

south was by far the largest, and being in fair preservation, as seen in Fig. 113, distinctly resembled a donjon or keep. It was built as a solid mass of stamped clay, or *pisé*, the forms in which the blocks of clay had been shaped being still distinguishable in places, with a height of four and a length of six to seven feet. The solid portion of this south bastion still rose to its original height of 41 feet, and above it was a parapet 7 feet high and 2 feet 4 inches thick. The parapet was constructed of layers of stamped clay, strengthened by tamarisk brushwood at intervals of five to six inches, which accounts both for its good preservation and its dark appearance in the photograph, Fig. 113. The other bastions had suffered too much decay to allow their constructive features to be determined with equal certainty, though the use of tamarisk layers seems to have entered into the construction of them all.

The curtain walls showed different methods of building, which may partly explain their varying state of preservation. The south and west walls appear to have consisted of a rampart of stamped clay below, surmounted by a thick parapet built of very rough brickwork with tamarisk layers at close intervals. But of this parapet little survived on the south face, and still less on the west, where wind-erosion had worked great havoc. The rampart may have had a thickness of about 12 feet on the top, where the parapet surmounted it. As it everywhere showed a distinct outward slant, the thickness is likely to have been greater at the base, increasing to about 16 feet. But owing to the débris and drift-sand, which covered the base in most places, exact measurement was difficult. The actual height of the south curtain was from about 18 to 20 feet. The north wall had suffered badly, having crumbled to heights which varied from 10 to 15 feet only above the ground level.¹ This may have been partly due to the absence of tamarisk layers between the courses of roughly-made bricks which, together with lumps of hard clay, seem to have been the only material used on this side. The average size of the bricks here was 15" x 10" x 4".

Curiously enough the east wall-face, though the one most exposed to the prevailing wind and consequent erosion, had on the whole suffered less than the rest, and still rose in portions of its length to a height of 24 feet and more. As seen in Figs. 114-16, 118, its parapet had been breached in places. But elsewhere this parapet, solidly built of bricks and clay with layers of tamarisk twigs between the courses, had survived, and showed a regular thickness of six feet. Its original height could not be determined. The construction of the wall below was peculiar and different from the rest. It may have been intended to give special strength, or else may have resulted from repairs. On the inside there was a thickness of about three or four feet, consisting of strata of clay and bricks separated at intervals of about ten inches by layers of tamarisk twigs, as seen also in the parapet (Figs. 115, 116). Each stratum contained a single course of sun-dried bricks, measuring 16 by 8 or 9 inches and 4 inches thick, and a layer of stamped clay above and below. Towards the outside there followed next a wall of masonry about two feet thick, built of bricks of the same size, and beyond this a heavy revetment wall of stamped clay, reinforced by strong and closely-set branches of tamarisks or Toghraks. Owing to the corrosive effect of wind-driven sand, the ends of these pieces of wood were seen to project beyond the surface of the outer wall, like the spokes of a ladder.

Heaped up by the prevailing east-north-east wind, a slope of fine gravel and drift-sand ascended on the outside of the east wall to about the level marked by the foot of the parapet, and the slow forward movement of this corradng material had caused the parapet to be breached in several places. I subsequently experienced this erosive process as it were in person and felt it only too acutely, while I stood in the breach near the south-east corner (Fig. 116) watching the excavations which had to be carried on there. The icy wind which swept across the rampart, carrying before

¹ Portions of the north wall are seen in Fig. 114 and also in *Desert Cathay*, i. Fig. 135.