

as paper and crumbling readily. A little farther on beside the lake we again came across a black finely crystalline schist, greatly folded, so that it cropped out at every conceivable angle. At the point of junction with the glen of Ghopur-alik there was an excessively hard, dark-coloured, fine-grained variety of rock, possibly diabase, lying at  $71^{\circ}$  N. On the pass the black schist stood vertically upright, its strike being N.  $70^{\circ}$  E. to S.  $70^{\circ}$  W. Generally indeed the rocks in this locality have a vertical pitch, or are at any rate very steep. To this fact it is in no slight degree attributable, that the mountains here have assumed such fantastic and ragged forms, and that they are seamed with such an endless number of gorges, ravines, and steep glens — all of which renders them so difficult of access. Every main glen is joined by hundreds of smaller ones, which lie close together and are separated by high, narrow mountain ribs. From that part of the Akato-tagh which abuts upon the Usun-schor, a great number of small spurs jut out, as we have seen, into the lake, and the glens that come down between them are deeply excavated, short, and very steep, and they terminate at the lake itself; though occasionally we came across a broad glen mouth or expansion, joined at its upper extremity by a number of similar smaller glens.

During these days the atmosphere was very unsettled. On 3rd December a storm raged all the afternoon except for one short pause. During the night snow fell, leaving a thin sheet on the mountains, though it disappeared almost entirely on the saline shores of the Usun-schor. On the 4th December again there was a storm from the west, and on the pass it waxed to a perfect hurricane, driving the particles of fine, dry snow before it along the ground. Thus in the extreme northern parts of Tibet the wind relations are entirely different from what they are in the adjacent lowlands to the north. In the latter quarter the relatively peaceful season of the year is the winter, but up in the mountains the winter is characterised by gales and storms from the west, which set in with almost the uniform regularity of trade-winds.

On the 5th December we traversed the remaining portion of our journey, crossing level ground towards Temirlik in the south-east. But here, in consequence of the countless number of round salt-pits, travelling was excessively irksome, and we were only able to advance by riding zigzag in every direction along the ridges between them. The track led also between a countless number of more or less extensive ice-sheets, the water of which issued from springs. After that we crossed over the spring-fed brook of Kasch-malghun, and after that over the Sasik-jar, the Tschong-jar, and the Kulak-jar, which we had already crossed over somewhat higher up, in July. At last however we once more reached Temirlik, our point of departure. The excursion covered 450 km., and took us over six passes of the first magnitude; but it did a great deal towards clearing up the physical geography, especially the orography, of the country. We shall return to the subject again in our general summary in vol. IV.

This will be a convenient place to insert certain information that I received orally from my guides with regard to the region around Paschalik and the Ilvetshimen. Even with the best will in the world it is quite impossible to peep into every glen and cross over every mountain-range that one perceives on either side of one's route. If one's map is to be at all complete, one must perforce have re-