

---

*Raffaele Ranieri*

Bonn

*Francesca Cheli*

Florence

---

ARCHAEOLOGICAL RESEARCH  
IN THE PETRA VALLEY: PRELIMINARY  
REMARKS FROM THE EXCAVATION  
AT THE CORINTHIAN TOMB

---

**Abstract:** The Italian Archaeological Mission ‘*Medieval Petra*’: *archaeology of Crusader-Ayyubid Settlement in Transjordan* started an archaeological excavation within the site of Petra, in the Corinthian Tomb area, during the 2015 and 2016 campaigns. The main aim was to clarify the presence and the nature of a potential medieval structure whose evidences were identified during the surveys of 2012 and 2013. This brief paper intends to present some preliminary remarks on the excavation data coming from the stratigraphic analyses and from the ongoing study of the pottery findings related to the context.

**Keywords:** Medieval Petra; stratigraphic analysis; excavation; Corinthian Tomb; pottery (archaeology)

**The research context: the Florentine Archaeological Mission in Petra**

The Italian Archaeological mission of Florence University ‘*Medieval Petra*’: *archaeology of Crusader-Ayyubid Settlement in Transjordan*, directed by Prof. Guido Vannini, started in 1986. The aim was to better understand the political and economic aspects developed in medieval Transjordan, starting from the study of the historical dynamics of the Latin settlement

system of *Oultrejordain*, designed by Baldwin I in the 12th century for the control of the routes between Syria and Egypt.

At first, the Italian mission concentrated its fieldwork in the Petra valley, starting the excavations in Al-Wu'ayra and Al-Habis (two of the main sites for the control of the area during the Crusader period).<sup>1</sup> Later on, excavation activities were extended to Shawbak, where it was possible to analyze directly the conditions under which the 'new' central core of the Crusader power was built and to define material evidence of the evolution of the site from a royal Crusader castle to a politically central Ayyubid and Mamluk medina (Pl. 1: 1-2).<sup>2</sup>

In particular, the paper presents preliminary remarks on the excavation campaigns conducted by the Italian archaeological mission in 2015 and 2016 within the archaeological site of Petra.<sup>3</sup> In 2015, we started the excavation in front of the Corinthian Tomb in order to verify our interpretations regarding the post-classical settings of the valley and to clarify the presence and the nature of a potential medieval structure whose evidence had been identified during the surveys carried out in 2012 and 2013.

The Florentine team uses typical methods and topics of historical archaeology. In particular, the archaeological excavation and comparative study of the material finds are supported by the non-destructive Light Archaeology methodologies, with a special focus on stratigraphic readings of masonries and stone-dressing typologies.<sup>4</sup>

---

<sup>1</sup> In particular, Al-Wu'ayra was a crucial outpost of the aforementioned Latin settlement system, as the researches carried out so far, including excavation evidence, have already confirmed. After the Crusader phase, the site went into decline (at least in terms of historical/political role) and it turned into a village that continued to be inhabited until the 19th century (see Vannini and Vanni Desideri 1995, 2016).

<sup>2</sup> For a general picture of the Latin settlement system in southern Transjordan and an in-depth discussion on the historical-archaeological interpretations of the considered area, see for example Brown 1988, 'Amr *et al.* 2000, Pringle 2001, Ligato and Vannini 2009 Schmid 2012, Vannini and Nucciotti 2012, Sinibaldi 2016a and further references.

<sup>3</sup> It is important to bear in mind that the remarks presented here are preliminary since the research is still in progress.

<sup>4</sup> In a nutshell, Light Archaeology is a methodological approach that allows to employ non-destructive archaeologies (e.g. Building Archaeology, Landscape Archaeology) together with targeted excavations. The aim is to reconstruct the history of entire territories in a long-term perspective, considering the material (archaeological) evidence of wider historical 'problems' (phenomena) in specific regional contexts. For a more detailed picture regarding the history of the Florentine archaeological mission in Petra/Shawbak, see for example Vannini 2011, p. 296-308 (plus the contribution by Vannini in this volume); Pruno and Ranieri 2020. Regarding the concept of Light Archaeology and its practical

The excavation analyses at the Corinthian Tomb area were thus conducted following the stratigraphic method, with the elaboration of the Harris Matrix for each area. The material assemblage represents all the fragments unearthed during the excavation and it comes from precise contexts, which are stratigraphically recognized. After the end of excavation activities, we developed a Harris Matrix to identify a primary, necessary, relative chronology.

### **The area of the Corinthian Tomb**

The Corinthian Tomb is located inside the archaeological site of Petra, between the Silk Tomb and the Palace Tomb, in the area of the Royal Tombs (Pl. 1: 3).<sup>5</sup>

During the 2015 campaign, a new excavation area was opened in front of the Corinthian Tomb in the Petra valley in order to clarify the presence and the nature of what appeared to be a potentially ‘new’ medieval site in Petra (named Site PTC 5).

The existence of a potential medieval structure in this area was highlighted during the surveys in 2012 and 2013. Certain observations were made on the façade of the Corinthian Tomb and in its immediate surroundings: arrow-slits-like windows cut on the eastern side of the façade of the Corinthian Tomb, remains of a masonry structure featuring technologic similarities to Crusader buildings from Petra (Al-Wu’ayra and Al-Habis) and Shawbak castle (Pl. 1: 4-5), and some handmade pottery shards, most likely related to Crusader-Ayyubid contexts, are comparable to findings from Al-Wu’ayra, Wadi Farasa, and Shawbak castle.<sup>6</sup> In particular, the masonry structure

---

applications (and the difference between it and Building Archaeology), see also Fragai 2019, Nucciotti and Vannini 2020, the contribution by Chiara Marcotulli in this volume and further references. For a clear picture of the history of the discipline in Italy, an essential point of reference is the annual journal *Archeologia dell’Architettura*, founded in 1996 as supplement of the journal *Archeologia Medievale*, founded in 1974. See also Vannini and Vanni Desideri 2016.

<sup>5</sup> For a wider picture of the sites in the area (and its surroundings) and the studies conducted so far, see for example Fiema *et al.*, 2016, 2019 with further references, in particular for the area located to the northeast of the confluence of the Wadi Maṭāḥah and the Wadi Musa on the high hill overlooking the eastern end of the Colonnaded Street and directly west of the Palace Tomb.

<sup>6</sup> In regard to the discussion of pottery assemblages, see the section specifically devoted to it on the following pages.

identified as Masonry Stratigraphic Unit 3 (MSU 3), built of roughly hewn limestone blocks, arranged in horizontal rows (three of them were visible, in total 2×0,8m) with thick beds and joint of mortar regularized by small and generally flat stone wedges, is very similar to others of the Crusader period (12th century) in Petra and Shawbak (Pl. 4: 1).<sup>7</sup> Furthermore, the arrow-slits-like windows on the eastern side of the façade of the Corinthian Tomb could be cut by Crusaders for defensive purposes: during the 2016 campaign, we started to analyze the stratigraphy of the Corinthian Tomb, with a particular focus on the evidence of carving tools, and we managed to recognize five phases of their use. The arrow slits were made during the most recent phase so we can suppose that they were most likely made after the construction of the tomb, probably for a different use.<sup>8</sup> These elements, as well as the presence of the aforementioned pottery remains, led to the hypothesis that the area was inhabited during the Crusader period.

Such observations were potentially of great interest for clarification of medieval settlement patterns in the Petra valley as regards the 8th-15th centuries in general and the 12th century in particular, when Petra was at first re-settled by the Crusaders as a core political and logistical base for the expansion of the Latin Kingdom of Jerusalem in Transjordan.

Since the location of the Corinthian Tomb appeared to be consistent with these settlement developments, it was decided to start a deeper exploration of the area in 2015 by means of a systematic field survey and the excavation in order to elucidate the historical dynamics of the abovementioned potentially 'new' medieval site in Petra.

