

lakes and the crests of the dunes. The name, Emin Achun's lake, proves that this depression, now dry, once contained water, and that the connecting channel was made by a man of that name. If this channel, which is considerably longer than the feeding canal of Gölme-käti, were to be opened when the Tarim is in full flood, in all probability the depression would again be filled with water. The only difference therefore between Gölme-käti and Emin Achune-uktusu is this, that the last-named happens at the present time to lie dry, a fate which will also overtake Gölme-käti, if it remains long enough cut off from the river. We have found that Basch-köl is in the same position: this lake at one period dried up, and even at the time of my visit, in consequence of its disconnection from the river, its water was impregnated with salt. These lake-basins therefore have no connection with the natural ground-water, but are simply so many accumulations of water occupying so many natural depressions. For instance, upon digging a well on the shore of Basch-köl at a distance not exceeding ten or twenty meters from the edge of the lake, the water which appeared in the well rose to the level of its surface, percolating through directly from the lake. In the case of the Basch-köl there could be no doubt about it, for the water in both well and lake was alike salt. Hence loss by evaporation is not the only consequence of stopping the inflow of water into these lakes; they lose in volume also through absorption into the ground. Each lake and bajir coincides with a depression. From this it does not however at all follow that the substratum or underlying clay soil, upon which the dunes are built up, is furrowed or channelled naturally into oblong, oval, or elliptical depressions, which would be distinctly perceptible supposing all the superimposed sand to be removed. Were this the configuration of the underlying surface, one would expect to find similar furrows on the left or east bank of the Tarim, at any rate in those districts which have never been inundated by the river, but of such there are none.* For this, as well as for other reasons, I assume that the surface on the right bank of the Tarim was originally to all intents and purposes level, allowing of course for the extremely gentle slope towards the lowest depression of the Tarim basin in the south-east. The underlying clay foundation is relatively soft, and admits to a certain degree of being compressed, especially where, as at no great depth throughout the whole of the Desert of Tschertschen, it is moist. In the arid Desert of Lop the clay is so hard that horses' hoofs leave scarce any impression upon it. On the other hand in those parts of the Desert of Tschertschen where the sand has been removed, the exposed clay is soft. I am therefore tempted to put forward the somewhat bold hypothesis, that the dune-accumulations, in consequence of their weight, produce an indentation of the ground by compressing the underlying layer of loose moist arenaceous clay. These indentations are not however permanent, but move as the dune moves; and as the soil on the leeward side of the on-moving dune is compressed, so the soil on its windward side recovers its elasticity and uplifts itself again as soon as the pressure of the superincumbent dune is taken off it. Thus the indentations never become exposed to observation, so that to establish the actual fact of their existence is well-nigh an impossibility. If my assumption is right, it

* The trenches which extend from the north-east to the south-west in the bed of the ancient Lop-nor are of a totally different kind.