Investigation of the Citadel Glacis – Trench 2

The digging of Trench 2 began on August 9th, 2007 as the first of the two excavations outside the citadel enclosure, where the northern citadel slope is still accessible on its entire length (Fig. 275).[1] There were many opportunities for sondages of several metres depth from the current base of today's citadel walls down to the present street level.[2] Although in the east and southeast of the citadel the base levels of the walls as well as the hilltop levels are slightly higher, no excavation work is possible there without endangering the stability of the architecture *in situ*.[3] In the northwest, in contrast, the conditions were more favourable, as the slope already showed an additional, deep incision: the not backfilled Trench 'B' of the Unesco excavation from 1976 to 1979, in 2007 still reaching more than seven metres into the slope (Figs. 276; 277; 282).

The area of excavation is situated between another Unesco trench in the east, where extensive parts of a stone/brick glacis had been unearthed (Fig. 280)[4], and the naturally eroded slope area in the west, directly below Tower XIV, the so-called Timurid Tower. In the direct vicinity of the trench the slope rises steeply. Even under washed-out, eroded conditions the stone glacis could be identified halfway up, as well as extensive find material on the surface and along the unearthed edges – at least from the filling layers overlying the glacis (Figs. 277; 283).

The aim of excavation was firstly gathering stratified, dated material from the section and, secondly, a further deepened sounding in the trench in order to explore the deepest accessible layers of the citadel mound.

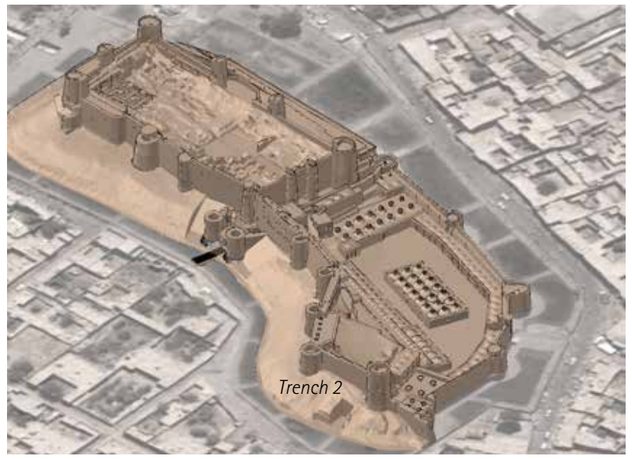

Fig. 275 3D-model of the citadel (2008), location of Trench 2; from west

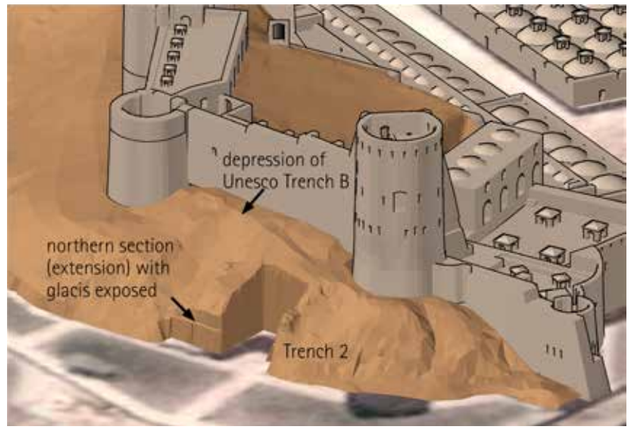

Fig. 276 Northwestern area of the citadel, location of Trench 2 (incl. Trench B of the 1976–79 Unesco excavations)

1 From August 9th to September 9th, 2007 excavation was carried out with eight local workers, conducted by the author, Khair Mohammad Khairzade and Najeeb Sediqi, Institute of Archaeology, Kabul, and Nik Mohammad, representative of the Office of Monuments and Sites, Herat.

2 The present street level north of the citadel is between 918.50 and 918.00 m asl, while the lower wall edge varies between 927.80 m in the east, 926.50 m in height of the transition from eastern to western citadel (above Trench 3) up to 928.43 m at the northwestern corner.

3 The extent to which larger sondages with only several metres of excavation depth can endanger the adjoining masonry is demonstrated by the consequences of the abandonment of the Unesco, Trench H in 1979 at the directly adjoining fortification wall (cf. Trench 3, excavation, pp. 370; 615).

4 In the following the paving of the slope will be referred to as 'glacis', though usually in fortress construction this term is defined as designating the entire slope surface with or without paving.

◀ *Trench 2 after cleaning of the sections, prior to the deep sounding*

Fig. 277 Trench 2, cleaning of the surface and construction of scaffolding; from north

Architectural Context and Stratigraphy

At the beginning of the work the surface was cleared from debris, leveled, and a scaffolding of 8 m height constructed (Figs. 277; 278). From the upper edge of the section, excavated 30 years before, loose stones and clumps of clay had to be removed, which could have fallen down and would have constituted a risk to the work in that area of comparatively unstable debris layers.

