

to a narrow bed, cut between steep clay banks about 20 feet high. Where a bridge from the suburb crosses the bed, it is only 50 feet wide.

There remains finally to be considered the question why the military station intended to guard the southern end of the desert route was placed on the right bank of the river, on ground quite incapable of cultivation and otherwise far from attractive. The answer to this question will also help to throw light on the reasons which induced the builders of the Han Limes to carry its line, from the great bend of the Su-lo-ho as far as the spur opposite to the Wan-shan-tzŭ hills, close along the right bank over what at all times must have been desolate desert. I believe that the reason must be looked for in the obvious advantages of military defence, which, being due to topographical facts, have remained unchanged ever since Chinese power first reached these westernmost confines of Kan-su.

Reason for
guarding
right
bank.

At first sight the river might suggest itself as the natural and most convenient border line, and the cultivated ground on the left bank as the most suitable position for a military station intended to guard the termination of a route across the desert by which attack from the north-west might threaten these marches. But closer consideration soon disclosed that the determinant factor for defence here is not the river, easily fordable during the greater part of the year, but the waterless desert stretching in a wide belt immediately to the north of it. Across the barren gravel glaciis of the Pei-shan no water is to be found nearer than a marshy spring which Professor Futterer's map places at a direct distance of seventeen miles from the position of Ch'iao-wan-ch'êng, in a depression marked also by our survey.⁷ It is obvious that, by preventing access to the water of the river, raids upon the oases south of the Su-lo-ho and the great line of communication leading past them could be checked far more effectively than by keeping a watch merely on the river's left bank.⁸

Access to
water
barred.

We may thus, I believe, reasonably account both for the line chosen here for the border 'wall' of Han Wu-ti and for the occupation of Ch'iao-wan-ch'êng as a military station some eighteen centuries later. Both were measures resulting from a policy of Chinese expansion towards Central Asia, and on both occasions those responsible for the military safeguarding of the 'corridor' of the lower Su-lo-ho valley, essential for that policy, were guided by the same keen eye for the quasi-strategic aspects of topography that has remained a traditional inheritance of Chinese military organization.

Chinese
eye for
military
topography.

In connexion with Ch'iao-wan-ch'êng it may here be mentioned that its position was likewise well chosen for watching a second route that debouches from the Pei-shan in this vicinity. I mean the route followed first by Messrs. Grum Grishmailo and then by M. Obrucheff. It starts some 8 miles higher up from the bend of the Su-lo-ho and thence leads with a winding course, first north and then north-west, to its junction with Professor Futterer's route at Mo-t'ou-ching (Map No. 37. D. 4).⁹ This route as a line of communication with Hāmi is less direct, but nevertheless of some importance, as it connects past the wells of Ming-shui (Map No. 40. A. 1) with other tracks prac-

Alternative
route to
Hāmi.

⁷ Regarding this point, marked by Professor Futterer's Camp XIV, see *ibid.*, pp. 21 sq. His mention above this of the ruins of a large stone-built structure may be taken as evidence of prolonged and regular use of the route.

⁸ The question might be asked why the same advantage was not taken farther west by keeping the Limes line on the right bank below Wan-shan-tzŭ. The explanation may, perhaps, be found in the fact that, while down to this point cultivated areas needing protection approach from the south close to the river's left bank, the main oases of An-hsi and Tun-huang lie much farther away from it. A line carried

along the northern bank of the river would have been more difficult to guard, victual, &c., from a distance, and the deltaic expansion of the river-course north of the Tun-huang area would have considerably added to this difficulty.

In the case of the Limes beyond Tun-huang it must, of course, be remembered also that, like a Roman Limes in the true original sense, it was intended mainly to facilitate the safeguarding of the trade and military route into the Tārīm basin and not for the protection of a settled tract; cf. *Serindia*, ii. p. 725.

⁹ Cf. Futterer, *Wüste Gobi*, p. 2.