One of the most important points in a further study of the climatic changes of Turkestan is to establish the correlation between individual moraines of known epoch and individual terraces. This seems to be possible, for in many cases the moraines themselves are terraced, while elsewhere, as in the valleys of the Kara Kul Su and Mudirum Su, moraines have been deposited upon terraces. One of the most promising places to study this relation is in the Alai basin; another, equally good, though less accessible and less beautiful in scenery, is the headwaters of the Narin River.

LAKES.

Evidence of climatic change has also been found about the lakes of Turkestan. One of these, Issik Kul, has been described by Professor Davis in his report on the first month of our journey in Turkestan. Another, Chadir Kul, has been considered in a preceding section on the Tian Shan. Both of these are now without outlets, although a slight rise of the water would cause them to overflow as they have done in the past. A study of their old outlets shows that they have overflowed once or twice at least, probably under conditions of greater rainfall than to-day.

Two other lakes were seen, of which only one, Kaplan Kul, has an outlet. This is an insignificant little sheet of water about a mile long, lying at an elevation of 5,500 feet on the northern slope of the Alai Mountains, 30 miles southeast of Osh. All along the lake margin, especially on the southern side, there is a broad belt of dense reeds, 12 or 15 feet high; the open water in the middle seems to be only a foot or two deep, as herons wade about in all parts of it. The natives say that twenty years ago the lake was much more extensive than now and reached beyond the area where the reeds at present grow—a statement which the appearance of the shores amply supports. At the outlet a fair-sized brook cascades over 3 or 4 feet of hard blue clay, the lake's own deposit, and flows away in a little channel 10 or 15 feet deep, cut in fine gravel and clay. The lake basin is merely a broadening of a stream valley due to the softness of certain red sandstones. Below what is now the outlet of the lake the soft strata are interrupted by a harder band of limestone which has prevented the stream from cutting rapidly downward, and thus gave it an opportunity to widen the valley upstream, while downstream there is a steep descent to another series of soft beds. Where the valley crosses the limestone, and consequently is narrowest, gravel was at some time washed in from the valley sides in such quantities that the slow-moving stream could not carry it all away, and thus a dam was formed, behind which rose the lake. The formation of the dam indicates a time of more intense weathering, and therefore probably corresponds to the last glacial epoch. The barrier which confines the lake has now been almost cut through, and in a few years the basin will again be empty.

Shor Kul.—The fourth lake (fig. 145), is the most important as an indicator of climatic change, as it is completely inclosed by mountains and has never had an outlet. It lies at an altitude of 5,000 feet, 80 miles northeast of Kashgar, in one of the subsidiary basins in the borderland between the Tian Shan plateau and the Kashgar basin. Shor Kul, as it is called, means "Salt Lake," and the name is well deserved, for the lake is a sheet of salt rather than of water. When I saw it