Subsequently the excavation of the 1979 trench was revived, cutting back its sections in portions of c. 1–1.50 m height and cut 0.30–0.50 m further inwards, then cleaned and straightened (Figs. 278; 288; 290); the unearthed finds were retrieved directly or gathered from the ground after finishing each stage of work. Although the surface was leveled and carefully cleaned after each removal of earth, a few objects in the material originated from outside the current excavation limits. This cannot be avoided when working in this way; however, statistically they can be disregarded. The alternative of cutting a new trench into the citadel mound and reaching down to a total depth of 8 m was not an option in view of the available time frame of only five weeks.

When excavating in the Herat area a considerable challenge is the combination of debris layers with high contents of loess and clay and the typical 120-day wind in the summer months, which is strongest in July with an average of 5.10–7.70 m/s.[5] In the whirled-up dust finds and structures could only be recognised with protective goggles (Figs. 278; 279).

All excavation segments – whether artificial blocks or archaeological units – were labled with arabic numerals, beginning with 2000[6], no matter whether or not they contained find material. The sections of the trench were documented photogrammetically and in drawing; the finds were registered, photographed and drawn.

5 Peak gusts of 28, 31, 23, and 20 m/s were observed in June, July, August, and September, respectively (AFCCC/DOPA: Herat Afghanistan, October, 2001).

6 Analogously, counting of the units in Trench 1 was begun with '1', and that of Trenches 3 and 4 with '3000', resp. '4000'.

Fig. 278 Trench 2, excavation of the upper layers of the southern section; from north

Fig. 279 Trench 2, working in Herat's summer wind conditions

In the eastern section the stone/brick-paving (glacis) unearthed in several sondages along the northern citadel slope during the Unesco excavations was still recognisable, in some places also its directly superimposed renovation, a later paving consisting of fired bricks (see Figs. 283; 288–290).

In the southern section (Figs. 300; 301) the glacis was visible as a slightly westwards rising, brighter band, while in the western section just two large stone plates could be found sticking only loosely in the debris. They therefore had to be removed.

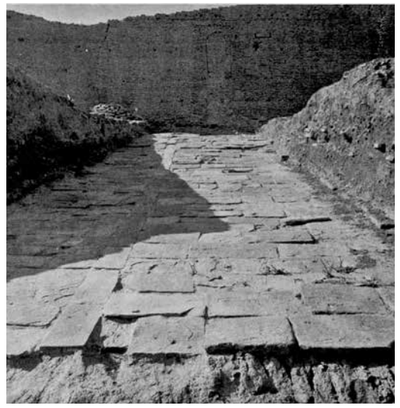

Fig. 280 Unesco excavations 1976–79, Trench A (van Eenhoge 1981, Fig. 55b)

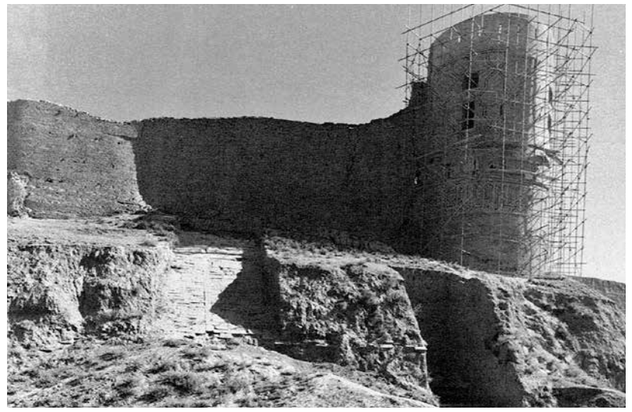

Fig. 281 Unesco restorations and excavations, to the right: trench B = Trench 2 of 2007 (O'Kane 1987, Pl. 1.1)

As the glacis in the eastern section was still easily discernible, an extensive excavation of the western section could be dispensed. The positive find situation in the east was further exploited by expanding the trench in this place (Figs. 283–286) with the aim of retrieving datable material: the glacis represents a clear *terminus post quem* for the finds included in its subjacent layers.

The Glacis

The glacis itself consists of two chronologically independent building phases (Figs. 289; 290; 298; 299); the lower, older implementation consists of rectangular sandstone slabs, varying considerably in their formats as well as in their thickness.[7] The surfaces of all slabs were carefully smoothed; the undersides, in contrast, were not worked; the stones had been laid into a thin but irregular layer of lime mortar. By this means a smooth surface, continuously slanting upwards had been created, impeding access to the citadel, providing a free field of fire for the defending forces in front of the ramparts and, through the absence of blind spots, offering very little cover for the attacking power.

