

Bāqir, remained at Singer to look after the family's joint property, Abdurrahmān, the eldest, was endeavouring to enlarge it by opening new cultivation at the head of the Shindī valley. There I subsequently met him, and made use of him to maintain communication with Lāl Singh, who was then triangulating in the Kuruk-tāgh hills to the north-west. Thus for a brief time all four of Yūsuf Sālchi's brave sons were employed in connexion with our surveys.

Several observations make it evident that Singer and the central range westwards, which might well be named after this the only permanently inhabited spot along it, receive more moisture than the rest of the Kuruk-tāgh. According to Muḥammad Bāqir, Singer usually receives rain four or five times during the summer and often sees cloudy skies, which accounts for the moderate summer heat there experienced. In consequence of these climatic conditions, the only fruits that ripen there are apricots and Jigda (*Eleagnus*). The early autumn cold does not permit maize to be cultivated. Summer rain was said to be distinctly more abundant in the high hills to the west, and the tree growth found among them in several valleys, both by Lāl Singh and myself, fully confirms this statement.¹⁰ Yet the rain-water is so rapidly carried off by the deep-cut valleys and absorbed by the detritus of their alluvial fans that owing to the want of water on the surface herds and flocks cannot be maintained on these hills during the summer months. Hence grazing is confined to the winter, when snow is available. Rain clouds at Singer and in western Kuruk-tāgh generally were said to come always from the north-west, i. e. from the side of the T'ien-shan, while the dust-storms of the spring, comparatively rare, proceed from the north-east, evidently a result of the 'aspiration' exercised at that season by the hot air of the Lop region.

Climatic conditions of Singer range.

The physical conditions here adumbrated suggest a very marked difference between the portions of the Kuruk-tāgh situated east and west of Singer as regards the amount of moisture they respectively receive. Tree growth is not to be found anywhere farther east than Nanchanbulak and its neighbourhood, to which the drainage of Singer and of the valleys south of it descends. Yet quite a number of valleys along the southern slopes of the central range stretching west of Singer contain wild poplars and in places also elms (*kara-yagach*).¹¹ It appears to me that this notable difference in one and the same orographic system may confidently be attributed to the climatic influence exercised by the close proximity, on the north-west, of the main T'ien-shan and by the abundant rain and snow fall of its northern slopes. The direction of the big Kara-shahr valley, which from the snow-girt Yulduz plateau with their ample verdure descends straight towards the western Kuruk-tāgh, and possibly also the presence of the large fresh-water lake of the Baghrashköl fed by the drainage of the former, seem to support this explanation. On the other hand, the eastern Kuruk-tāgh cannot receive moisture from the regions adjoining it, as these themselves, the Pei-shan, southernmost Mongolia, and the eastern extension of the Lop basin, have, as we have seen, an extremely arid climate.

W. portion of range affected by moisture from T'ien-shan.

The question of the present climatic conditions in the western Kuruk-tāgh is so closely bound up with that of its human occupation during historical times that this seems the appropriate place for discussing the few references to it which I am able to trace in early Chinese records. I have already pointed out in *Serindia* that the notice which Book xcvi of the Former Han Annals devotes to 'the kingdom of *Shan*' 山, undoubtedly relates to the western Kuruk-tāgh.¹² The identification is made quite certain by the bearings and distances of neighbouring territories as indicated in that notice: '*Wei-li* 尉犁 lies 240 *li* to the west; *Yen-ch'i* 焉耆 is 160 *li* to the north-west; and

Shan, i. e. western Kuruk-tāgh, in Chinese records.

¹⁰ See the Chong-aghiz and the valleys descending from the Dunda-shan and Mohur-shan in Map No. 29. A. 1, 2; also the valleys west of Shindī, Map No. 25. B-D. 2.

¹¹ Cf. note 10 above.

¹² See *Serindia*, i. p. 334; iii. pp. 1230 sq. The identification of *Shan* was first correctly made by Grenard, *Mission Dutreuil de Rhins*, ii. p. 61.