---

<sup>7</sup> Blocks are roughly hewn with a quarry hammer and, as for other Crusader buildings studied in Shawbak and in the Petra region (e.g. Al-Wu'ayra and Al-Habis), single blocks do not show any careful surface dressing (type 1, Nucciotti and Pruno 2016). For a wider picture of masonry types and stratigraphy on Shawbak castle, see for example Nucciotti 2007; Nucciotti and Pruno 2016; regarding Al-Wu'ayra, see also Vannini and Vanni Desideri 2016; Vanni Desideri and Leporatti 2018; concerning Al-Habis, see also Nucciotti *et al.* forthcoming; with further references.

<sup>8</sup> The use of the Corinthian Tomb for defensive purposes during the Crusader period is, at the present stage of studies, a hypothesis to be verified with similar stratigraphic analyses on other comparable tombs in the Petra region (there are other tombs with similar arrow-slits-like windows whose stratigraphy, in particular the carving tools evidence, could be interesting for comparisons, e.g. Sextius Florentinus' Tomb, north-east of the Corinthian and Palace tombs. See Pl. 1: 3) and, possibly, with the continuation of the research in the area of the Corinthian Tomb, expected in the next few years (including the conclusion of the aforementioned masonry stratigraphy analyses started in 2016).



## Excavation campaigns<sup>9</sup>

The excavation area was defined inside Building 1, identified during the 2013 survey, which is a quadrangular area of 5,60×6,70m, located on the plateau (TU1), in front of the Corinthian Tomb.<sup>10</sup> The structure was made by cutting vertically (SU13) the natural rock (SU8) and covering the walls with sandstone and limestone ashlar (MSU9, 10, 11, 12). At the beginning, when the area was totally filled by sand, we fixed four points (landmarks), one on each side, and a team of the CNR (Centro Nazionale di Ricerca/National Research Council) of Rome (Italy) surveyed the area with a laser scanner to make a topographic relief and to contextualize the spatial relationship between the fixed points and other recognizable elements. A final ortho-rectified photo was prepared and used as the base for the relief of each layer (Pl. 2: 1).

During the first campaign, the excavation was conducted in the whole area, removing the surface rubble (collapses) and going deeper into the archaeological deposit of a 'small room,' located in the north-western part of Building 1.

During the second year, we mainly focused on the excavation of a smaller sondage (located south of the so called small room)<sup>11</sup> in order to verify the foundation of the structures and the archaeological deposit, attempting to complete the stratigraphic sequence.

After the removal of surface layers, widespread throughout TU1, SU6 and SU7, with a relatively big amount of handmade pottery, fine ware and modern finds (fragments of glass, plastic and bricks), we uncovered the great collapses of Building 1 (SU17, 18, 19) and, initially, two walls oriented east-west (MSU14 and 15, Pl. 2: 2).

These collapse layers, located along the north, east and south sides, were characterized by squared and roughly hewn sandstone, sometimes with small stones (rare flint-stones), probably used as wedges in the original wall

---

<sup>9</sup> Before reading the following pages, it may be helpful to make clear some abbreviations/ acronyms used in the text: TU (Topographic Unit), SU (Stratigraphic Unit), MSU (Masonry Stratigraphic Unit). It is also important to clarify that the periodization is indicated sometimes on the basis of the political and archaeological periodization widely accepted by scholars (cf. for example the 'table of supporting' in Whitcomb 1992, 386).

<sup>10</sup> The excavation was carried out within the quadrangular area in order to investigate the archaeological deposit and get information on its use. The medieval wall, MSU3, is located outside the outcropping rock (SU8) and it leans against it on the western side.

<sup>11</sup> Initially, the sondage had dimensions 3.4x3m, then it was reduced to 1,5x3m to make steps for going deeper, down to 3.5m.

(SU18). Some of the stones preserve a surface dressing evidence made by a point tool and some of them show the typical Nabatean stone dressing (Pl. 2: 3).<sup>12</sup> This indicates a reuse of Nabatean sandstone ashlar, a usual practice in Petra, also in the Building 1 perimeter walls.<sup>13</sup> Along with the collapses, we found pieces of white mortar and some architectural elements like fragments of a jamb (SU19), corbel, and door (SU18) as well as small finds of handmade coarse ware, wheel-made fine pottery, and modern finds (glasses, 'Bedouin' necklaces).

Under the collapses, the previously visible walls appeared more clearly and other structures were unearthed, highlighting an articulated picture of the internal space of Building 1. In particular, as the excavation went deeper, it was clear that the walls MSU14 and 26 (a stone alignment on the side with north-south direction) delimited, with MSU9 and 12, a small room in the north-western corner of the excavation area while in the rest of it, we identified the bases of four pillars (preserved for two rows) of two collapsed arches (MSU15-27, 80-28 and SU67) that divided Building 1 in three parts<sup>14</sup> (Pl. 2: 4-5). Building 1 seems to be an example of typical traditional rural architecture where the basic typology with a single room is divided into different areas by 'arch-walls' called *riwaq* or *qantara* (Khammash 1986; Twaissi *et al.* 2016; Shqairat 2018).

The perimeter walls of Building 1 and pillars are constructed with squared and roughly hewn blocks with a flat surface, arranged in horizontal rows with numerous aligned joints and bed wedges (mostly on pillars).<sup>15</sup> Furthermore, we noted a reuse of typical Nabatean dressed stones as well as the presence of two openings (entrances?) on the north and south sides.<sup>16</sup>

The small room seems to be constructed later in the north-western corner of Building 1 because MSU14 and 26 lean on the perimeter walls of the structure (MSU9 and 12). MSU14 and 26 are built with squared

<sup>12</sup> Regarding the stone dressing evidence and, more generally, carving stone studies, see Bessac and Nehmé 2001; Bessac 2007.

<sup>13</sup> In fact, Building 1, whose collapses are represented by SU17, 18, and 19, belongs to post-medieval phases, as shown by the stratigraphic sequence and the aforementioned finds of the related contexts (e.g. modern finds).

<sup>14</sup> MSU14 leans on MSU80, one of the base pillar, on the west side and so, now, they are aligned.

<sup>15</sup> Wedges are frequent, especially in the remaining pillars (MSU27, 28, 15 and 80).

<sup>16</sup> The opening on the north side of Building 1 has now three visible steps (SU 58), probably made in a later moment when the small room was arranged; the one on the south side is now closed with soil and smaller stones. For a wider picture of the typical Nabatean surface dressing, see Bessac 2007.

and roughly hewn blocks, with many reused Nabatean dressed stones and wedges in joints and beds. There were probably openings on the east and west side of the small room.

Inside the small room, there were other collapse remains and, under some strong layers of earth and little stones, we found a strong floor (SU34) cut in three points (SU35, 38, 37, the latter defines a circular cut. Pl. 3: 1). During the removal of SU34, several handmade shards along with probable residual fine wares were found. Most likely it was a relatively modern (Late Ottoman/Early Hashemite) floor.

Under this floor, we unearthed a couple of soft and harder strata that covered a layer with few stones and some pottery fragments (mostly handmade, SU51) which the walls MSU9, 12 were built on.

In the north-east corner of the area, between the walls MSU26 and MSU12, we found a staircase (SU58) made of big ashlar that leaned on the earthen (sand) floor SU57. It was a strong and compact layer with a flat interface, widespread throughout Building 1 (except inside the small room, Pl. 3: 2-3),<sup>17</sup> that was interpreted as the original floor of the Building 1.<sup>18</sup>

Then, we carried out an investigation (sondage)<sup>19</sup> which was located in the western part of Building 1, between MSU14 and MSU15, to verify the foundation of the perimeter walls of the building and the archaeological deposit sequence. During the removal of SU57 and its preparation, SU81, several wheel-made shards along with rare handmade pottery fragments were found. Moreover, the sondage allowed to see that the little room, especially MSU14 and 26 (visible from the outside), leaned on the floor of Building 1, SU57 (Pl. 3: 4).

