

to the left bank, where in general the current moves with the greatest velocity. Precisely the same thing holds good of the Jätim-tarim, and in both cases alike it is the sinuous character of the river which is the determining factor. But while the depth of the Jarkent-darja nowhere exceeds 2.60 m., the Jätim-tarim gave soundings of 6.25, 5.50, 7.45, and 4.15 m. It is just above the confluence that the latter descends to 7.45 m., but at the actual confluence its depth is 4.15 m., possibly a result of the retardation of its current through contact with the water of the Jarkent-darja, whereby sediment is deposited. A similar phenomenon occurs in the mouth of the Jarkent-darja, namely a small mud-bank with a depth of only 1.45 m. of water over it. At the actual point of confluence there is an eddy, which has scooped out a deep hole in the river-bed, and it is along the continuation of the line of contact that we obtained the maximum soundings in all that region, namely 8.22 m., while adjacent to it were depths of 8.03, 7.40, and 7.15 m. But the conversion of the force of movement into the force of excavation, which is occasioned by the violence of the confluence, the resultant eddy, and the great depth, retards the velocity, so that below the union of the two rivers the Baba-tarim is both shallow and broad. Along the line of sounding marked No. VIII the greatest depth is thus only 2.52 m., and along the two following lines. (Nos IX and X) 3.03 and 2.07 m. respectively. At each of the last two lines the breadth was almost exactly 70 m.; but at the next line of soundings, where the river had contracted to 45.35 m., the depth went down to 5 m. That is as much as to say, that below the eddy of the confluence the river expands and grows shallow, while both south and east of the eddy there are very extensive sedimentary deposits. Those in the latter quarter are continuous with *terra firma*, but the former are built up into an elongated island, with, on the inner side of it, a broad strip of barren silt, which was laid down at the period of high water. The extremity of the blunt-ended peninsula between the Jarkent-darja and the Jätim-tarim also consists of silt, and has a pool in front of it. There cannot be a doubt that all these sedimentary deposits become covered with water at the season of high-flood in the autumn.

We have found that the total volume flowing through the three arms we measured was 55.24 cub.m. in the second and the mean velocity of the three is easily determined to be 0.448 m. in the second. Along the line of sounding No. XI, taken between the southern extremity of the silt island and the left bank of the river, the mean velocity was 0.7576 m., although the area of a vertical section measured only 96.46 square m., as compared with 134.28 square m. in the three united streams; but then in their case the friction was greater. The sum of their separate breadths was 78 m., as compared with 45.35 m. in the conjoint river, or the river below the confluence. In this latter it is possible that the fall is also a little greater downwards from the silt-bed which has formed below the eddy.

The last preceding measurements, which were taken at Kirtschin on the 23rd May, yielded a volume of 78.58 cub.m. in the second. Here however on 3rd and 4th June, after all the river-arms had become united into one channel, we had a volume of only 55.24 cub.m., or a decrease of 23.34 cub.m. in 12 days. To a certain extent this diminution depended upon the season of the year, it being the period at which the river steadily drops, but also, and to a greater extent, upon the fact that