

free from clouds, and the rose tints of sunrise were fading away from the snow-fields of Mount Kaufmann. There was a long journey before us over Kizil-Art pass to Kara Kul.

The trail follows along the edge of the Kizil-Art darya to the pass. The snow had melted to its perpetual line, leaving a few masses of white forking down into the ravines. The landscape was everywhere characterized by an extraordinary richness of coloring, especially the deep red of bare gypsum rocks forking into the soft green of grassy slopes, and above them a deep-blue sky, broken here and there by silvery clouds. Always cutting our view in twain was the deep valley of the ever-roaring torrent along which we rode. In places this valley narrowed to a canyon, and the trail led us above, where we looked down into depths from which the sound of roaring water could barely reach us.

When about 12 versts from Bor Daba we sighted a flock of takkan (ibex) grazing on the thin grass of a side fan, and a little farther along, on a distant ridge, five Marco Polo sheep (*Ovis poli*), standing one behind the other, and clearly outlined against the sky. Farther up the valley the green slopes gave way to barren red, streaked here and there with drifts of snow. On all sides rose massive spurs of deep red, sharply carved into parallel ravines running straight down the slopes and crested with dazzling snow outlined above against a sky of turquoise blue.

At about 11 a. m. the caravan reached Kizil-Art pass, 13,721 feet above sea level (by recent Russian leveling), where we stopped to rest the animals. They had carried us 20 versts over a rough trail and up 3,000 feet in four hours, and even the strongest were panting hard from the rarefied atmosphere. Looking back we could see the deep valley out of which we had climbed. Its dark bottom seemed to reach a depth even greater in perspective than the height of the mountain above us.

Here I left the caravan, and while it went on down to Kara Kul I climbed on foot the first peak to the west. This was an excellent position from which to compare the forms established by erosion on the north and south sides of the Trans-Alai crest. On the north the slopes began by sinking into broad amphitheaters, and beyond fell rapidly into deep valleys and dark ravines, separated by high, irregular spurs of soft gypsum and sandstone. On the south, the Pamir side, there seemed to be no great descent; long, straight spurs extended transversely from the main mass, and between them lay flat plains of gravel, starting in the cirques just below the crest and inclining gently toward the south.

We had expected to find the region about Kara Kul like the Alai Valley, green with grass; in reality the two could hardly be more different. From the high slopes of the pass, wet from melting snow, the trail led to a dry steppe of gravel extending nearly as far as the eye could reach. In a few versts the stream wandering on its surface dwindled away, leaving a dry bed. One could perceive nothing living. Here and there projected piles of boulders hollowed, pitted, and polished by the sand. All along the trail were the bleached bones and skeletons of pack animals that had probably died under loads.

After a seemingly interminable ride along stony steppes, past barren talus-shrouded mountains, and over large, irregular piles of moraine, the desert basin of