

after the return of the expedition, were found to be totally destroyed at the time of his death. Had these been carefully described during the cruise or on the return of the expedition to England, the gain to science would have been immense, for not only would many new species and genera have been discovered, but the facts would have been recorded in the journals usually consulted by zoologists, instead of being lost sight of as was the case. A large number of zoological drawings made by Sir Joseph Hooker during the Antarctic cruise were recently handed to the various naturalists engaged in working up the Challenger collections, and these show that some of the Challenger discoveries had been anticipated by Ross. Sir Joseph Hooker, whose botanical researches are so well known, recorded the existence of immense numbers of Diatoms on the surface of the Antarctic Ocean, and pointed out that the mud at the bottom, as obtained in Ross's dredgings, consisted of their dead remains.¹

When Sir John Franklin's ill-fated Polar expedition set out in 1845, Mr. Harry Goodsir, a young zoologist of great promise, sailed on board the "Erebus" as assistant surgeon and naturalist. The expedition never returned, and only fragmentary records are preserved of the valuable work which Goodsir had already accomplished. "On the 28th June a dredge was sunk to the enormous depth of 300 fathoms, and produced many highly interesting species of Mollusca, Crustacea, Asteriadae, Spatangi, and Corallines; such as *Fusus*, *Turritella*, *Venus*, *Dentalium*, &c., and also some large forms of Isopoda. As bearing upon the geographical distribution of species, Mr. Goodsir considers the occurrence of *Brissus lyrifer* (Forbes) and *Alauna rostrata* (Goodsir) as of the greatest interest, both of them being natives of the Scottish seas. The remarkable depth also appears to us to give peculiar interest to these researches, as we believe that the deepest dredgings ever previously obtained were those of Professor E. Forbes in the Levant, the deepest of which was 230 fathoms, itself far beyond any made by other naturalists."²

Up to this time all the deep dredgings had been made during Polar expeditions, though not necessarily in Polar regions; the reason being that the time and trouble of working a dredge in deep water were too great to make it feasible except on scientific expeditions, and the only scientific expeditions of those days were despatched toward the poles. In 1846, however, Captain Spratt, R.N., dredged in 310 fathoms, 40 miles to the east of Malta, and found abundance of animal life, including eight distinct species of Mollusca.³

During this period of rapid advance in marine zoology, the problems of ocean physics and meteorology were not lost sight of. Rennel had been collecting particulars of the currents, prevailing winds, and general meteorology of the ocean from 1810 to 1830, and his *Investigation of Currents, &c.*, is still a valuable book of reference. Maury also collected facts of all kinds bearing on these matters between the years 1848 and

¹ *Flora Antarctica*, vol. ii. p. 503, London, 1847.

² *Ann. and Mag. Nat. Hist.*, ser. 1, vol. xvi. p. 163, 1845.

³ Spratt, *On the Influence of Temperature upon the Distribution of the Fauna in the Ægean Sea*, *Brit. Assoc. Report*, Communications, p. 81, 1848.