

the same character "as occurring in some specimens of *Pentacrinus mülleri*," i.e., the type now known as *Pentacrinus decorus*.

Filhol continues, however, "nous avons constaté, après avoir remonté des débris de roches, que ces animaux vivaient, contrairement à ce que l'on avait cru pouvoir supposer, complètement fixés par des cirres recourbés se détachant de l'articulation terminale de la tige. Ces sortes de crochets se soudent en quelque sorte avec le fond sur lequel ils reposent et il faut les briser pour les détacher. Par conséquent les *Pentacrinus Wyville-Thompsoni* (sic), que l'on a rencontrés libres, avaient dû être arrachés à la suite de quelque accident du fond sur lequel ils vivaient, car il paraît bien difficile d'admettre que les mêmes animaux en des points divers de l'océan aient des modes d'existence différents."

The observations here recorded are undoubtedly of great value; but the conclusions drawn from them by Filhol appear to me to be somewhat rash. The "Talisman" specimens of *Pentacrinus wyville-thomsoni* seem to have been living on a stony or rocky bottom; and in fact Prof. Perrier¹ records that "plusieurs ont été ramenées avec les cailloux sur lesquels ils sont fixés." There can be no question therefore that *Pentacrinus wyville-thomsoni* lives in a permanently fixed condition on a hard bottom. But the "accident" which is supposed by Filhol to have liberated some fifteen fixed individuals must have been of a rather extensive character; and it must further have taken place at a sufficiently long time before they were dredged by the "Porcupine" for the lowest nodal joint of one of them to have lost its natural appearance (Pl. XXII. fig. 20) and have become enlarged and rounded as shown on Pl. XXII. fig. 27. But in other specimens the lowest nodal joint is far less modified. It retains its pentagonal shape and the thickened rim of the syzygial face, in the centre of which there is a small rounded tubercle covering the opening of the central canal. If all these specimens had been detached by one general "accident" anterior to the arrival of the "Porcupine's" dredge and tangles among them, their lowest nodal joints should have been in the same condition and not in different stages of modification. The same "accident" must have happened to the *Pentacrinus decorus* of the Caribbean Sea and to the *Pentacrinus maclearanus* of the Challenger dredgings, both of which were described by Sir Wyville as having the stems closed up at a modified nodal joint; but Filhol makes no reference whatever to these two types. He does not appear to dispute the fact that the "Porcupine" individuals of *Pentacrinus wyville-thomsoni* were free when captured; but he regards the observations of the "Talisman" as proving that this condition was not a natural one. Sir Wyville² believed that although the *Pentacrinus*, like the young *Comatula*, "was doubtless attached in its early days, it appears to have finally parted from its attachment, and to have led a free life;" and he pointed out that the syzygial union of the stem-joints at the nodes facilitated the rupture of the stem, just as is the case with the syzygies in the arms. His

¹ L'Expédition du Talisman, *Revue Scientifique*, No. 24, December 15, 1883, p. 741.

² Sea Lilies, *The Intellectual Observer*, August 1864, p. 7.