

on both sides. Below this col is a small open space, and here are situated the springs that feed the brook. Above that point the glen is absolutely waterless; though the energetic way in which it has been eroded proves that sometimes it must be traversed by a very effective volume of water.

At the next expansion of the glen, where we turned to the south-south-west, a side-glen comes down from the east, being bordered on the south by rather imposing cliffs. This side-glen leads up, I was told, to a smaller pass, over on the east side of which lies the glen of Tschigelik-saj. After climbing up a considerable distance towards the south, we reached a large cauldron-shaped expansion or gathering-basin, upon which several minor glens converge in order to form the Savughluk-saj. Here our passage southward was barred by a mountain of especially massive proportions; this compelled us to deviate to the south-west. The hunter's track we were following then led up, over rather steep hills, flanked on both sides by deep watercourses, to a comfortable pass (alt. 4,106 m.); it is of a secondary character and is situated in a spur of the main range of the Tschimen-tagh. In descending on the west side we kept to the left terraced bank of the brook that goes down the glen — soft hills with a thin sprinkling of grass on them, and often scored across by deep ravines from the side-glens on the left. This new glen is framed in between wild, rugged, denticulated granite crests of striking magnitude. The springs of Kisil-tschap are situated in an expansion (alt. 3,890 m.) of the glen, and below them the crags on either side form a veritable gateway of noble dimensions. Beyond it the glen widens out again, and in the vicinity of Kum-bulak debouches upon the Tschimen valley. Thus we had on the north and north-west of our route a relatively independent portion of the Tschimen-tagh, its only connection with the main chain being the flat ridge which we crossed over by the pass I have last mentioned.

In these mountainous regions there was but a slight quantity of snow. We had found the Tschimen valley completely free from it, except for one or two thin patches in sheltered positions on the north side of the dunes. Above Camp LXXVIII about one-fourth of the area was covered with snow, and snow clung in the crevices facing north, whereas the slopes facing south were entirely free from it. On the east side of the pass the snow formed a thin and almost uninterrupted sheet; on the west side it was very thin, and as we approached Kisil-tschap it ceased entirely, the reason of this being no doubt that this glen is too much exposed to the fierce westerly gales.

All day we marched amongst crystalline rocks, especially divers varieties of granite, differing in both texture and colour. At the camp there was a light-coloured granite of medium-sized grain, and it was followed by a light flesh-red granite and a fine-grained light grey granite of rather a striped appearance — this was north of the glen leading up to the pass of Tschigelik. South of this we observed a dark-grey, fine-grained granite and then a species of heavy, compact, black rock, probably diabase. At the pass an almost white fine-grained granite alternated with diabase, and in the glen leading down to Kisil-tschap there was a black schist dipping  $51^{\circ}$  E. The gravel and fragments of rock that litter the bottoms of the glens consist of rounded polished granite. Hard, naked rock is general everywhere; but in the cauldron-shaped valley and the immediate neighbourhood of