

imagine that in process of time a river-bed like that of the Ugen-darja would become choked with dust, drift-sand, and decaying vegetation; and possibly that is taking place, though at an extremely slow rate. Besides, the high water pretty certainly possesses sufficient force, by its mere movement alone, to keep the channel open, and prevent it from getting choked up in this way.

Hence, with regard to rivers of the type of the Ugen-darja, Intschkä-darja, and Schah-jar-darja type, we may affirm, with perfect confidence, that they are old, at all events considerably older than those channels which are at the present time copiously furnished with running water. In these latter the stream ebbs and flows, rises and falls, there is a very considerable range between the high-water level and the low-water level, the velocity is great, the energy in every respect actively developed. In rivers of the Ugen-darja type, on the contrary, the difference of level is slight; and even when the high flood causes a rise of about 1 m., the velocity is not appreciably quickened; and the activity of the stream is never under any circumstances lively. But a rise of 1 m. in the level of the Tarim is fraught with incalculably wider-reaching consequences, as will be apparent from the accompanying illustration. U stands for the Ugen-darja; T for

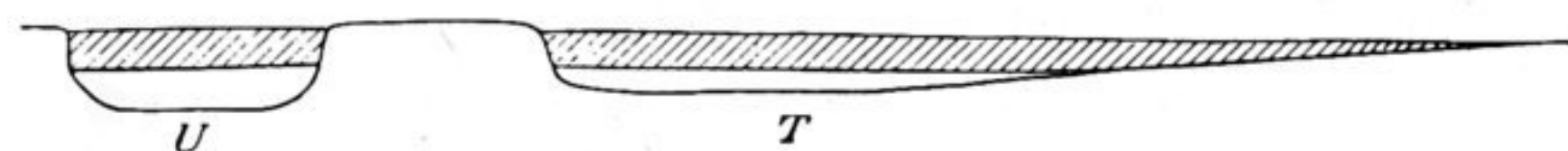


Fig. 137.

the Tarim. A given section of the Ugen-darja contains, in most cases, in a given interval of time, a larger volume of water than a similar section of the Tarim, considered for a precisely equal interval of time.\* All the same, the quantity of water which flows through the Tarim is — it was so, for example, on the 5th December — six times as great as that which flows through the Ugen-darja. The Tarim is therefore the active stream, the river of aggressive energy; while the Ugen-darja is the more passive, relatively inactive stream — a mere conduit, so to speak, for the passage of water on its way from higher to lower ground. And as no changes take place in the bed of the latter, such as the laying down of sedimentary deposits, the current consequently maintains its direction unaltered. And the same observation holds true of those old river-beds which still preserve a relatively flickering remnant of life. If for any cause the supply of water ceases in a channel of this description, the pools in it nevertheless persist for a pretty long time in its deeper parts, though eventually they, too, dry up completely. After that the watercourse still survives as a deep gully or trench. Of these also we shall find instances in the region of the Lower Tarim.

\* This does not hold good, however, for the very lowest part of the Ugen-darja, for the stream is there much shallower than it is higher up. A cross or vertical section of the mouth gives an area of 41.20 square m., while a similar vertical section of the Tarim measures 74.78 square m. But where the Ugen-darja attains a depth of 4 to 5 m. the case is different. In such places the cross sectional area of the Ugen-darja exceeds that of the Tarim, and as the former river is the narrower, every rise of level counts for more in the case of the Tarim than it does in the case of the Ugen-darja.