(*Nephrops norvegicus*, *Nymphon strömi*, and *Hippasterias plana*) furnish unmistakable evidence of the dissimilarity of these areas, for they are widely distributed over the North Sea, occurring even on the coasts of Great Britain in depths both greater and less than 100 metres, and if they existed in the central portion of the North Sea, where we frequently towed our big trawls, they could hardly have avoided capture. Then why should a considerable part of the central area of the North Sea be closed to a number of forms more or less widely distributed elsewhere? We must, I think, conclude that in this central area there are special hydrographical conditions which exclude these forms and their larvæ. As a matter of fact, Helland-Hansen has shown that in the deeper layers there is a circular current of Atlantic water in the North Sea, a branch of the Gulf Stream following the east coast of Scotland, turning north-east just before reaching the Dogger Bank, and afterwards sweeping northwards on reaching the edge of the Norwegian depression. As a result, the periphery of the central portion of the North Sea is bathed by water of much the same composition as the warmer water of the Atlantic, enclosing an area covered by more stagnant and on the whole colder water, having a fauna of its own.[1] Repeated investigations will be necessary to ascertain whether this faunal dissimilarity observed in the summer of 1904 is permanent or not.

## Arctic and Boreo-Arctic Regions of the Norwegian Sea

When we speak of an arctic and a boreal fauna it must be clearly understood that there is not always a distinct line of demarcation between the two, either in regard to topographical boundaries or to forms. There are undoubted intermediate areas, where boreal and arctic forms meet, and many forms are as much boreal as arctic, being impartially distributed over either region, and able to thrive amidst very different natural conditions. It is interesting to note, however, that the same species sometimes occurs in two distinct varieties, usually connected by transition forms, and that the varieties conform to the region in which they occur, a fact indicative in all probability of the influence of physical conditions upon organisms.

A circumstance that has especially attracted the attention of arctic investigators is that some animal forms are apt to

[1] I must add that the entire northern part of the North Sea plateau is also covered by Atlantic water.