

that low relief was dissected during the following three uplifts with their erosion cycles. It is gratifying to find corroboration of this threefold division of uplift in the structural deformations of plain-deposits derived therefrom. There are three rows of uptilted piedmonts ranging parallel to the Alai Mountains, as the three respective marginal deformations corresponding to the threefold uplift both in magnitude and degree of subsequent erosion. It is further interesting to find that these three belts of uplifted piedmont, which converge towards the mountains opposite Khokand, near the western or lower end of the basin, widen eastward to include a considerable area of the eastern end of the plains, where deposition has necessarily been much heavier, as that portion lies before a vast mass of high-uplifted mountains. Another feature affected by this process and characteristic of the Fergana plains, especially on their Alai side, is the threefold, and sometimes fourfold, division of distributary systems. Larger streams descending from the Alai cross all three belts of uptilted piedmont, having cut down as they were uplifted, and apportion their depositions over areas between them, some escaping beyond the last to spread towards the middle of the basin. Each stream, therefore, gives rise to from two to four successive groups of delta-oases, thus giving an interesting variation of type Ia of my classification. In several instances a stream escapes from its first delta in two or more distributaries to form other deltas beyond, so that the intervening uplifted ridge of piedmont has been dissected by two or more channels separated by many miles (fig. 465).

The oldest belt of uptilted piedmonts bordering the Alai Mountains probably contains products of the first erosion cycle and was thus upheaved during the uplift which caused the breaking up of its peneplain stage. On the Terek trail between Osh and Gulcha it attains a height of over 3,000 feet above the present Gulcha River flood-plain. There it is a mass of loosely cemented conglomerates with confused dips, and of which the old surmounting piedmont topography has nearly disappeared. The later upheavals of plain-deposits rarely rise more than a few hundred feet above present deposition.

Where we approached the northern margin of the Fergana plains in the regions of Chust and Khojent, only one belt of uptilted piedmont was observed, probably because the mountains on that side are much lower and doubtless have been so in the past. This one belt, however, is of especial interest as it can be traced all the way from Namangan to Khojent, a distance of about 140 miles, and crosses the Syr Darya, which has cut down as it was uplifted.

From the standpoint of hydrography alone, the Fergana basin expresses the same series of cyclical events deduced from the topography and structure of its mountains and plains. In the mountains larger streams join at oblique angles and generally inherit the courses held before the first uplift of the low relief then drained by them. Their smaller tributaries contrast with this rule by joining the larger nearly at right angles and have come to be since that uplift. We have seen how streams descending from the Alai split into distributary systems in a manner determined by the marginal deformations of the plains and that feature may be recognized with a glance at the hydrography on a large-scale Russian map.