

had found the previous year at Tertse in lower Nubra, — as well as from the deposits in the Kardong valley, he comes to the conclusion that a big lake has occupied these valleys and that, on account of the great height, it »must have extended up the Tanktse valley, almost as far as the low pass by which that district is separated from the Pangong lake».¹

A mile from Panamik are the hot springs once visited by MOORCROFT.

To the south of Panamik the rocks of Nubra are chiefly black slate, but transported blocks of granite are everywhere common, and at that village the latter rock descends to the level of the river, and continues to form the whole mass of the mountains on the left side of the valley so far as I continued along it. On the right side there were indications of stratification on the steep sides of the mountains, and, from the colour, the rock there appeared to be partly granite and partly metamorphic slate.

He left Taksha in the Nubra valley August 9th, and observed, always opposite to ravines, how the alluvial platforms were covered with enormous boulders, which he believed were brought there by glaciers. At Changlung, where the merchants' road to Yarkand leaves the Nubra valley, he observes: »In the direction of the valley, which was still north-north-west, very lofty mountains were visible at no great distance, all with snowy tops, and generally with heavy snow-beds and glaciers in their hollows; and according to the statement of my guides, the river at the distance of less than two days' journey issues from beneath a glacier, by which all passage is stopped.» To this he adds a note stating that, two months later Captain STRACHEY ascended the same valley till he was stopped by the glaciers which appeared to be on a »still more gigantic scale than those of the Shayok to the eastward».

The range between the Nubra and the Shayok, Thomson found to be bare granite rock, and near the glacier »granite was everywhere the prevailing rock». From old moraines he could see that the glaciers had at some former period advanced much farther than they did in 1848.

The height of the Sassar Pass (Saser-davan) he estimated at 17,600 feet. »From Sassar not more than three or four miles of the upward course of the river were visible, but within that distance three glaciers were in sight. Two of these stopped short of the valley while the third, which was at the most distant point visible, appeared to descend to the river.»²

Thus Thomson affords us a proof that the Kumdan-glaciers, or at any rate one of them, stopped the Shayok road in 1848. Therefore he had to go the roundabout road »called by the Turki merchants, Murgai, by the Tibetans, Murgu-Chumik».

At Murgu he first ascended a platform of conglomerate, where the ground was strewn with fragments of limestone, evidently derived from the mountains above.

¹ *Western Himalaya and Tibet; a Narrative of a Journey through the Mountains of Northern India, during the years 1847—48.* London 1852, p. 400.

² *Op. cit.*, p. 420.