

September 1894: »At three o'clock in the afternoon, when the power of the sun was already declining, I set off on foot to visit the Kum-tagh. Seen from a distance, the masses of sand have the appearance of a perfectly naked range, tolerably high and divided into several parts. The crest is somewhat denticulated, and in some places the passes are rather deeply notched. The range has numerous ramifications, and on their slopes are ridges and barkhans of secondary rank. The sand-hills are connected with the circumjacent heights by broad saddles, likewise covered with barkhans. According to the natives the belt of sand is about 40 versts broad from north to south, and its length from east to west about 60 versts. South of the Kum-tagh stretches the Desert of Gobi. The country between my camp and the foot of the Kum-tagh was for a distance of more than one verst clothed with vegetation, reeds and bushes more or less dense, but there were no trees. The soil consisted of dark grey clayey sand, resting upon clay, with saline incrustations and crystallised salt. Amongst the vegetation near the foot of the sand were small scattered patches of meadow, with fine grass and reeds, as well as fields in which water-melons and melons are cultivated. Water is no doubt found there very near the surface, for we observed neither ariks nor wells for irrigation.»

»Along the northern foot of the Kum-tagh stretches a belt of sand-hills, 100 to 150 sashen wide and 2 to 3 sashen high, and covered with scrubby bushes; as compared with the gigantic masses of sand, these sand-hills looked like mere insignificant swellings of the surface. To the north, that is in the direction of the oasis, the huge masses of sand are interrupted by a broken ridge of eminences overgrown with tamarisks, and on their northern slopes with reeds as well. The ridge in question does not run in a straight line, but in zigzag loops like the foot of the Kum-tagh. Between these sandy eminences and the Kum-tagh there is, further, a chain of small depressions, overgrown with reeds and bushes. The absolute altitude of the belt of sand at the foot of the Kum-tagh is 500 m.»

»So far as I visited it, the Kum-tagh was built up of compound barkhans or barkhan mountains, disposed in broken lengths, with their long axes stretching N.W.  $290^{\circ}$  — a consequence of the predominance of the north-north-east wind — and connected together by means of saddles. These, in the cases in which two neighbouring mountains lie close together, assume the form of sharp, deeply sunk crests, with both slopes showing the same degree of steepness,  $30^{\circ}$  to  $35^{\circ}$ , and sometimes as much as  $40^{\circ}$ . The flanks of the mountains are thickly beset with heaped up barkhans and barkhan ridges, resembling sharply accentuated ramifications, which extend principally NW.  $310^{\circ}$ — $315^{\circ}$ , often also N. and S., and even NE.  $5^{\circ}$ — $10^{\circ}$ , more seldom NE.  $80^{\circ}$ . These directions indicate that the prevailing winds blow from the north-east, the east, and, to a less extent, the north. The crests of the barkhans are curved both horizontally and vertically. Both slopes are steep; but the steepest, which are sprinkled with powdery sand, are mainly directed towards the south and west. Between the chains of barkhans and the barkhans on the slopes of the mountains there are hollows or grooves (i. e. »troughs» between the »waves») of varying size and form. The distribution of the powdery sand in relation to the compact sand is irregular, probably as a consequence of the great number of impediments that exist to the free circulation of the atmosphere, and the division and di-