

# THE INTERNATIONAL WĀDĪ FARASA PROJECT (IWFP) PRELIMINARY REPORT ON THE 2001 SEASON

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## I. Introduction

The 2001 field season of the International Wādī Farasa Project (IWFP) lasted from September 23 to October 18. The IWFP 2001 was carried out by the Association for the Understanding of Ancient Cultures (AUAC), based in Basel (Switzerland) and the Palestine Exploration Fund (PEF, London).<sup>1</sup> We would like to thank the director general of the Department of Antiquities, Dr. Fawwaz Al-Khaysheh, for his support and for granting the working permit as well as Dr. Fawzi Zayadine ('Ammān) and Prof. David Graf (Miami) for their continuous interest in the project. The IWFP is grateful to Cyprus Airways (Larnaca) for assisting in transport, to Kodak International S.A. (Lausanne) for providing photographic material under generous terms and to Sylvia Bernasconi (Zug) for supporting the project.

Beside the writer, the following persons participated in the 2001 season of the IWFP: Caroline Huguenot, MA (Lausanne), Dr. Martin Seyer (Vienna), Khalil Hamdan, MA (representative of the Department of Antiquities) whose help and advice were much appreciated. Sixteen workmen from the Bdūl and 'Amārīn tribes were employed. Further, the IWFP 2001 season would not have been possible without the friendly cohabitation in the John Lewis Burckhardt Centre (Nazzal's Camp) with the team from Basel University carrying out the Swiss-Liechtenstein excavations at az-Zanṭūr; the practical advice of Dr. Bernhard Kolb (Basel) did much advance our campaign. We would also like to thank IFAPO 'Ammān for lodging the team during our stay in 'Ammān. The Swiss School of Archaeology in Greece provided technical support for which we would like to thank its director, Prof. Pierre Ducrey (Lausanne). Finally, Markus Peter (Augst) analysed the coins and Robin Brown (Boston) provided helpful comments on medieval pottery. During the field season 2001 H.E. Dr. Rolf Bodenmüller, Swiss ambassador to Jordan, visited the IWFP as well as Dr. Konstantinos Politis, member of the executive committee of the PEF.

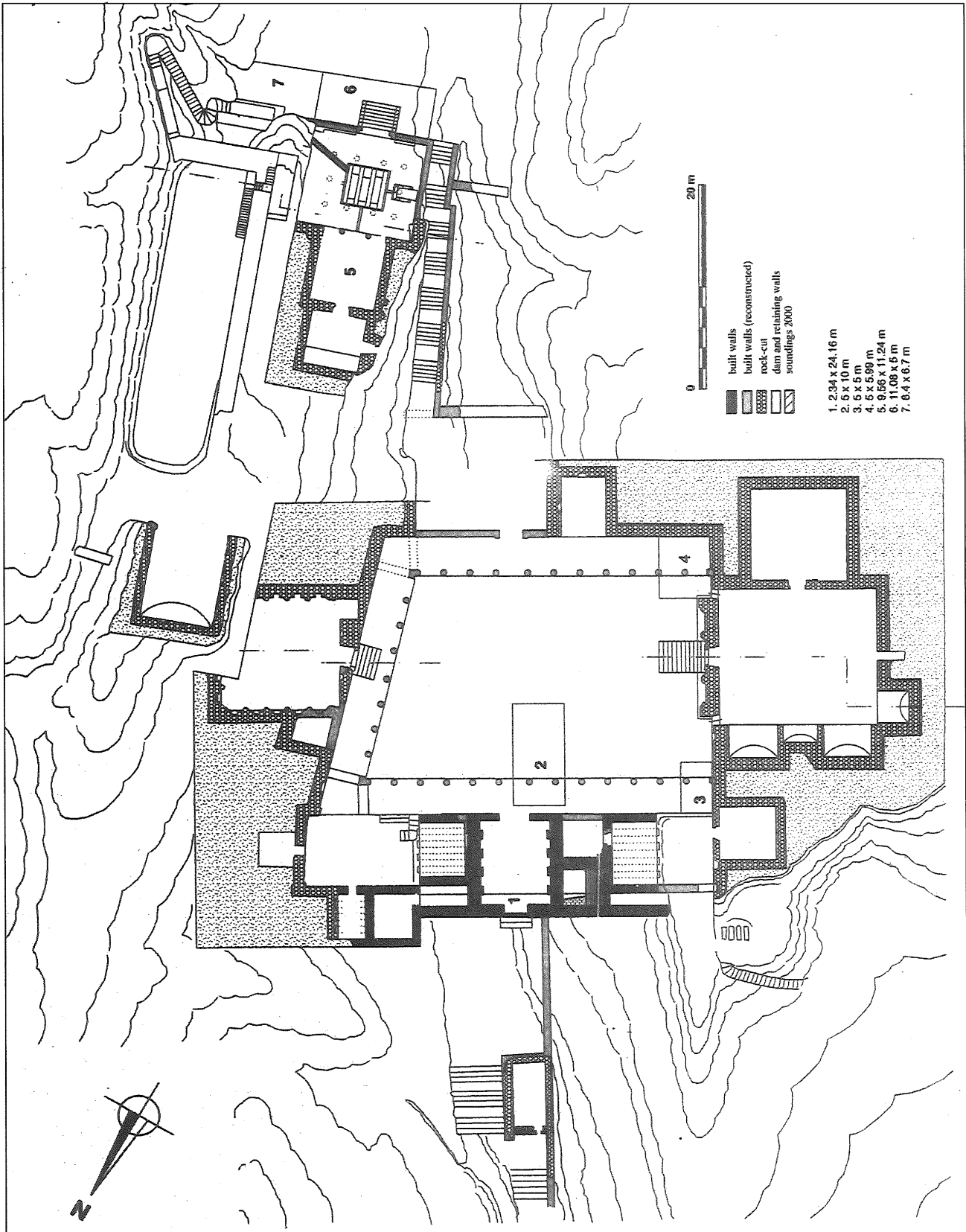
After the results of the 2000 season (cf. Schmid

2001a; 2001c) work on the upper and lower terraces of the Wādī Farasa East (وادي فرسة) continued with the following soundings and trenches (Fig. 1): On the upper terrace, work in trench 7 in front of the big cistern was continued in order to completely clean the two water basins partially excavated last year and to understand their connection to the so-called Garden Triclinium. For this purpose and to find out more about its proper function, the space in front of the "Garden Triclinium" was cleaned as well (trench 5 on Fig. 1). On the lower terrace, sounding 2 was extended towards the centre of the courtyard between the so-called Soldier Tomb and the opposite *triclinium* (Fig. 1). Further, trench 1 was opened in order to gain a better picture about the condition of the big main retaining wall of the lower terrace, which has missing stones in its middle part and therefore may be in danger of collapsing. Trench 4 towards the southern corner of the complex was only partially opened.

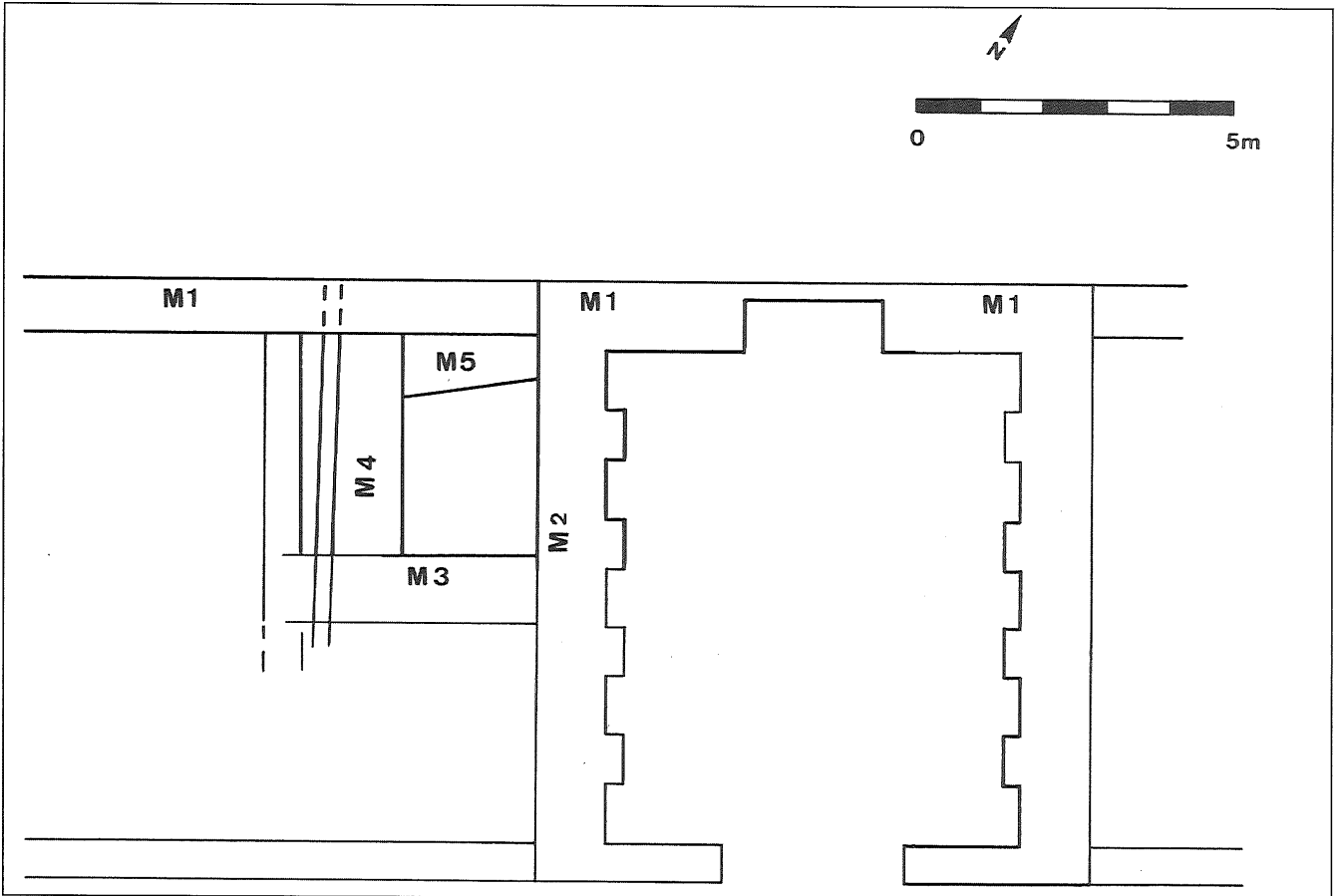
## II. Lower Terrace

In trench 1 the main entrance to the entire complex was discovered (Figs. 2, 3), consisting of a huge threshold, showing the holes for placing a double door. This threshold was covered with only a little amount of earth and it is possible that in the early 20th century it was still visible, as Bachmann, Watzinger and Wiegand did locate it correctly (cf. Fig. 1), that is a few meters to the East of the modern path leading to the complex of the "Soldier Tomb" (Bachmann, Watzinger and Wiegand 1921: 75ff.). In antiquity the access to the complex was made possible by a wall that allowed the construction of some steps leading from the bedrock to the door. The door led to a huge entrance hall of about 6 meters width and 9 meters depth that gave access to the peristyle courtyard. The already excavated parts together with some still visible remains allow a first reconstruction of this impressive entrance hall (Fig. 2). The area of the entrance hall had a floor consisting of big limestone slabs measuring approx. 40cm x 80cm. Some of these slabs were found in the destruction debris (cf. also below Fig. 41). As was stated during last

1. On these two institutions see also [www.home.tiscalinet.ch/iwfp](http://www.home.tiscalinet.ch/iwfp) and [www.pef.org.uk](http://www.pef.org.uk).



