

with less constancy, and gusts from other quarters begin to make their presence felt, and thus the waves lose to some extent their previous regularity of shape. In the western half of the lake the winds are very uncertain, and the regularity in the relief of the waves comes to an end. In places the wind actually blows occasionally from the west, whilst still keeping on the whole to the predominant quarter, and consequently the waves are turned in the opposite direction. In this way there occur two sets of waves, meeting one another and rising into lofty pyramidal masses at the points of intersection. The hollow between two wave-crests in the eastern part of the lake presents but slight changes of level from north to south, in fact it is almost one uniform level throughout. In the middle and west the differences of level are much greater. A boat sailing before the wind, that is from west to east, would indeed be able to advance, although to do so it would have to dip up and down, over the crests and down into the troughs between them; but it would not be able to advance against the wind. In the middle and western parts of the lake these differences of level would be considerable in whatever direction you chose to go.

Who does not recognise in this description the Desert of Takla-makan and the Desert of Lop, or the sandy ocean of the Tarim basin? The masses of sand in this last present precisely the same relief as the waves in the lake described. Sand is entirely absent from the eastern part of the Desert of Lop; consequently even ripple-marks are unable to originate there. It is in the middle part of the desert that we first meet with a thin sprinkling of embryonic dunes, scattered over the clay surface. But towards the west these sand-waves increase in elevation until, along the line where we crossed the Desert of Tschertschen from Jangi-köl to Tattran, they rise as high as small mountain-ranges, which under the influence of the prevailing wind retain their regular form unimpaired. Still farther west, where the winds alternate, the drift-sand is flung together in inextricable confusion, and except for small patches of bare clay of irregular size and shape (though these occur very seldom), there is nothing but sand. The dunes are, it is true, heaped up into vast dome-shaped masses; but these are irregular and capricious in outline. In different localities the steep sides of the individual dunes face different directions, and are always short. The reason of this is that the individual dunes are there superficial, changeable, and transient; whereas in the Desert of Tschertschen the object of each individual dune is to increase the dimensions of the accumulation up the windward side of which it climbs, and thus contribute to the preservation and permanence of the shape of the accumulation, precisely in the same way as ripple-marks endeavour to augment and preserve the individual dunes, and as the individual particles of sand endeavour to form and maintain each separate ripple-mark.

In a word, after crossing, as I have done, the sandy desert of the Tarim basin along several different lines, the conviction is irresistibly driven home upon me, that the condition in which we find the masses of sand is precisely the same as that of the kumatic forms in the lake to which I have lately alluded. Both elements, sand and water, are very mobile, and readily lend themselves to shaping and modelling, and in both cases alike the modelling agency is the same. Why then should not the result be in both cases similar? The waves of the lake roll away wave by wave, flatten out, and some time after the subsidence of the wind present again the ap-