

NOTES ON SHEET No. 17 (KUCHĀ)

The surveys recorded in this sheet were made in 1908 and 1915. The comparatively close net of routes around Kuchā dates mainly from the spring of the latter year when archaeological interests kept me at work for several weeks in the vicinity of that great, and since early times important, oasis. While Miān Afrāz-gul assisted me in plane-table work here, R. B. Lāl Singh surveyed the outer slopes of the T'ien-shan northward. The routes southwards to Shahyār and beyond were mapped on the occasion of our joint crossing of the Taklamakān in January-February, 1908.

For the town of Kuchā the astronomical latitude agreed closely with that of Mr. Clementi. Its longitude was determined by taking the mean of the values interpolated between the accepted positions of Kāshgar and Korla and between Korla and Tengri-khān, respectively. This longitude ($82^{\circ} 53' 30''$) was found to agree very closely with that obtained by plotting the route from the side of Keriya river *via* Peres and Shahyār and was therefore accepted,¹² though differing some 15 minutes from that shown in Mr. Clementi's list. In addition to the latitudes recorded below, those observed by Dr. Hedin along the Tārīm river and by Mr. Clementi on the main road were used.

A brief descriptive account of the routes followed by me in 1908 is to be found in *Desert Cathay*, ii. pp. 375 sqq. Points connected with the historical topography of the riverine tract between the Muz-art (Inchike) and Tārīm rivers have been discussed in *Serindia*, iii. pp. 1236 sq. A record of the observations collected in 1915 concerning the present and ancient topography of the Kuchā oasis and its vicinity must be reserved for the report on my third expedition.

The area represented in this sheet, apart from the portion of the subsidiary basin of Bai occupying its north-western corner, falls into three distinct zones. In the north, at the foot of the outermost spurs of the T'ien-shan,

Astronomically observed latitudes.

1906-08. Kuchā City, Camp 309 (near Ya-mên; B. 1)	$41^{\circ} 42' 58''$
1913-15. Ishtala, Camp 318 (hamlet near centre of cultivation; C. 1)	$41^{\circ} 51' 18''$

¹² The longitude adopted in our map has since received gratifying confirmation by Dr. Louis Vailant's 'Note sur quelques points astronomiques déterminés en Asie Centrale (Mission Pelliot 1906-09)', in

we have the wide alluvial fan which the Muz-art and Kuchā rivers form at their debouchure and which is occupied by the great oasis of Kuchā. That its cultivation extended within historical times much further into the reed- and scrub-covered belts surrounding it on the east, south and west, is clearly demonstrated by the numerous ruined sites shown on the map (A-D.2).

In its ample irrigation resources, due to two rivers issuing near to each other from the foothills, as also in various other aspects, Kuchā forms a curiously close *pendant* to the Khotan oasis in the south. If desiccation has not left here quite so striking evidence of its progress in the shape of sand-buried ruins, wind-eroded 'Tatis', etc., the explanation is easily furnished by the broad riverine belt of the Tārīm which adjoins in the south.

This second zone with its jungle and inundation tracts effectively protects the irrigable area from encroachment by the drift-sands of the Taklamakān. The latter forms the third zone and stretches its dune-covered wastes away to the thin string of oases lining the extreme edge of the glacis of the K'un-lun on the other side of the Tārīm Basin. In the strip of Taklamakān ground shown by the southern portion of the sheet (A,B.4), the change in the direction of the high dune ridges or 'Dawāns' may be specially noted. While in the north they run from east to west parallel to the Tārīm, further south they bear approximately from N.N.E. to S.S.W., corresponding to the direction of the terminal course of the Keriya river where it dies away in the sands.

Corrections. B. 1. Cliffs should be shown above Duldul-okur close to the right bank of the Muz-art R., the river gorge being practically impassable from below Kizil-mingoi down to the caves of Ming-oi, above Kum-tura.

The name *Su-bāshi* at the debouchure of the Kuchā river should be in red, being applied to the ruins on both banks.

La Géographie, 1921, xxxv. pp. 494 sqq. It shows the longitude of Kuchā, determined by three lunar occultations, as $82^{\circ} 53' 6''$ and its latitude as $41^{\circ} 42' 5''$.