Covered by SU81 and SU86, a sandy layer with a lot of debris and little shards of pottery (fine and coarse wheel-made wares as well as fragments of a ceramic pipe), we found SU87=89, a layer with rare handmade pottery fragments and several wheel-made shards. Going deeper, it was clear that the perimeter wall, MSU9, the remains of the western pillars and the arches (MSU15 and 85; MSU80 and MSU91) leaned on SU87=89 (Pl. 3: 4).

We proceeded by the removal of a series of strata (SU93 and 94, previously excavated inside the small room) and under them, we dug

<sup>17</sup> Probably the construction of the small room destroyed the original floor of Building 1 in this section.

<sup>18</sup> During the removal of SU57, we found some fine, undecorated wheel-made and hand-made ware.

<sup>19</sup> The one mentioned before, located south of the so called small room (cf. footnote 11).

a remarkably thick layer (almost 1m thick) characterized by alternating sandy and clay levels, a natural deposit possibly (SU95).

SU95 covered a stones concentration in the western part of the deepening investigation (SU96) and a series of layers (possibly natural deposits) with stone chippings, bones and pottery shards of fine and plain wheel-made ware (SU97, 98 and 99).<sup>20</sup>

For safety reasons, we decided that the stratum (SU103), unearthed after the removal of the mentioned layers (at that moment, the sondage was 1,5×3m and 3.5m deep, Pl. 3: 4), should be left in place. It also appeared that there were no important variations through the stratigraphy analyzed by the section.<sup>21</sup>

Since the excavation inside the building did not allow to acquire further stratigraphic information of USM3, we opened another, smaller probe trench<sup>22</sup> to verify the relations between MSU9 (the western wall of Building 1, Pl. 4: 2) and MSU3 (the portion of the medieval wall visible outside Building 1 on its western side). In order to better understand the stratigraphic sequence, we removed the two upper rows of stones and part of the nucleus (core) of MSU9. It was composed by some strata linked to the wall: a compact layer, with little stones settled horizontally, SU101, and a sandy layer with stones chippings, SU102 (both with wheel-made plain wares). This little probe trench allowed to obtain important information for understanding the evolution of the structures. First of all, the two walls, MSU3 and 9, were separate and in particular MSU9 leaned on the wall MSU3 and on the bedrock, so it is the latest construction located in this part of the excavation area. Furthermore, MSU3 seems to be an independent

---

<sup>20</sup> SU 97 was quite thick (about 65cm) and we also found some fragments of plaster and small pieces of coal there.

<sup>21</sup> The idea of being in front of a natural deposit is just a first hypothesis at the current state of the investigation. Although there are a few clues that can support this interpretation (e.g. remarkably thick layers characterized by a turnover of sandy and clay levels, like SU 95, and/or with irregular 'mixture' of finds, possibly due to a natural washing-out activity), we would like to highlight that the sondage did not reach a proper bedrock layer (at the bottom of building 1) or layers totally devoid of traces of artefacts and that the excavation was interrupted for safety reasons. The reopening of the excavation activities in the area (mentioned in footnotes 7 and 28) is planned with the aim of fully investigating the archaeological deposit inside Building 1 and opening an external trench, in front of the medieval wall MSU 3, in order to examine its foundations.

<sup>22</sup> Dimensions 1.4×0.4m in the core of MSU 9.

wall, located on the external western side of Building 1, which fills a cut (SU104) made in the bedrock (Pl. 4: 1, 3-4).<sup>23</sup>

### **Pottery assemblages and preliminary archaeological interpretations**

As already mentioned before, the aim of this paper is to present preliminary remarks on the two excavation campaigns (2015-2016) carried out by the team of the University of Florence around the area of the Corinthian Tomb within the ancient city of Petra. Nevertheless, according to the data processed so far, in particular regarding stratigraphy (both vertical and horizontal) and pottery assemblages analyses, it was possible to formulate a first hypothesis of chronology of the site and to try to obtain some ‘food for thought’ for wider historical interpretations.

The pottery evidence presented here <sup>24</sup> consist in *c.* 88% of wheel-made ware (WM), 11% of handmade ware (HM, without painted decoration) and 1% of handmade painted ware (the so-called HMGP, or handmade geometric painted ware). There is no evidence of any kind of glazed ware.

In particular, the assemblages contain mainly ‘pre-Crusader’ shards (mostly from Nabatean and Roman-Byzantine periods), some (probable) medieval shards (mostly HM and few HMGP) and some post-medieval shards (mostly HM). A preliminary examination of the pottery found during the excavations allows to estimate that the archaeological material assemblages cover a long time-span, from the Nabatean to the Ottoman/Early Hashemite period<sup>25</sup> (Pl. 4: 5-8, 5: 1-3).

<sup>23</sup> For safety reasons, it was not possible to remove all the ashlar rows of MSU 9 and this did not make fully visible either the cut MSU 104 or the inner side of MSU 3. Further research in the area could also make this issue clearer.

<sup>24</sup> The total number of the fragments amounts to 1267 pieces: 1149 (WM), 115 (HM), 3 (HMGP). The minimum number of vessels (mnv) corresponding to the above total number is 252 (221, 28, 3, respectively). The percentages are calculated taking into account the minimum number of vessels. For a general picture on quantification methods and applications, see, for example, Ceci and Santangeli Valenzani 2016, with further references. It is also necessary to know that many of them (in particular WM) are in a very fragmentary state of preservation so, at least in these cases, it was difficult to identify their classes and typologies, and especially to associate each fragment to a particular vessel.

<sup>25</sup> As can be noticed in Pl. 4: 5-8, 5: 1-2, there are several fragments of fine WM related to the Nabatean and Byzantine (and/or Roman) periods, e.g. some fragments from Pl. 4: 7-8, 5: 1. Regarding HM and HM(G)P wares, we can see some HM most likely related to the Ottoman (and/or Early Hashemite) period, e.g. fragments from Pl. 4: 5-6. The HMGP fragments examined so far are mainly of the type in Pl. 5: 3, most likely related

Taking into account the finds from the first deeper probe (sondage) mentioned before, where we were able to distinguish a ‘long’ stratigraphic sequence, more than 50% of WM pottery appears to be represented by ‘pre-Crusader’ productions, mainly related to Byzantine and Nabataean periods. It also seems that there are only a few small fragments comparable to Early Islamic productions.

Since a precise and dependable chronology cannot be drawn only according to pottery analyses (especially for in-progress research like this one), some wider stratigraphic reflection must be discussed here. The two excavation campaigns allowed us to define a first sequence of the structure in front of the Corinthian Tomb. We managed to understand that in the first phase in this area, we have a platform of natural rock (SU8, Phase 0) that was vertically cut (SU13, phase 1, Pl. 5: 4-5) to make a quadrangular space opened on the west side (SU104, Phase 1). At the moment, we don’t know the exact function of these cuts: a first hypothesis could be that in this phase, the area was used as a quarry for the extraction of building material.<sup>26</sup> In another phase (Phase 3), probably during the Crusader period, the opening on the west side was closed with a wall (MSU3), possibly to construct a cistern or a ‘sediment/settling basin.’<sup>27</sup> Between these two phases, we have evidence

---

to the Middle Islamic Period. For comparisons concerning the periodization and distribution of HMGP and HM (and cooking pots) in the Petra area, in Southern Transjordan, and for a clearer and wider general picture of the study of these typologies (including the ‘problems’ related to the chronological interpretations, in particular for HM), see for example: Brown 1987, 1988; Johns 1998; Walmsley and Grey 2001; Sinibaldi 2009, 2013a, 2013b, 2016a, 2016b; Sinibaldi and Tuttle 2011; Walker 2012; Tolbecq 2013; Gabrieli 2015; Pruno and Ranieri 2017, 2020; Makowski 2020 with further references. See also ‘Amr *et al.* 2000; Falahat 2009; Schmid 2009; Grey and Politis 2012; ‘Amr and Oleson 2013; Lichtenberg and Raja 2015 with further references for a picture of different productions from other abovementioned periods.

