irregular partings, carrying a thin deposit of angular stony waste; it also showed faint color bands, nearly horizontal, which were distinctly cut by the slopes of the spur sides; hence the valleys were regarded as younger than the loess. If this interpretation be correct, there is reason for thinking that the loess of the spurs is older than the uplift on the north-bounding fault, by which the revival of valley erosion was prompted. Evidently, then, this loess deposit ceased accumulating long ago, and has since then been much eroded. The fine loess-like deposit of the southern part of the Hunger steppe is colored as river-wash on Muhsketof's map. Its surface is gently rolling, and the railroad cuts in the swells repeatedly show its fine, uniform texture. Near the mountains on the south it is traversed by the flat-floored valleys of dwindling streams, where we saw many cattle pasturing.

The uplands and loess-capped spurs over the Sankar Valley, and their relation to the Hunger steppe, impressed me as particularly well worth a closer study.

A considerable area of dissected loess was passed after the railroad had crossed the Syr on the way to Tashkent. Like the other deposits, this showed every sign of having long submitted to normal erosion. Where the Syr swung against it there are vertical bluffs 100 feet or more in height.

LOESS IN FERGANA.

The interesting ride through the Fergana basin, from Chernyayevo junction, on the main line, eastward to the end of the branch line at Andizhan, deserves mention in this connection, from the striking suggestion that it gave of the conditions, favorable and unfavorable, for the supply of loess from rivers. At various points, as near Posietovka, Kokan, and Andizhan, there were extensive plains of gravel, washed, from time to time, by the flooded streams from the mountains on the south. The plains were usually barren and open to the action of the wind. Dunes were sometimes seen upon them. Such surfaces might afford much silt fine enough for carriage by the winds, after the floods that bring the silt subside. Neighboring areas of fine soil were irrigated and seemed richly productive with crops of cotton, wheat, rice, and lucern, with vines and fruit trees, and many rows of poplars. Much silk is produced here. It is woven in several of the cities. Many cases of cocoons are sent to France. The silt is deposited in the fields by the turbid irrigating streams, as well as by the winds, and is protected from the winds by the trees and smaller plants. There can be little question that the occupation of this basin for many centuries past has caused a considerable deposit of silt on the cultivated areas and held it from being swept away to the uplands by the winds. If the water were not led about in canals and spread out on delicately terraced fields it would run wild, and much of the silt that is now detained under plant protection would be more open to wind transportation from the torrent flood plains. Cultivation thus seems to be distinctly favorable to the deposition of stream-borne silt on the valley plains and unfavorable to the deposition of wind-borne loess on the neighboring uplands.