

During the computation it was found that there were several very weak links. The difficulties of the work in the field, the rapidity with which it was executed, and the physical obstacles due to desert haze and dust, rendered the work exceedingly arduous, and Sir Aurel Stein and his assistants are to be congratulated on having accomplished so much.

2. *Computations.*—Further details of the computations will be found below, and a synopsis of stations and points is given at the end of these notes. Briefly the former may be summed up as follows.—

In the first section from Kapa to Pk. 1/75E, a rough through-connexion was obtained with the assistance of four measured bases, astronomical latitudes and azimuths, one angle and one longitude being deduced from the plane-table. The eastern end of the northern section was shown in the records as connected to Pk. 1/75E—point 66 in the records—and the computation was carried through with this supposed connexion to its western extremity near Korla. It was then found that Lāl Singh's value of this place was about 32 miles west of Clementi's position, obtained during his journey from Kāshgar to Hong-Kong in 1907. Weak links occurred in Lāl Singh's triangulation, but it was obvious that these links could hardly be responsible for the accumulation of so large an error.

The whole case was then carefully re-considered in 1921. An examination of the work pointed to the likelihood of there being a mistake in identification of the junction point of the two sections. Some fifteen months elapsed between the two observations; desert haze prevented a long section of the southern range being visible from Āstin-bulak during the observations, and Lāl Singh himself expressed a doubt as to whether he had observed the same peak from the north as from the west.

Re-examination of the plane-table sections with the rays drawn from the observation stations seemed to confirm faulty identification, and pointed to a distance apart of some 30 miles between the two peaks observed. Under these circumstances, it was decided in consultation with Sir Aurel Stein and Lt.-Col. Cowie, Superintendent, Trigonometrical Survey, to ignore the distant connexion between the two sections, and to base the northern work on Clementi's value of Korla, throughout Lāl Singh's northern work.

3. *Datum points of the two sections.*—In view of these decisions, the two sections, the data of which are here published, should be considered unconnected and in separate terms:

(a). The southern section is directly based on Rām Singh's triangulation with Sir Aurel Stein in 1906-08 and is thereby indirectly connected to Indian triangulation.

(b). The northern section is based on Clementi's values of Korla. The heights in this section are founded on trigonometrical observations from the eastern end of the Āstin-bulak base, the initial height at this point being derived from barometric readings.

No adjustments are made in either section, and the coordinates of stations and points in both sections are those directly derived from the observations.

4. *Discrepancy between triangulated values and those on the published map sheets.*—

It will be noticed that some of these values do not agree with those shown on Sir Aurel Stein's published map sheets; this is particularly the case in the northern section. The maps were redrawn at Dehra Dūn during the war, when work was very heavy and the offices understaffed.

The compilation of the maps at times appears to have been considerably ahead of the triangulation computations, and it was thought inadvisable to delay the publication of the former, which are generally consistent in themselves, until the computations had been completed and could be reconsidered *in toto*. As far as possible in the list of triangulated points and stations, the latitudes and longitudes as shown on the published map have been also given (*in italics*) to the nearest 10 seconds for the purposes of identification. The heights shown on the maps which were derived from the faulty connexion and which are about 287 feet low are also shown in italics.

(H)—KAPA TO PK. 1/75E, 1913-15 (LĀL SINGH)

(i). (Chart 69G). The work is based on the side 'T' h.s.—'U' h.s. of Rām Singh's triangulation, 1906-07. From this side Pk. 7/69G, Pk. 8/69G and Pk. 9/69G were fixed from single triangles.