

investigation to be applied, like all other means, according to circumstances.

Hensen invented his method for the purpose of investigating the floating or suspended life in the sea, which he termed "plankton." This plankton is, however, very difficult to define, for among the profusion of organisms, ranging from the minutest plants, the coccolithophoridæ, to large crustaceans and fishes, there is an enormous variety in size, in activity, and consequently in the faculty of avoiding the appliances of capture. In many investigations, therefore, the word plankton may be taken to signify practically "the catch made in the hoop-net constructed by Hensen, when new and in perfect working order." But does this selection among the organisms of the sea correspond to an arrangement peculiar to the organisms in nature? All our experience shows that the catching power of the Hensen net is restricted, firstly, because, as shown in Chapter VI., an important group of plants (the coccolithophoridæ) may pass through the meshes of even the finest silk nets, and secondly, because the selection of animals actually taken is very limited, consisting of unicellular animals, minute crustaceans, sagittidæ, etc., while the large crustaceans, schizopoda, decapoda, and even small fish-fry, mostly avoid the net. This limited power of capture alone is apt to affect our ideas of marine life in a perfectly arbitrary manner; but another objection to the universal application of the Hensen method arises from the fact that in large areas the conditions do not correspond to the theoretical conditions on which the method is based, for in theory the distribution of the organisms is regarded as something like the even distribution of the molecules of a gas encased in a box or aquarium.

In 1885 Hensen made an expedition in the "Holsatia" and in 1889 another in the "National," during which vertical hauls were made with his nets in shallow water from bottom to surface, and in the ocean mostly from 200 metres to the surface. The volumes of organisms taken during these cruises have been represented graphically in Fig. 566, reproduced from Steuer's text-book. In this figure the track of the cruise has been used as horizontal axis, and lines have been drawn vertically (as ordinates) to show the relative volumes taken per square metre of surface. These volumes are very great in the Irminger Sea and in the North Sea (amounting to 166.9 c.c.), and very small in the Sargasso Sea as well as in