

Irrigation
resources
of Ak-su.

The first of these marches brought us close to the south-western edge of the area of continuous cultivation irrigated by canals taking off from the left bank, near the junction of the Taushkandaryā and Kum-arik-daryā. Notwithstanding the early season, there was abundance of water flowing both in the united bed of the two rivers, where the high road fords it near Chok-tal, and in the western branch, known as the 'Kōne-daryā' and crossed by a bridge. This afforded fresh proof of the fact, already noted, that the area at present cultivated in the main oasis of Ak-su is much smaller than that which the volume of water available at all seasons in the two rivers would permit to be tilled.⁸ Beyond the straggling fields which mark spasmodic attempts at cultivation near Khangung, the last hamlet, the road leads for some 30 miles along the line where the stony Sai, stretching down from the foot of the outermost hill range, known as Ingan-tāgh, meets the flat clayey steppe covered with low scrub, mainly tamarisk. Of the wells sunk at three desolate roadside posts, only those of Shōta-kuduk contained fairly drinkable water.

Station of
Chilan.

The station of Chilan lies where the present road line, continuing its direction to the south-west, leaves the edge of the gravel glaci. Here the houses of some three dozen families cluster round two ruined forts. It marks the eastern extremity of the area to which water derived from the drainage of the Kelpin basin (Map No. 7. B. 3) can at present be brought beyond the newly reclaimed village lands of Achal, which I had passed in 1908.⁹ On topographical grounds we may safely assume that even in earlier times the main road towards Kāshgar lay through Chilan. But beyond it there is strong reason to suppose that the ancient route, at least down to T'ang times, followed a more direct, westerly line through desert ground, now wholly waterless, past the ruined sites of Chong-tim and Lāl-tāgh.

Earlier line
of road to
Marāl-
bāshi.

I have already discussed the archaeological grounds upon which this belief is based,¹⁰ and a glance at the map strongly supports it; for it shows that the almost straight route leading from Chilan past those two sites, and through the gap guarded by the towers of Arach, to Marāl-bāshi, is some 15 miles shorter than the line followed by the present high road. The need for water compels the latter to make a detour to the south, in order to reach a terminal river-bed known as *Kara-köl-jilga*; this receives water from the marshes to the south of Tumshuk which are fed by the summer floods of the rivers of Kāshgar and Yārkan (Map Nos. 7. c. 4; 8. B. 1). Before the Kara-köl stream is struck at the station of Yaka-kuduk, no water is to be found on the road beyond Chilan, except at the brackish wells of Yaide. Lack of time and this difficulty about water unfortunately made it impossible for me to search the desert westwards for the remains of those towers at Soksuk-shahri and elsewhere, along the ancient route between Chilan and Chong-tim, of which I had heard in May, 1908, on my way from Kelpin.¹¹

Change of
road beyond
Tumshuk.

From Yaka-kuduk onwards the road keeps more or less close to the left bank of the winding Kara-köl stream, lined for the most part by luxuriant Toghrak groves as far as the station of Chādir-köl. Some six miles beyond this point, the road brought us to a long stretch of ground covered with patches of new cultivation. They belonged to the village of Ak-tam, which I found

⁸ Cf. *Serindia*, iii. p. 1296. The volume of the Ak-su river as measured on May 20th at the ford below the 'New Town' amounted approximately to 1,480 cubic feet per second. That of the Kōne-daryā could not be accurately determined, owing to the great depth of the bridged channels and the rapidity of the current; but it was probably nearly twice as great. To this must be added the water carried by the canals on the other side of the Kōne-daryā. Much of this was running to waste in neglected fields passed beyond Sai-arik (Map No. 7. D. 3).

⁹ Cf. *Serindia*, iii. pp. 1304, 1306.

¹⁰ See *ibid.*, iii. pp. 1307 sq.; above, i. pp. 77 sqq.

¹¹ Here it may be noted that the old river-bed, crossed by the road about 3 miles south of our camp at Yaide and dry at all seasons, was supposed by my local informants to be connected with the old bed of the same name which skirts the foot of the Chöl-tāgh to the NW. of Tumshuk (Map No. 8. B. 1) and runs on into the now waterless desert south of Chong-tim. In all probability it was the irrigation from this bed that made occupation of this and the adjacent 'Tati' sites possible down to T'ang times and in parts even later; cf. *Serindia*, iii. pp. 1308 sqq.