1. General plan of the main installations in Wādī Farasa East, based on Bachmann, Watzinger and Wiegand 1921, digitized and modified by S. Fachard (Lausanne).



2. Lower terrace, schematic plan of the main retaining wall (M1), entrance hall and related structures. Thicker lines: visible or excavated parts; thinner lines: reconstructed parts (Schmid).



3. Lower terrace, trench 1, main entrance and foundations for the floor slabs of the entrance hall (Schmid).

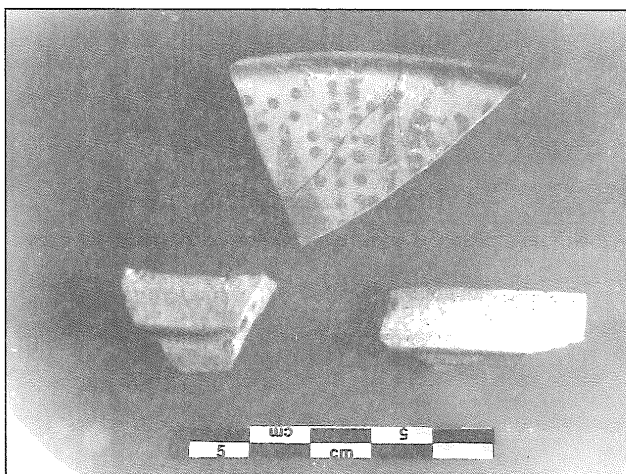
year's excavation, the foundations for these slabs consist of smaller slabs, broken into pieces and bedded into a layer of clay containing earth (Schmid 2001a: 169; 2001c). The level of the foundation is at 930.45m asl, while the original floor

level including the huge limestone slabs was at 930.60m asl.

On a spot 1.5m behind the main entrance, some of the big slabs were missing but the foundations were still intact. Therefore, the pottery found in a



4. Lower terrace, trench 1, small sounding beneath the level of the floor foundations; cf. hatching on Fig. 8 (Schmid).



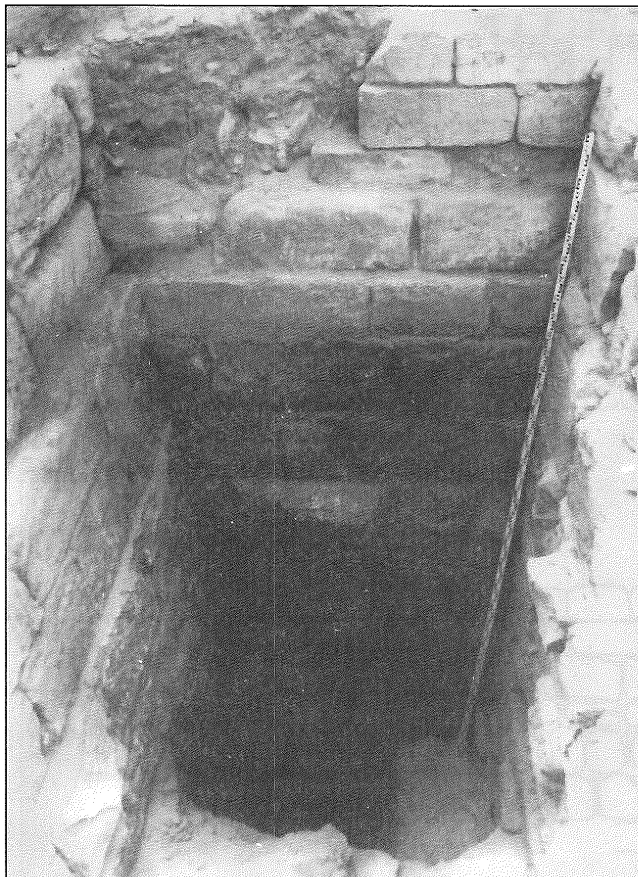
5. Lower terrace, Nabataean pottery from the small sounding beneath the floor foundations in trench 1 (Schmid).

small sounding dug below the level of the foundations (Fig. 4; hatching on Fig. 8) should give a reliable *terminus* for the construction of the complex. As on similar occasion during last year's campaign (Schmid 2001a: 176f.; 2001c), the few sherds found in this sounding belong exclusively to phase 3a of Nabataean pottery (Fig. 5), dating ca. AD 20-70/80 and in this case especially to the second quarter of the first century AD (Schmid 2000a: 25, 38 and figs. 52, 89, 90, pl. 2.5). To the east of the entrance hall a construction was found that initially was supposed to be a room. However, no floor level was found and the foundations of the deepest wall were reached at six (!) meters below the floor level of the neighbouring entrance hall (Figs. 6-8; M2 on Fig. 2). The analysis of the different walls in that area led to a somewhat puzzling picture. Wall 2 (M2 on Fig. 2) is the earliest of these walls,

not counting — for the moment — the main retaining wall of the entire complex (M1 on Fig. 2). As wall 3 (M3 on Fig. 2) is built against wall 2 but not bonded with it, it has to be at least slightly later than the former. The same relationship occurs between wall 3 and wall 4 (M4 on Fig. 2), i.e. the latter is built against the former and therefore chronologically later. Wall 4 in his turn is not connected to the main retaining wall but just “leaned” against it (Fig. 7). The latest of all these walls is wall 5 (M5 on Figs. 2, 8) that is built against both, wall 4 and wall 2, while its relationship to wall 1, the main retaining wall, remains unclear for the moment (cf. Fig. 7).

The explanation for this somewhat strange arrangement is related to the construction of the main retaining wall of the entire complex (Figs. 8-10). The careful analysis of the outer surface of the wall showed that precisely at the point where it started collapsing, five consecutive layers of the wall are levelled vertically, while a small sounding showed that this orientation continues further downwards (Fig. 10). This orientation corresponds perfectly with the limits of the outer wall of the entrance hall, that is wall 2 (M2 on Fig. 2; cf. Fig. 8) and, as no intelligent engineer or architect would construct such a huge wall with five consecutive layers of vertically aligned stones, this must mean that originally the main retaining wall did not continue at this point but turned at a right angle towards the south. Only later was it decided to built the additional part of the wall. This is further confirmed by the fact that the original part (left on Figs. 9, 10) is built exclusively with high quality lime stones





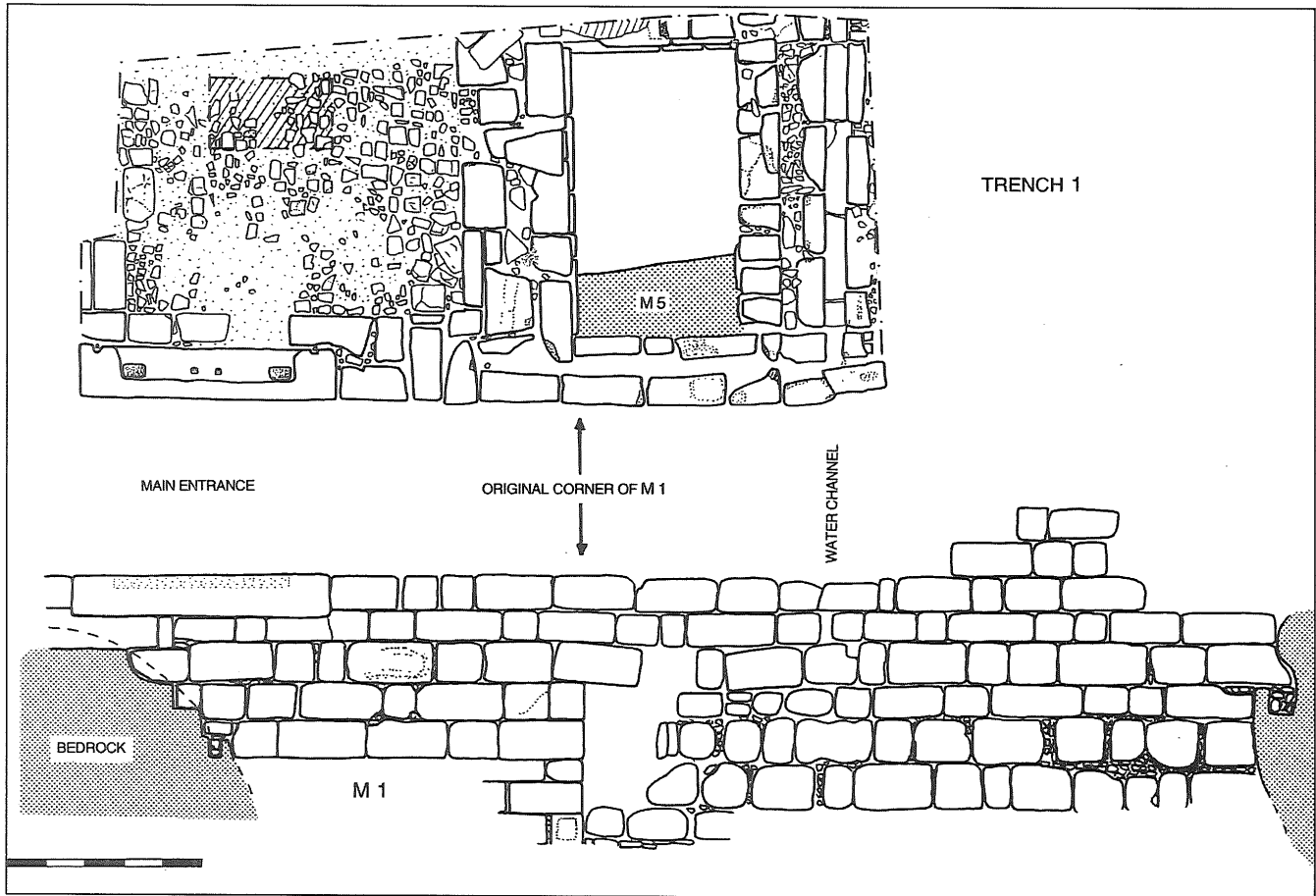
6. Lower terrace, trench 1, wall 2 (left), wall 3 (centre) and wall 4 (right) from NW (Schmid).

