25 feet below the original level, to which it had scooped out portions of the interior of the fort, and by the hollows eroded to nearly the same depth outside the walls. The constructive methods used were clearly intended to guard against wind-erosion, and suggest intelligent adaptation of those I had first met with in the ancient border wall west of Tun-huang. The photograph of the southern portion of the south-west face reproduced in Fig. 129, together with the sectional sketch in Pl. 10, will help to illustrate them.

Construction of fort walls.

The wall was built throughout of alternating thick layers of clay and of Toghrak trunks and branches laid crosswise to the direction of its line. These layers successively diminished in width as they rose higher and higher, thus giving the wall a pronounced slope inward both within and without, and greatly increasing its stability. The lowest layer, forming a kind of foundation, consisted of big Toghrak pieces placed probably on the original ground level; this had a total width of 32 feet. In Fig. 129 the inner edge of this layer is marked by the figure of Tokhta Ākhūn standing on it. The original thickness of this foundation layer could not be exactly determined, but was probably under 2 feet. The layer of clay resting upon it was fully 5 feet thick. This clay consisted not of regular *pisé* as in the case of the Limes wall, but of large irregular lumps of hard clay such as could easily have been quarried on the surface from ground along the river-bed subject to temporary flooding, or from the banks of depressions left dry after inundation. These lumps had no doubt been compacted by means of wet mud stamped over and between them.

Use of fascine layers in wall.

Next followed a layer of Toghrak stems and branches 22 feet wide with a thickness of $1\frac{1}{2}$ feet. In the case of this 'fascine layer', to use a convenient expression borrowed from my description of the Tun-huang Limes and of the next two above, I noted that in order to assure a more uniform level, and hence greater firmness, a bedding of tamarisk brushwood had been placed on the top of the clay lumps and below the pieces of Toghrak timber. The next layer of clay had a height of $4\frac{1}{2}$ feet and was protected by a layer of timber 15 feet wide and fully 2 feet in thickness. Above it rested clay to a height of 4 feet, carrying on its top a layer of Toghrak wood about 10 feet wide. The thickness of this last timber and brushwood layer could not be exactly measured owing to decay from exposure, but probably exceeded 2 feet. The wall everywhere higher up had suffered too much by erosion to permit of measurement. But there can be little doubt that the last 'fascine layer' had in turn been covered by clay and had, perhaps, also carried some kind of parapet. It is probable also that the slopes of the wall had originally throughout been coated with clay. But erosion had carried this off, as well as the outer portions of the clay layers wherever exposed, with the result that, as the photographs in Figs. 129, 133, clearly show, the intervening 'fascine layers' were left overhanging.

Dimensions of layers of clay and fascines.

The sectional sketch in Pl. 10 shows that the wall in its original state must have risen to over 21 feet. It also makes it clear that while the width of the successive 'fascine layers' diminishes upwards in the approximate proportion of 2 to 3, their thickness distinctly increases as they approach the top. It is the reverse with the layers of clay, which starting with 5 feet at the bottom are reduced successively to $4\frac{1}{2}$ and 4 feet higher up. It seems likely that the object was to prevent top-heaviness and the consequent risk of sliding. With the same object the whole of the wall was reinforced by a heavy timber framework, of which the upright posts arranged in pairs could be traced along the NW., NE. and SE. faces wherever preserved and clear of sand.[12] The distance between the inside and outside posts of each pair was about 15 feet, which suggests that their top reached to the third fascine layer from the bottom. It is probable that these posts were joined and held in position by cross-beams passing through the clay or fascine layers; but I was unable to ascertain the system

[12] In Fig. 123, which shows the bags containing our store of ice being unloaded and stacked under the north corner of the circumvallation, some of these posts are seen on the left emerging along the outside foot of the wall.