

fresh vegetation. Between the dunes the outlines of the water-sheets are extremely irregular, like fingers in all directions. The bottom is always sufficiently hard and very level. At the high-water period these lakes or river expansions get so deep that no passage can be effected; a great many of the dunes are then swept away by the water, and only the greater dunes, on comparatively solid and somewhat higher ground, and bound by grass, are left as small islands. The sand is carried down the valley and forms new dunes further east as soon as the river sinks. At the same time new dunes are formed instead of those which were carried away in the upper reaches. They are temporary formations always appearing again at the same places. The wandering of the sand masses under the action of wind and water is a pulsation of the same kind and as regular as the pulsation of the river itself. To a great extent these dunes are formed by river-sand, but even if no river existed this part of the Tsangpo valley would probably be formed into a sand desert with growing and wandering dunes. As it is the river destroys the dunes and transports the sand, which in its hands is a means of carving out the valley in a quicker tempo. Even the snow in the winter is said not to stop the formation of new dunes, for this snow is as dry as powder and the wind very strong. The valley is said to be so swept by the west-wind that it is difficult to cross on the ice when the drifting sand fills the air and hides the road.

The water in these river-lakes joined the Tsangpo with the following volumes; the first two branches had only 0.417 and 0.05cub.m. a second; the third flowed with the considerable amount of 12.88cub.m.; the fourth with 1.45cub.m.; the fifth with 8.97, and the last with 0.24cub.m., or in all 24cub.m. a second. The result can only be approximate, though no streaming water escaped my attention. Therefore the Tsangpo below the junction carried in all 102cub.m., or 30cub.m. more than at Likkse-gompa 8 days before.

But from where came these 24cub.m. of clear water? In Tuksum I was told that the Tuksum—Shamsang road crosses a northern tributary called Neoo or Nääo-tsangpo, said to be of the same size as the Chaktak-tsangpo. In preceding chapters we have met with this river, which is identical with d'Anvilles's Naouc-Tsangpou. Nain Sing calls it Chu-Nago, »the first large tributary» when coming from the west. Ryder and Rawling do not mention it, but it is drawn on Ryder's map, flowing parallel with the Tsangpo for about 20 miles. Kawaguchi calls it Na-u Tsangbo; he crossed it on October 16th, when all these rivers are falling heavily, but still calls it »a large river flowing from the northern steppes of Tibet and into the Brahmaputra». Though he was shown the best ford the water reached him to the breast, and the current was so rapid that he thought he would be swept away by the river.

Therefore the 24cub.m. of clear water seemed to come with the Nääo-tsangpo. But the problem is not so easy as that, as I was to find two days later when again crossing the Tsangpo.