while the later addition (right on Figs. 9, 10) is built from local sandstone that erodes much faster than the limestone. This, together with the poor joins between the earlier and the new part, led to the collapse of the central part. As an ancient repair a second wall (M5 on Figs. 2, 8) behind the main retaining wall was constructed in order to close the collapsed part. Although the relative sequence of these phases is clear, their absolute chronology is still rather vague. Below the foundation of the original wall 2, that is at 6m depth below the floor level in the entrance hall, Nabataean pottery of the later first century BC was found in layers strongly recalling river alluvia (Fig. 11; cf. Schmid 2000a: 38, 60 and figs. 220, 394, 395). However, it is not clear whether this pottery should be seen in connection with the construction of the first wall or whether it simply belongs to seasonal alluvia brought in before the construction of the complex. In the layers above the foundation of the first wall (M2) but still below the foundation of the second wall (M3), pottery of the first quarter of the first century AD was found (Fig. 12; cf. Schmid 2000a: 24, 38, figs. 49-51, 88, pl. 1) but again we should be careful in order not to over-interpret the chronological value of



7. Lower terrace, trench 1, wall 4 (left), wall 1 (top right) and wall 5 (bottom right) from E (Schmid).

this pottery as it may belong to dumped material. However, the same loci did contain other interesting material, namely large quantities of *tubuli* (Fig. 13) and hypocaust fragments. This means that at some moment in the history of the complex of the Soldier Tomb, one or more of the rooms behind the main retaining wall were used as a luxurious bathing installation with a floor and wall heating system. This can be seen as further confirmation for the multifunctional aspect of that big complex that was far more than just a funeral installation (on these aspects see also Schmid 2001a: 188-191; 2001b: 398f.). Also, the fact that this installation could have been heated points to regular use during all periods of the year. One of the goals of a next field season would be, therefore, to locate and excavate that installation. The types of *tubuli* and hypocaust fragments found so far correspond very well to examples found in the rich mansion of az-Zanṭūr (الزنتور), some few hundred meters to the north of our site and dated there to *ante* AD 363 (Kolb and Keller 2000: 361-363 fig. 8). In the material dumped after the construction of the latest wall (M5) that was supposed to support the col-



8. Lower terrace, trench 1 (above) and corresponding view of the main retaining wall (M1, below) (M. Seyer and Schmid).

lapsed parts of the additional part of the main wall, coins of a possible Roman date were found but they need cleaning in order to be precisely dated. Together with one of the later walls (M4 and possibly M5) a water channel was built, apparently in order to avoid water flow and therefore erosion and pressure from reaching the repaired main retaining wall (Fig. 14; cf. Fig. 8).

Outside the main retaining wall, cleaning of the area immediately in front resulted in some observations concerning the construction of the wall. Towards the sides of the valley, the foundations were put directly on the bedrock that was cut in the form of steps in order to allow a better placement of the blocks (Fig. 15). Precisely at this point, that is towards the northeastern side, the main retaining wall did cut off a previous rock hewn water channel of rather small size. The same sequence was observed at the other end of the main retaining wall, where another rock hewn water channel was cut by the later additions of the main wall (Fig. 16). As this is one of the two main channels that follow the lower parts of Wādī Farasa East on its banks, this means that the construction of the later parts of the main retaining wall resulted in some important changes

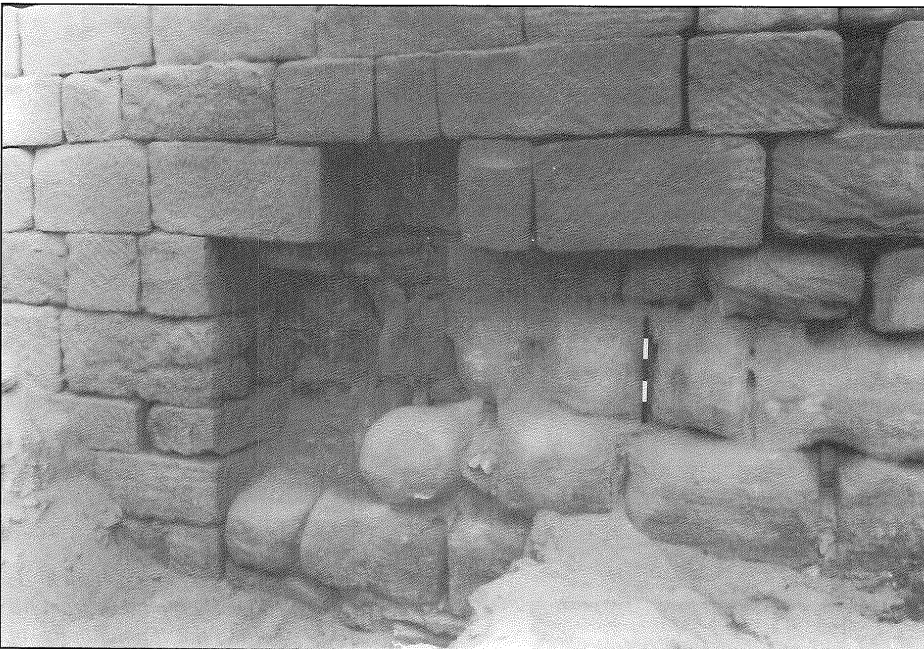
within the water supply of the lower parts of that area of the city.

In trench 2, the foundations for the original floor slabs were found (Figs. 17, 18) and, as last year, most of the slabs had already been removed in antiquity for reuse (cf. Schmid 2001a: 166-169; 2001c). However, the same foundations consisting of smaller slabs as described above apparently covered the entire area, and as in trench 1, they are at 930.45m asl. In a sounding below that level the same types of pottery belonging to the second quarter of the first century AD were found (Figs. 18-20), confirming the results of trench 1 and of last year's excavation regarding the chronology of the complex (Schmid 2001a: 176f.; 2001c). The stratigraphy of trench 2 showed that over a long period of time, the seasonal rain water brought only sand and no stones down the valley (Fig. 21), which means that the big retaining walls higher up must have prevented bigger stones from being carried down. Only the top stratigraphy layers contain pebbles.

Another observation may be worth mentioning. As stated above, the foundations of the original floor contain large quantities of small, mostly brok-



9. Lower terrace, main retaining wall of the lower terrace from N, showing the original part on the left, later additions on the right (Schmid).

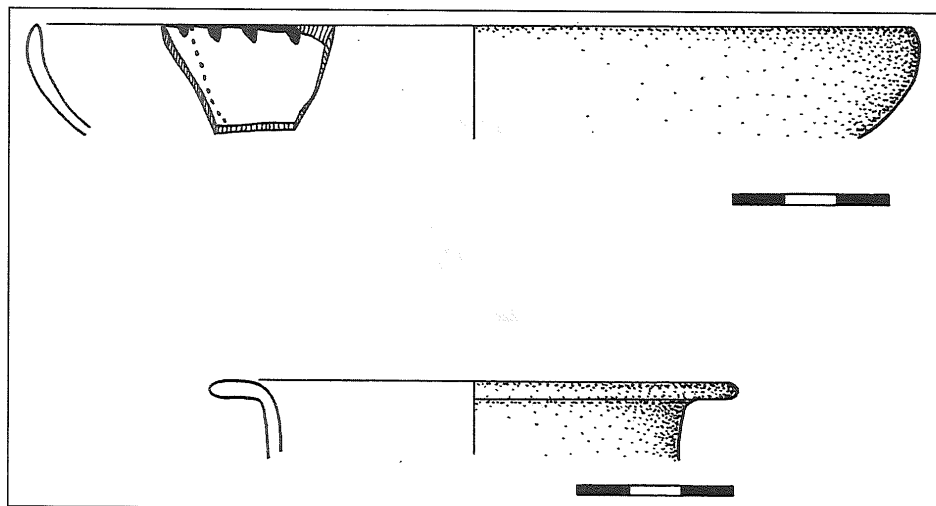


10. Lower terrace, main retaining wall from W, detail showing repair and broken out parts (Schmid).

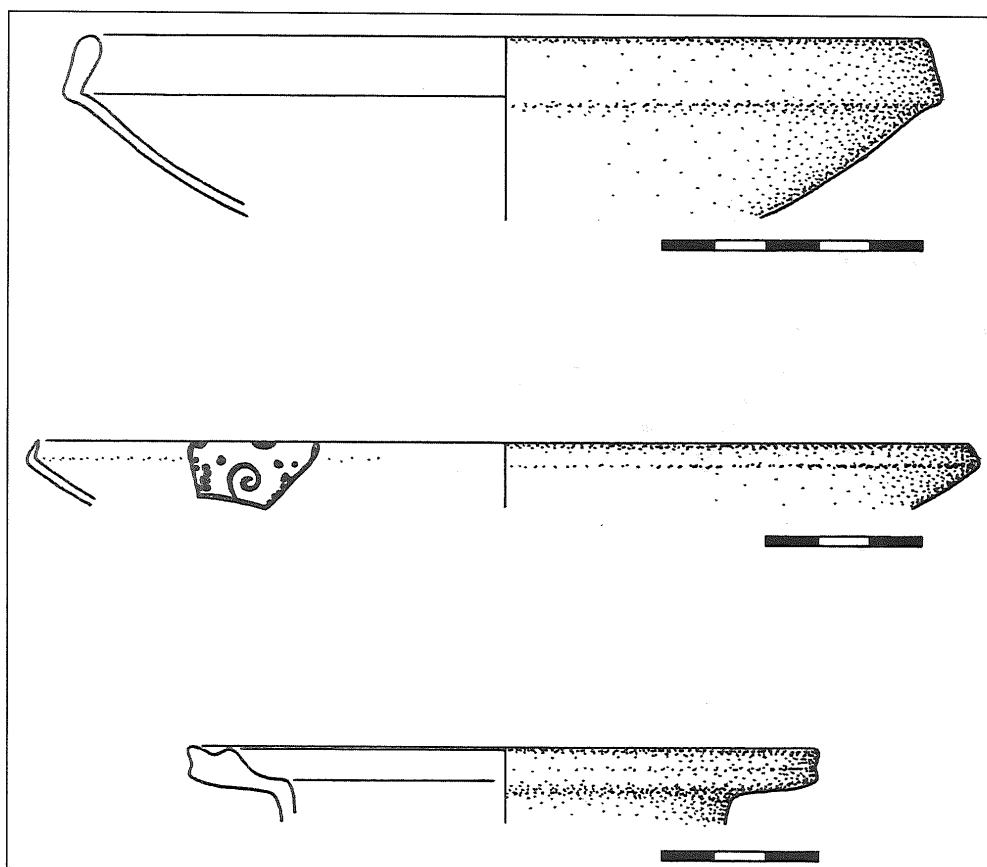
en remains of slabs. Below these, in the small sounding that contained the pottery just described above, a fragment of a column drum was found as part of the foundations (Fig. 18 bottom left), measuring 60cm in diameter and therefore being of the same size as the columns of the courtyard (Schmid 2001a: 169-171; 2001c). The question, therefore, is where did all these elements such as floor slabs and column drums come from? Were they simply defective elements that fell apart during the construction of the complex that we dated to about the middle of the first century AD, or do we have to reckon an earlier, probably smaller installation at this spot? For the time being it is not yet possible to give a

convincing answer, but the observations made above on the subsequent walls built in the area of the main entrance, together with the early pottery from the lower levels of these walls (Figs. 11, 12), as well as the broken architectural elements beneath the floor of the courtyard, could point in favour of a predecessor of what has been considered so far the one and only complex of the Soldier Tomb.

