the Tejen, and the track elsewhere was relaid sufficiently to allow trains to cross the breaks at low speed. An engine that had approached the flooded Tejen too closely was seen mired in the softened mud of the plain; the track had collapsed under it.

THE AGGRADING RIVERS OF THE PLAINS.

The most notable feature of this district was the absence of valleys. The rivers have channels in which their waters are usually restrained, but there were no valleys in which the river floods were limited. The plains were open to overflow as far as flood supply held out. We were told, however, that some distance upstream (to the south) the Murg-ab has a flood-plain slightly depressed beneath the plain. This we interpreted as meaning that the river had there changed its habit from aggrading to degrading. On crossing the Amu at Charjui we saw a low bluff on the north or right of its course, although on the south the plain is not significantly above the river.

The general absence of valleys is a natural, indeed an essential, feature of a fluviatile plain in process of aggradation by flood deposits. It is peculiarly appropriate to rivers like the Tejen and Murg-ab, which dwindle away and end on the plain, so that every grain of sand and every particle of silt must be laid down as the water volume lessens and disappears. The absence of valleys would, on the other hand, be surprising in a lacustrine or a marine plain, for the reason that coincidence could hardly be expected between the slope that might be given to such a plain when it is laid bare and the slope that is satisfactory to the graded rivers that run across it. It is not, however, as has already been pointed out, always the case that fluviatile plains have no valleys eroded beneath their general level. The river-made plains of northern India are now commonly somewhat trenched by their rivers. Our Great Plains, piedmont to the Rocky Mountains, are likewise in process of dissection by their rivers. The plains of Turkestan are therefore somewhat exceptional in this respect. As a result we had unfortunately no opportunity of seeing sections of the plains in which the structure of the deposits could be examined. A well on the Czar's estate at Bairam Ali, a modern village near Old Merv, where we were most agreeably entertained by the superintendent, Mr. Dubassof, was said to have shown nothing but "sand and loess." The desert and river deposits found by borings beneath the Amu River bed at Charjui have already been noted. The inspection of these vast plains of silt was very suggestive in connection with the problematic origin of the fresh-water Tertiary formations of the western United States. Certainly no one who sees the river-made area of the plains of Turkestan can doubt the capacity of rivers to lay down extensive fine-textured deposits.

The ruins of old Merv are situated on the fluviatile plain, where large canals must have once led a plentiful water-supply from the upper Murg-ab. They lie some 12 miles east of the oasis of modern Merv, in which the greater part of the river is now used for irrigation. It is therefore especially desirable to make careful examination of the earliest of the ruins with respect to the level of their foundation and its relation to the surface of the surrounding plain. Some of the ruins are only a few centuries old; the cities that they represent are known to history. Others have