4° C. and the stratification was still "inverse." In the middle of July 1903, however, the lake had a temperature of +9° C. at the surface, from which it appears that even this lake cannot, at any rate not every year, be classed among the polar lakes. From another lake, high northern even if not arctic, the lake of Enare, sometimes frozen ten months of the year (?), we have fairly detailed data of temperature (Pettersson, 1902, p. 13); but these, in my opinion, seem so improbable (on the 6th August, 10° C. at a depth of 80 m.) that they can hardly be considered as quite reliable. In many of the shallower lakes, even those situated under well-marked arctic conditions, the temperature indeed rises to 10–14° C., on warm sunny days in summer even to 15° C. (Vanhöffen, 1897, p. 173; Ad. Jensen in Wesenberg-Lund, 1907, p. 67; Ekman, 17·5°, 1904, p. 12), but according to the last-mentioned the temperature rapidly sinks again. In such lakes, consequently, there are two or probably many periods of circulation, but these occur very shortly after each other, and are limited by a long winter period of stagnation.

In order to judge of the conditions which the arctic lakes may offer to the organisms and especially the plankton, it must further be remembered that, taken on the whole, the arctic lakes are extremely dark, as their waters throughout the greater part of the year rest in complete darkness below several metres of snow-covered ice. As a sort of compensation, the lakes which thaw during the short arctic summer, when the days and nights differ but slightly, will be greatly lighted up for a short period owing to the great purity of the water.

We do not know anything of the extreme limits for the vegetation in the arctic lakes. As a matter of fact, the Characeæ are fairly common in arctic lakes, but we are not aware whether they form here a special Characea zone. On the other hand, from Kruse's (1898, p. 386) and Porsild's (1902, p. 200) descriptions we know that *Hypna* at all events goes down to about 3 m. or even more. Nearer to the shore a zone of *Potamogeton* may be found (Porsild, 1902, p. 206); but, all in all, the belt of vegetation in the real lakes of the arctic zone is very narrow. Of great interest is the observation of Porsild (1902, p. 204) that the surface of the precipitous cliffs is covered with a coarse felt of stalked Diatom colonies. That the vegetation in more southern small lakes, ponds, and pools is extremely rich is a well-known fact; many valuable descriptions of this vegetation and its life-conditions have been recorded in Warming's (1888, p. 127) paper, and further by Rosenvinge (1898, p. 239), Hartz (1898, p. 42). Kruse has drawn an interesting picture of the transformation of lakes into pools or tundras (1898, p. 384).

The arctic lakes, in contrast to the southern lakes, are characterised by their great monotony; uniform conditions are offered by the fresh