Trench 4 was just partly opened and it was not excavated down to the ancient floor level. The goal of that small sounding was simply to verify whether it would provide the same rock-cuttings for placing a half column as were discovered in 2000 in



11. Lower terrace, trench 1, Nabataean pottery from below the foundations of wall 2 (Schmid).



12. Lower terrace, trench 1, Nabataean pottery from fill below the foundations of wall 3 (Schmid).

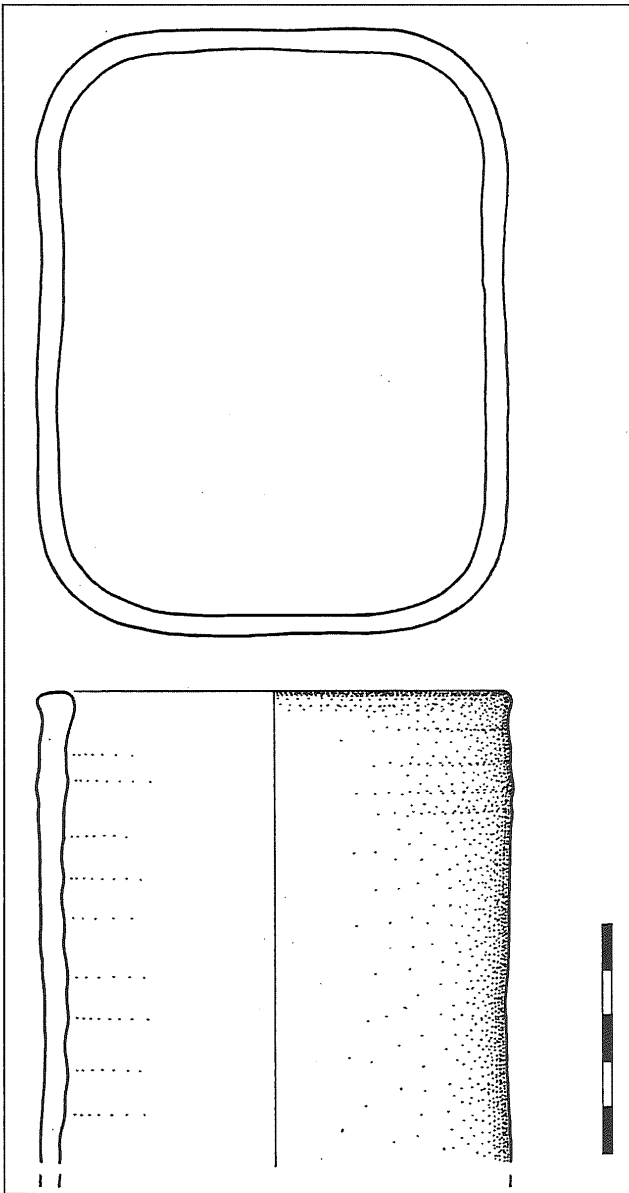
trench 2 (Schmid 2001a: 169-171 fig. 14; 2001c). Indeed, although they suffered much more from erosion, the space for the capital and the beginning of the column are still visible (Fig. 22).

### III. Upper Terrace

In trench 7, work continued in the two basins in front of the big cistern. In both installations the floor level was reached (Figs. 23, 24). The bigger basin, that is fed by two water spouts from the cistern, has three outlet channels. The main channel on the bottom of the rock-cut basin leads not to the

smaller basin but further downwards, probably joining another channel bringing water to installations on a lower level and eventually to the lower terrace. A second smaller channel in the retaining wall of the first basin connects it to the small basin. Access to the smaller basin was given by a small podium-like structure that connects it with the "Garden Triclinium". A third channel, cut in the rock, brought water to a built channel that led to the area of the "Garden Triclinium" (see below). Both basins — and therefore the huge cistern as well — must have had a long history of use. On the

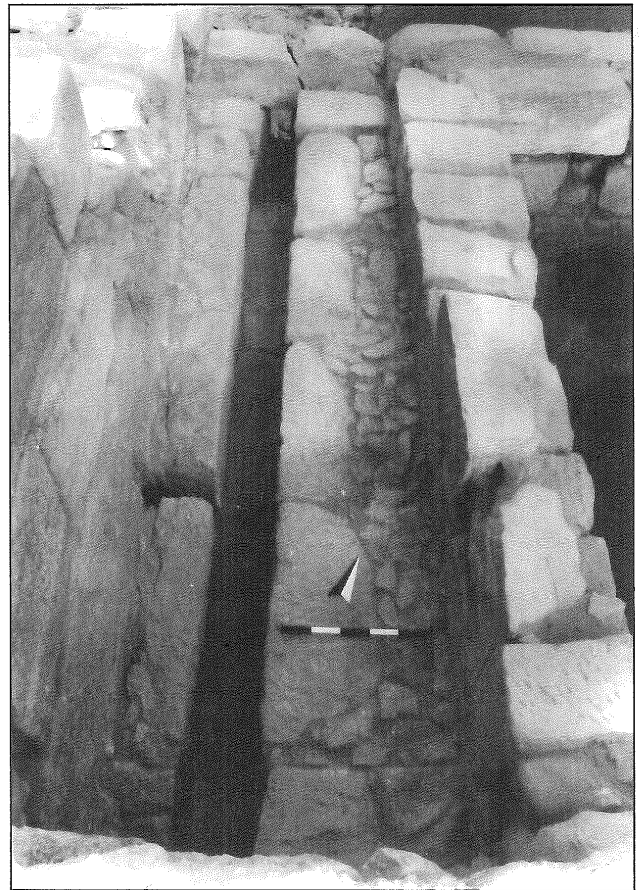




13. Lower terrace, trench 1, terracotta tubulus from fill related to the construction of wall 4 (Schmid).

one hand, a pottery fragment of the second or third quarter of the first century AD in the hydraulic mortar testifies to the initial construction of these installations in the Nabataean period (Schmid 2000b: 343f.; 2001a: 179-181). On the other hand, on the bottom level of both basins medieval pottery of the 11th to 13th centuries AD was found. Further, both basins show different layers of hydraulic mortar applied consecutively and testifying to different phases of maintenance.

As mentioned above, a channel connected the installations in front of the big cistern with the area of the "Garden Triclinium". This installation not only occupies a prominent place in the upper part of the Wādī Farasa East, it also remains a kind of an enigma, as its precise ancient function is not



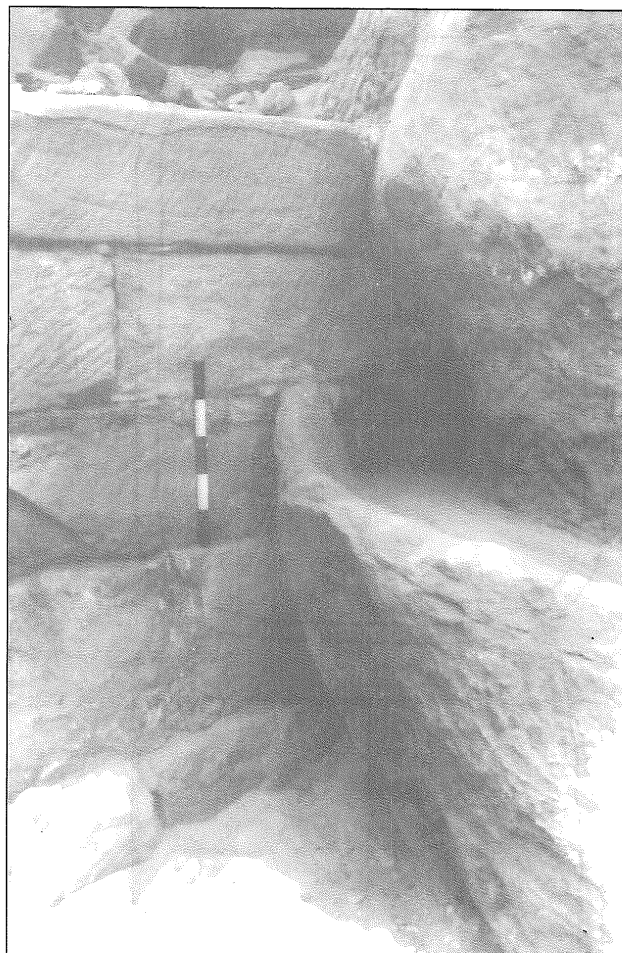
14. Lower terrace, trench 1, water channel built in later phase from S (Schmid).

known and, therefore, it has been called a temple, a tomb, or a *triclinium* (Schmid 2000b: 339; 2001a: 163f.; Wenning 1987: 252). In order to better understand this complex, during the 2001 season of the IWFP the area immediately in front of the two rock-cut rooms was cleaned (trench 5 on Fig. 1; Figs. 25-27). Ancient pictures of the area show that since the first modern visitors reached Wādī Farasa, this area was always covered with dumped sand and stones, as it did at the beginning of our 2001 season. Contrary to our estimation, important built structures started appearing directly below the sand (Figs. 26, 27). In fact, large walls were built, some of them on top of a refilled water installation (see below). These walls belong to the medieval period, as attested by the considerable amount of pottery from the 11th to 13th century that was found, including some handmade painted shards (Fig. 28) of what is usually called Ayyubid-Mamluk pottery (for similar pottery see Walmsley and Grey 2001: 153-159; Tonghini and Vanni Desideri 2001; Pringle 1984; 1985; on local aspects of Late Islamic pottery in central and southern Jordan see Brown 1987; 1988, 1991: 232-241; in general terms on that period in Jordan see Walmsley 2001). More neutral, that painted pottery can be called *Middle*





15. Lower terrace, details of construction and first cut-off water channel in front of the main retaining wall from NW (Schmid).



16. Lower terrace, second cut-off water channel in front of the main retaining wall from N (Schmid).

*Islamic Hand-Made Geometrically Painted Ware* (Johns 1998). Beside the painted pottery large quantities of plain hand made pottery were found (Figs. 29, 30), including a pottery lamp. Medieval household activities are attested for example by a stone mortar (Fig. 31). So far no wheel thrown and no glazed pottery was found. As previously suggested (Johns 1998) this could point to a rather local aspect of that medieval occupation. However, as remains of Red Sea parrot fish from the same layers confirm,<sup>2</sup> this community did maintain some supra-regional contacts. The general date of the 11th to 13th century AD of these walls is confirmed by a painted sherd that was actually found built into one of the walls (Fig. 32). So far, all of the motives of the handmade painted pottery seem to fit the known repertoire previously attested for Jordan (Homès-Fredericq and Franken 1986: 242f.).