<sup>26</sup> At the moment, before the investigation is continued, the vertical cut SU 13 is visible only on the inner part of the east side of the outcropping rock (SU 8). Here, in fact, the perimeter wall of Building 1 (MSU 11) does not ‘cover’ the rock, abutting against the vertical side of the rocky wall, but it was built on the outcropping rock (Pl. 5: 4). The reading of the evidence of cutting tools is complicated by the degree of conservation of the rocky wall, whose visible surface is partially deteriorated. Despite that, the cut SU 13 seems to be constructed with a sizeable pointed tool (pickaxe) used with semi-circular movements (Pl. 5: 5). As a first hypothesis, this phase seems to be referred to a ‘pre-Crusader’ period (maybe the Roman-Byzantine period). For a wider discussion of quarries and tools, extraction methods and exploitation of building stones in the classical period in Petra, see Bessac 2007.

<sup>27</sup> The use of the area as a cistern or sediment/settling basin is only a hypothesis: it is possible that, in a certain phase, there was a need to seal the opening on the west side (SU104) with



of another one, probably consisting of natural deposits (SU97, 98, 99, phase 2). It is really hard to interpret these levels, at least in terms of functionality and chronology. What we can say is that the pottery assemblages appear to be related to the Byzantine period (with some Nabatean and probably Roman residual fragments).

Later on, the quadrangular space was possibly filled naturally, and during the Phase 4 (probably in a post-medieval-Late Mamluk/Ottoman period) it was converted to a big room (Building 1) defined by MSU9, 10, 11, 12 and divided in three parts with arches (we can see the remains of the pillars MSU 15, 27, 28, 80).<sup>28</sup>

Finally, a small room and a staircase were built in the north side of Building 1, probably during the Late Ottoman/Early Hashemite period (Phase 5). It is still difficult to define a clear function of the area but according to the data collected so far, we can hypothesise domestic/daily use, at least for the latest phases and specifically in relation to the 'small room' occupation: in particular, the pottery typologies unearthed contain mainly HM cooking pots, some table ware, and HM lamps (Pl. 4: 5-6).

## Conclusion

In the end, on the basis of the data collected during the surveys, the excavation, the analyses of the masonries stratigraphy, and the material assemblages reading that have been conducted so far, we can presume that we are dealing with a long term development of the site, at least from Roman/Byzantine period to the Late Ottoman/Early Hashemite period (Pl. 6: 1-2). We can notice that this development seems to show some lack of data or probably an interruption, for example regarding the early Islamic period.

---

the wall MSU 3 in order to obtain a closed space. It should be noted that in the area, there are no channels leading to the cistern nor traces of hydraulic mortar found on the east wall (perhaps also due to the surface flaking). However, the structure seems to be very similar to a sediment basin (named so in the article in the link below), located on the way down from High Places to the Triclinium area, between the Lion's Monument and the Garden Tomb in Wadi Farasa (Petra). (Coordinates: 30°19'11.6"N 35°26'45.7"E; the site does not seem to be systematically investigated within archaeological projects yet, at least according to the publications checked by us so far, but some images are visible in an Internet article posted on March 24th 2014 retrieved from <https://ancientwatertechnologies.com/2014/03/24/ancient-water-technologies-of-the-nabataeans/>, status as of Sept. 9th, 2020). For a wider picture on cisterns and water supply in Petra and its surroundings, see Ortloff 2005, Lindner 1992, 'Amr K. *et al.* 1998, Bestock 1999, 'Amr K., Al Momani A. 2001, 'Amr K. and Oleson J. P. 2013 and Juntunen 2016.

<sup>28</sup> Cf. Pl. 2: 4-5, in particular Pl. 2: 4.



In terms of function, it is not easy to determine what it could represent during each phase. Most likely, it was a domestic space in the final phases, especially the Late Ottoman/Early Hashemite periods, since we have found several evidences of cooking and consumption activity (cooking pot shards, animal bones, etc.).

Regarding the medieval period, and the Crusader phase in particular, we can hypothesise that it was a place where a cistern was used, most likely for storing water, possibly connected to a localised ('modest') function. It seems to be confirmed by the pottery assemblage as well (no glazed wares, only wheel-made plain and HM wares; most of them display cooking, table, and some little storage forms).

In general, at least for the medieval period (especially the second/last phase of the Crusader period), it could confirm the hypothesis of a change of function of the area (and the Petra valley in general) with the transfer of the central political role from Petra to Shawbak.<sup>29</sup>

## References

- 'Amr K., Al Momani A., Al Nawafleh N. and Al Nawafleh S. 2000.** Summary results of the archaeological project at Khirbat An – Nawafla / Wadi Musa. *Annual of the Department of Antiquities of Jordan* 44, 231-255.
- 'Amr K. and Oleson J. P. 2013.** Field 102: Nabatean cistern, Byzantine church and Early Islamic house. In J. P. Oleson and R. Schick (eds), *Humayna excavation project, 2: Nabatean campground and necropolis, Byzantine churches and Early Islamic domestic structures*, 93-159. (American School of Oriental Research. *Archaeological Reports* 18). Boston MA. <https://doi.org/10.5615/j.ctvj7wktc.12>.

---

<sup>29</sup> In order to obtain more data on the archaeological deposit and be able to contextualize the history of the site in wider historical scenarios, a complete excavation of Building 1 and the opening of a sondage in front of MSU 3 (and the continuation of the study of all the material assemblages) are expected in the next few years.

- ‘Amr K., Al Momani A. 2001.** Preliminary report on the archaeological component of the Wadi Musa Water supply and Wastewater project (1998-2000). *Annual of the Department of Antiquities of Jordan* 45, 253-286.
- ‘Amr K., Al Momani A., Farajat S. and Falahat H. 1998.** Archaeological survey of the Wadi Musa water supply and Wastewater Project Area. *Annual of the Department of Antiquities of Jordan* 42, 503-548.
- Bessac J.-C. 2007.** *Le travail de la pierre à Pétra. Technique et économie de la taille rupestre.* Paris.
- Bessac J.-C. and Nehmé L. 2001.** Un pic de creusement du grès d’époque nabatéenne à Pétra. *SYRIA* 78, 83-88. <https://doi.org/10.3406/syria.2001.7728>.
- Bestock L. 1999.** Nabatean pottery from the ‘cistern’: some finds from the Brown University Excavations at the Petra Great Temple. *Annual of the Department of Antiquities of Jordan* 43, 241-248.
- Brown R. 1987.** A 12th Century A.D. Sequence from Southern Transjordan Crusader and Ayyubid Occupation at el-Wu’eira, *Annual of the Department of Antiquities of Jordan* 31, 267-288.
- Brown R. 1988.** *Medieval fortresses in southern Transjordan: transition from crusader to late Islamic settlement* (Ph.D. diss., State University of New York). Binghamton NY.
- Ceci M. and Santangeli Valenzani R. 2016.** *La ceramica nello scavo archeologico. Analisi, quantificazione e interpretazione.* Rome.
- Falahat H. 2009.** Lo scavo romano di Udhruh. In G. Vannini, M. Nucciotti (eds), *Da Petra a Shawbak. Archeologia di una frontiera*, 70-71. Catalogo della Mostra (Firenze, Palazzo Pitti, Limonaia di Boboli, 13 luglio - 11 ottobre 2009). Florence.
- Fiema Z. T., Schmid S. G. and Kolb B. 2016.** A Palatial Quarter in Petra: Preliminary Results of the North-Eastern Petra Project. *Study in the History and Archaeology in Jordan* 12, 747-763. Amman.
- Fiema Z. T., Schmid S. G. and Kolb B. 2019.** The Northeastern Petra Project: An Assessment. *Study in the History and Archaeology in Jordan* 13, 609-616. Amman.
- Fragai L. 2019.** New Research Perspectives on the Mamluk Qā’a at Kerak Castle: Building Archaeology and Historical Contextualization. *Journal of Islamic Archaeology* 6/2, 187-208. <https://doi.org/10.1558/jia.37337>.
- Gabrieli R. S. 2015.** Specialisation and Development in the Handmade Pottery Industries of Cyprus and the Levant. In J. Vroom (eds), *Medieval and post-medieval ceramics in the Eastern Mediterranean: Fact and*

