

the stream and forms the beginning of the floor B terraces. These are, at first, narrow, sloping terraces on parallel bedded alluvial conglomerate, but broaden as they are followed down the valley, at the same time increasing in height above the stream at the rate of about 26 feet per verst, and at Gulcha are about 2,000 feet above. Floor B has, however, been much dissected, the tributaries having cut down on a normal grade to the trunk stream, leaving intervening alluvium-capped hills and spurs as portions of the old rock bottom. Its greatest width, of many versts in the lower half of the valley, is evidence of prolonged action and meandering of the stream to an extent well towards maturity at the B stage.

Floor C seems to be the last great characteristic in the records of this valley. It coincides with floor B on the plain of Ak-Busa-Ga, but, having a steeper grade, separates from it a verst or so farther down the valley, soon attains its full height above stream, and continues practically parallel with it all the way to Gulcha, except for a few short stretches missing in the canyons. This floor is remarkably fresh in every respect, and surmounts the present bed of the stream over a large proportion of its course with vertical and often with overhanging walls. The larger branch streams have already cut down to the trunk stream on a normal grade, but small tributaries still fall from floor C in hanging valleys.

Long portions of the valley sides between A and B, and between B and C, are marked with transitional terraces, and where the valley widens there is a series of three, and sometimes more, freshly cut terraces stepping down from floor C to the present stream bed. The striking divergence of terraces is seen by a glance at the profile. The running out of the A and B terraces is a characteristic feature soon recognized in the valley, and it was from that fact that the block tilt described below was first inferred.

OBSERVATIONS ON THE SOUTHERN BORDER OF THE FERGANA LOWLAND PLAINS.

About 30 versts down stream from Gulcha the Taldic darya emerges on to the lowland plains of Fergana. We made a brief study of the southern border of these plains from 20 or 30 versts east of Osh to Jisak, on the railroad, 30 versts northeast of Samarkand. Most of this study was from the railroad train, but there was more detailed work done in the region of Osh, and observations made there projected on to the similar forms along the rest of the border. It was found that the waste from the Alai Mountains, formerly spread in extensive fans on the border of the plains, has been tilted up towards the mountains, dissected in its upper portions, and buried by later waste on its lower portions. It was observed from a distance that, in general, the Alai range foot-hills begin in long flat-topped masses parallel with the range and rising abruptly to a considerable height above the plains.

The stream followed by the route from Langar to Osh crosses the critical zone, including the dissected waste and the line where it inclines under the later waste. The upper part, or that followed between Takka pass and Langar, was found to have cut back a narrow channel increasing in depth to about 60 feet at Langar,