

the predominant winds of the country blow from the south-west. The first disassociation of this material from the ancient deposits must be ascribed to the small streams, and even the rain-torrents. North of the sandy desert of Tengeri stretches the Gobi, occupying the bottom of an ancient lake or sea. Its surface consists of intermingled sand, dust, and pebbles, and this semi-powdery alluvial material rests upon assorted gravel. Here then the wind, unaided by water, is able to pick up directly from the sediment the materials it requires for building up the barkhans, and it does carry away sand and dust, though it leaves the gravel behind, to form the upper layer of the deposits there. The sandy masses which are thus transported from this region must be sought for somewhere north of In-schan.»

»The same circulation that takes place in the case of the matter held in suspension in water takes place also in the case of the matter that is transported by the atmospheric currents: while the heavier particles soon drop, the lighter are carried on farther. The pebbles and gravel remain where they are; the sand however is transported farther by the current of the atmosphere and used by it in the formation of barkhans; while the more volatile dust, which is derived in part from the deposits, and is in part produced by the friction of the sand of the barkhans under the action of the winds, is carried yet farther still. This current of atmospherically borne dust must be a good deal broader than the atmospheric current that transports the sand. The finer the dust the longer it remains buoyant in the atmosphere; and it only drops to the earth when the atmosphere has been for a long time quiescent or when it is carried down by the rain.»

»If our observations with regard to the presence of prevailing south-west winds in Ordos are confirmed by other travellers, and if they are found to hold good at other seasons as well, it will be easy to understand, that parallel with them there exist currents of sand and dust which likewise travel in the same direction. Hence it is probable that this flow of dust starts at the foot of the Nan-schan, and proceeds along the Chingan Mountains to Kerulen . . .»

»There is a certain amount of regularity observable in the distribution of the sandy deserts over the vast uplands of Central Asia. It would be instructive to have a map of those parts of Central Asia that especially lend themselves to the distribution of the sand. The first glance at such a map would at once show us, that two agencies are represented in this distribution, though what they really are is not quite clear; and of these two agencies one prevails in the north-west, the other in the south-east, so that the whole of Central Asia may be divided into two regions, the dividing-line between them being drawn from north-east to south-west, from Urga *via* the eastern end of the Tjan-schan (Tien-schan) to the city of Kaschgar. North-west of this line the sandy masses are broken up into detached and disconnected areas, and are almost without exception heaped up around the lakes, and consequently in the lowest parts of the several districts in which they exist. Moreover we find also that these sandy tracts always occur on the western or south-western shores of the lakes; this is the case with the lakes of Balkasch, Ala-kul, Ebi-nor, Ajar-nor, Orkunor, Sajsan, Ulungur, Ubsa-nor, Durga-nor, and Chara-nor, lying east of Kirgis-nor.»

»South-east of the line we have indicated the arrangement of the sand is quite different. In that part of Asia we have three gigantic, but disconnected, basins.