

lakes. No thorough investigations have been carried out with regard to their temperatures, and the other physical and chemical conditions are quite unknown. With regard to the life of the littoral flora and fauna we have only cursory and rather casual descriptions and observations; the abyssal fauna we only know for some of the large African lakes, and as regards the plankton our knowledge is very unsatisfactory (Apstein, *Lake Colombo*, 1907, p. 201). I am of opinion that it is in the tropical lakes that we shall find the proofs of the correctness of many of the above-named theories. Shall we find seasonal variations in the plankton organisms of the tropical lakes? Is the local variation very conspicuous? Is the average size of the different plankton organisms smaller than in the temperate lakes? Is the propagation chiefly digonic or monogonic? What part is played by the resting-stages in the life of the species? What is the periodicity of the plankton organisms? Do they make vertical wanderings? Is the relation of the tropical fresh-water plankton to that of the ocean closer than that between the lake plankton and oceanic plankton of the temperate zone? Is v. Martens' supposition, "Die Aehnlichkeit der gesammten Süßwasserfauna mit der gesammten Meerfauna nimmt vom Pol gegen den Aequator zu," indisputable and of the same validity for all associations in the fresh-water lakes?

In my opinion, *a thorough exploration of one of the great tropical lakes is one of the most desirable objects for the promotion of limnology.* Attention is drawn involuntarily to the great African lakes, where Moore's investigations have given such valuable scientific results, and where the German investigations and those of the Messrs West have in so high a degree increased our knowledge of the fresh-water flora. That this investigation will be both very expensive and, owing to the climatic conditions, probably much more dangerous than many oceanic and polar explorations is unfortunately beyond doubt.

When preparing my work on the plankton for the press I looked over the whole literature relating to fresh-water plankton, and was often astonished at the very great differences in the interpretation of the biology even of the most common plankton organisms. From the foregoing we have seen that the plankton, both with regard to their morphology and their biology, follow different lines in different latitudes. The great differences in the interpretation of the biology and morphology by different investigators are therefore quite natural. What we in planktology as well as in every other part of limnology most of all need is *simultaneous, coherent investigations in different latitudes from north to south.* We need such investigations with regard to temperature. This has for a long time been clear to limnologists (John Murray, Forel, Pettersson, 1902); and a first paper on simultaneous temperature observations in Lakes Enare, Mjösen,