importance, but to determine the exact quantity of something clearly defined, as, for instance, the number of individuals of certain definite species living in a sharply limited water-layer, is of the highest interest.

When planning the Atlantic cruise of the "Michael Sars" I considered it our first duty to investigate in a qualitative way what organisms live at the various depths. For this purpose we made many determinations of quantity (see Chapter IX.), for instance, in order to illustrate the abundance of certain species in each of the appliances towed at different depths. This method made no pretence of giving absolute figures, but it gave us certain ideas regarding the relative quantities of organisms living at different depths, and the figures obtained by counting the fishes in our trawlings are of a similar kind. My opinion is that these estimates represent the natural conditions better than the ideas regarding animal life in the Atlantic gained by the German Plankton Expedition; this ocean, being inhabited by organisms at all depths, is very far from being as poor as shown by the nettings of the Plankton Expedition. At the surface reproduction must be exceedingly rapid, or else it would be perfectly inconceivable that so many animals could live in the deeper water, unless, indeed, their nourishment were derived from distant localities, a question that future investigations must answer. Further, the peculiar difference between the quantities of organisms occurring in the deep water of boreal and of warm oceanic waters will have to be more closely studied. In the ocean we find first a minimum just below the surface, then a pronounced maximum, with probably a minimum again in the deeper waters (see Chapter IX. on capture of *Cyclothone* in closing-nets at Station 63). I suggest as a working hypothesis that this is due to the peculiar distribution of specific gravity and viscosity, which is quite different in boreal and in warm oceanic waters.

When speaking of floating, I mentioned how the distribution of temperature, and consequently of specific gravity and viscosity, affected the geographical distribution of species, and in Chapter IX. I drew a limit between boreal and warm-water forms, which on the whole, horizontally and vertically, coincided with the isotherm of 10° C. In thus employing temperature alone as a means of dividing animal-communities my idea has only been to consider the temperature as an indicator of certain climatic conditions on which animal life is dependent. From this point of view let us inspect a section of the Atlantic along