

the one hand by the character of both Chinese and Brāhmī writing, and on the other by the structural remains found in the immediate vicinity. It is true, no exact chronological indication could be derived from the small ruined mound some six feet high which I found amidst low dunes about 150 yards to the south-west of the site; it undoubtedly represents the remains of a little Stūpa, dug into long ago. But when eighteen months later I explored the ruin of a Buddhist shrine at Kara-yantak, scarcely more than a mile to the east of Mazār-toghrak, the art-remains there unearthed showed the closest possible agreement with those of the Khādalik temples.

The probability thus presents itself that the sites on opposite edges of the Domoko Oasis—Khādalik with Balawaste and Farhād Bēg-yailaki below, and Mazār-toghrak with Kara-yantak above, the present area of cultivation—were abandoned about the same period, towards the close of the eighth century A.D. The problem raised as to the cause of this simultaneous abandonment of sites, the extreme points of which are separated by not less than eighteen miles in a direct line from north to south, is in itself of considerable interest for the archaeologist and the geographer alike. But it is thrust still more forcibly upon our attention when we remember that the same period must have seen the desertion of the large ruined settlement of Dandān-oilik.<sup>7</sup>

Simul-  
taneous  
abandon-  
ment of  
sites near  
Domoko.

According to the observations which I made during my explorations of 1900-01, and which I have discussed at some length in my former Detailed Report,<sup>8</sup> the Dandān-oilik Oasis received its water from a canal fed by one or several of the streams now irrigating the oases of Chīra, Gulakhma, and Domoko. The careful examination which Professor Huntington has since made of this ground, and the physical changes undergone by it, has fully confirmed this view.<sup>9</sup> Now it is of special importance to note that Dandān-oilik lies fifty-six miles farther north in the desert than Khādalik, and not less than sixty-four beyond Mazār-toghrak. Were shrinkage of the water-supply to be considered the only possible cause of abandonment, this chronological coincidence in the case of localities dependent on the identical drainage system, and yet so widely separated, would certainly be very curious.

Ancient  
localities  
dependent  
on same  
drainage.

That such shrinkage of the available water-supply has taken place in the Tārīm Basin during historical times, and that it must be connected with a general desiccation period affecting the whole of Central Asia and apparently most regions of the continent, if not of the whole earth, is a conclusion which a mass of steadily accumulating evidence is forcing upon the geographical student. It is Professor Huntington's special merit that he has brought out the central fact of that shrinkage and has emphasized the importance of the proofs which systematic archaeological investigation of ancient sites in the desert and near the present oases is able to furnish.<sup>10</sup> At the same time he has looked towards the results of this investigation to support a theory of his own which supposes that the general process of desiccation has been diversified during the historical period known to us by a succession of minor though important climatic changes partaking of a pulsatory nature. By a series of ingenious observations Professor Huntington has endeavoured to show that the climatic pulsations thus assumed, i. e. periods of increased dryness extending over certain centuries followed in turn by periods of a reverse tendency toward more abundant rainfall, have exercised a determining influence on history. He believes them to be reflected with particular clearness in the history of Central Asia, where a strictly mid-continental position would tend to increase the intensity of any climatic variations.

Desiccation  
and climatic  
pulsations.

<sup>7</sup> Cf. *Ancient Khotan*, i. pp. 283 sq.

<sup>8</sup> See *ibid.*, i. pp. 285 sqq.

<sup>9</sup> See Huntington, *Pulse of Asia*, pp. 170 sqq., 188.

<sup>10</sup> For a lucid summary of Prof. Huntington's views on the physical changes experienced by Central Asia in historical times, cf. his *Pulse of Asia*, pp. 13 sqq.; on the pulsatory

character of the climatic changes assumed by him and their relation to the great cycles of the Glacial period and the small ones known as 'Brückner's cycles', cf. *ibid.*, pp. 365 sqq. For his views as to the effect wrought by progressive desiccation in the Chīra-Domoko region, see pp. 170 sqq., and elsewhere, *passim*.