

## CHAPTER XXX.

### ORIGIN OF SAND IN THE TARIM BASIN: DISINTEGRATION PRODUCTS.

I will now proceed to discuss briefly the sources of the immense masses of sand which have heaped themselves up in the basin of the Tarim. But let us first compare the views entertained by the three most distinguished Russian travellers who have written on this subject. Potanin says, that the barkhans in the eastern Ordos are formed by the red sandstone mountains of Schen-si and Kan-su. That portion of their sand which is derived from the alluvia of the Hwang-ho he regards as a minor by-product. He considers also, that the drift-sand field which accompanies the northern loop of the Hwang-ho, Kusuptshi and Tengeri, is a product of the northern slopes of the Nan-schan. The expanse of sand that lies north of In-schan appears on the other hand to owe its origin to the alluvial formations in the Desert of Gobi. According to Obrutscheff, the sand which now fills the old bed of the Hwang-ho is derived in part from central Mongolia, in part from the alluvia of the Yellow River, and in part from the disintegration products of the Charanarin-ula.

On the other hand, Bogdanovitsch lays the greatest stress upon alluvial formations, and is so far forth at variance with the two explorers whom I have just named, in that they regard the encircling mountain-ranges as having been the principal sources of the drift-sand in the deserts below. It is the basin of the Tarim that he especially has in view. He says *inter alia*: »The fine argillaceous sand-deposits of fluvial or lacustrine origin, which are left behind when the rivers change their beds, have afforded ample material for æolian formations . . . The gigantic sand-hills along the banks of the Jarkent-darja, between the Kara-koschun and Korla [i. e. our dune-accumulations in the north-eastern part of the Desert of Tschertschen], are built up of the disintegrated products of the fine-grained Jarkent clays . . . The atmospheric demolition of former fluvial deposits already give occasion to the formation of continental sand-masses or barkhans.»\*

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\* *Loc. cit.*, above.