

increased rapidly till 1895, and it has remained high with small variations since that year, the highest five-year average (to the end of 1906) being 1902-1906.

In general, the thermal stratification of the deep layers is similar to that in fresh-water lakes. Owing to its small depth (less than 3 per cent. of the lake-floor is covered by more than 100 feet of water), the surface temperature of Lake Aral varies considerably with the seasons, and in summer is much higher than that of the bottom. In winter the conditions are reversed, and consequently twice each year, in spring and autumn, the whole mass of water must be uniform in temperature.

The fauna of the Aral Sea is but slightly affected by the degree of salinity of the water; the same organisms can live in the open water, with a specific gravity of 1.0110, and in the bays, where the water is quite fresh. The fauna is related to that of the Caspian, but is characterised by a great poverty of species, on account of the difficulty of sustaining life in a comparatively salt shallow basin subject to great changes in temperature. The fish all belong to fresh-water species, and so do almost all the plankton organisms.

Lake Balkash, in Akmolinsk, Western Siberia, lies 780 feet above sea-level, and is merely a relict of a former much more extensive sheet of water, of which Sassyk-kul and Ala-kul are also remaining parts. It is 340 miles in length, 50 miles in maximum breadth, with an area of about 7000 square miles, but it is only about 33 feet deep,¹ and has a flat bottom. It was examined in 1903 by a Russian expedition under Berg,¹ and the temperature at the surface was found to be 76°.5 Fahr. (24°.7 C.) in July, while the bottom temperature varied very little. From the biological point of view it is as barren as the surrounding territories; there are only four kinds of fish, and no benthonic molluscs or other invertebrates were found. The plankton of the lake is abundant, and similar to that of ponds. One can only conclude that the lake is very young, and has not had time to people itself. The waters of Lake Balkash are quite fresh and fit for drinking, though the lake has no visible outlet, and lies in the middle of a steppe, where the evaporation is very great in summer, and the precipitation very insignificant; whereas Issik-kul, far more favourably situated, contains water that is much too salt to drink. Berg accounts for this by supposing the lake to have been entirely dried up, the bed covered with sand, and then filled again. The lake has been rising in level since 1890.

Ala-kul (called also Kurghi-Nor or Alakt-Ugul-Nor), a lake of Russian Central Asia, in the province of Semirietchenisk, is 40 miles

¹ See Schokalsky and Schmidt, *op. cit.*, p. 53; the maximum depth is given in *Encycl. Brit.*, 10th ed. as 135 feet.