

bank, and the river forces the road to cross them in a little threshold called Penge-la, situated in gabbro, more or less metamorphized. Beyond this place the country becomes open and flat; three tents are seen and numerous camping places now uninhabited. One road joins the *tasam* which is seen coming down from a little hill called La-rok. Turning more to the west along the river we become aware of a series of *gangris* to the S.W. and W.S.W., and already at the first sight of this beautiful landscape one understands that only amongst these gigantic alps can the source of the river be situated. Already Nain Sing had suspected that the Tsangpo must get most of its water from the glaciers coming down from this high range, and Ryder had told us that the strongest arm of the Tsangpo came from there. It only remained to prove by direct observation on the very spot that such was indeed the case, and to follow the river up to its very source. This had never been undertaken before, except perhaps, by the Chinese, and this was my goal when I started south-westwards with three excellent guides, and a few of my own servants.

On the wide plain of Shamsang my Camp 196 had a height of 4,697 m. (15,406 feet); 21 tents were now pitched here. The mountains round the plain seem to be very arid, and in the strong, bright sunshine they appeared rose-coloured. The following bearings may be noted: Tingsi-larguk is a valley from the S.W.; the Maryum valley with its river and the *tasam* is seen to the N. 55° W.; the mountains to the N.W. are called Särkung; N. 6° W. is the valley Ukpa-lung, and straight north the valley and mount Gangchen; N. 7° E. is a valley called Ülung or Yülung with a road over the Transhimalayan pass Ülung-la to Rundor and Gertse; N. $30-35^{\circ}$ E. is a dominating and steep mountain, Lasar, with a valley of the same name; N. 51° E. is the conical mount Palboche; N. 60° E. we have the valley of Lungmar with a road to Lungmar-la, one of the principal passes over the Transhimalaya; some peaks in the same direction are covered with snow. To the N. 66° E. and N. 70° E. are the northern valleys Tsakyur and Rungkü; N. 80° E. is a mountain called Pagmar-taon; N. 84° E. is a valley and pass Hlalung with road to Tabie-tsaka and Bongba; S. 77° E. mount Tangyung; S. 60° E. a region Tsagong-kongji; S. 50° E. the great valley of the Tsangpo appears like an interruption between the mountains.

A very short distance S.S.E. of Shamsang, at the northern foot of some small gneiss rocks, is the very important point where the Martsang-tsangpo is formed by two rivers, the Chema-yundung and the Kubi-tsangpo. After having flowed almost parallel with each other for some distance they join at the very foot of the low rocks. Between them, and north of them the ground is swampy; there are several river-beds, now without water, and it is easy to see that considerable parts of the banks become inundated in the rainy season. Some good grass grows on the plain, though only four tents were pitched at the junction.

The measurements were undertaken from 9.30 a. m. till 12 o'clock noon, on July 8th. The distance between Camps 195 and 196 is only 9 km; the high-water had passed during the night. The first measurement was made below the