tubercle; and the two posterior ambulacra, with their ocular plates, meeting at another point and forming a kind of secondary apex. The fifth genital plate is obsolete. The specially interesting point is that, while we had so far as we were aware no living representative of this peculiar arrangement of what is called 'disjunct' ambulacra, we have long been well acquainted with a fossil family, the *Dysasteridæ*, possessing this character. Many species of the genera *Dysaster*, AGASSIZ, *Collyrites*, DESMOULINS, *Metaporhinus*, MICHELIN, and *Grasia*, MICHELIN, are found from the lower oolite to the white chalk, but there the family had previously been supposed to have become extinct.

The next attempt was one of our very few entirely unsuccessful hauls, the dredge coming up empty. This we attributed to an increase of wind and swell, and consequent drift on the vessel, which seemed to have prevented the dredge from reaching the ground.

We devoted the morning to a series of temperature soundings at intervals of 50 fathoms from the surface to the bottom, and this we accomplished in a very satisfactory manner, with results which will be fully discussed hereafter. After a rapid descent for the first 50 fathoms the next 150 fathoms maintained a high and a tolerably equable temperature, and there was then a rapid fall between 200 and 300 fathoms, the thermometer at the greater depth indicating 0° C. From 300 fathoms to the bottom the temperature fell little more than a degree. "Thus the entire mass of water in this channel is nearly equally divided into an upper and lower stratum, the *lower* being *an Arctic stream* of nearly 2,000 feet