A medieval occupation of that part of Petra was supposed since Brünnow and von Domaszewski

found what they believed to be a Crusader tomb stone inside the “Garden Triclinium” (Brünnow and Domaszewski 1904: 275 fig. 307; Dalman 1908: 196 fig. 117; Brünnow 1909: 249f.; Lindner 1997: 104 and n. 10). Interestingly, we found five more tomb stones in the medieval structures, including one bearing a cross and others with a symbol of the tree of life (Figs. 33, 34). The tomb stones were dumped in that area and it was not possible so far to locate the spot of their primary use and, therefore, the cemetery of the medieval Wādī Farasa community. Rather difficult is also the precise connection and interpretation of these tomb stones. Both the cross and the symbol of the tree clearly belong to Christian funerary iconography (on these see *Dictionnaire d'archéologie chrétienne et de liturgie* 1, 2. Paris: Letouzey et Ané 1907: 2691-2709 s.v. arbres [H. Leclercq] and *Dictionnaire d'archéologie chrétienne et de liturgie* 3, 2. Paris: Letouzey et Ané 1914: 3045-3131 s.v. croix et crucifix [H. Leclercq] especially 3054 no.

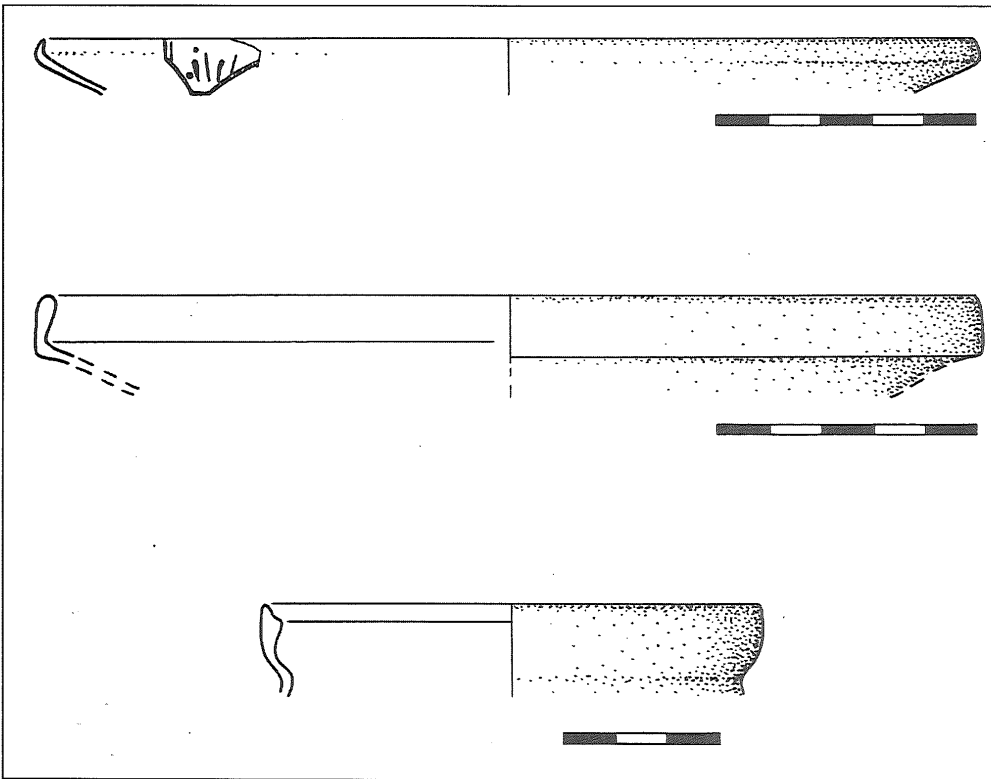
2. The identification of the animal remains was done by Dr. Jacqueline Studer (Geneva).



17. Lower terrace, trench 2, foundations for the floor slabs of the central courtyard from N (Schmid).



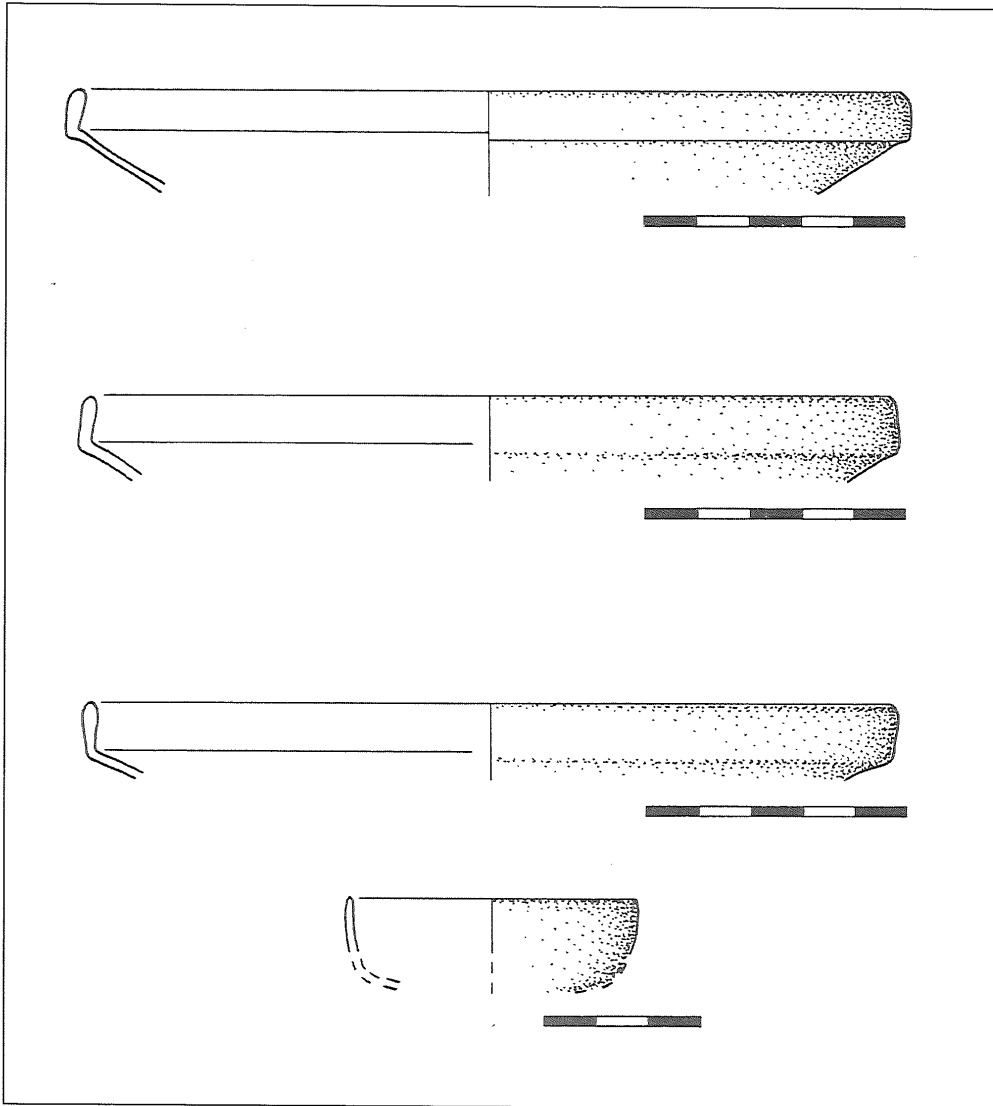
18. Lower terrace, trench 2, detail showing small sounding beneath the level of the floor foundations from NW (Schmid).



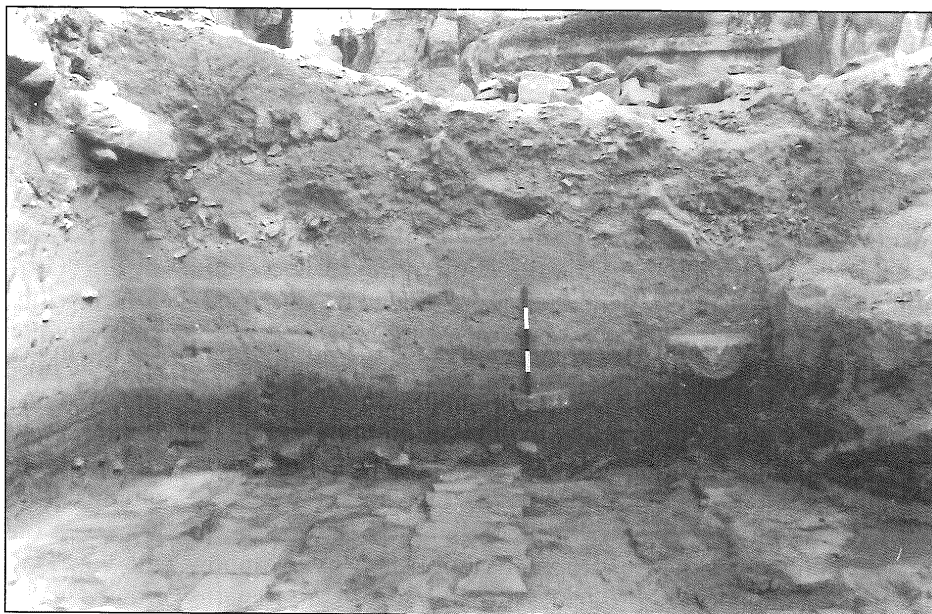
19. Lower terrace, trench 2, Nabataean pottery from the small sounding beneath the level of the floor foundations (Schmid).

3362 for a stylised tree as a symbol on a tomb stone). The question remains, however, whether we can connect them to a Crusader occupation or to a substrate of a local Christian community. The type of cross represented on the tomb stone Fig. 33 does also occur on Crusader coins (Boas 1999: 183f.), but for the rest, unfortunately, the funerary iconography of the Crusaders has only been briefly analysed so far (in general cf. for example Boas 1999: 226-236). It becomes, however, all the more evident that an important medieval occupation has to be located in Wādī Farasa East, maybe connected with a crusader fortress on top of Jabal al-Madhbaḥ جبل المذبح (Vannini and Vanni Desideri 1995: 512). As the medieval wall in our trench 5 that contains a

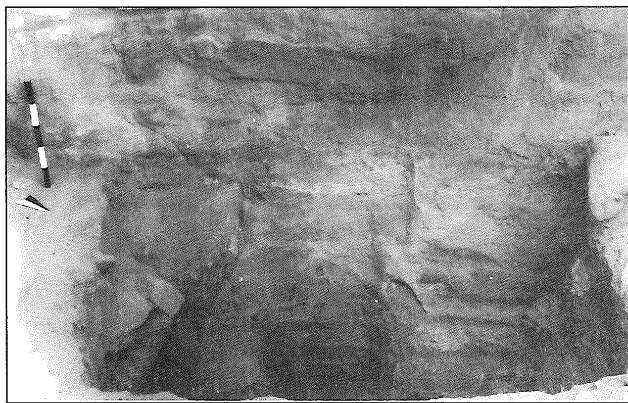
threshold and, therefore, most probably was the main entrance to the complex during that period, runs in direction of the eastern column of the “Garden Triclinium”, it can be supposed that during this later occupation the space between the columns was closed by secondary walls and access was given just via a small corridor. This hypothesis is confirmed by a 19th century sketch of Linant de Bellefonds that shows the “Garden Triclinium” still with some remains of walls between the columns (Laborde and Bellefonds 1828/1994: pl. 30). Even on photographs published by Brünnow and von Domaszewski, and by Dalman, remains of these walls were still clearly visible (Brünnow and Domaszewski 1904: 276 fig. 308; Dalman 1908: 195 fig.



