Then in t years from the time that a decrease in fall began, $S=P-G-pt$. If P in the beginning had been equal to $2G$, and thus evenly divided between surface and underground drainage, and p equal to say $\frac{P}{2000}=\frac{G}{1000}$,

$$S=G-\frac{G}{1000}t$$

and total fall $(S+G)=P-\frac{P}{2000}t$.

Plotting these sloping lines we see how a steady decrease in precipitation, as the underground value is approached, affects the surface drainage during the first century by only 10 per cent, during the sixth century by 20 per cent, during the ninth century by 50 per cent, and during the tenth century by 100 per cent; that is, a uniform decrease subtracts an increasing proportion of what is left till the surface excess vanishes, though there may still be a plentiful fall, which is thereafter consumed by underground drainage. Whatever record remained would thus have the appearance of sudden change towards the end.

We are thus driven to believe there has been a relatively recent decrease in the precipitation. The next question is: Where does the underground water drain to? A small proportion finds its way to the surface again, supplying most of the present flow in trunk-streams, a return through small cavernous springs, several of which were observed near Manisht. But the limited amount which now composes the Anau Su and Gyourse Su, even at high water, represents but a slight proportion of what falls over that high region. That it continues out under the plain is evidenced by water rising in native wells scattered far and wide over the Turkoman Trough. It seems barely possible that water drains through sand and gravel beds all the way from these mountains to the Caspian.

Turning to the delta again, we find it tells the same story in a recent shrinkage of water distribution. Wide areas of clay, some of which project 5 to 10 miles out among the dunes, are now dry during the highest floods, and not many centuries can have elapsed since their alluviation, for all would otherwise have been strewn with dunes. Some few hundred years ago water found its way to a small town near Ball Kuwi, about 6 miles north, whose ruins we explored.

SHAPE OF THE ANAU DELTA AND IRREGULARITIES WROUGHT BY MAN'S DÉBRIS OF OCCUPATION AND HIS CONTROL OF ALLUVIAL DEPOSITIONS.

The Anau delta and its surroundings present a myriad of surface problems, of whose most general features a competent study would involve a large-scaled topographic map, constructed with the double eye of physiography and archeology; while far more light on both past and present may be revealed with the aid of a microscope and sensitive weighing balance. When for the first time one stands upon its clay surface, all the plain appears in simple flatness to the eye. Rising to the south is the Kopet Dagh Range of rather flat-backed mountains, notched by valley gaps, and from their base the plain slopes gently out into the northern semicircle of ocean-like horizon, broken only by sand waves tossed from the desert of Kara Kum. Toward the middle rise two kurgans and the last citadel of ruins with its outlying watch-towers, the three dead towns of Anau in whose stratified débris we dug.