- Fiction*. Proceedings of the First International Conference on Byzantine and Ottoman Archaeology, October 21-23, 2011, 131-153. Amsterdam.
- Grey A. and Politis K. D. 2012.** The late antique period: The pottery. In D. K. Politis (ed.), *Sanctuary of Lot at Deir "Ain" Abata in Jordan. Excavations 1988-2003*, 179-292. Amman.
- Johns J. 1998.** The rise of Middle Islamic Hand-made Geometrically-painted Ware in Bilad al-Sham (11th-13th centuries AD). In R.P. Gayraud (ed.), *Textes arabes et études islamiques* 36. Acts of the Colloque International d'Archéologie Islamique, IFAO, Le Caire, 3-7 février 1993, 65-93. Cairo.
- Juntunen K. 2016.** Appendix 1. The Cistern (Trench L1). In Z. Fiema, J. Frosén and M. Hollapa (eds), *Petra – The Mountain of Aaron. The Finnish Archaeological Project in Jordan*, vol. 2. *The Nabatean Sanctuary and the Byzantine Monastery*, 64-71. Helsinki.
- Khammash A. 1986.** *Notes on Village Architecture in Jordan*. Lafayette LA.
- Lichtenberger A. and Raja R. 2015.** Intentional cooking pot deposits in Late Roman Jerash (Northwest Quarter). *Syria. Archéologie, Art et Histoire* 92, 309-238. <https://doi.org/10.4000/syria.3104>.
- Ligato G., Vannini G. 2009.** Fra Petra e Shawbak: la Transgiordania latina (1100-1189). In G. Vannini and M. Nucciotti (eds), *Da Petra a Shawbak. Archeologia di una frontiera*. Catalogo della Mostra (Firenze, Palazzo Pitti, Limonaia di Boboli, 13 luglio - 11 ottobre 2009), 88-95. Florence.
- Lindner M. 1992.** Survey of Sabra (Jordan) 1990. Preliminary report. *Annual of the Department of Antiquities of Jordan* 36. 193-216.
- Makowski P. 2020.** A Preliminary Report on Polish-Lebanese Excavations at the St. George's (Mar Girgis) Church in Rachkida (Northern Lebanon), *Journal of Islamic Archaeology* 6/2, 209-239. <https://doi.org/10.1558/jia.36308>.
- Nucciotti M. 2007.** Analisi stratigrafiche degli elevati: primi risultati. In G. Vannini (ed.), *Archeologia dell'insediamento crociato-ayyubide in Transgiordania. Il progetto Shawbak*, 27-55. Florence.
- Nucciotti M. and Fragai L. 2020.** Ayyubid reception halls in southern Jordan: towards a 'Light Archaeology' of political powers. *Study in the History and Archaeology in Jordan* 13. Amman.
- Nucciotti M., Marcotulli C. and Luschi C. forthcoming.** The 12th century castle of Al-Habis in Petra: a Light Archaeology of "longue durée". In *Proceedings of the 14th International Conference of History and Archaeology of Jordan, January 21-25*. Florence.

- Nucciotti M. and Pruno E. 2016.** Great and Little Traditions in medieval Petra and Shawbak: contextualizing local building industry and pottery production in cc. 12-13. *Archeologia Medievale* XLIII, 309-320.
- Nucciotti M. and Vannini G. 2020.** Light Archaeology and Territorial Analysis: Experiences and Perspectives of the Florentine Medievalist School. *Archaeologia Polona* 50, 149-169.
- Ortloff C. R. 2005.** The Water Supply and Distribution System of the Nabataean City of Petra (Jordan), 300 BC–AD 300. *Cambridge Archaeological Journal* 15.1, 93-109. United Kingdom. <https://doi.org/10.1017/S0959774305000053>.
- Pringle D. 2001.** Crusader Castle in Jordan. In Adams R., Bienkowski P. and MacDonald (eds) *The Archaeology of Jordan*, 677-684. Sheffield.
- Pruno E. and Ranieri R. 2017.** Ceramiche da cucina nella Transgiordania meridionale (secc. XII – XIII): l'osservatorio stratigrafico di Shawbak. *Temporis Signa: Archeologia della tarda antichità e del medioevo* XI, 37-46.
- Pruno E. and Ranieri R. 2020.** Medieval Pottery in Southern Jordan: The case-study of HMW in Shawbak castle. *Study in the History and Archaeology in Jordan* 13, 223-230. Amman.
- Schmid S. G. 2009.** La ceramica nabatea. In G. Vannini, M. Nucciotti (eds), *Da Petra a Shawbak. Archeologia di una frontiera*. Catalogo della mostra (Florence, Palazzo Pitti, Limonaia di Boboli, July 13 – October 11 2009), 55-57. Florence.
- Schmid S. G. 2012.** The crusaders in Petra – the example of the Wadi Farasa east. In G. Vannini, M. Nucciotti (eds), *La Transgiordania nei secoli XII-XIII e le 'frontiere' del Mediterraneo medievale*. Atti del convegno internazionale (Palazzo Vecchio – Palazzo Strozzi, November 5th -8th 2008), BAR, *Limina/Limites: Archaeologies, histories, islands and borders in the Mediterranean (365-1556)*. Oxford.
- Shqairat M. A. Al Z. 2018.** Abandoning Shammakh: Historical Archaeology among the Villages of Southern Jordan and its Ethno-Archaeological and Modern Economic Potential. *Journal of Anthropology and Archaeology* 6/1, 1-14. <https://doi.org/10.15640/jaa.v6n1a1>.
- Sinibaldi M. 2009.** The Franks in southern Transjordan and the contribution of ceramic studies: a preliminary report on the pottery assemblages of al-Bayda and Wadi Farasa. *Annual of the Department of Antiquities of Jordan* 53, 449-464.
- Sinibaldi M. 2013a.** The pottery from the 11th to 20th century from the Finnish Jabal Harun Project survey. Ceramics, settlement and

