

the greater part of the interior of the cup, but not reaching down to the basals, is a large convoluted organ, which has a general resemblance to the shell of a *Bulla*. It is open at both ends, and its longer axis nearly coincides with that of the body of the Crinoid. Wachsmuth and Springer¹ describe its wall as being "simple in all cases, very delicate, and constructed of an extremely fine filigree work, which generally in the fossil became thickly incrustated with siliceous matter on both sides." Hall, who was the first to notice this organ, made no suggestions respecting its nature. Meek and Worthen supposed it to be a kind of framework supporting the coiled digestive tube;² while Wachsmuth and Springer suggest that it might be "an extensive plexus of blood-vessels surrounding the ambulacral (l) canal;" and desiring that it "should receive a more appropriate name than any yet given," they propose to call it the "œsophageal network."³

That it supported some of the intervisceral blood-vessels I have very little doubt; but there is no reason to suppose that it actually represents the vessels themselves, which would have passed through the meshes of its network (compare Pl. LVII. fig. 5). As a similar though less developed structure occurs in recent Crinoids, I see no reason to doubt the correctness of Meek and Worthen's determination.

Neither do I think Wachsmuth and Springer's name a good one, for it implies that the structure in question was connected with the œsophagus, and not with the rest of the digestive tube. But as it is so large, relatively to the interior of the calyx, the remainder of the digestive apparatus must in that case have been quite small, which is improbable for many reasons.

According to Meek and Worthen,⁴ "its slightly dilated upper end seems to stand with its middle almost, but apparently not exactly, under the middle of the nearly central proboscis of the vault; while at the anterior side of its upper margin, and a little out from under the proboscis, it shows remains of a kind of thickened collar, which we found to be composed of minute calcareous pieces. From this there radiate five ambulacra, composed of the same kind of minute pieces as the collar itself."

The thick collar was the edge of the peristome with its more or less regular supporting plates as in any recent Crinoid. The mouth was placed within this peristomial space, and the greater part of the convoluted organ would thus have lain altogether behind it. The direction of its spiral is exactly the same as that of the digestive tube in *Antedon* or *Pentacrinus*, as may be seen by comparing Dr. Carpenter's figure of the latter⁵ (viewed from above) and the "inferior end view" of the convoluted organ given by Meek and Worthen.⁶ I believe that the gullet ran downwards and backwards as it does in *Pentacrinus*; and that the intestine, after following the convolutions of its support, turned upwards again to end in the long anal tube, the so-called "proboscis."

¹ Revision, part ii. p. 35.

² Revision, part ii. p. 35.

³ *Proc. Roy. Soc. Lond.*, vol. xxiv. pl. viii. fig. 1.

⁴ *Palæontology of Illinois*, vol. v. p. 329.

⁵ *Palæontology of Illinois*, vol. v. p. 331.

⁶ *Palæontology of Illinois*, vol. v. pl. ix. fig. 12b.