

oases for the most part runs,<sup>4</sup> seems to cut off the flow of that drainage towards the river. Thus salt-incrustation necessarily proceeds on the surface, while the marshes undergo their seasonal drying up. During the severe cold of the winter, which prevails on this ground for fully four months, the moisture accumulating in the soil of the boggy area becomes frozen to a considerable depth. With the advent of spring this frozen soil begins to melt, and then the surface, which probably in the autumn and winter presents the appearance of a dry salt-encrusted depression, reverts to the condition of an almost impassable bog such as confronted us on the march above described.

Parallel to  
drying up  
of Lop sea-  
bed.

The process observable here on a small scale provides some instructive indications with regard to the phases through which the vastly larger salt marshes that once covered the bottom of the ancient Lop sea-bed may be assumed to have passed, before they reached their completely dried-up present state. The parallel thus provided claims special interest, because we find it in a region which is adjacent to, and in climatic respects a counterpart of, the Lop basin. On the other hand, we have abundant evidence in the archaeological observations made along the Tun-huang Limes that the present climatic conditions on this ground are not materially different from those which prevailed there two thousand years ago. If we may judge from the chronological indication thus afforded, the final drying up of the salt marshes in the Lop desert area must be assumed to reach back to a much earlier period.

March con-  
tinued  
northward.

On April 10th followed another long march, not free from anxiety. Regard for the ponies made it imperative to reach water, even though our tanks, still half full, contained sufficient provision for us men, including a small party of diggers brought from Tun-huang. For the first three miles or so from Camp cxxiii progress in the intended direction was easy, for we were able to circumvent such patches of soft *shōr* as were encountered by keeping to the encircling belt of low dunes. But after this a succession of winding marshy depressions—the first holding salt pools, the second with open salt water flowing westwards—barred the progress of the camels and obliged us to make detours to the east. The fact that the second depression was lined by tamarisk-cones on the south and in places also by rows of Toghraks suggested that it marked an old river-bed. This may possibly be connected with the depression to be noticed farther north or else with the big flood-bed feeding the marshes of Lu-ts'ao-kou (Map No. 38. D. 4).

At last, after a march of about eight and a half miles from camp, we managed to cross the depression where it held a number of small dry salt-encrusted channels. Thereafter it became possible to steer a straight course to the north without hindrance. Luxuriant reed-beds, with low dunes and tamarisk-cones in places, covered the ground, which was slightly salt-encrusted. We had covered about fourteen miles when, in view of open belts of Sai separated by lines of dunes 10 to 12 feet high, our route crossed a well-marked ancient river-bed, about 50 yards wide, lined by rows of living Toghraks on either side.<sup>5</sup>

Line of  
Han Limes  
reached.

The appearance of the bare pebble-strewn plain ahead, as viewed from the last low ridge of sand two miles farther on, distinctly reminded me of the Sai as observed in 1907 along the line of the Limes stations T. xxxi-v, and the plane-table showed that our position could not be far from the eastward continuation of the Limes. But during a long wait for the camels at this fixing, I vainly searched the horizon with my glasses in the hope of discovering ruined towers to mark its exact line. Yet the area of high sands in which we had lost the Limes wall seven years before was clearly in view due westwards. All doubt, however, disappeared when having moved only half a mile farther northward we came upon a low but unmistakable swelling of the ground, running

<sup>4</sup> See *Serindia*, ii. pp. 603 sq.

<sup>5</sup> This old bed with its characteristic rows of wild poplars

ought to have been marked on Map No. 38. c. 4 about a mile south of the limit of vegetation there indicated.