

*The Distribution and Nature of the Deep-sea Fauna.*—The most prominent and remarkable biological result of the recent investigations is the final establishment of the fact that the distribution of living beings has no depth-limit; but that animals of all the marine invertebrate classes, and probably fishes also, exist over the whole of the floor of the ocean; and some of the most interesting of the problems which are now before us have reference to the nature and distribution of the deep-sea fauna, and to its relations with the fauna of shallower water, and with the faunæ of past periods in the earth's history. This is, however, precisely the class of questions which we are as yet least prepared to enter into, for every thing depends upon the careful study and the critical determination of the animal forms which have been procured; and this task, which will occupy many specialists for several years, has been only just commenced.

My present impression is that although life is thus universally extended, the number of species and of individuals diminishes after a certain depth is reached, and that at the same time their size usually decreases. This latter observation is not, however, true for all groups; a peculiar family of the Holothuridea, very widely distributed in deep water, maintain the full dimensions of the largest of their class, and even exhibit some forms of unusual size. Of the value of our present impressions on such questions I am by no means sure. Using all precautions, and with ample power and the most complete appliances, it is extremely difficult to work either with the dredge or with the trawl at depths approaching or exceeding 3000 fathoms. A single dredging operation in such depths takes a long time; the dredge is put over at day-break, and it is usually dark before it is recovered, so that the number of such operations must be comparatively small. It is necessary to take every precaution to keep the ship as nearly as possible in the same place; and as this can never be done absolutely, it