

The effect of their powerful erosive action can be traced all along the Su-lo-ho basin almost as clearly as in the Lop depression.⁸

Of the big mountain area drained by the Su-lo-ho, only the great alpine valley where its headwaters gather far away to the south-east, and the ranges and valleys south of An-hsi and Yü-mên-hsien came within the range of our surveys. The former lying close to the Hoang-ho watershed and the plateaus of the Koko-nör region shares the physical character of the Central Nan-shan, as described further on. The latter consist of a succession of parallel ranges, the southernmost rising into peaks of 19,000-20,000 feet.⁹ The broad valleys dividing them are very arid, and the small patches of cultivation existing there owe their irrigation almost solely to springs bringing subsoil water to the surface at the foot of the huge slopes of piedmont gravel.¹⁰

Immediately to the east of the Su-lo-ho basin lies a much smaller drainageless area which from its terminal depression may be called that of Hua-hai-tzu.¹¹ As this by a curious bifurcation, mentioned already above, receives also a small stream from the Su-lo-ho, it may conveniently find mention here along with its big western neighbour. Sheets Nos. 40, 41 show the scanty streams descending northward from that portion of the Nan-shan which divides the valleys of the Su-lo-ho and Pei-ta-ho or Su-chou river; these have cut their way through a rugged hill-range, apparently a continuation of the Ala-shan, and lose themselves in the depression stretching north of the small oasis of Hua-hai-tzu or Ying-p'an to the foot of the Pei-shan. The aridity of that hill-range as well as of the portion of the Nan-shan due south is so marked that irrigation in this area, too, is possible only from subsoil drainage. To the north-east dune-covered or utterly waterless bare ground adjoins for a considerable distance; but even the great physical obstacle thus created did not prevent the ancient Chinese *Limes* being carried through it to the vicinity of the Pei-ta-ho.¹²

SECTION VI.—FROM THE CENTRAL NAN-SHAN TO THE ETSIN-GOL BASIN

If we follow the high road south-eastwards from Yü-mên-hsien across the open plateaus above the Hua-hai-tzu basin it takes us through the famous Chia-yü-kuan 'Gate' of the mediæval 'Great Wall' of China into the easternmost of the drainageless areas comprised within our surveys. It extends from the headwaters of the Kan-chou river in the south-east (Sheet No. 46) to the marshy lake-beds where terminates the Etsin-gol carrying the united waters of the rivers of Kan-chou and Su-chou (Sheet No. 44). This great area divides itself into three well-defined regions, all clearly marked by features which indicate transition to adjoining zones of very different climatic conditions.

In the south we have the Central Nan-shan rising in three big ranges to snowy peaks over 18,000 feet in height (Sheets Nos. 43, 46). In the wide valleys which divide them gather the headwaters of the rivers of Su-chou and Kan-chou and of their principal tributaries. Other rivers which descend in deep-cut valleys from the outer slopes of the Richthofen Range, the northernmost of those ranges, also find their way into those two, after traversing the second, or submontane, region to be presently mentioned.

All through the Central Nan-shan we find striking evidence of a climate far moister

⁸ For 'Yardang' and 'Mesa' formations, see Sheets Nos. 35. C. 3, 4; 38. A, B. 4, D. 3, 4; 40. A. 5, B. 5; cf. also *Serindia*, ii. pp. 575 sq., 589, 642 sqq.; iii. pp. 1095 sqq., 1100 sqq.

⁹ See sheet No. 41. A, B. 1, 2; also Sheets Nos. 38, 39, 40.

¹⁰ See Tung-pa-t'u, Sheet No. 38. P. 4; Ch'iao-tzu No. 40. A. 5; Ch'ang-ma No. 41. B. 1.

¹¹ See for this depression Sheets Nos. 40. D. 5; 42. A. 4.

¹² See Sheet No. 42.