

these ancient lakes between An-si and Su-tscheo, which are consequently situated due east of Lop-nor and between precisely the same mountain ranges as that lake, and he has explained the causes of their disappearance, i. e. as lakes. His conclusions too have met with opposition, and he has been drawn into controversy in defense of them, though he has had no difficulty in maintaining his ground. The lake problem in question presents so many points of resemblance to the Lop-nor problem, and yet at the same time so many instructive differences, that I cannot abstain from quoting his conclusions *in extenso*, more especially as his observations, which are of exceptional importance and value, are for the most part not very easily accessible, because his great work on the Nan-schan is only published in Russian.*

With great scientific sagacity Obrutscheff from the exposed sloping shores of the Mogutun-gol draws the inference, that the depression at the foot of the Nan-schan, north of the town of Jü-min-sian, must in former times have been occupied by an extensive lake. Then he goes on to say:** »The character of the locality and the nature of the ground both suggest that the lake occupied the whole of the present salt steppe around the oasis of Schi-dun-tse, from the Mogutun-gol to the bare hills in the east. Its northern boundary was formed by the hills of Schi-dun-tse and the gravelly desert at the southern foot of the Bei-schan. The lake extended of course south and east beyond the Mogutun-gol; but as I did not visit those localities I am unable to define exactly its western and south-western boundaries. Judging from M. E. Grum-Grschimajlo's map, the lake would appear to have extended 25 versts westwards from my camp at Mogutun-gol. On the south it was bordered by low hills and plateau-like elevations, stretching south of the steppe of Schi-dun-tse. On the whole the lake would seem to have measured approximately 80 versts in length and from 3 to 20 versts in breadth.»

»East of this lake, in the neighbourhood of the existing oasis of Chor-chi-tse, there was another lake, possibly connected with the former by river-arms, for this locality lies 70 to 100 meters lower than the steppe of Schi-dun-tse. The second lake was rather shorter than the first, its length amounting approximately to between 50 and 60 versts, and its breadth to 25 versts; but it was deep. On the west it extended probably to the bare hills recently mentioned, and may have been connected with the former lake by means of small sounds winding between the hills.»

»On several contemporary maps we still see depicted, and clearly in dependance upon Chinese maps, the two lakes Chua-chai-tsi and Alak-tschi, the former on the steppe of Schi-dun-tse, the latter in the oasis of Chor-chi-tse. Now however we find, instead of the former lake, an extensive salt steppe, with the remains of a salt marsh and with sandy hills, and instead of the latter sandy hills and dunes, as well as the remains of a salt-marsh and saliferous steppe.»

»Hence, in the light of the observations just cited, it seemed to me that in my preliminary report I was not only warranted, but was even obliged, to correct the errors into which G. E. Grum-Grschimajlo falls with regard to this region, when he says, The considerable lakes (Alak-tschi, Chua-chai-tsi, and Tschin-schen-ho)

* *Tsentralnaja Asija, Severnij Kitaj i Nan-schan 1892—94*, by V. A. Obrutscheff.

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