

doubt whether the method of work adopted has resulted in a correct idea of the quantities of organisms which these hoop-nets can capture per square metre of surface, and whether this method recommends itself for adoption in the present state of our knowledge.

It is evident that the quantity of organisms present at any given moment does not afford any gauge as to the "primitive food" contained in the ocean. The quantity of such food depends on the intensity of reproduction, which is entirely unknown, from coccolithophoridæ to fishes. For this reason the volumes of plankton shown in Fig. 566 convey no idea of the actual production of the ocean, a fact of which Hensen was fully aware. The abundance in boreal waters only lasts a short time, and during that time production is probably not by any means so rapid as in the warm ocean. While the Hensen nets thus capture only an arbitrary selection of organisms, the depths from which the nets were hauled were also chosen in an arbitrary manner. Hensen¹ himself says, when describing the copepoda: "The figures show that the copepoda usually live still deeper than 200 metres, their density being, however, insignificant." The results seem to have given rise to some doubt in his mind as to the latter opinion.

In Chapter IX., and when speaking of nutrition, I have mentioned some of the investigations made on board the "Michael Sars" regarding the capture of minute crustaceans in closing-net hauls from various depths. The catches have been classified in regard to number of species as well as to volume, and the characteristic feature was that the greatest number of species and the greatest volumes of these crustaceans did not occur in the upper water-layers, but at certain intermediate depths. In the Sargasso Sea the greatest volumes were captured between 1000 and 500 metres, off Newfoundland between 500 and 200 metres, and in the Norwegian Sea (Station 113) between 1000 and 500 metres. In the Sargasso Sea a greater number of species (51) was found in the deep hauls between 1000 and 500 metres than in the "surface" hauls between 200 metres and the surface (22). Certain species occurred at all depths, others only in the deepest hauls. Our horizontal hauls showed that besides these minute forms taken by the closing-nets there is a prolific community of large crustaceans, prawns, etc., in deep water, where many litres could be taken in each haul, while higher up

¹ "Das Leben im Ozean," *Erg. d. Plankton-Expedition*, Bd. v., Kiel, 1911.