

appreciated, for we find hills of pure culture growth 80 feet high which have been occupied till within a thousand years. The reason for this preference may have been partly the strategic advantage offered, but it is doubtless also to be sought in the very marked relief, found at even a slight elevation, from the burning summer atmosphere of the plain, as stated by Mr. Huntington in his report on the distribution of kurgans on the oasis of Merv.

Let us now consider the agencies that have been active in these processes of cutting-down and rebuilding. They form one of the most interesting illustrations of the law of compensation in the grand cyclical action of forces that have modeled the relief of the surface of our planet.

A great mountain range, the Kopet Dagh, several hundred miles long, forms the sharply defined southern edge of the desert plains of Western-Central Asia. It rises everywhere abruptly from this plain to a height of from 5,000 to 10,000 feet; and its height is sufficiently great to cause it to receive abundant precipitation and a heavy covering of winter snows. Within this mountain system the trunk valleys, after following a longitudinal course, turn sharply and, after cutting through the border range and piedmont hills, discharge their waters onto the

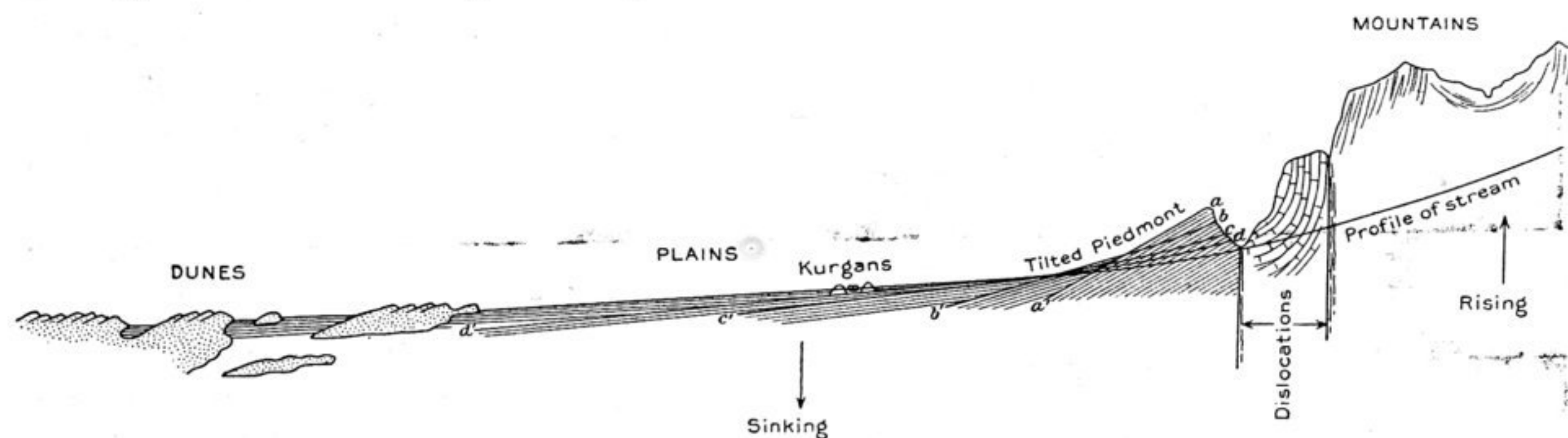


Fig. 15.—Ideal Section of a Delta-oasis on an Uptilting Piedmont. (By R. W. Pumpelly.)

plains. The mountain masses, lacking the protection of a heavy forest growth, are subjected to rapid disintegration and decay, and the resulting detritus is carried by the torrential rivers down to the plains.

In a coastal region these waters would flow onward to the ocean, and the silts they had brought from the mountains would ultimately complete the same course, to be deposited at the mouth of the river, to form there a submarine delta. But in an arid "central" region, such as is Turkestan, the conditions are different. The precipitation is confined to the mountains, and on leaving these the rivers enter a desert region of rapid evaporation, where there is no compensating rainfall. The valley ends at the mouth of the mountain gorge. Thus all the coarse and fine materials brought by the torrential rivers from far and near in the mountains, as well as those carried down by smaller streams from the declivities bordering the lowland, and from the piedmont hills, are deposited within a zone along the edge of the plain at the base of the Kopet range. The rock-mass of the mountains is, therefore, being continually removed and loaded onto this long zone.

Now, two connected phenomena are observed to result from this process. On the one hand, the zone of deposition is continually and proportionately sinking