

caravan track along the southern shore of the salt-encrusted bed of the Lop sea. For its description and its historical topography, see the reference given above in the Notes on Sheet No. 32. As all the springs along this portion of the route are salt, it is used by caravans only from about December to early April, when the ice formed at those springs can be used for the supply of drinkable water. At other seasons the hill route along the northern slopes of the Āltin-tāgh, an easternmost extension of the K'un-lun, is alone available. This route, too, is rendered very difficult by the rarity of springs and the extreme barrenness of the ground. Regarding the historical topography of this route, mentioned in early Chinese records and now known to the Lop people as *tāgh-yol*, 'the mountain route', see *Serindia*, i. pp. 320,

Astronomically observed latitudes.

1906-08. Panja, Camp 147 (at eastern spring; C. 1)	39° 59' 31"
1913-15. Tāsh-köl, Camp 33 (C. 2)	39° 9' 4"
Lowaza, Camp 57 (near spring; A. 1)	39° 46' 5"

NOTES ON SHEET No. 34 (BARKUL, HĀMI)

Of the surveys recorded in this sheet, those to the north of the T'ien-shan and a few to the south of it belong to the third expedition, while most of the work on the latter ground dates from the autumn of 1907. The traverse along the main caravan road passing through the Hāmi or Kumul oasis had two observed latitudes and was adjusted on the positions adopted for Pichan (see Sheet No. 31) and An-hsi (No. 38).

The location thus derived for the town of Hāmi (C. 3) agrees very closely in longitude (circ. 93° 26') with that shown by the Russian Trans-frontier map, but falls some 8 minutes to the east of Mr. Clementi's chronometric value (93° 18' 16"). On the other hand the position obtained in the same way for Hoang-lung-kang, a small village on the highroad a short march to the south-east of Hāmi, agrees almost exactly in longitude (93° 44' 40") as well as in latitude with that observed by Mr. Clementi. The traverse made by M. Muhammad Yakūb from Toghucha (B. 2) to Pichan (Sheet No. 31. A. 3), when adjusted from the latter place, was found to indicate for Toghucha a position closely agreeing with that of the former survey.

On the route passing along the nor-

thern foot of the T'ien-shan, the position of Barkul (B. 1) was fixed by adjustment of the traverses to Ku-ch'êng-tzu and Turfān, corrected to its observed latitude; a further check for the longitude was supplied by the location of the Barkul-dawān (D. 2) in the 1906-08 survey. The longitude thus accepted for Barkul (92° 51' 20") falls about 4' 40" to the west of the one shown by the Russian maps. The indication of the snow-line at about 12,000 feet is necessarily conjectural, since the range between the meridians of Barkul and Hāmi was sighted on both journeys at the close of October when fresh snow had already fallen as low as the Barkul-dawān (circ. 9,200 ft.).

The portion of the Āltin-tāgh actually surveyed does not appear to reach the snow-line at any point and is characterized by extreme aridity. The wide glacis of gravel and detritus descending from it towards the ancient Lop sea-bed is overrun in parts by high drift-sand and is even more barren than the range. The occasional flood-water from the mountains is absorbed on this glacis. But the scanty subsoil drainage thus created probably accounts for the few salt springs and adjoining narrow reed-beds to be found along the well-marked shore-line of the salt-encrusted sea-bed at Lowaza, Kōshe-langza and Panja (A-C. 1).

Corrections. Replace height figure 1890 at Lowaza, Camp 57, by 2037 (cf. Appendix B).

A short account of my stay at Hāmi and of the observations on archæological excursions thence made to the small oases of Ara-tam (D. 3) and Lapchuk-Kara-döbe (B. 3) has been given in *Desert Cathay*, ii. pp. 342 sqq. Notwithstanding the limited extent of cultivable ground, Hāmi, owing to its position on what has since the first Chinese occupation of the district (A.D. 73) remained a main line of traffic between Kan-su and Chinese Turkistān, has played an important part in China's political and commercial relations with Central Asia; its