

THE ISSIK KUL BASIN.

Issik Kul, or the "Warm Lake," is 115 miles long and from 20 to 35 miles wide. Its surface stands 5,300 feet above sea-level. The bare mountains around it are picturesque, but the barren, stony piedmont slopes, several miles in breadth, greatly lessen the beauty of the scenery. The basin of the lake resembles that of the Narin Tertiary formation, in that both have been produced by the deformation of a previously degraded mountain region and that both have received much waste from their uplifted borders; but they differ in that the deformation of the Narin basin ceased so long ago that its deposits are now well dissected by the trunk and branches of an outflowing river, while the deformation of the Issik Kul basin has been continued into so recent a time that it holds a large lake, from which there is at present no outlet. The lake surface and the surface of the present Narin Valley are of similar altitude, something over 5,000 feet above sea-level. It is very probable that the original floor in each of these basins now stands below sea-level, but as it is concealed beneath a cover of deposits or of water, the depression excites less attention than it would if it were open to observation; yet as far as the mechanics of the earth's crust is concerned, one case is, as has already been pointed out, as remarkable as the other.

Evidence of the previous degradation of the region in which the Narin basin was bent down is found in the relatively even trend of the red basal conglomerates which rose even along the southern side of the Chaar Tash range; for if the surface on which the conglomerates were deposited had been of strong relief, their outcrops and the slopes of the Chaar Tash rocks could not have come together on so even a line. The evidence of previous degradation in the region of the Issik Kul basin is found in the even sky-lines or back slopes of several of the neighboring mountain ranges, as already described. The ranges are now much dissected, and deposits of their waste are found not only in the stony piedmont slopes with which the lake is surrounded, but also in older clays and conglomerates, now more or less deformed and eroded, around the borders of the lake.

THE EARLY BASIN DEPOSITS.

Hills and ridges of eroded conglomerates were seen south of the lake when we ascended the Ula-khol; their total thickness may have been several thousand feet. These uplifted conglomerates fall off northward toward the lake in a rather well defined subrectilinear bluff east of the Ula-khol. A lower bluff, subparallel to the first, stands a little farther forward; then comes the fan of the Ula-khol, in which the stream has now eroded a shallow trench. Not far forward from the second bluff, a third bluff or scarp, from 5 to 15 feet high, crosses the delta, and this one seems to be the result of recent displacement. This scarp can not be considered a high-level shore-mark of the lake, for instead of contouring around the Ula-khol fan in a level line, it passes over the gentle arch of the fan in a relatively straight line. It will be remembered that a similar displacement was noted in the waste fans piedmont to the range at the west end of Issik Kul.