mity two ocean areas with totally different bottom climates—a fact which, taken along with the discovery of abundant animal life at all depths, has most important bearings upon the distribution of marine life, and upon the interpretation of palæontological data.

The conditions during the 'Lightning' cruise were so unfavourable to careful observation, that we determined to take the earliest opportunity of going over this region again, and determining the limits of these warm and cold areas, and investigating their conditions more in detail. Accordingly, in the following year, when we had H.M.S. 'Porcupine' at our disposal, Dr. Carpenter and I once more left Stornoway on the 15th of August, 1869. On this occasion we had everything in our favour; the weather was beautiful, the vessel suitable, and we were provided with Miller-Casella thermometers on whose accuracy we could depend. A table of Captain Calver's valuable thermometrical observations during this cruise is given in Appendix A to this chapter.

We proceeded to very nearly the same spot where we had taken our first sounding on the former year, and took a warm area temperature of 7°·7 C. Station No. 46 (Plate IV.). We then moved on slowly towards the Færoe fishing banks, finding in succession at Stations 47, 49, and 50, – 6°·5, 7°·6, and 7°·9 C. At Station 51, about 40 miles south of the bank, there was a decided fall of temperature—the thermometer indicating 5°·6 C. at a depth of 440 fathoms; and about 20 miles directly northwards a sounding at Station 52, lat. 60° 25′ N., long. 8° 10′ W., at a depth of only 380 fathoms, gave a minimum tem-