

## PRESENT OSCILLATION IN THE DEPOSITION ZONES.

Four out of the five zones of deposition characteristic of a desert basin are found in Fergana, namely, glacial, alluvial, flying sands, and loess, while the lacustrine is lacking. An area of about 500 square miles of the central portion of the basin forms its nucleus of flying sands, while two other smaller nuclei of dunes are found in its western half—one just west of Khokand, the other crossed by the Syr where this basin narrows near Khojent at its western end. Most of the alluvial zone is barren gravel steppe and only its small areas of silt give rise to oases. Loess is nearly confined to its bordering uplands, a portion of which is composed of uplifted piedmont structures. The nuclei of flying sands are now expanding, steadily encroaching on the alluvial zone as its perennially flooded areas decrease, a fact evidenced by Russian and native records as well as our own observations. A considerable part of the loess zone, its lower areas, is now dead and suffering erosion, while living grass-covered areas have shrunk to pastures ranging above 4,000 to 6,000 feet.

## RECONSTRUCTION OF PAST EVENTS OF THE FERGANA BASIN.

## First cycle (Pliocene).

Pliocene basin defined with high relief of border ranges eroding and building the plains of waste under desert conditions. Cycle closes with the low relief of Central Asia's peneplain stage.

## Second cycle (Quaternary).

High block uplifting of border ranges with gashing of their mature first-cycle topography, and corresponding marginal upbendings of the piedmonts constructed by the first cycle. Closes with well-widened mountain gorges partially alluviated.

## Third cycle (Quaternary).

Similar to second, but of less magnitude.

In the Alai Range, characterized by tilting of uplifted blocks raising that side next the plains. Nothing is yet known about it in the Tian Shan to the north. Its marginal deformations of piedmonts built by the second cycle were on new lines farther out on the plains than those upheaved by the second cycle.

## Fourth cycle (Postglacial).

Similar to the second and third, but of much less magnitude and still in the uplifting stage.

Marginal deformations of third-cycle piedmonts on new lines still farther out on the plains. Climate in process of desiccation, flying sands expanding, alluvial activity shrinking, living loess areas shrinking to higher limits.

This reconstruction of the past is of course purely tentative and subject to subdivision with cycles of less intensity or duration.