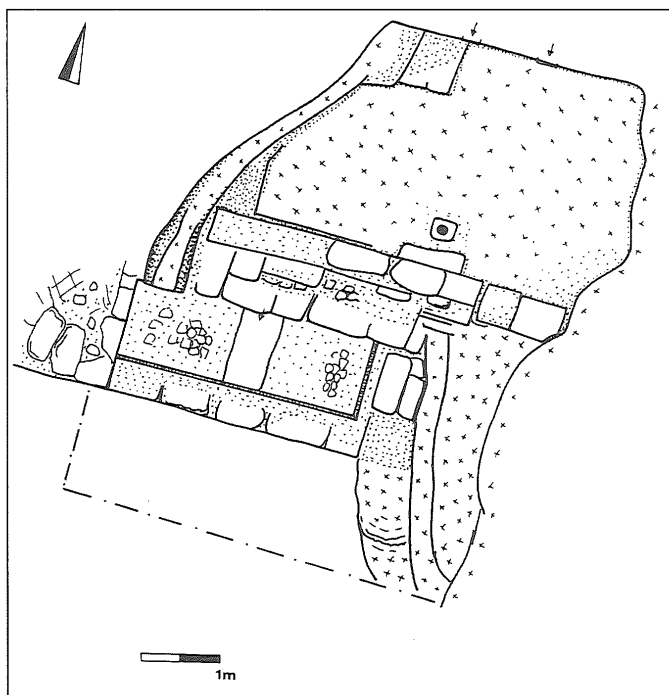
20. Lower terrace, trench 2, Nabataean pottery from the small sounding beneath the level of the floor foundations (Schmid).



21. Lower terrace, trench 2, S-profile showing alluvia and dumped material (Schmid).



22. Lower terrace, trench 4 with rock carvings for half column from NE (Schmid).



23. Upper terrace, trench 7, showing larger (top) and smaller (below) basins in front of the cistern (Schmid).



24. Upper terrace, trench 7, showing larger (right) and smaller (left) basins in front of the cistern (Schmid).

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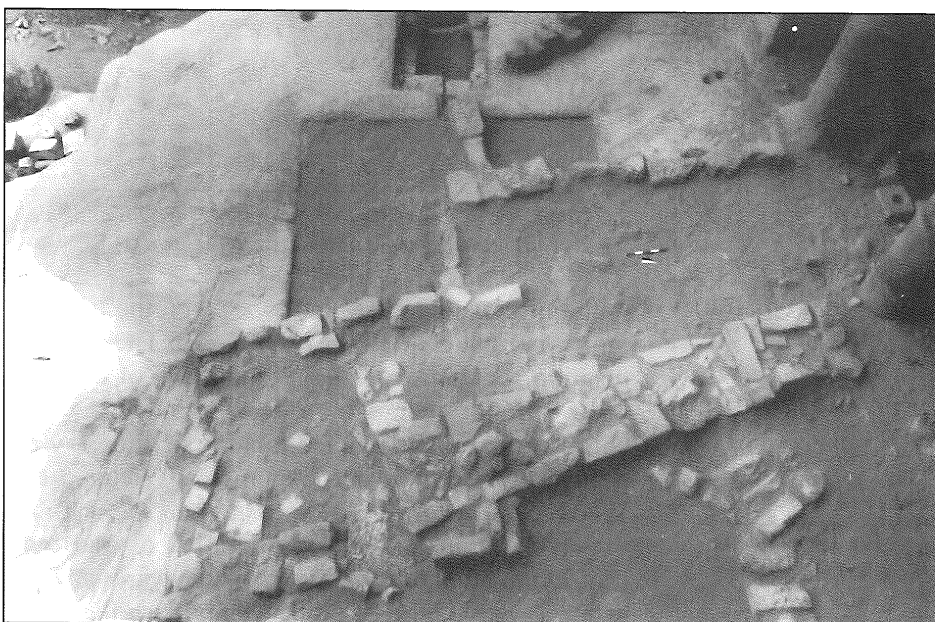
Below the medieval walls a water installation was discovered that was fed by a partially rock-cut and partially built water channel, bringing water from the basins discussed above (top left on Figs. 35, 36). Excavation of that structure revealed a cistern measuring 4 x 4.20m, covered by three massive vaulted arches and connected to a smaller water basin to the west of (right on Figs. 35, 36). Although excavation went down 1.60m from the top of the cistern, its original level was not reached. The covering of the cistern and its considerable depth show that drinking water in large quantities was needed for the "Garden Triclinium". The used water later returned to the cistern through a rock-cut channel starting immediately in front of the

rock-cut façade, at its middle between the two columns (bottom centre on Figs. 35, 36). The clear indication for the use of large quantities of drinking water strongly points to a rather profane use of the entire complex and against a cultic or funerary aspect. Since the work of Bachmann, Wiegand and Watzinger, it has been known that the area of trench 5 was once at least partially covered by a roof in the manner of a peristyle courtyard, as indicated by rock-cuttings similar to those on the lower terrace (Bachmann, Watzinger and Wiegand 1921: 85-87; cf. arrows on Fig. 37). Furthermore, steps leading from above, i.e. the upper level of the huge cistern, towards the area once covered by a roof, as well as a door with a joining doorway that also shows rock-cuttings for a roof (arrows on Fig. 37), connecting the area of the roofed peristyle with the zone of the basins in front of the big cistern, indicate that we probably have to imagine a entire first floor above the small peristyle with the rock-cut cistern. With the first floor, the peristyle courtyard, the cistern hewn into the rock and the additional two rock-cut rooms, the entire installation becomes a very good parallel for rich Hellenistic houses like the ones known from Delos or for Roman villas as





25. Upper terrace, trench 5 in front of the "Garden Triclinium" before cleaning from E (Schmid).



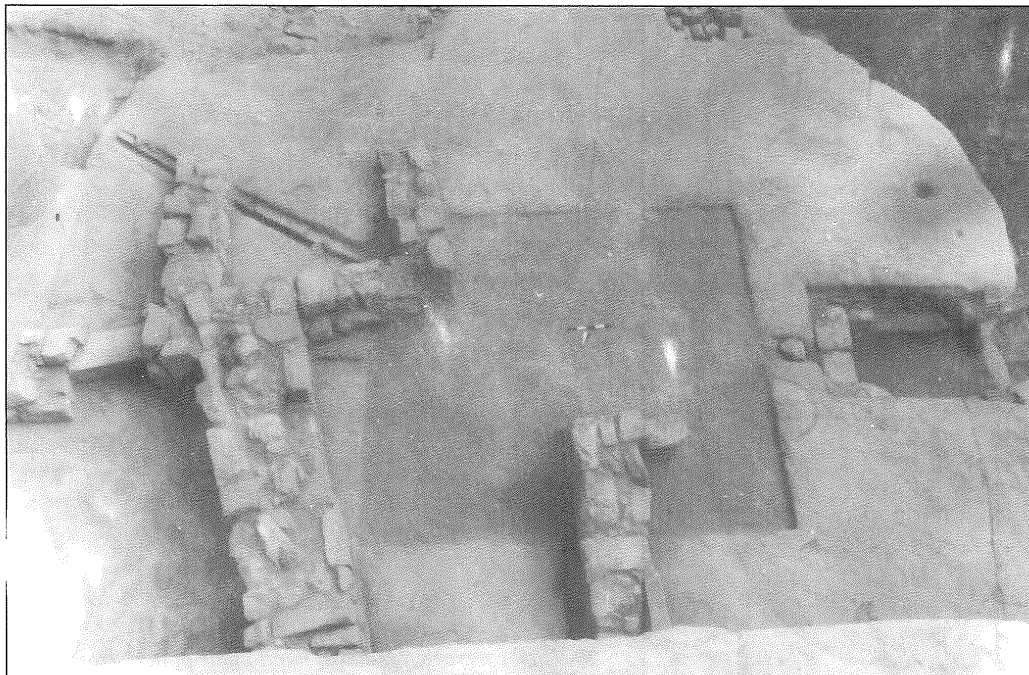
26. Upper terrace, trench 5 in front of the "Garden Triclinium" during cleaning from E (Schmid).

seen in Pompeii (for the Delian houses see for example Kreeb 1988; Trümper 1998; on Pompeii see Zanker 1995; and generally on Italian houses Clarke 1991). More specifically, a type of Roman house prominent in the western empire shows a strong axial alignment (Meyer 1999; Kreeb 1988: 99), that in our case, however, may be due rather to the specific circumstances of the partially rock-cut installation. The profane aspect of our complex is further supported by its opening towards the south. Such an orientation, combined with the courtyard in front, guarantees less heat in summer and less cold in winter. Therefore, according to Vitruvius,

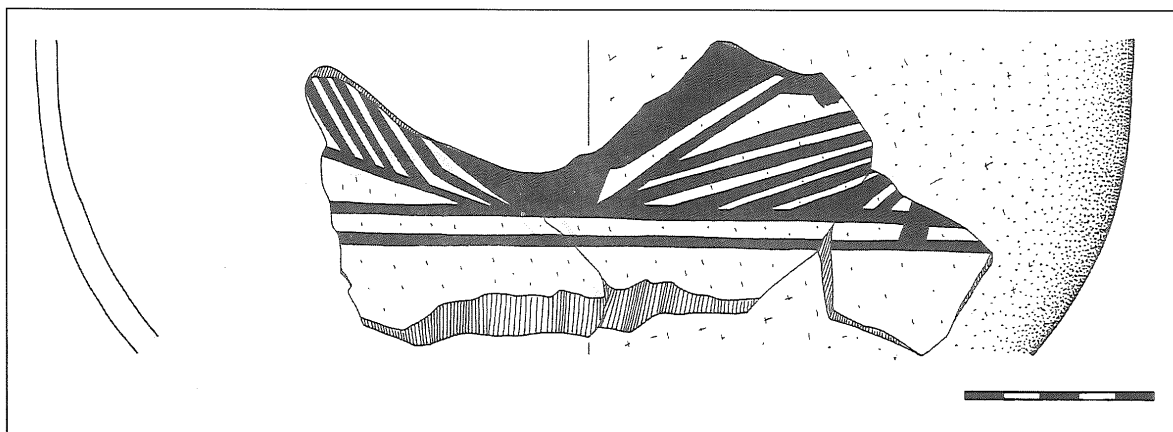
such was the location of the most important rooms in the Greek house, the *triclinia* or *andrones* (Vitr., *de archit.* VII 149, 3f.). Indeed, similar arrangements were identified within rich houses and palaces of the late Classical and Hellenistic periods in Greece (Reber 1998: 166-169; Zoppi 1991: 92).

