

also occur. The evidence of such breaks in a chain of forms is not in the least in opposition to the view set forth here regarding the old collective species as chains of forms.

Though I believe, as above stated, that these series of forms originate in the extreme north, this does not at all mean that the arctic forms with which the series begin owe their origin to the Glacial Age; of this nothing is decidedly known, and I consider this opinion quite erroneous.

In recent years different scientists have tried to explain many facts connected with remarkable distribution or peculiarities relating to the biology of the plankton organisms as caused by the Ice Age. Some authors have advanced the idea that the whole fresh-water plankton should be regarded as a society which has immigrated into the fresh-water lakes from the Arctic Sea during the Ice Age. In my opinion, this idea is quite erroneous. *The home of the fresh-water plankton must mainly be sought for in the littoral and bottom regions of the lakes*, and most of the fresh-water plankton organisms may be designated as bottom and littoral forms which have adapted themselves more or less to pelagic life and made themselves independent of bottom and bank, where the great majority still pass a shorter or longer period of their lives. Reasons for this view I have set down in chap. xiii. of my *Plankton Investigations*. With regard to the influence of the Glacial Age on the fresh-water plankton I share the view that we have been too hasty in making the Glacial Age responsible for the occurrence of forms at localities outside the true centre of distribution of the species, and for remarkable biological facts relating to the biology of the plankton organisms. Without going into details, I shall here merely summarise my opinions as follows. *In the life-history of the fresh-water plankton the Glacial Age has only been a phase of transient importance*: it has influenced the history of this community as well as of all other communities, but less than most. The individuals of the species which lived within the territories overtaken during the Glacial Period have suffered from this, but not the other individuals. This period lasted long enough to leave its mark on some characteristics of the species influenced by it. It affected their nutrition, their reproduction, and their shape. At the end of the Glacial Period races of these very old species, even then distributed over the whole earth, occurred in the northern part of the temperate zone, and owing to the Glacial Period they had become adapted to arctic or subarctic climatic conditions. The special characters impressed upon them by the Ice Period still persist, as is shown by the present races returning in winter upon the old races of this period (the present arctic races) and by their predilection for low temperatures.