

had the dimensions: breadth = 2.0 m., depth = 0.215 m., velocity = 0.823 m., volume = 0.354 cub. m; No. II: breadth = 7.6 m., depth = 0.37 m., velocity = 1.04 m., volume = 2.92 cub. m; No. III: breadth = 3.9 m., depth = 0.22 m., velocity = 0.15 m., volume = 0.129 cub. m. Between No. II and No. III the Chema-yundung, including the six upper branches of the Maryum-chu, had the following dimensions: breadth = 29.8 m., depth = 0.525 m., velocity = 0.976 m., and volume = 15.26; to this the volumes of the separately measured No. I and No. II have to be added, which gives the whole volume at 18.53 cub. m. The first measurement, which gave 9.97 cub. m., was made at 11 o'clock, the second, of 18.53, at 4.30 p. m. This gives an idea of the very considerable swelling of the rivers towards evening. But as the same is the case with the Kubi-tsangpo the proportion will always be about the same.

The remaining Maryum-chu branches are situated just west of Umboo. They had the following dimensions: — No. IV: breadth = 11.0 m., depth = 0.15 m., velocity = 0.65 m., volume = 1.07 cub. m.; No. V: breadth = 9.8 m., depth = 0.34 m., velocity = 1.39 m., volume = 4.6 cub. m.; No. VI: breadth = 4.0 m., depth = 0.16 m., velocity = 0.047 m., volume = 0.028 cub. m.; No. VII: breadth = 6.8 m., depth = 0.14 m., velocity = 0.64 m., volume = 0.609 cub. m.; No. VIII: breadth = 12.0 m., depth = 0.19 m., velocity = 0.92 m., volume = 2.09 cub. m.; No. IX: breadth = 6.0 m., depth = 0.43 m., velocity = 1.06 m., volume = 2.73 cub. m.

All the Maryum-chu branches thus carried 14.53 cub.m. together, though, as shown above, this value cannot be compared with the results from Shamsang.

From Umboo the road takes us W.S.W. and west to Camp 198 at Tok-jongsung on the Chema-yundung, where the height is 4,732 m. (15,521 feet). Just west of Umboo there are several beds, which, in the rainy season, become inundated by the Maryum-chu, but were now perfectly dry. It is pretty certain, however, that by far the greatest part of this water comes from the *sum-la* or three passes of the Transhimalaya, which were known to the Chinese, but are still unknown to us, — and not from Maryum-la.

Continuing westwards we leave the valley of Rachen on our right, from which the Maryum-chu comes down. A little rocky promontory here consists of graywacke sandstone. A little isolated rock on the right bank of the Chema-yundung, called Puntipakto-naya, consists of the same kind of rock. At this point the river, divided into four branches, is crossed, and the road then follows along the right-side erosion terrace which is 2 to 3 m. high, rounded and old. Between the foot of this older terrace and the edge of the present one, is level steppe, with good grass. From the left, that is to say from the mountain ridge between the Maryum-chu and Chema, two tributary valleys join the latter, the first called Lanta-ji. To the N.N.W. a dominating peak with some snow, is called Rachen-sagre. At Tok-jongsung, where nomads dwelt in three black tents, the Chema is slow and deep, but not far from that place it forms small rapids. The hard S. W. wind carried much sand and dust through the valley.