

interesting fact that an earlier track led along the edge of the gravel terraces which mark the old lake shore, and thus avoided the troublesome crossing of the hard *shōr*.⁶ There were no means of judging when its use had been discontinued. But the existence of this track round the bay creates a strong presumption that there had remained here an impassable salt marsh within historical times, necessitating the great detour.

Ancient
shore-line
of lake-bed.

The route further on again hugs the gravel terraces of the ancient shore-line and thus continues to the halting-places of Lowaza (Fig. 145) and Kōshe-langza, where drinkable, if brackish, water is found together with patches of scrub and reeds. Beyond Kōshe-langza, the continuous line of steep clay terraces disappears on the south, and the route for two marches onwards follows a narrow, scrub-covered belt skirting the edge of the great salt-encrusted lake-bed, which extends its level and absolutely bare flat unbroken towards the north, like a sea still in being. Between the stages of Panja and Achchik-kuduk (Maps Nos. 68, 67) this belt of vegetation covers a strip of salt marsh fringing the dried-up lake-bed.^{6a} Beyond Achchik-kuduk, 'the bitter well' (Map No. 67. B. 4), the ground shows such marked changes in natural features that the first section of the route may appropriately be considered to end there.

East bay
of ancient
Lop sea.

To the north, beyond the bay of the ancient Lop sea, I could now see a terminal spur of the southernmost hill chain of the Kuruk-tāgh, rising at a distance of only about seventeen miles. Thence the low, barren range was seen trending steadily towards the north-east. Parallel to it, but on the south of the route and at no great distance, there extended a long ridge covered by huge dunes of drift-sand about 400 feet in height. It distinctly recalled the great sand ridges found along the terminal river-courses in the Taklamakān. The bearing of this ridge was also to the north-east, and its base was formed of clay. It was the same with the eroded terraces, or Mesas, up to 40 feet in height and more, which, isolated or in whole strings, stretched out from its foot northward.

Desert
valley of
Bēsh-
toghrak.

The ground through which the route leads from Achchik-kuduk to beyond Bēsh-toghrak, for a total marching distance of over 80 miles, bears the unmistakable impress of a great desert valley, flanked by the Kuruk-tāgh on the north and the sand-buried glacis of the Āltin-tāgh on the south. The Maps (Nos. 70, 74) show this clearly enough, and detailed surveys, made in 1914, have established the fact still more plainly.⁷ A continuous series of accurately observed levels has in particular proved that the ground, which over the vast area covered by the dry, salt-encrusted bottom of the ancient Lop sea presents a practically dead flat, rises from the easternmost inlet near Kum-kuduk, where the base for the levelling operations was situated, with a gentle but steadily ascending slope to beyond Bēsh-toghrak.⁸ There it meets the westernmost end (Map No. 70. D. 2, 3) of a geographically very interesting series of depressions, in which, I believe, we may recognize an ancient terminal basin of the Su-lo Ho draining the great mountain ranges south and south-east of Tun-huang.

Though this now dried-up terminal river basin presents peculiar features of its own, there are reasons which make it convenient for us to include it in the second section of the route. This may be considered to extend from the Achchik-kuduk well almost to the great marshy basin which now

⁶ See Huntington, *The Pulse of Asia*, pp. 290 sq.

^{6a} My explorations of 1914 have proved that the bottom of the ancient Lop sea extends its easternmost and gradually narrowing bay of hard salt crust approximately to 92° 18' longitude, and thus considerably further than our survey, as recorded in Maps Nos. 67, 70, had led me to assume.

⁷ Cf. *Geogr. Journal*, 1916, xlviii. p. 129. The above geographical main fact is in no way affected by the necessity, which these surveys have proved, of modifying in an important detail the delineation of the ground north of the route from Achchik-kuduk to near Yantak-kuduk, as shown on Maps Nos. 67 and 70. The salty steppe with scrub and

reeds (coloured light green) does not extend there further than about two miles north of the line of route, and beyond that limit gives way to the absolutely bare salt-crust surface of the above-mentioned easternmost inlet of the ancient Lop sea basin. In some places the bottom of this inlet still retained the condition of a salt bog. Its extreme eastern end was found to extend with a width of some two miles to about 92° 18' long., due north of Yantak-kuduk (Map No. 70. B. 3).

⁸ The rise over the levelled line of sixty miles from north of Kum-kuduk to the western shore-line of the depression beyond Bēsh-toghrak was exactly 250 feet.