

one's horses down to a small expansion at the bottom, known from the scanty vegetation which grows there as Jigdelik-tokaj. The profile of the glen is shown in the accompanying illustration (fig. 308); but the type shown in fig. 309 is the most common. The volume amounted here to about 7 cub.m. in the second and the water was very muddy. But after a violent rain the entire bottom of the glen is filled with a big tempestuous torrent, and this is possessed of very great erosive power. The accompanying illustration (fig. 310) gives an approximate vertical section through the lower course of the Tscharklik-su. No sooner does the river issue from the mountains than it plunges in amongst the gravel-and-shingle beds, and is deepest at  $a-b$ . At  $a''-b''$  the depth is only half as great; while at  $a'''-b'''$  the powers of erosion and deposition balance one another, in such wise that not only does the stream not carve out a permanent channel for itself, but it actually spreads out in deltaic fashion, and shifts its course from branch to branch.

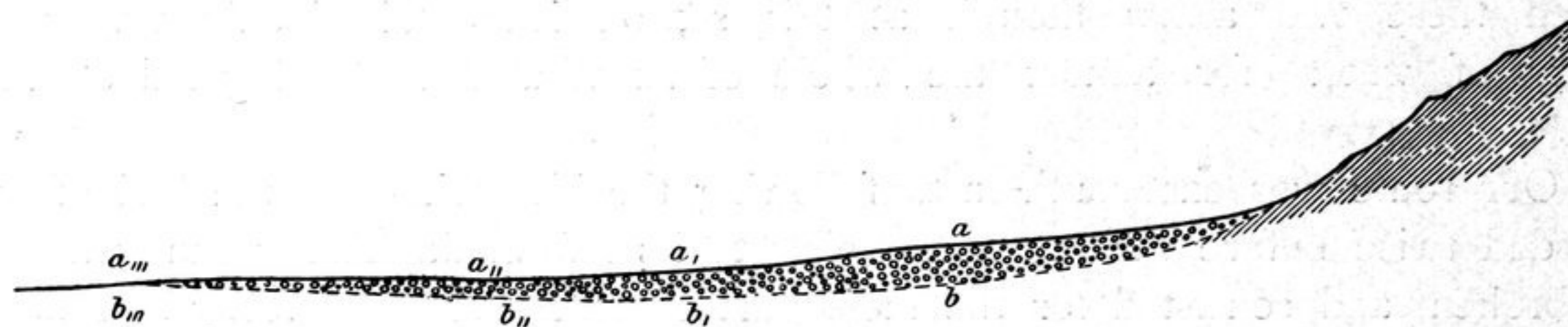


Fig. 310.

Although Jigdelik-tokaj lies merely 18.4 km. from Tscharklik, and although the difference of altitude between them amounts to only 240 m. (Tscharklik = 925 m.; Jigdelik-tokaj = 1165 m.), a real climatic difference was nevertheless observable, namely a change from the oppressive heat of the lowlands to the fresh, crisp air of the mountains. Down in Tscharklik we were annoyed by the gnats, but no sooner did we get beyond the vegetation of the little oasis than they disappeared completely. We were however still so far subject to the climatic relations of the lowlands in that the usual winds prevailed; and of this we had a clear proof in the evening, for at 6 p.m. there arose a terrific *kara-buran*, bringing with it impenetrable clouds of wind-driven dust. But no sooner does one leave the open, flat lowlands, and enter the mountains than one gets beyond the reach of these characteristic east-north-east storms.

May 18th. The air next morning after the tempest was a good deal cooler and a slight rain was falling, the usual concomitant, as I have already stated, of these violent tempests. Our course was now towards the south and south-south-west, the ascent becoming more and more perceptible and the ground being somewhat broken and hard, consisting as it did of sand and gravel. It bore a thin scattering of scrub — *tschakende* and *tschutschun*. At first we kept quite close to the scarped terrace on the left side of the Tscharklik-su, though afterwards we gradually departed from it and slowly approached the mountains at an acute angle, crossing on the way a great number of small dry torrents, that spring out of crevices, fissures, and narrow glens, short and steep, cleft in the front of the range that faces the desert. One of these is situated close to the spot where the Tscharklik-su itself emerges however fairly big. The portal at which the Tscharklik-su issues is dark and narrow, being wedged in between lofty mountains. From the plain