

great a volume of water that, alone among the rivers which descend from the mountains east of the Khotan River, it can at all seasons force its way right through the desert until it joins the Tārīm. All my informants agreed that the possibilities of irrigation in this area were more than sufficient for an oasis quite as big as Keriya. Of this I had ocular evidence when crossing the river within the oasis. I found the bed here fully half a mile broad and the river still flowing, in spite of the late season, with a strong current in five or six well-filled channels, from ten to twenty yards broad. Its volume was certainly far in excess of that of the Yurung-kāsh or Khotan River, as I had seen it about two months before or in October and November of 1900.

Of arable land there was abundance on both banks of the river, more than any colonization scheme, however extravagant, would require; for apart from the broad belts of potentially fertile steppe, now covered with reed and scrub, north of the present oasis, it is certain that a few years of systematic irrigation would suffice to deposit again a layer of fertile riverine loess over the wide stretches of fine denuded gravel south of the oasis where 'Tatis' attest the existence of extensive ancient settlements.<sup>9</sup> Nothing was wanting but fresh settlers, and for these all the land-holding 'Bais' of Charchan were eagerly longing. The influx of labourers from the Khotan side was steady but slow. The long desert route manifestly acted as a deterrent. Nothing had been done to mitigate the hardships it would necessarily imply for poor cultivators, and of the large batches of colonists, brought on several occasions by official pressure, numbers had escaped again to rejoin their relatives, etc., at the more populous centres westwards. The demand for labour there was still great enough to assure an easy existence even for the poorest.

Possible development of Charchan oasis.

Charchan is separated from the nearest permanent settlements of importance by greater distances than any other oasis within the plains of the Tārīm Basin. This geographical fact and the economic conditions resulting account for the special difficulties with which colonization has to contend here in spite of the advantages offered by abundant irrigation facilities. At the same time the geographical position of Charchan, about half-way between Niya and the small area of cultivation in the Lop-nōr tract, was enough to ensure importance to the oasis at any period when the route south of the great desert saw much traffic. In the interaction of these causes we may find, I think, the best explanation of the fact that the history of Charchan offers a particularly striking illustration of those *pérípéties* to which isolated settlements along the southern edge of the great Turkestān desert have been subject at different periods. These repeated alternations between agricultural occupation and abandonment to the desert, which the history of Charchan shows us must have a special interest for the geographical as well as the historical student. They are fully authenticated by reliable dated records, and, in view of the facts already mentioned about the water-supply of the Charchan River, cannot reasonably be attributed to the sole agency of physical changes brought about by desiccation.

Difficulties of colonization.

The earliest record of Charchan is furnished by the Former Han Annals, which mention it by the name of Chü-mo 且末 as a territory situated on the high road leading westwards from Shan-shan or the Lop-nōr tract.<sup>10</sup> The distance of 720 li given from Shan-shan and the bearing westwards make this identification certain.<sup>11</sup> In agreement also is the statement that the territory

Charchan in Former Han Annals.

<sup>9</sup> I may note here in passing that I observed this process of reclamation vigorously proceeding on exactly similar 'Sai' in widely distinct localities, e. g. to the north of Kuchā and along the southern edge of the Yurung-kāsh, Sampula, and Borazān cantons of Khotan.

<sup>10</sup> For a translation of the notice of the Former Han Annals, cf. Wylie, *J. Anthropol. Inst.*, x. p. 28; cf. also Chavannes, *T'oung-pao*, 1905, p. 536.

<sup>11</sup> This identification appears to have been first suggested by Mr. Kingsmill; see Wylie, *J. Anthropol. Inst.*, x. p. 23, quoting from the *Chinese Recorder*, vii. p. 341. It was definitely proved in a critical fashion by M. Grenard; see *Mission D. de Rhins*, iii. p. 146, where the references to Charchan in Sung Yun's and Hsüan-tsang's itineraries are also duly noticed.