

upper loop being cut off at once increases the pressure of the stream, and accentuates the erosive energy it exercises upon the lower promontory, as may be seen from a glance at the above fig. 172. Hence, when the upper loop is cut off, the lower does not long escape the same fate. This circumstance will to some extent explain the peculiarity of the loops occurring here in pairs.

Directly east of the last pair of boldschemals is the district of Kum-tscheke, with which we shall become better acquainted later on. The forest was still abundant, and the poplars strong and well grown. The natives estimate this forest to be one hundred years old. Below Arghamtschi-baghladi the river describes a loop with such a narrow base, or neck, that it must infallibly be broken through at the next high water. Indeed on the left of the river there is a loop of this character at Kodakekojghan. However difficult it may sometimes be to combine the statements of the natives, or to procure confirmation of them, they are nevertheless always of great importance, for they are entirely free from speculative bias, and rest solely upon personal observation or family tradition. Thus it is to my old, well-tried guide, Kirghuj Pavan, a man especially well versed in the geography of that country, that I owe the information, that the full flood of the Tarim never flowed down the now dry bed of the Ettek-tarim, but at least a portion of it always travelled along the path we followed with our ferry-boat. Seventy or eighty years ago the river flowed through the Kara-köl and Ilek (the waterway which Kirghuj Pavan guided me through in 1896), and at that time the river was called the Merdek-tarim (see below). But at the period indicated the river flung itself into its present channel and into the Ettek-tarim, while the more easterly bed which it deserted became converted into a chain of detached salt-lagoons. Thirteen years ago however a not inconsiderable portion of the stream returned again to the old watercourse on the east.

In the district of Kulatscha our river was joined from the left by another *kok-ala*, coming from the Ilek at a point a little above the village of Kulatscha, situated on the latter stream. This name is consequently common to both rivers, and indeed the distance between them is so short that a man shouting beside the one Kulatscha can be heard at the other. The canal, which was made by shepherds, is a very small affair; generally it is hidden in the reeds, but at one spot where there were no reeds and where the canal split into three arms, it carried a volume of 0.3 cub.m. After passing yet another loop, we came to Kulatschane-ajagh-tscheke, or Kulatscha's Lower River Loop, where there was a boldschemal with a pool. This is a *kötörmesa* or »portage», by which it is possible to avoid the long row round. On the left we had a pool which wore the appearance of a boldschemal, though I was informed that it was only the termination of a dried-up *kok-ala*.

June 6th. Just above our camp stood, on the right bank, a completely isolated conical hill, about 10 m. high, which is considered by the natives to be the highest piece of firm ground beside the lower Tarim. To the south-west, and tolerably near, there is a pretty big outlier of the high sand, but in the west the desert recedes to a great distance; in fact, in that direction we were unable to perceive anything except level steppe. At our camp the river was joined by the Almontschuk-kok-ala, a deep, narrow arm which leaves the eastern Ilek immediately below Kulatscha, and flowing south-west, enters the Tschong-tarim in a long serpentine boldschemal, which