The chronology of this primary function of the Garden Triclinium is difficult to establish, mostly due to the intensive later, i.e. medieval reuse of the area. However, the small rock-cut channel leading from the rock-cut rooms towards the cistern (bottom centre on Figs. 35, 36) did contain exclusively Nabataean and no later pottery. Most of the frag-





27. Upper terrace, trench 5 in front of the "Garden Triclinium" from N. Medieval walls on top of the Nabataean rock-cut cistern (Schmid).



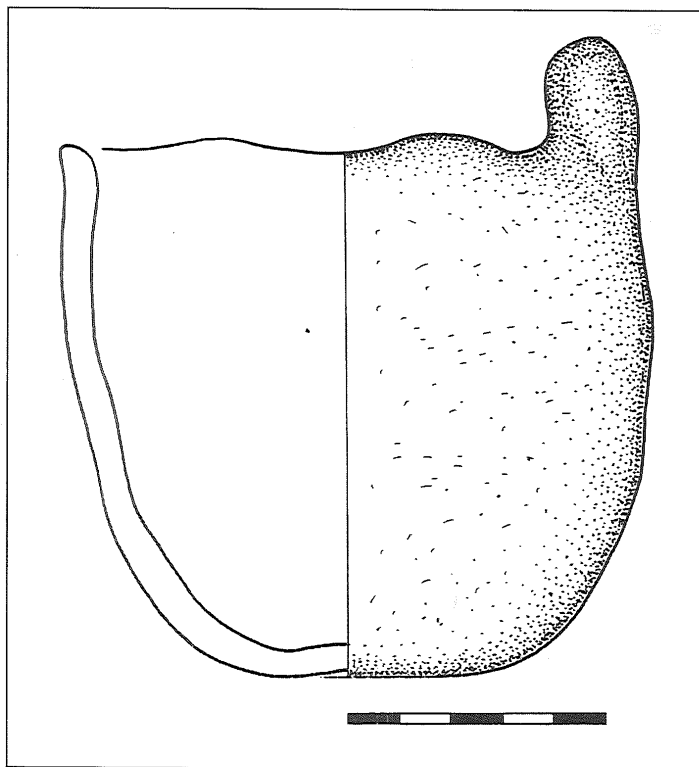
28. Upper terrace, Medieval hand-made painted pottery from structures in trench 5 (Schmid).

ments belong to an almost complete plain bowl of Nabataean fine ware that can be dated to phase 3 of the Nabataean pottery and, therefore, from ca. AD 20-100 (cf. Schmid 2000a: 9 [type E 1c 8] Figs. 52, 53). The broken remains of that bowl covered two bigger fragments of camel bones. Most interestingly, the detailed statistical analysis of different bone material from all over the Petra area by Dr. Jacqueline Studer (Geneva) showed that the camel was exclusively consumed during the Nabataean and Roman periods, while in later periods it disappeared from the local menu (oral communication by J. Studer).<sup>3</sup> It would seem, then, that we have not only a hint for the chronology of the "Garden Triclinium" but also for its rather profane use, including drinking and eating.

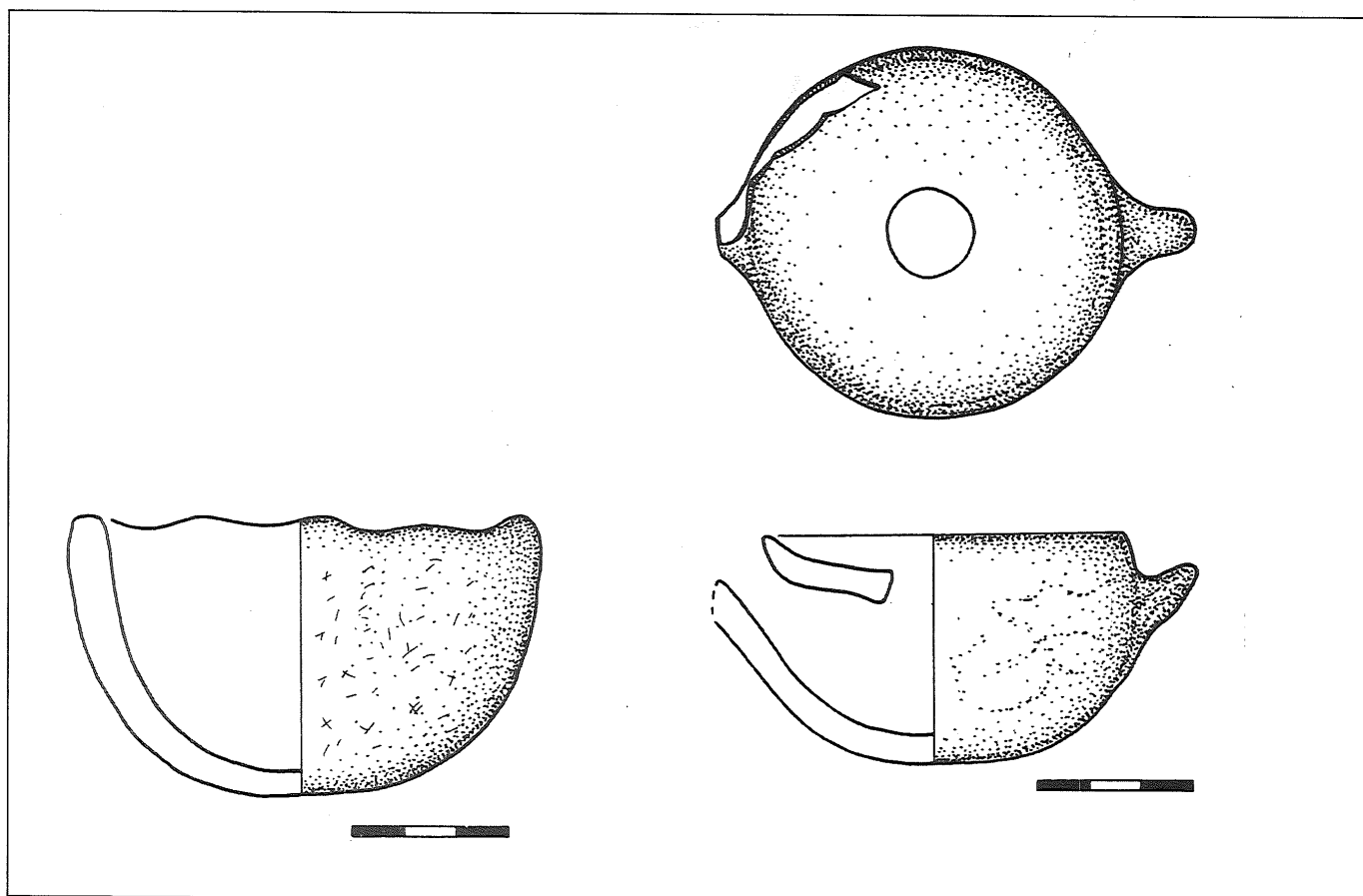
#### IV. Restoration

Once the different phases of the main retaining wall were understood (cf. above section II), a partial restoration of the wall became possible. The results of our 2001 season showed that, as a matter of fact, the collapse of that wall is not due to water pressure during seasonal rainfalls, but rather to the misled ancient extension of the wall. Therefore, the parts that were already repaired in antiquity and broke out since were taken away (Figs. 38, 39), the remaining stones were cleaned and prepared for restoration, and the wall was again closed and repaired up to the level it had before the restoration (Fig. 40). For the rebuilding an elastic mortar was used that also contains small pieces of broken pottery — similar to Nabataean mortar — in order to

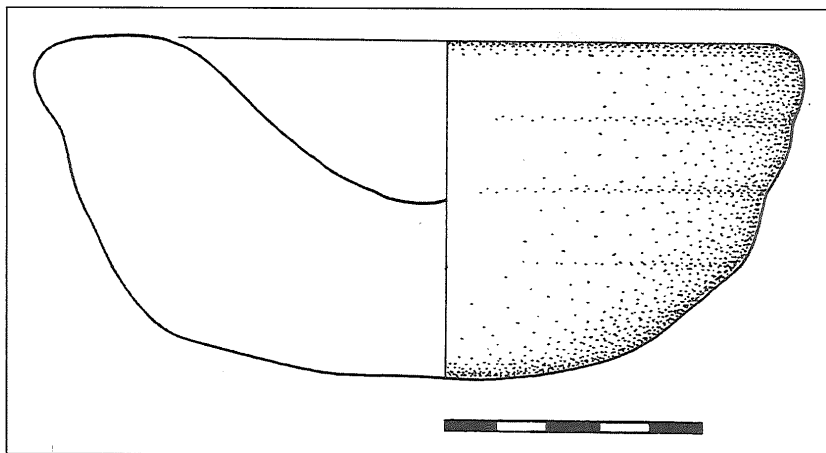
3. For some preliminary thoughts see J. Studer in Frösén *et al.* 2001: 385.



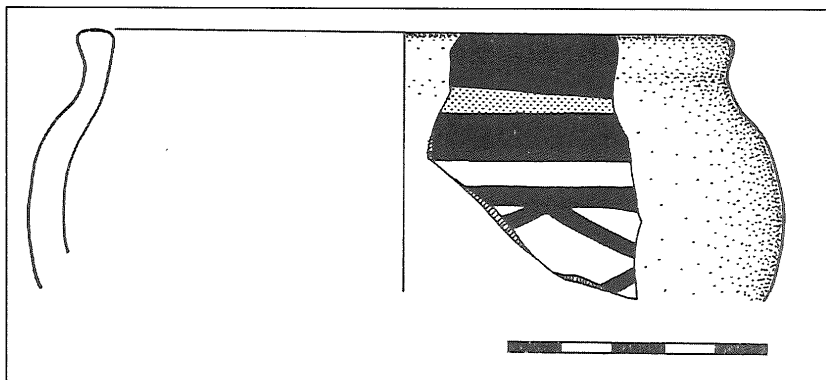
29. Upper terrace, Medieval hand-made pottery from structures in trench 5 (Schmid).



