

which is however quite small in comparison with the fluctuation that occurs every now and again after a few days of warm bright weather, which enhances the rate of thawing on the snowfields, so that the mus-suji upon emerging from the mountains bears the distinct characteristics of a special and independent high-water flood. When the Jarkent-darja issues upon the lowlands the mus-suji, as compared with the volume of the high flood proper, is in point of quantity inconsiderable. In the course of a few days the mus-suji has all gone past; but the true high flood continues to flow on all the summer, so that even in the middle of September, it still amounts to a pretty respectable volume, say on an estimate 150 cub. m. in the second; though this, by the time the river gets down to Lajlik, has decreased to 100 cub. m. in consequence of the drain of the irrigation canals of Jarkent, super-added to the loss experienced through natural causes.

I will here add the observations I made, and the information I received, as to the volume of the river when I crossed over it at Jarkent on 23rd December 1895. It was then divided into three arms. On the day in question the first of these contained nothing more than a sheet of ice, no running water; in other words it was frozen to the bottom. Between this first arm and the second was a broad *saj*, covered with gravel and rubble stones, forming a flat expanse in the middle of the river-bed which is only under water at the high-water period. The second arm, the middle one of the three, which at that time was the principal artery of the stream, was for so late a season exceptionally full of water, so that travellers and camels were only able to get across it with the help of the ferry-boats. At that place too the Jarkent-darja has two crossings. The more southerly one, which is the one I am now speaking about, can only be used during the high-water period; in the summer the velocity is too strong to admit of the ferry-boats being employed. It is then usual to have recourse to a more northerly crossing, although it involves a considerable detour; but there the current flows less violently and ferry-boats can be used. In this principal channel the main body of the water flowed, on 23rd Dec. 1895, close to the left bank, where the maximum velocity amounted to 2.31 m. in the second and the maximum depth was 2.80 m., though generally speaking the depth was 1 to 2 m. Although the erosion in that locality is incomparably more powerful than in the lower part of the river, above the confluence of the Ak-su-darja, there are nowhere any places so deep as we find there. Every year however the high-flood rolls down as far as Jarkent immense quantities of rubble stones and river-gravel; though probably only to 10 km. or so north of the point in question. At the place where the summer crossing is situated there is but little gravel, and at Lajlik there is none. The breadth amounted to 33 m.; the temperature of the water was $+0.3^{\circ}$, while the temperature of the air at noon was $+0.7^{\circ}$; the transparency was 22 cm. The volume amounted to 88.6 cub.m. in the second. Add to this the volume of the third arm, on the east, which was 4 cub.m., and we obtain for the 23rd Dec. a total volume of 92.6 cub.m. in the second. In other words, the river had decreased by 60 cub.m. since the end of September in the same year, the last occasion on which I effected a measurement. This result, when compared with the observations I made in 1899, is quite unexpected. Let us consider first the season of the year. As we may assume that the several