

have been excavated, and their sides and tops smoothed, and themselves provided with narrow doorways. These were formerly inhabited by Mongols. The camp here, LXXVII (alt. 2961 m.) counting from Dunglik, which was Camp I, was one of my principal depots and bases of operations. Here, during the whole period of my absence on this excursion which I have just described, my self-registering barograph and thermograph had been in operation, and here three times every day meteorological observations were taken without intermission. It was from this same camp that I started on each of the two following excursions.

The united head-stream of Temirlik carried on 26th October a volume of only 0.9 cub. m. in the second, the water being as bright as crystal. But its breadth did not amount to more than 0.6 m., its mean depth to 0.3, and its mean velocity to 0.5 m. The springs gush out of the ground immediately above the grottoes of Temirlik, but below them it is joined by several other rivulets from both right and left, e. g. the one beside which Camp VII stood. Most of the water comes from the right and clearly originates in the Tschimen-tagh, although almost the whole of it flows underground and only emerges to the light of day when it reaches Temirlik. In consequence of this distribution of the water the belt of vegetation lies nearer to the Akataghtagh than to the Tschimen-tagh. The feeders from the springs have cut deep channels, and flow about 5 m. below the top of the upper loess terrace and 2 m. below the lower terrace. The latter forms a sort of natural balcony or verandah in front of the entrances to the grottoes, which face south. The region abounds in short, but fairly luxuriant, kamisch. The right bank has a flatter slope, though there too there exists a distinct terrace. It is just below this that the majority of the springs issue. As early as the beginning of November, the water trickling out incessantly had formed on the slope large round sheets of ice, and by the middle of December these had grown to a very great size, and no doubt during the winter they would go on increasing until they formed veritable ice volcanoes, similar to those that I once studied in the glen of Mus-kol in the Pamir.

At Temirlik I investigated the temperature of the ground: at the surface it was  $7.85^{\circ}$ , while the temperature of the air was  $6.55^{\circ}$ . At a depth of 30 cm. it was  $+4.2^{\circ}$ , at 50 cm. it was  $5.33^{\circ}$ ; at 70 cm.  $5.98^{\circ}$ ; at 85 cm.  $6.31^{\circ}$ ; at 100 cm.  $6.68^{\circ}$ , and at 115 cm.  $6.89^{\circ}$ . The ground here was heavily charged with sand and turned moist at a depth of 60 cm., and after that the moisture continued to increase. At a depth of 1 m. we came into wet plastic blue clay. The ground was permeated in every direction by the roots of kamisch.

A large caravan of Mongol pilgrims bound for Lhasa, who had passed Temirlik in the beginning of December on their way to the Holy City *via* Tsajdam, called this region Sum-tun-bulak, or the Three Thousand Springs. Undoubtedly this road from Tscharklik *via* Tasch-davan and Temirlik to Tsajdam, and so on farther, is the usual caravan road to Lhasa; it is at any rate the most convenient for the Turgut (Torgod) Mongols.

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