

After completing this section, we proceeded towards the Wyville Thomson Ridge, and occupied a station (101) at a depth of 1000 fathoms, where we employed the trawl as well as a number of pelagic appliances, and then concluded our work by taking two sections on the northern side of the ridge (see stations in Fig. 104).

The *hydrographical conditions* here have often been described. Fig. 106 gives a general idea of what we found at Station 101 south of the Wyville Thomson Ridge, and at Station 106 to the north of it. South of the ridge salinities and temperatures are rather lower than what we found in our northern Atlantic section, but the differences are not very considerable either in deep water or in the upper layers. The upper layers extend with little variation down to the level of the ridge in 500 metres, but the difference in the deep water on the two sides of the ridge is unmistakable, as the ice-cold bottom-water of the Norwegian Sea comes close to the northern margin of the ridge.

These conditions, however, are generally known, and our attention was chiefly turned in another direction. During our previous investigations in the Norwegian Sea we discovered that the hydrographical conditions often varied very considerably within a short distance or in the course of a short period of time. The variations were not always of the same character. A number of eddies, both large and small, occurred apparently during the movements of the water-layers, and there were up and down movements in the boundary-layers—possibly big submarine waves or something of that sort—as well as distinct pulsations in certain currents. We resolved, therefore, on our way over to Bergen to make a careful study of these phenomena in the Faroe-Shetland channel. To be able to do so, it was necessary to have our stations very close together and to occupy them in rapid succession, and also to lie stationary for at least twenty-four hours at one of them.

Altogether we had fourteen stations north of the ridge in the Faroe-Shetland channel (Nos. 103–116; see Fig. 104) along two nearly parallel sections, the distance from one station to another being about 20 nautical miles, and the distance between the sections a little over 25 miles. We found that the hydrographical conditions varied greatly in the different localities, and that there was an extraordinary difference between the two sections. At Station 115, on the continental edge to the west of Shetland, we anchored a buoy, and remained stationary there

Wyville
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Investigations
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