bodies, called by various names, are to be met with in several different groups, as we have already seen, and in certain cases where two distinct methods of reproduction exist, it is incipient drought alone which causes the production of these bodies before the adults succumb to the impossible conditions. In other cases, notably among the Cladocera, there are two fairly well-marked periods during which specially resistent ova are produced, the one during the summer, as a precaution against desiccation, and the other at the beginning of winter, to ensure protection from the frost.

In a manner perfectly analogous to what we have seen in the case of cold, it is found that the eggs of a species of *Apus* will not develop unless they have been dry for a considerable period.[1]

The most important reasons why fresh water has not proved easy to colonise have now been discussed, but there remain a few other points to be indicated, which may doubtless exert an influence at times. Organisms are directly affected by their interconnection with each other. That is to say, in certain cases they are dependent on one another to such a degree that the absence of one entirely precludes the presence of another which might otherwise be perfectly able to adapt itself to new conditions. This may be a matter of food-supply: a higher animal, for example, cannot extend its range into a medium in which its food, whether animal or vegetable, does not exist, so that if from any cause a river or lake were conspicuously deficient in this respect, it would stand little chance of receiving voluntary migrant forms from the ocean. There may be also a less obvious interdependence, concerning protection and shelter for a defenceless type.

Lastly, any impurity of the water of streams and lakes would act as an efficient barrier in many cases. The impurity might be merely mechanical, and due to large quantities of mud held in suspension, or chemical, and caused by the presence of salts or acids in solution. Examples of the former are well known, where during certain periods of the year rivers become well-nigh uninhabitable. Other rivers, and more particularly lakes, may carry in solution unusual quantities of lime or manganese salts, or may contain a considerable admixture of humic acid, and these conditions would be unfavourable to the majority of ocean types.

Before passing to other considerations, it may be well to again call attention to the fact that certain fresh-water organisms exhibit structural peculiarities which have undoubtedly been produced by existence under non-oceanic conditions. That is to say, actual morphological features have been created which in many instances enable them to be recognised as fresh-water forms. Some of these

[1] Semper, *op. cit.*, p. 175.