However, the execution of the pavement was obviously not of a very good quality, since parts the heavy stone glacis had slided downwards.[8]

7 E.g.: 45 x 64 x 15 cm, 36 x 46 x 13 cm, 34 x 45 x 9 cm, 34.5 x 66.5 x 10 cm.

8 Cp. pp. 389; 430 and Fig. 366.

Fig. 282 Trench 2, start of the excavation in 2007; from north

Fig. 283 Trench 2, work on both southern sections; from north

Fig. 284 Trench 2, southern section (eastern extension); from north

Fig. 285 Trench 2, southern section (eastern extension), final situation; from north

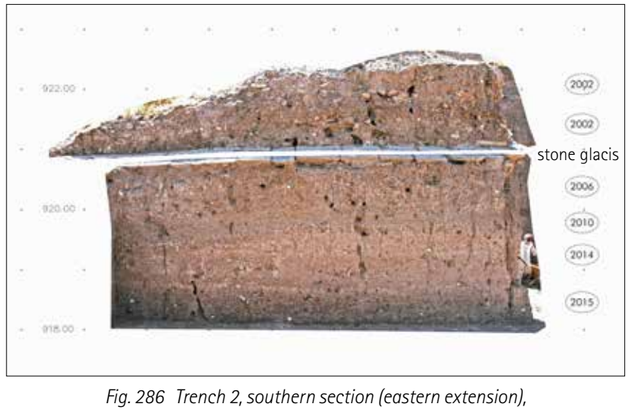

Fig. 286 Trench 2, southern section (eastern extension), mounting of drawing and orthophotos

It therefore had to be replaced by a new construction, however built of large-sized fired bricks - a considerably lighter implementation. These bricks are square and measure almost consistently 33.50 x 33.50 x 6 cm (Fig. 289). The associated layer of lime mortar shows a maximum thickness of 15–20 cm and is therewith significantly thicker than the lime mortar layer below the stone glacis. In the adjacent eastern Unesco trench 'A', this layer between the stone glacis and its fired-brick renewal is described as a *'thick layer of lime in which pebbles were mixed, on top of this a thinner layer of* shefteh *(earth mixed with lime)', as 'alternating layers of lime and shefteh' or as a 'mixture of stone slabs (from the original glacis), bricks, fragments of bricks'*.[9] Consequently, there must have existed good reasons for attaching more importance to a solid substructure when reconstructing the glacis[10], which then consisted of individual stone fragments or interconnected layers of stone slabs of the old glacis with lime mortar and clay.

Both the stone and the brick glacis show the same inclination, rising southwards up the mound at an angle of 27°. In extension and with a constant incline the glacis reaches the northern citadel wall at exactly 35 cm above the present base of the wall (Fig. 287). It must be assumed that it had originally also led straight up to the Timurid wall, meaning that there existed no berm directly at the base of the wall, which would have provided a smooth and solid ground under the feet (or wheels) of the attackers. Through the direct transition from glacis slope to citadel wall the best possible fortification function was fulfilled.[11]

Dating of the glacis is only possible taking into account the stratigraphic context from Trench 3. Here the construction period can be specified through radiocarbon datings of wooden components of the adjacent gateway finds that could be stratigraphically securely located in the layers below the glacis. Layers that were

9 Van Eenhooge 1981, 20.

10 On slidings and compressions of the glacis see Trench 3, pp. 389; 430 and Fig. 366.

11 See also calculations on the glacis gradient on pp. 428; 429 and Fig. 463 (Photo), here especially the glacis west of the gateway and the general remarks on the glacis.

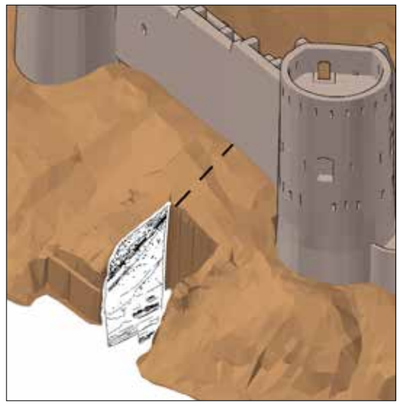

Fig. 287 Schematical drawing of Trench 2, eastern section and graphic prolongation of the glacis' inclination

deposited above or on the glacis are debris layers from demolished, modified or rebuilt parts of the citadel. These have accumulated over centuries, not consistently however, but altogether as a result of building and restoration measures on the citadel and the enclosing walls. Moreover, it is obvious that during such work substantially older material originating from ancient layers of the citadel could have been deposited on the slopes. The finds from the layers below the glacis exposed on the occasion of the Unesco excavation are largely unpublished, so that the dating from the 10th to – mostly – the 14th-century as proposed for this material cannot be verified.[12] On the basis of the stratigraphic analysis of building phases in Trench 3 it can however be concluded that the older glacis has definitely not been built during the construction work carried out under Shah Rokh in 1415 – as claimed in the course of the Unesco excavation – but at least some decades later, most probably only in the 16th century.[13]

No finds could be retrieved from the layer between the stone glacis and its renewal in fired bricks (Unit 2012), as it is too thin and, moreover, not a silted cultural layer that has grown gradually over a certain period of time, but a largely homogeneous substructure of the brick glacis.

12 Van Eenhooge 1981, 20.

13 Cf. pp. 325; 462; 463.

Fig. 288 Trench 2, work on the eastern section, showing the two superimposed faces of the glacis; from west

Fig. 289 Trench 2, eastern section, exposed remains of the brick glacis, perpendicular view; assembled rectified photos

Fig. 290 Trench 2, final stage of excavations above street level, from northwest