

obliged to make a detour to the south in order to avoid an actual encroachment of the sand. At Ordan Padschah there are houses which stand in imminent peril of being buried under the invading sand. Yet all this should not mislead us into believing that within the narrow limits of historic time there has been any noteworthy augmentation in the volume of the desert sand. Its distribution is effected exclusively by the wind. An expansion or increase of the sand in one direction is counterbalanced by a corresponding diminution in another. I have assumed, that in the earliest centuries of our era the country south of the Lop-nor was covered with drift-sand, and that it also extended into districts where at the present day, owing to the hydrographical changes which have intervened, there exists no drift-sand whatever. Of course the drift-sand does increase from year to year, but the increase takes place so slowly that within the historic period it has not been noticeable. The desert however which lies west of the lowermost Tarim has, in consequence of the southward advance of that river, had its supplies of sand cut off. And as for the source whence the drift-sand comes, namely the mountains, and especially the Kuruk-tagh, I am convinced that these, even at the dawn of historic time, were exposed to the same energetic disintegration as now. Even though there were within the historical period — what I do not believe — a diminution in the water which has flowed down the rivers of East Turkestan, this would not to any appreciable extent have quickened the breaking down of the mountains. But on the other hand it is well known, that within that same period a number, if not indeed most, of the lakes of Central Asia have decreased in area. Whether and how far this phenomenon was connected with the last glaciation of the northern regions of the Old World I cannot determine, though I consider that any such connection is extremely improbable. The diminution in question points rather to the incidence of a climatic period, which, when it shall have reached its culmination in the present direction, will probably lead up to a slow augmentation in the volumes of the same lakes. But by any such climatic period the Lop-nor will remain unaffected; at all events it is impossible to prove that there has been any diminution in the water of the Tarim basin within historic times. Even in the lakes which Krapotkin names oscillations of less importance than the great period may be observed. He also mentions, that during the last twelve years the level of the Sea of Aral has risen four feet; a fact which seems to point to a heavier snowfall in the Pamirs during that period, or else, from some cause or other, to a lessened evaporation over the lake. For during these same twelve years there is nothing that seems to indicate any rise in the Kara-koschun, but rather the contrary, if my observations and Prschevalskij's be compared together.

With the evident and constant diminution which is taking place in the Tibetan lakes at the present time, I shall have an opportunity to deal when I come to the fourth volume of this present work. Here I will only say, that Dr Blanford, when commenting upon Krapotkin's paper, expressed his doubts as to whether the whole of Tibet was once covered with ice, and this is in agreement with both Prof. James Geikie's view and my own observations.

In the beginning of his paper Krapotkin touches upon his conception of the Lop-nor problem, a matter with which I have already dealt in Chap XXI above.

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