2). Here it turns upwards and slightly forwards, to end in the anal tube. The spiral form of the whole organ is thus almost identical with that of the so-called digestive organ in the Palæocrinoids, which I believe to be nothing but the more or less calcified connective tissue that supported the intestinal wall, as explained in the previous chapter.

In simple forms, like *Rhizocrinus* and *Bathycrinus*, more especially the former, the development of the gut is but slightly more advanced than it is in the Pentacrinoïd. Horizontal sections through the lowest part of the cup of the larva are remarkably similar to corresponding sections of *Rhizocrinus* and *Bathycrinus*, such as are represented in Pl. VIIb. figs. 6, 7, and Pl. VIIIa. fig. 8.

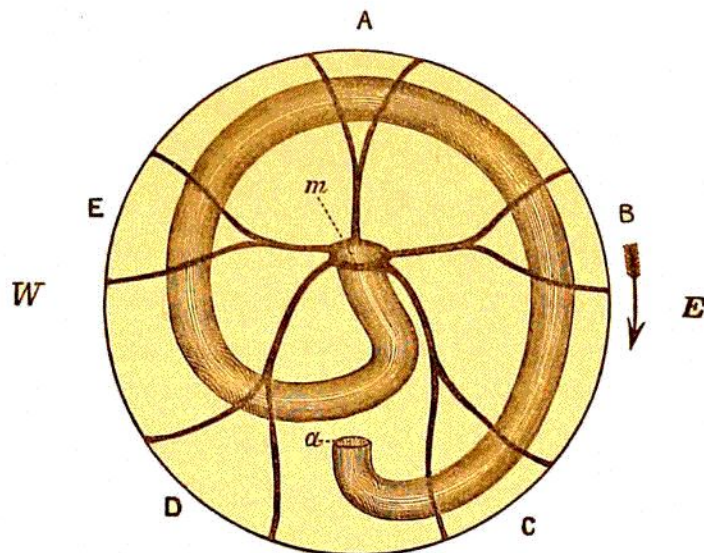


FIG. 2.—Diagram showing the course of the Digestive Tube in an endocyclic Crinoid (*Antedon*, *Pentacrinus*, &c.), as seen from the ventral side.

A, B, C, D, E, the five ambulacra of the disk; *m*, mouth; *a*, anus.

The lower part of the cup between the second radials is occupied in *Bathycrinus* and in the Pentacrinoïd larva by a large expansion of the lowest portion of the coiled gut, just as described in *Rhizocrinus* by Ludwig.<sup>1</sup> It is somewhat kidney-shaped in section, and the concavity is occupied by the plexiform gland, which is always inter-radial in position where it comes out of the calyx (Pl. VIIb. fig. 6, *x*).

At the level of the third radials of *Bathycrinus*, or the second brachials of *Rhizocrinus*, the circular course of the intestine is more apparent, and the plexiform gland is separated from the body-wall by the rectum, as shown in Pl. VIIb. fig. 7, and Pl. VIIIa. fig. 8. In both of these figures the *x* indicates the plexiform gland, which is here situated just below (*i.e.*, south of) the lower end of the fore-gut, where it passes into the mid-gut or intestine generally.

<sup>1</sup> Zur Anatomie des *Rhizocrinus lofotensis*, M. Sars, *Zeitschr. f. wiss. Zool.*, 1877, Bd. xxix. p. 64.