

influence of their peculiar environment on their ordinary functions, and on their growth and reproduction? There is little but analogy to suggest an answer, and it does not follow that what is deduced from experiments (by no means numerous) will hold true of organisms which have been habituated to their environment for many millennia.

There is a marked resemblance between the Arctic and Antarctic abyssal fauna. Is this resemblance thorough-going,—is it primary? or is it the secondary result of migration to and fro along the bottom?

How far are the observations numerous enough to warrant conclusiveness of statement as to the uniformity which some speak of, and the localized distribution which the *Challenger* statistics tend to prove?

What of the origin of deep-sea animals? Was there any truth in Sir Wyville Thomson's theory of the existence of an abyssal fauna from Palæozoic times? or is Sir John Murray altogether right in his view, that the deep-sea fauna has been the result of migrations from the region of the mud-line in relatively recent times?

We may, perhaps, use the term fluvial to include fresh-water areas, whether they be lakes or ponds, rivers or streams; and although observations on their tenants are as old as the naturalist, we must again record that the systematic study of fresh-water faunas and floras is of very recent date. The biological station over which Prof. Zacharias presides at the great lake of Plön has been an example to the biological world, and the hint has been taken in America and elsewhere, though Britain lags discredibly behind. There are interesting practical problems in connection, for instance, with fishes and water-supply; and there are yet more interesting theoretical problems in connection with adaptation, migration, and origin.

Some clearness has been introduced by distinguishing, as may be done in regard to other life-areas, four sets of tenants: (*a*) the recent immigrants, *e.g.* the bivalve *Dreissenia* from the sea; (*b*) the relics which have been left behind as survivors of the inhabitants of