- pilgrimage at Jabal Harun during the later Islamic periods. In P. Kouki and M. Lavento (eds), *Petra – The Mountain of Aaron*, vol. 3. *The archaeological survey*, 169-192. Helsinki.
- Sinibaldi M. 2013b.** The ceramic assemblage from the later phases at tomb 303: settlement in Wadi Ath-Thughrah during the Islamic period. *Annual of the Department of Antiquities of Jordan* 57, 167-177.
- Sinibaldi M. 2016a.** Settlement in the Petra region during the Crusader period: a summary of the historical and archaeological evidence. In M. Sinibaldi, K. Lewis, J. Thompson and B. Major (eds), *Crusader Landscapes in the Medieval Levant. The Archaeology and History of the Latin East*, 81-102. Cardiff.
- Sinibaldi M. 2016b.** The pottery of the later phases of occupation at the monastic site at Jabal Harun. In Z. Fiema, J. Frosén and M. Hollapa (eds), *Petra – The Mountain of Aaron. The Finnish Archaeological Project in Jordan*, vol. 2. *The Nabatean Sanctuary and the Byzantine Monastery*, 203-213. Helsinki.
- Sinibaldi M. and Tuttle C. 2011.** Brown University Petra Archaeological Project: 2010 excavations at Islamic Bayda. *Annual of the Department of Antiquities of Jordan* 55, 431-450.
- Tolbecq L. 2013.** The Hinterland of Petra (Jordan) and the Jabal Shara during the Nabataean, Roman and Byzantine periods. In M. Mouton and St. G. Schmid (eds), *Men on the Rocks. The Formation of Nabataean Petra*. 295-312. Berlin.
- Twaissi S. A., Abuhaleleh B., Abudanah F. and Al-Salameen A. 2016.** The Architectural Aspects of the Traditional Villages in Petra Region With Some Anthropological Notes. *Mediterranean Journal of Social Sciences* 7/4, 336-352. <https://doi.org/10.5901/mjss.2016.v7n4p336>.
- Vanni Desideri A. and Leporatti S. 2018.** Una nuova chiesa rupestre in Transgiordania. In *VIII Congresso Nazionale di Archeologia Medievale*, Matera 12-15 settembre 2018, vol. 3, 247-250. Florence.
- Vannini G. 2003.** Archeologia dell'edilizia storica e costruzione del documento archeologico. Problemi di popolamento mediterraneo. *Arqueologia de la Arquitectura* 2, 249-254. <https://doi.org/10.3989/arq.arqt.2003.54>.
- Vannini G. 2011.** A medieval archaeology experience in Jordan. The “medieval” Petra mission university of Florence. *Annual of the Department of Antiquities of Jordan* 55, 295-312.
- Vannini G. and Nucciotti M. 2012.** Da Petra a Shawbak. Archeologia di una frontiera. La missione in Giordania dell'Università di Firenze.

In S. Lusuardi Siena e C. Perassi (eds), *La Giordania che abbiamo attraversato. Voci e immagini da un viaggio*, 55-73. Milan.

**Vannini G. and Vanni Desideri A. 1995.** 'Archaeological Research on Medieval Petra: A Preliminary Report', *Annual of the Department of Antiquities of Jordan* 39, 509-538.

**Vannini G. and Vanni Desideri A. 2016.** Light Archaeology and Historical Landscape. For the Global History of the Site of Al-Wu'ayra (Petra) in Transjordan. In P. Kołodziejczyk, and B. Kwiatkowska-Kopka (eds), *Cracow Landscape Monographs 2. Landscape in the Past & Forgotten Landscape*, 199-205.

**Walker B. J. 2012.** The Islamic period. In J. A. Sauer and L. G. Herr (eds), *Hesban 11. Ceramics finds: typological and technological studies of the pottery remains from Tell Hesban and vicinity*, 507-593.

**Walmsley A. G. and Grey A. D. 2001.** An Interim Report on the Pottery from Gharandal (Arindela), Jordan. *Levant* 33, 139-164. <https://doi.org/10.1179/lev.2001.33.1.139>.

**Whitcomb D. 1992.** Reassessing the archaeology of Jordan of the Abbasid period. *Study in the History and Archaeology in Jordan* 4, 385-390. Amman.

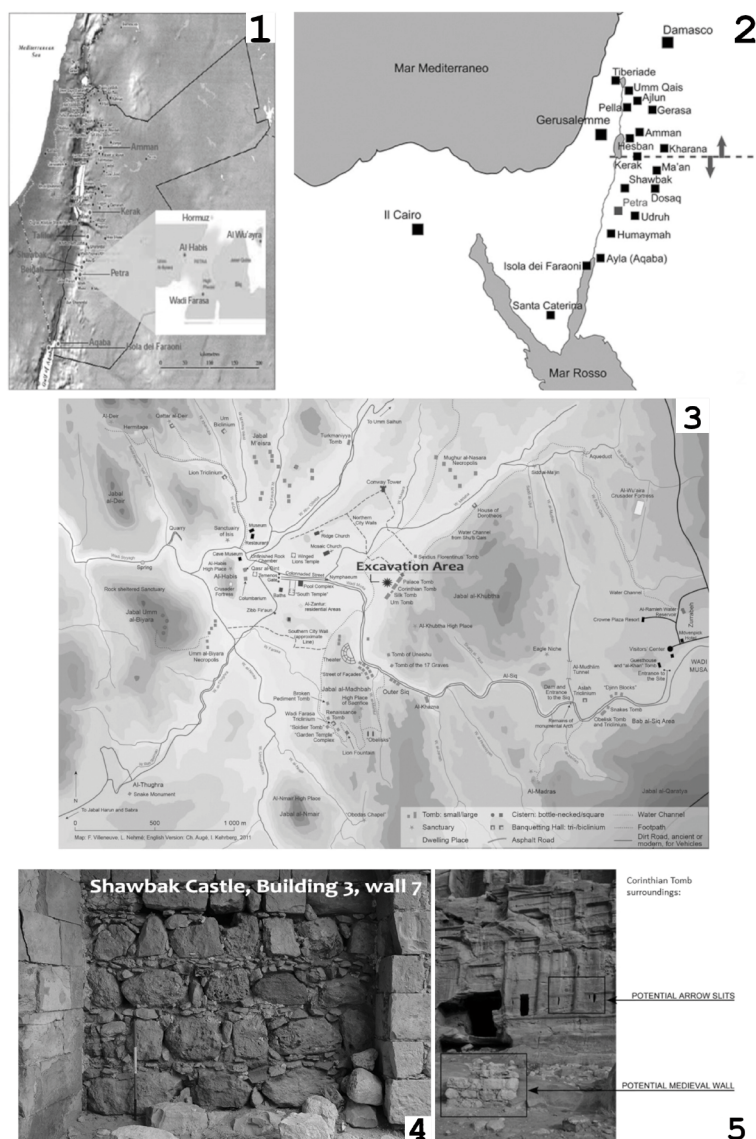
Raffaele Ranieri

PhD Candidate at Bigs-Oas, University of Bonn (Research Unit of Islamic Archaeology). Member of 'Medieval Petra' Archaeological Mission, University of Florence  
[ranieriraffa@gmail.com](mailto:ranieriraffa@gmail.com)

Francesca Cheli

Post-graduate-degree in Archaeology at University of Florence (SAGAS Department). Member of 'Medieval Petra' Archaeological Mission, University of Florence  
[francesca.cheli@gmail.com](mailto:francesca.cheli@gmail.com)





Pl. 1: 1. Latin settlement system of *Oultrejordain*. From Nuccicotti and Vannini 2009

