

the Yārkaṇd river having once carried its water round the south foot of the Kum-tāgh and Chok-tāgh is not altogether excluded.¹¹ In any case the moister climatic conditions that the Tārīm basin may be supposed to have shared during geographically recent glacial periods would suffice to explain the existence of an early Stone Age settlement on this ground. In this connexion it deserves to be mentioned that the only other stone implement found in the desert south of the Yārkaṇd river was a very well worked stone arrow-head (Pl. XXII),¹² unmistakably neolithic, which was picked up about half-way between the southern end of the Chöl-köl and Camp xxv on the previously described soft loess ground. Everything points to its being a relic of a more recent period.

Flakes from
eroded rock
formation.

Our march on October 31st revealed even more clearly the truly forbidding nature of the dunes to the south-east. Six formidable 'Dawāns', some rising to fully 300 feet above the intervening valleys (Fig. 83), had to be crossed in succession, and excepting a few little patches of clay emerging in one or two of them (Fig. 89), the valley beds were themselves smothered with heaped-up dunes. Only one peculiar feature, but that a very interesting one, brought a change into the distressing uniformity of this formidable sea of sand. In the valleys on either side of the third 'Dawān' from Camp xxvii the lower slopes of the dunes and the depressions between them showed for the most part a dark red surface, due to small but easily recognizable flakes of a calcareous sandstone such as prevails in most of the desert hills east of Marāl-bāshi. The surface layer of the sandy glacis at the north-east foot of the Kum-tāgh had presented exactly the same appearance, as previously mentioned,¹³ though there the denudation products of the same rock material had not yet been reduced to an equal degree of fineness. It appears to me scarcely open to doubt that the ground we were here passing marked the position of a hill fragment, wholly submerged in drift-sand, forming part of the ancient wind-eroded range that once extended right through to the Khotan Mazār-tāgh or beyond. Reference to the map (Nos. 8. c. 2; 13. B. 4) will show that the rock island here assumed to underlie the dunes falls almost exactly in the direction of a line drawn from the Kum-tāgh towards the Mazār-tāgh on the Khotan river and only about two and a half miles west of a line connecting the latter point with the central crest of the Chok-tāgh and the highest portion of the Marāl-bāshi Mazār-tāgh.¹⁴

Trials of
march to
C. xxviii.

The constant climbs and descents over huge dunes tried the camels on that day's march so severely, that of the hired animals intended to act as the 'supporting party' two had completely broken down, and the rest had been brought along only with great trouble; yet their loads had been much lightened at the last camp by letting all camels have a good drink and half of the three

¹¹ Some attention may be paid in this connexion to what Dr. Hassenstein's map attached to *Reisen in Z.-A.* shows as to the position of the several small basins holding water derived from inundation that Dr. Hedin passed on his march in April, 1895, from Merket to Chok-tāgh. Some of these are placed there as much as 17 miles south of the present bed of the Yārkaṇd river. It must, however, be pointed out that, as a comparison of that map and our Sheet No. 8 shows, the distance between Mazār-tāgh and Chok-tāgh is there distinctly over-estimated by something like 10 miles. A corresponding reduction would bring those small basins or pools considerably nearer to the river.

¹² See C. xxv. 02 in the List below.

¹³ Cf. above, p. 83.

¹⁴ I need scarcely point out that no high degree of accuracy is claimed here for the geographical determination of the respective positions as shown in the map. But the latitude

of the Mazār-tāgh end on the Khotan river is fixed by astronomical observation and that of the Marāl-bāshi Mazār-tāgh, though less accurately, by concordant results of route traverses from Kāshgar, Ak-su, and Yārkaṇd. The latter test applies, of course, also to the longitude of the Marāl-bāshi Mazār-tāgh, the longitudes of Kāshgar and Yārkaṇd being known with a close approach to precision through previous surveys and observations. The longitude shown for the Khotan Mazār-tāgh likewise cannot be far 'out', as it is based on the longitude of Khotan, which itself has been determined within fairly exact limits by our triangulation of 1900.

I may add here that our plane-table traverse through the desert could fortunately be checked, as far as the bearing was concerned, by single rays from Chok-tāgh, which was visible at most of our fixings right up to Camp xxviii.