

out, as the fog hid everything except a strip along the shore. All that day we tried to establish our whereabouts, but were compelled to lie to for the night in a hard south-westerly gale. Next day we found that we were off Gaukvaer Island and stood in for the land. After burning a little coal our vessel behaved splendidly, and after we had used up most of our coal and water, and so were very light, we could run before the sea in any direction without even having to keep the laboratory door closed. We wanted all our electricity this journey, for it was practically night the whole time.

The "Michael Sars" has carried out a great many different kinds of investigations in the Norwegian Sea, viz.: observations on the salinities, temperatures, and movements of the water-layers; observations on the floating organisms of various sizes and kinds; observations on the bottom fauna, especially bottom fishes. We have also made practical fishing experiments to discover what kinds of fish may be caught in the different areas of the sea.

Investigations
by the
"Michael
Sars."

To describe all the cruises that have been made would take too long and lead to much repetition. In the subsequent chapters of this book the most important results are summarised.

In order to study the movements of the water-layers and the distribution of floating organisms, cruises were undertaken at different seasons, as opportunity offered, from the coasts of Norway to Iceland, Jan Mayen, and Spitsbergen. To ascertain the fluctuations in the water-layers we have run a line of observations, nearly every year since 1900, and always in the month of May, from the Sognefjord to the north of Iceland. This route lies exactly across the axis of the Atlantic water that streams through the Faroe-Shetland Channel into the Norwegian Sea, and we have consequently been able to obtain a section of this layer every year, and to compare its volume in different years. Besides a great many special studies, measurements of the velocity of the currents have been made out in the open sea and in the fjords.

At the time the "Michael Sars" commenced working there were hundreds of square miles of coast banks where no fishing had ever taken place, and there was therefore a real fascination in experimenting in these virgin areas with the appliances in common use along the coast, more particularly with long lines. Expeditions were made for several years along the whole coast for capturing spawning cod on all the banks where the depth was 30-100 fathoms, and for halibut, tusk, and ling on the continental slope; drift-net fishing was also undertaken for herring.

Investigations
to develop the
fishing
industry.

In these investigations we have chiefly aimed at ascertaining