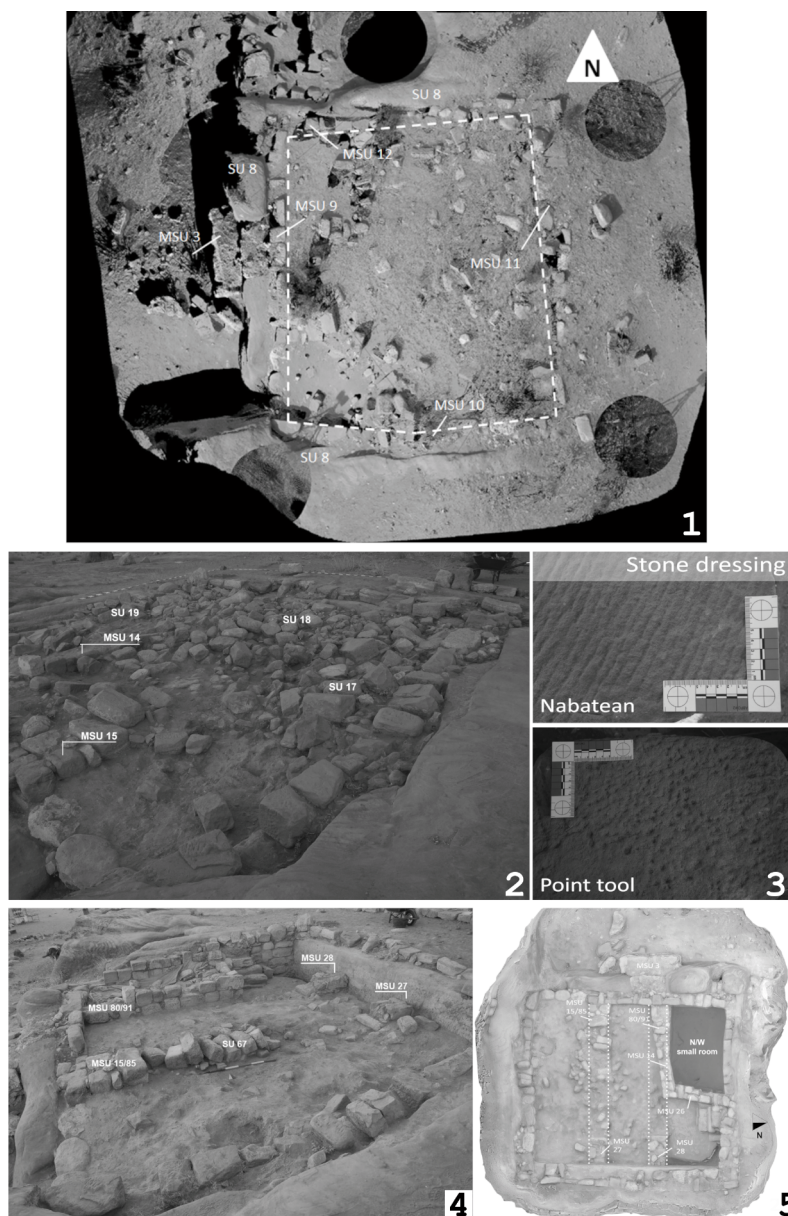
Pl. 1: 2. The frontier in Transjordan during the Mamluk period. Photo archives of the expedition

Pl. 1: 3. Excavation area on the Petra Archaeological Map. Elaboration by the authors on the basis of *Atlas of Jordan. History, Territories and Society*, edited by Myriam Ababsa, Beyrouth, Presses de l'IFPO, 2013, fig. III.9)

Pl. 1: 4. Detail of the Crusader masonry type visible on Building 3, wall 7 of Shawbak Castle. Photo archives of the expedition

Pl. 1: 5. evidence of the arrow-slits-like windows on the façade of the Corinthian Tomb and the remains of a masonry structure presenting technologic similarities with the one from Shawbak castle and Petra (Al-Wu'ayra and Al-Habis). Photo archives of the expedition





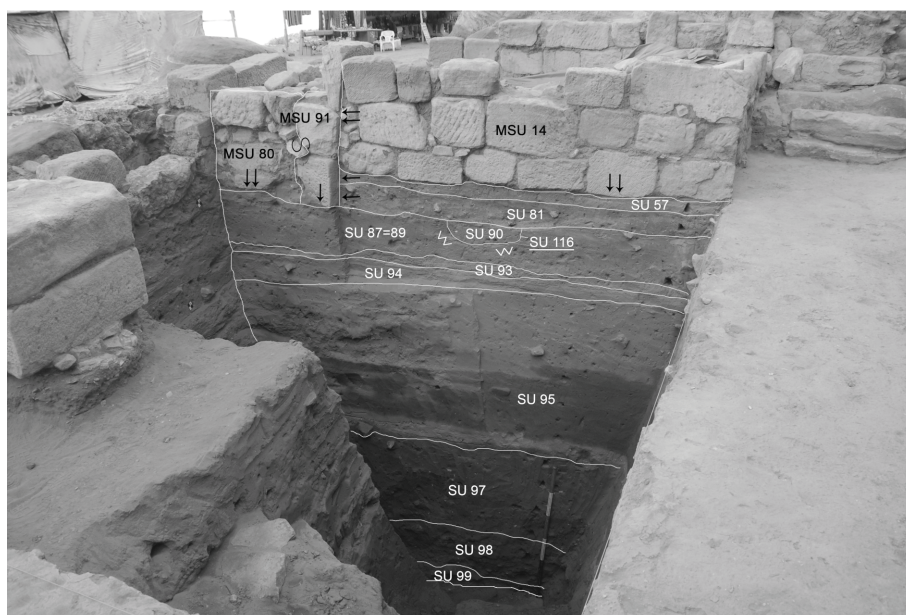
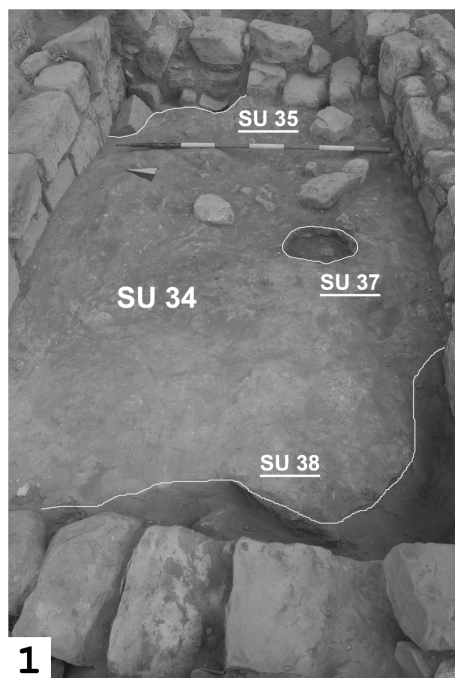
Pl. 2: 1. Ortho-rectified photo of the excavation area obtained by laser scanner, with the internal perimeter of Building 1 delimited by MSU 9, 10, 11, 12. Elaboration of a CNR-Rome laser scanner image by the authors

Pl. 2: 2. SU 17, 18, 19 collapse layers unearthed after the removal of the surface layers. Photo archives of the expedition

Pl. 2: 3. stone dressing samples from the collapses. Photo archives of the expedition

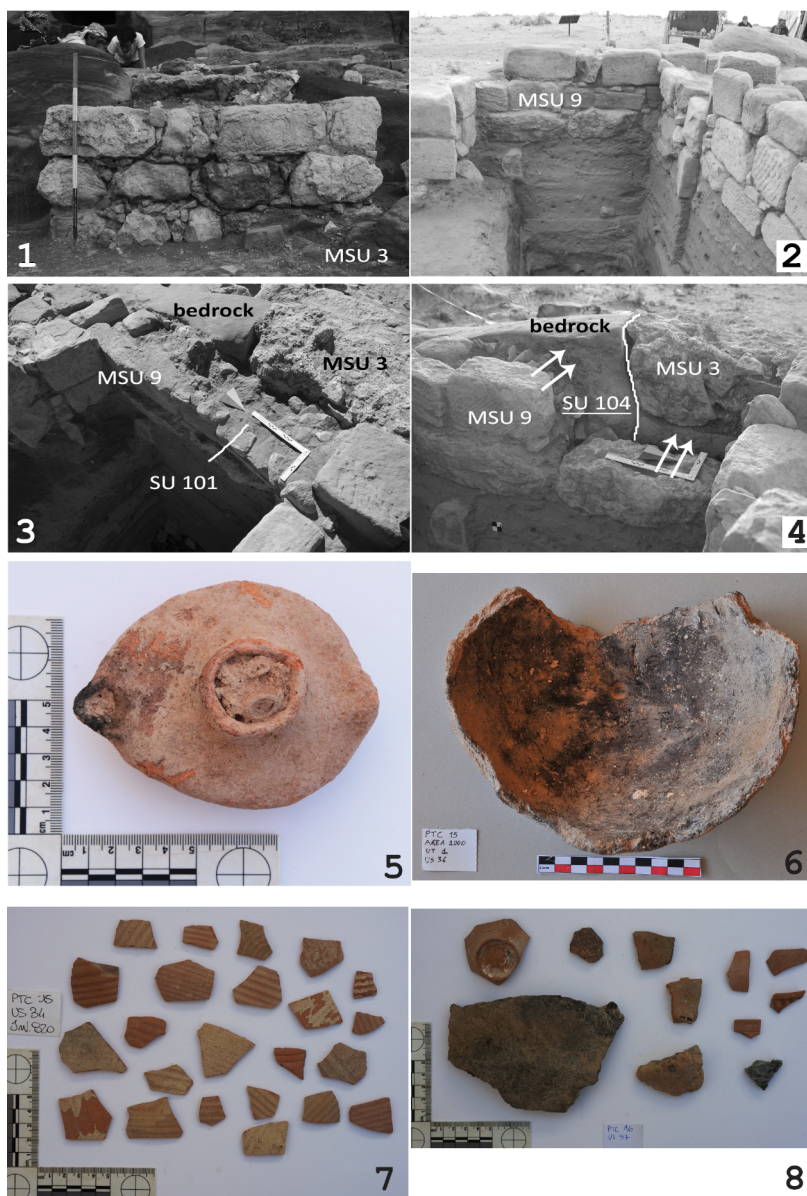
Pl. 2: 4. The pillars bases (MSU 15/85, 80/91, 27, 28) of the dividing arches (SU 67 is the one visible during the excavation) within Building 1. Photo archives of the expedition

