

the Alai Mountains. Between some, at least, of these there were long interglacial intervals. Mr. Huntington reports records of climate oscillation shown not only in these moraines, but also in the valley terraces, and considers them to be members of a group of sympathetic glacial phenomena.

Professor Davis noted along the northern edge of the Kopet Dagħ, the mountains bordering the plains east of the Caspian Sea, and in the eastern mountains evidence of a longitudinal dislocation, accompanied by great block uplifts, formed apparently after the wearing down of the mountain masses to a peneplain and preceding an active dissection of the elevated mass. This dislocation had been already observed by Muschketof, who states that it extends far along the edge of the Kopet Dagħ.

Mr. R. W. Pumpelly studied independently the region from the Syr Darya southward across the two mighty snow and ice ranges, the Alai and Trans-Alai. He found clear evidence of two long-separated glacial epochs recorded in extensive moraines, and, on the Pamir, in apparently corresponding high shorelines around Lake Kara Kul. These glacial epochs he has correlated with orogenic movements of the Trans-Alai, there being a definite relation between the glacial trough bottoms of the two epochs and the present stream floors. In the Alai range, he found that there had been a block uplift followed by a block tilt, both with a dislocation through the border of the lowland plains to the north, and leaving their records in alluvium-capped hills and terraces along the valley sides and in the dragging up or tilting of the fluvial sediments or river fans on the lowland borders. These movements he has correlated with the glacial geology, making the block tilt an interglacial event.

These block uplifts, by lowering the base level, caused a remodeling of the mountains, and have left their record on the lowland plains, which they have helped to create, by the vast amount of material poured out on them by the eroding streams.

The block-uplifting and the tilting being correlated with the growth of the alluvial Fergana lowlands, and the relation of the glacial expansions to the valley-cuttings in the Trans-Alai range being clearly recorded, it becomes a matter of great interest to correlate these Quaternary events of the Trans-Alai valleys with those of the Alai range and the lowlands, and the growth of the plains with the progress of human occupation.

It is not impossible that, by extending the study of glacial records from the Central-Asian ranges through the Elburg and Caucasus, it may be practicable to correlate Asiatic and Alpine glacial events; and since the great basin was fed both by glaciers of the southern ranges and by the great ice cap of Russia, this correlation of both might be effected; for, in view of the great orogenic movements to which the Caucasus, the Persian Mountains, and the Tian Shan have been subjected, it can not be positively asserted that the Central-Asian glacial expansions were all contemporaneous with phases of the mundane glacial epoch.