under the increasing load; and on the other hand the mountains are continually rising to maintain their height. The strain established in the rigid crust, between the sinking zone of deposition and the rising mountain range, finds relief in the development of fractures along the range, as well as others which permit a differential uplifting of great block-masses—a fact which had before us been observed by Muschketof. The evidence of this compensatory maintenance of hydrostatic equilibrium is strikingly recorded both in the Kopet range and in the zone of deposition. All along the range the lines of fracturing are visible on a large scale in well-developed faultings; and the border of the alluvial plain is bent sharply upward, having been dragged up by the rising mountains. Deep longitudinal valleys are carved by erosion along the lines of weakness offered by these fault-planes. On the mountainward side of the valley rise the older rocks of the range, while on the other is a steep wall, formed often by the basset edges of beds of conglomerate which are the up-bent representatives near the mountains of the alluvial strata of the plains. On the other hand, the sinking of the zone of deposition is proved in the deep artesian well southeast of Askhabad. This boring remained to a depth of 2,195 feet in a pure delta-formation and was still in this when boring was stopped. The plain at Askhabad is 820 feet above the Caspian; the bottom of this trough is, therefore, more than 1,400 feet below the level of the ocean.

Two factors were necessary to the growth of the deltas—precipitation in the mountain region to supply the water to bring down the products of disintegration, and a rising movement of the highland to maintain a grade necessary for the transportation of these products by water.

The delta is broadly divided into three zones of deposition—that of quickly dropped coarse detritus at the apex; the main body of the delta, the rapidly descending broad surface of which receives sediments from the overflow during the floods; and the outer, more or less flat, border, which receives both the finest material and all of the materials that are carried or rolled down through the channel or channels through which the water that does not overflow the delta finds its way, to be lost beyond on the bordering plain.

This bordering zone belongs not only to the delta but to the desert as well; and it is here that is waged the eternal struggle between the desert with its breath of fire and its overwhelming sea of sand on the one hand, and the life-bringing waters on the other. The sands from the desert encircle the whole delta with a wall of great wave-like dunes. That they do not bury it when they are not themselves arrested by sparse grass on their surface is due wholly to the ability of the waters to prevent the formation of barkhans and dunes on its surface; for the water, spreading in flood-time over the even surface of the fan, distributes and assimilates annually a great part of the sand that lies in ripples on the surface; while another part, finding no irregularities to form the starting points of dunes, is blown to join the sandhills on the opposite side.

The delta streams maintain channels through the dunes bordering the foot of the delta; and through this the excess waters of the floods find their way to spread out among dune-locked depressions, where on evaporating they leave their