

partly to the small scale and partly to technical reasons connected with the methods of reproduction then used at Calcutta, this map in its printed appearance could not do justice to the care bestowed upon the drawing of the original plane-table sheets. This remark applies in particular to the hill-shading executed by hachuring and to many of the more detailed topographical features. Thus, *e. g.*, areas of sandy desert supporting vegetation were but imperfectly distinguished from cultivated ground, and perennial river courses, etc., were represented in the same manner as mere temporary flood beds.

Most of the technical imperfections were remedied in the reproduction of this map which was prepared for the Royal Geographical Society's *Journal* to illustrate a paper there published on my journey and which was used also for the illustration of my *Personal Narrative*.<sup>33</sup> For this map executed under my direct supervision while 'on deputation' in England, tracings of the original plane-table sheets were also utilized with much advantage. The difficulties arising from the still more reduced scale of this map (1:1,500,000) could fortunately be avoided in the map accompanying *Ancient Khotan*, the detailed report of my journey. It was drawn by Mr. J. W. Addison, draftsman of the Royal Geographical Society, with the help of original records and received equally skilful reproduction in lithography. Based on the Survey of India's map but drawn on the scale of 8 miles to 1 inch it brings out very clearly the characteristic geographical features of the Khotan region, to the representation of which between the approximate longitudes of 79° and 84° it is confined.

### SECTION III.—SURVEYS OF SECOND EXPEDITION, 1906-08

The results brought back from my first journey enabled me in 1905 to secure the sanction of the Government of India, then under Lord Curzon as Viceroy, and of the Secretary of State for a second Central-Asian expedition. It was undertaken with a view to explorations similar in character but had a far more extended scope, a fact sufficiently indicated by its duration of fully two and a half years, from the date of my start beyond the administrative border of the N.W. Frontier Province till the return to my base in Kashmir. The Survey of India, under Colonel F. B. LONGE, R. E., Surveyor General, was as willing as ever to assist me in my geographical task and again agreed to depute an Indian surveyor, to provide the needful equipment and to bear all cost (originally estimated at Rs. 7,000) arising from his employment. Colonel (now SIR SIDNEY) BURRARD, as Superintendent of the Trigonometrical Survey, showed again the most helpful interest in my plans and made the services of Rai Rām Singh, my former travel companion, available for the work in view.

Starting with him on April 28, 1906, from Fort Chakdarra in Swāt, I journeyed by a new route over interesting ground through tribal territory, Chitrāl and Mastūj to Afghān soil across the Hindukush and then by the uppermost Oxus to the Chinese border on the Pāmīrs. We reached the westernmost frontier of Chinese Turkistān on May 27th by the Wakhjīr pass and again descended the Tāghdum-bāsh Pāmīr and the main Sarīkol valley to Tāsh-kurghān. Below this place Rai Rām Singh commenced survey work by measuring a base near the hamlet of Chushmān in order to fix useful points for mapping the course of the Tāsh-kurghān or Zarafshān river beyond its great bend eastwards.<sup>1</sup> From here down to its junction with the Raskam-daryā, the river had never been explored, and owing to the extremely confined nature of its valley the task was bound to offer great difficulties.

<sup>33</sup> This reproduction, published with permission of the Surveyor General of India, first appeared in the December number of the *Geographical Journal*, 1902, with my paper: *A journey of geographical and*

*archæological exploration in Chinese Turkestan*, xx. pp. 575-610.

<sup>1</sup> See Sheet No. 3. C. 1.