Pl. 2: 5. Small room in the N/W corner of Building 1. Photo archives of the expedition



Pl. 3: 1. Detail of SU 34 and of the cuts US 35, 37, 38. Photo archives of the expedition  
 Pl. 3: 2. Overall view of the floor SU 57. Photo archives of the expedition  
 Pl. 3: 3. Detail of the small staircase to the Building 1. Photo archives of the expedition  
 Pl. 3: 4. Stratigraphic sequence at the end of the excavation of the sondage. Photo archives of the expedition





Pl. 4: 1. Overall view of the MSU 3. Photo archives of the expedition

Pl. 4: 2. Overall view of MSU 9, inner side of Building 1. Photo archives of the expedition;

Pl. 4: 3. Top view of the probe trench at the beginning of the excavation. Photo archives of the expedition

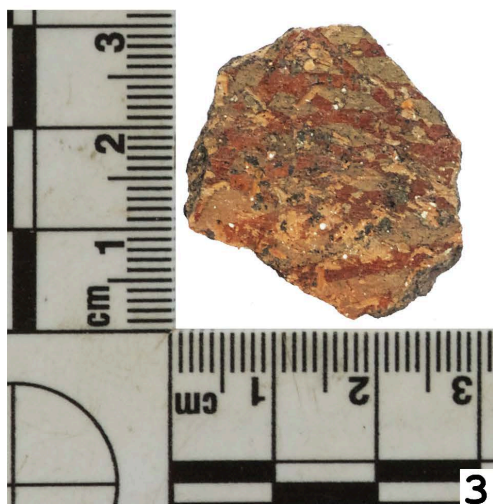
Pl. 4: 4. Detail of the probe trench at the end of the excavation. Photo archives of the expedition

Pl. 4: 5. Handmade lamp from SU 34. Photo archives of the expedition

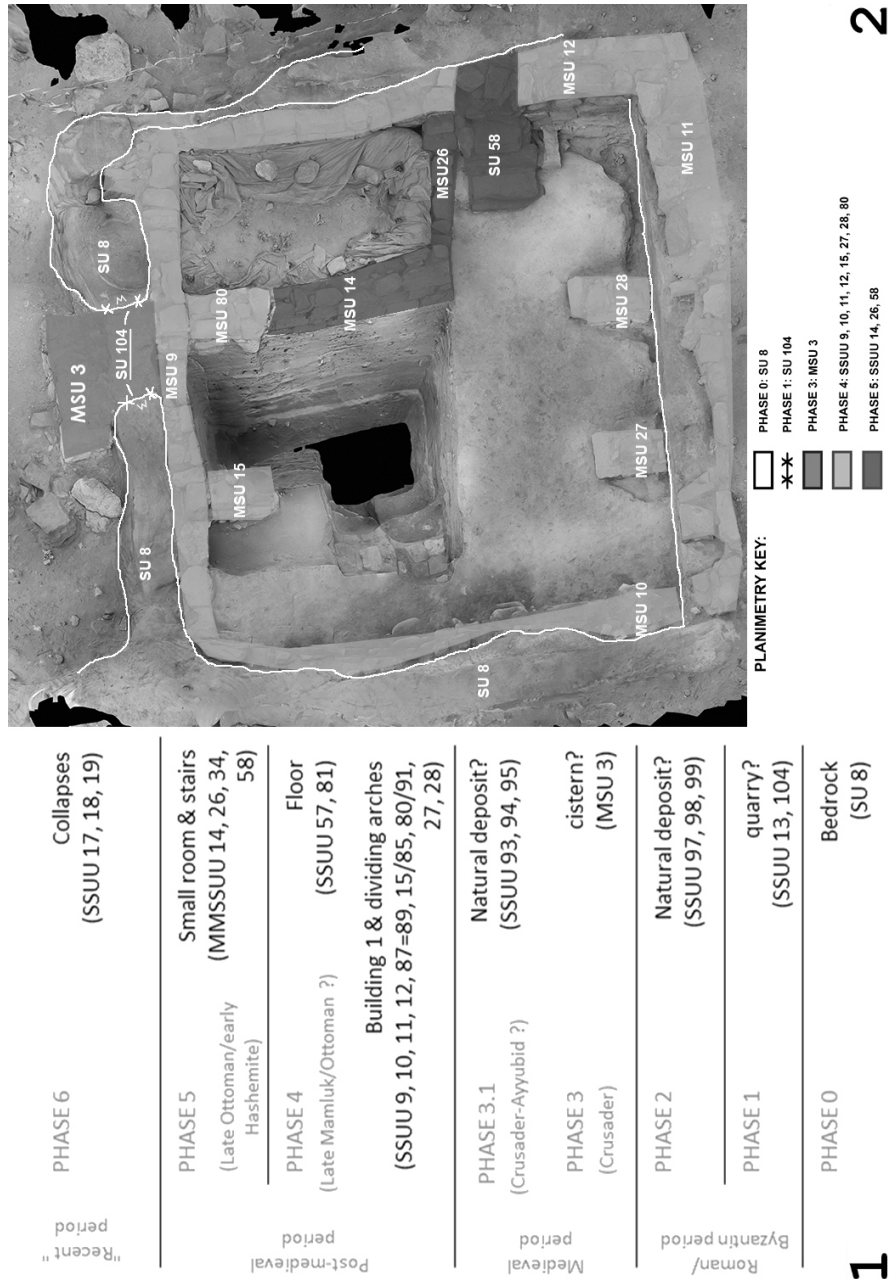
Pl. 4: 6. Handmade cooking pot from SU 36. Photo archives of the expedition

Pl. 4: 7. Example of wheel-made 'residual' pottery from SU 34. Photo archives of the expedition

Pl. 4: 8. Selection of pottery fragments from SU 57. Photo archives of the expedition



- Pl. 5: 1. Selection of pottery fragments from SU 81. Photo archives of the expedition
- Pl. 5: 2. Selection of wheel-made pottery fragments from SU 87=89. Photo archives of the expedition
- Pl. 5: 3. Handmade geometric painted ware fragment from SU 57. Photo archives of the expedition
- Pl. 5: 4. Overall view of the north-east corner of the excavation area. The bedrock SU 8 is cut vertically, MSU 12 abuts against it and MSU 11 is built on it. Photo archives of the expedition
- Pl. 5: 5. Detail of carving tool evidence near the north-east corner of the excavation area. Photo archives of the expedition



1

2

Pl. 6: 1. Phases diagram of the excavation deposit by the authors  
Pl. 6: 2. Highlight of the phases of the excavation area on the final plan. Photo archives of the expedition