

on each side. Both tower and enclosing wall were built in a fashion which at once recalled the constructive methods that I had constantly observed at the watch-stations of the ancient Chinese Limes in the Tun-huang region and farther to the east. As the photograph, Fig. 351, clearly shows, successive layers of reeds, about 2 or 3 inches in thickness, were inserted at intervals of about  $4\frac{1}{2}$  inches between single courses of sun-dried bricks set in plaster. The bricks were of an average measurement of 15 inches by 7, with a thickness of a little over 3 inches. These dimensions agree very closely with those prevailing in the masonry of the structures on the Tun-huang Limes.<sup>1</sup> The careful application here of the same methods of construction accounted for the comparatively fair preservation of the ruin, in spite of the great age indicated by this close correspondence in technical details.

The tower still rose to a height of 29 feet, and on every side except that facing south had suffered but little serious damage. On its summit an inner chamber, 12 feet square, could be measured; but lower down, the interior was filled with a heavy mass of debris which it was not possible to clear, with the very scanty labour at my disposal, within the time available. At a height of about 20 feet from the ground, the wall of the tower was 7 feet thick. This thickness appears to have increased to 11 feet at the base, thus accounting for the pyramidal shape of the whole tower. As seen in Fig. 352, the southern face of the ruined tower now shows a breach, 5 to 6 feet wide, from the top downwards to near the ground. It is on this side that the entrance to the interior of the tower must have lain, and this probably explains how this curious breach originated. The remains of wooden rafters projecting from the masonry on both sides of the gap make it appear likely that, except for the entrance, this face, too, was built solid, and that the breach originated merely by the layers of brickwork and reeds slowly disintegrating after the timber about the entrance had been destroyed. This and the whole of the interior, which probably contained several timber-built stories, had been subjected to fire, as proved by the redness of the clay debris filling the interior.

An interesting feature is presented by the loopholes which are found on the south face of the tower, and on that only, from a height of about 12 feet upwards. Like those found on all sides of the enclosing wall of the little fort, they have a triangular opening outside, originally about 6 inches wide at the base and about 4 to 5 inches high. On the inside, as clearly seen in the enclosing wall, the loopholes were splayed out. They were disposed in rows with vertical intervals of about 2 feet and at horizontal distances of 5 to 6 feet from each other, the loopholes of successive rows being arranged in quincunx fashion to permit of the maximum number being used for shooting. The fact that the tower was furnished with loopholes only on the south side, which faced the entrance to the enclosure, and only from a height of about 12 feet above the ground, makes it perfectly clear that the principal object was the intensified defence of the outer gate by a concentration of 'fire'.

The walls of the enclosure around the tower had a thickness of only  $3\frac{1}{2}$  feet at the top, but were well secured by a thick foundation of reed fascines at the base and by stout rafters of Toghrak wood inserted horizontally. In the tower, too, timber had been used for reinforcement of the masonry. The walls were much decayed over portions of the circumvallation; but the foundation layers were still everywhere traceable, the use of reed layers having helped to ward off wind-erosion. The destruction done at the north-eastern and north-western corners plainly showed where the force of the prevailing winds was greatest. The maximum height of the extant wall sections was about 10 feet, and, judging from the height at which the loopholes of the tower start, it is not likely that the original height greatly exceeded this.

The interior faces of the walls to the south and west showed clear signs of having been exposed

<sup>1</sup> See *Serindia*, ii. p. 737, note 14.