

Lant Carpenter, B.Sc., as chemist and physicist; and during the first cruise they explored the west coast of Ireland, the Porcupine Bank, and the channel between Rockall and the coast of Scotland. It was originally arranged that the second expedition, under the charge of the writer with the assistance of Mr. Hunter, M.A., F.C.S., assistant in the Chemical Laboratory in Belfast, in the physical department, should take up the ground to the north of Rockall, leading northwards to the point where we had left off the year before; but subsequently, for reasons which will be explained hereafter, we altered our plan and took the second cruise in the Bay of Biscay. Dr. Carpenter took the direction of the last cruise, in which we carefully worked over the 'Lightning channel,' and checked our previous observations; Mr. P. Herbert Carpenter, our former companion in the 'Lightning,' doing the analyses of water, and determining the amount and composition of its contained air; while I went as supernumerary and made myself generally useful.

The special appliances and apparatus which were prepared under Dr. Carpenter's superintendence, after much consultation among experts in different departments, for carrying out the various investigations, will be described, each in its place, when describing the several methods of investigation and their general results.

For the management of the dredging operations two assistants were appointed on the recommendation of Mr. Gwyn Jeffreys,—Mr. Laughrin, of Polperro, an old coast-guard man and an associate of the Linneæan Society, for dredging and sifting; and Mr. B. S. Dodd, for picking out, cleaning, and storing the