

movable soil has been washed away, has its roots from time to time submerged; still, on the whole, the vegetation offers a decided resistance. At any rate the lake-basin is being filled by the dunes advancing from the east, while at the same time there is no power which is able to hollow out and deepen simultaneously, and to the same extent, the already shallow western part. The advance of the dunes and the extinction of the lake are illustrated by the subjoined fig. (213). At the present time the lake is situated between the two dune-ranges $a-a_1$; when it has advanced as far as $b-b_1$, its area will be reduced one-half, and by the time it assumes the position $d-d_1$, its basin will be entirely filled up by the sand which pours down the leeward side of the eastern dune-range. If J. K. stands for Jangi-köl, then its basin will of course undergo the same metamorphosis. Now, on the assumption that the dune a , masks a depression in the surface, then, in proportion as the existing lake of Gölme-käti disappears, this depression (X) must gradually emerge, and become converted into a fresh lake.

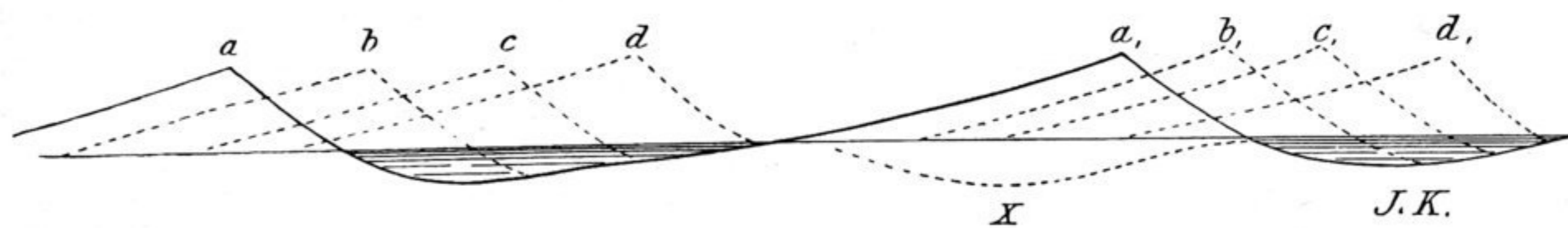


Fig. 213.

Now it is possible that a critic, starting from the existence of the belt of vegetation on the east shore, might question the correctness of this migratory theory. If that shore is uninterruptedly moving westwards, how is the presence not only of kamisch and tamarisks to be explained, but also of poplars, which, young though they are, would hardly be able to strike their roots in ground possessing so little firmness as this. When the dune has travelled from a to b (see fig. 214), the poplars which grow on the terrace must gradually be buried under the sand, and be killed. And this is just what actually does take place, for the belt of vegetation on the east shore of the lake does not of course possess any power to prevent the sand from advancing. Indeed we frequently find poplars half buried in it, only the crown and a portion of the stem being visible above ground. Poplars in such circumstances are extremely stubborn and tenacious of life. It is as though their branches struggled with concentrated energy to offer the utmost possible resistance to the destructive element, striving to persist in the air as long, and drink in as much sunlight, as they possibly can, before having their vital spark extinguished for ever by the annihilating sand. Thus the narrow belt of vegetation on the eastern shore is unceasingly threatened, and possesses no power of either postponing or warding off its inevitable destiny. Upon a closer investigation we find also, in the case of all these lakes, that the belt of vegetation on the east shore is much narrower, as



Fig. 214.