ranges of the Nan-shan.<sup>3</sup> Together with its outlying hamlets, Ch'iao-tzŭ probably counts fully two hundred households, and the picturesque walled enclosure within which the main village shelters, together with numerous temples and other substantial structures now half in ruins, proves that the oasis must have been a far more populous settlement before the havoc wrought during the Tungan rebellion. It owes its existence solely to the abundance of fine springs which come to the surface in the extensive marshes to the south and south-west of the main oasis.

Grazing grounds in Ch'iao-tzŭ valley.

Besides assuring plentiful irrigation to the area cultivable by the present population, the watersupply from these and other springs accounts for the luxuriant grazing to be found over an area which can safely be estimated at not less than 150 square miles. The valley must have been an attractive winter grazing ground for any non-Chinese race once established in this region, nomadic or semi-nomadic, such as the Yüeh-chih or Hsiung-nu, before the Chinese advance to the westernmost Kan-su marches drove them northward. Tibetans, Uigurs, and Tanguts must also have appreciated its advantages, in conjunction with the grazing to be found in the higher valleys to the south, while their hold over these parts lasted. But Chinese deep-rooted aversion to the herdsman's life and calling leaves this rich grazing wholly unused now, and the traditional dread of nomadic neighbours, kept alive by sad experience down to Tungan and Tangut raids, jealously prevents access to it by those who could use it. There are similar winter grazing areas to be found also in places along the foot of the Nan-shan further east towards Kan-chou and beyond, and this geographical fact deserves to be emphasized here; for the historical student must keep note of it if he wishes to account for the successive domination of westernmost Kan-su by races which were essentially nomadic. Their prolonged occupation would have been physically impossible if the whole of this region had been either such utterly barren desert as the wastes west of Tun-huang and north of the Su-lo Ho, or else capable of supporting human existence only where irrigated and tilled by a laborious settled population, as is the case practically everywhere within the plains of the Tārīm Basin.

Physical features of So-yang-ch'éng site.

The physical features of the ground on which I found the reported 'old town' to be situated also presented distinct interest. The site proved to be a large one, and very instructive in several respects. Its remains are scattered over an area extending, as the map shows (No. 83. B. 3, 4), for about five miles from east to west and for over three miles from north to south at its eastern end. Proceeding due south of the walled village of Ch'iao-tzŭ, one crosses cultivation for about a mile, and then for nearly three miles more a belt of luxuriant vegetation fed by marshy springs. Beyond the southern edge of this, and screened by a narrow zone of tamarisk-cones, there stretches the ruined area, partly undergoing wind-erosion and partly overrun by low dunes which tamarisk growth and reeds are binding in places. After crossing for another mile ground which closely recalled to me that of familiar 'Tatis' in the Khotan region, I reached the conspicuous remains of a walled town forming an irregular quadrangle, with outer enclosures that are far more decayed adjoining on the north and west, as shown by the site plan (Pl. 46). Its position is marked  $\beta$  on the map. The name given for it by the Ch'iao-tzŭ villagers was So-yang-ch'êng.

Winderoded ground near ruined site. Outside the town to the east and north-east, for a distance of 3-4 miles, scattered remains of clay-built towers and walled enclosures, together with patches of thick pottery débris from dwellings completely eroded, mark the extent of the once closely occupied area. The cultivated ground of the old oasis is likely to have spread much further. The whole of it occupies a flat stretch of fertile loess soil extending along the edge of the bare gravel glacis which slopes down from the hill range on the south. The latter is a continuation of the one which I subsequently passed on the way from T'a-shih to Wang-fo-hsia. This loess belt, wherever left unprotected by vegetation owing to want

<sup>3</sup> See Map No. 83. в. 3.