

taken the trouble to make himself sufficiently acquainted with the works of his predecessors, and has therefore committed himself to various statements which will not bear investigation.

I do not know what grounds of fact he has for his assertion that the species of *Actinometra* swim but little. If, as I believe, it is merely an inference from the supposed small size of the muscular bundles between the arm-joints, his premises are wrong, as I have explained above; while I do not know that he has ever been able to observe living species of the genus, and to notice their abstention from the performance of swimming movements. On the other hand, Professor Semper has kept various forms of *Actinometra* in an aquarium for weeks together, and his observation of the regular alternating movements of their arms while swimming was mentioned by myself as long ago as 1877.<sup>1</sup> I pointed out in the same memoir, and again five years later<sup>2</sup> that the cirri of *Actinometra* are few in number, and almost entirely limited to the margin of the discoidal centro-dorsal; while those of *Antedon* are numerous and more or less extensively distributed over the under surface of the centro-dorsal. But yet Perrier tells us that "surtout les *Actinometra*" as compared with *Antedon* are adapted to fixing themselves by their cirri. The extreme inconsistency of this assertion with the real facts of the case becomes still more apparent, when it is remembered that in many species of *Actinometra* the cirri borne on the centro-dorsal during early life drop off, and their sockets become gradually obliterated (Pl. LIV. figs. 1-9; Pl. LXV. figs. 1-6). It was mentioned in my preliminary Report<sup>3</sup> that I had found the centro-dorsal of many *Actinometra*-species to be in the form of a simple flat plate, more or less stellate in form, but entirely devoid of cirrus-sockets; while in other individuals only a few imperfect sockets are present, owing to their not having been completely obliterated. The occurrence of a fossil *Actinometra* presenting these characters was also noticed;<sup>4</sup> and other references were made to this peculiarity as it was found in a successively increasing number of species of the genus.<sup>5</sup> Copies of the papers in which this character was described were sent to Professor Perrier, who seems nevertheless to be altogether unacquainted with its occurrence. For it is difficult to see how *Actinometra paucicirra* or *Actinometra divaricata* (Pl. LIV. fig. 1; Pl. LXIII. fig. 8), with its perfectly flat centro-dorsal entirely devoid of cirri, can be regarded as one of those Comatulæ which are especially "organisés pour s'accrocher solidement aux corps sous-marins."

After making these somewhat ill-considered remarks, Perrier goes on to describe the disc of *Eudiocrinus atlanticus*, which is not more than 5 mm. in diameter and is thus very small in proportion to the size of the arms, which attain 120 mm., while the cirri are from 15 to 20 mm. long.<sup>6</sup> Perrier then adds "Il résulte de ce que nous venons de

<sup>1</sup> *Journ. Linn. Soc. Lond. (Zool.)*, 1877, vol. xiii. p. 446.

<sup>2</sup> *Bull. Mus. Comp. Zoöl.*, 1882, vol. ix. No. 4, p. 13.

<sup>3</sup> *Proc. Roy. Soc.*, 1879, pp. 389-391.

<sup>4</sup> *Quart. Journ. Zool. Soc.*, 1880, vol. xxxvi. p. 51.

<sup>5</sup> The Comatulæ of the Leyden Museum. Notes from the Leyden Museum, 1881, vol. iii. pp. 196, 208.

<sup>6</sup> *Comptes rendus*, 1883, t. xcvi. No. 11, p. 727.