30. Upper terrace, Medieval hand-made pottery (left) and lamp (right) from structures in trench 5 (Schmid).



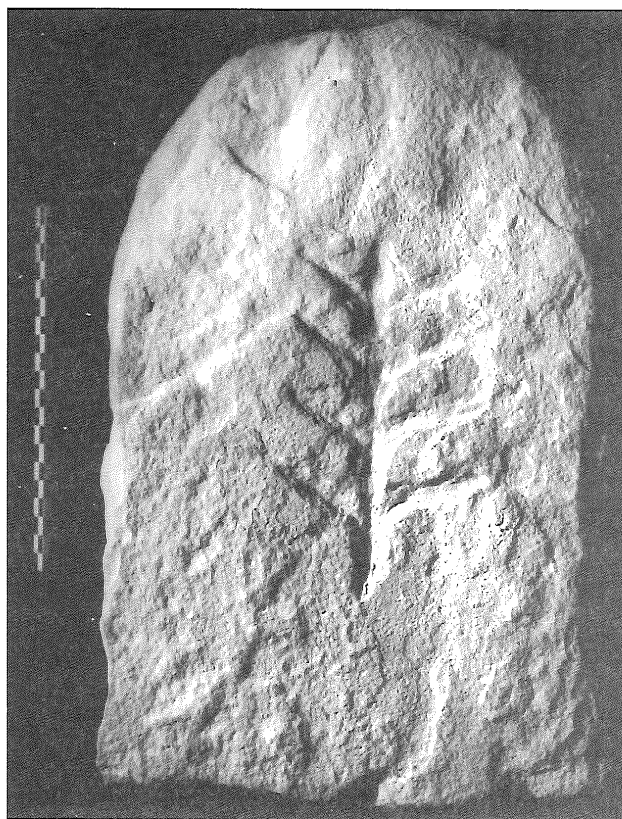
31. Upper terrace, Medieval stone mortar from structures in trench 5 (Schmid).



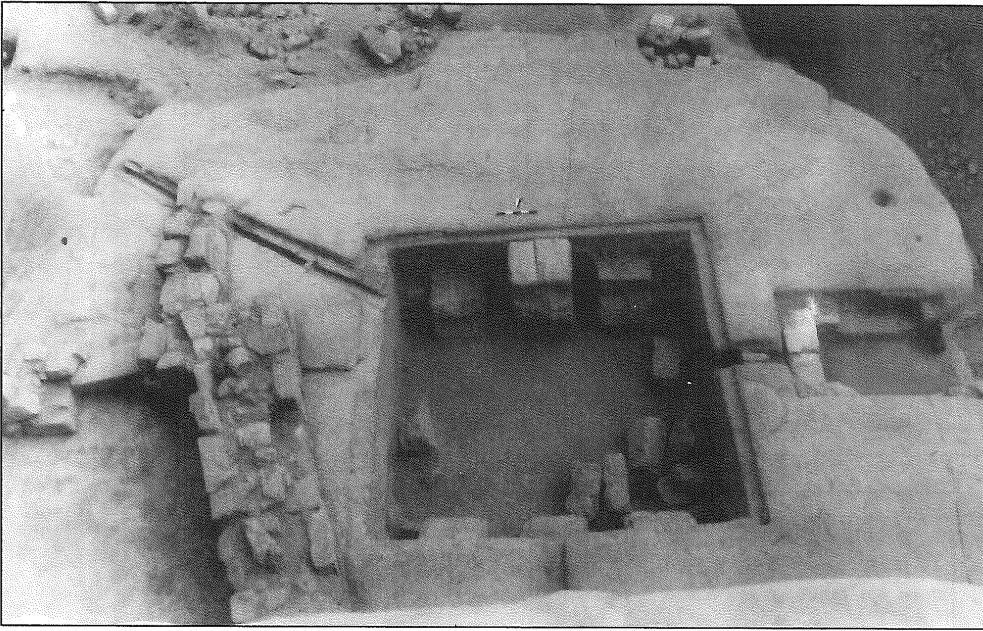
32. Upper terrace, Medieval hand-made painted pottery from wall in trench 5 (Schmid).



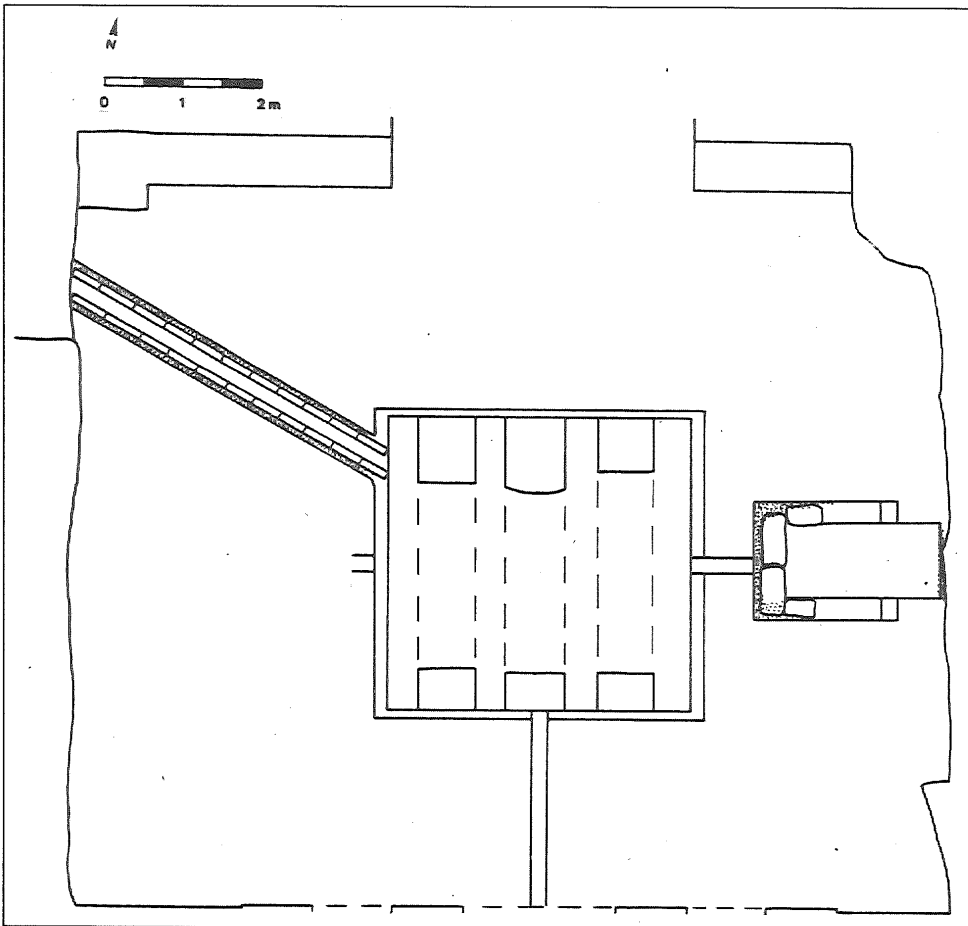
33. Upper terrace, Medieval tomb stone with cross from trench 5 (Schmid).



34. Upper terrace, Medieval tomb stone with tree of life from trench 5 (Schmid).



35. Upper terrace, trench 5 from N. Nabataean rock-cut cisterns and water channels (Schmid).



36. Upper terrace, trench 5 from N. Nabataean rock-cut cisterns and water channels (Schmid).

improve its hydraulic and elastic qualities. Further, in addition to the water channel established during the later phases of the main retaining wall (cf. above section II and Fig. 14) a second opening in the wall was constructed in order to allow seasonal

flash floods to pass through that area without destroying the wall.

The floor of the main entrance hall was initially covered with huge limestone slabs measuring 40 x 80cm (cf. above section II). As some of them were





37. Upper terrace, "Garden Triclinium" and related structures (rock-cuttings for upper floor etc.) from S (Schmid).



38. Lower terrace, detail of the main retaining wall from NW before restoration (Schmid).



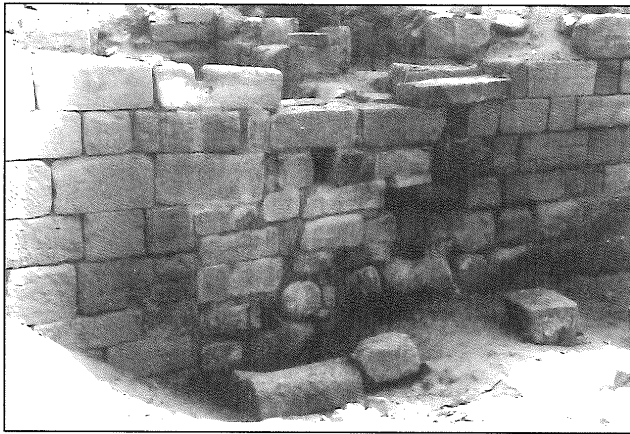
39. Lower terrace, detail of the main retaining wall from NW during restoration (Schmid).

found in the destruction debris of the area, they were put back in their initial position, covered with plastic and sand in order to be ready for restoration once the area will be completely excavated (Fig. 41).

## V. Perspectives

The results of the 2001 campaign of the IWFPP showed that the installations of the lower and upper terrace of the Wādī Farasa East belong indeed to a multifunctional complex, sometimes in





40. Lower terrace, detail of the main retaining wall from N after restoration (Schmid).

astonishingly good condition. The monumental walls, the luxurious dwellings, including two storied living areas with covered cisterns, remains of heated bath installations, etc. clearly point to a wealthy member of the Nabataean aristocracy as owner of the complex. For a coming season the complete cleaning of the "Garden Triclinium", that is the remaining two rock-cut rooms, as well as a continuation of the excavation on the lower terrace, including further restoration, would be undertaken. On the lower terrace, the area where according to the finds of the 2001 season a bathing installation can be supposed, will be a primary goal for further investigations.

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41. Lower terrace, trench 1. Main entrance with floor slabs prepared for restoration (Schmid).

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## SWISS-LIECHTENSTEIN EXCAVATION AT AZ-ZANṬŪR/PETRA: THE TWELFTH SEASON

*Bernhard Kolb and Daniel Keller*

The 12th and for the time being last excavation campaign on az-Zanṭūr (الزنتور) in Petra by the Basel University Department of Archaeology under the patronage of the Swiss-Liechtenstein Foundation for Archaeological Research Abroad (SLSA) took place from 18 August to 17 October 2001. On the excavation site EZ IV, the archaeologist Daniel Keller (excavation assistant) and the archaeology students Alexander Collo, Esau Dozio, Matthias Grawehr and Consuelo Keller worked under the direction of Bernhard Kolb. The architect Anne-Cathrine Escher and the draftsman Claude Spiess were responsible for keeping the architectural records. The archaeozoological remains were analysed and documented by Jacqueline Studer of the Musée d'Histoire Naturelle de Genève, while Markus Peter of the Römermuseum Augst identified the coins restored by Christine Pugin. In 2001 the small finds were photographed by Regina Hügli.

We should like to thank Dr. Fawwaz al-Khraysheh, Director-General of Jordanian Department of Antiquities and his collaborators Dr. Khairieh 'Amr, Dr. Fawzi Zayadine, Faisal Qudah and Suleiman Farajat for their cooperation and valuable support with logistics. We are also indebted to Mohammed Abd al-Aziz, curator of the museum in Petra, and the inspectors Hani Falahat, Ahmad Shami and Zuheir Zubi who were appointed to look after our project. We are grateful to the Jordanian Embassy in Berne and the Swiss Embassy in 'Ammān for the administrative support they provided.

A total of 35 workmen from Umm Ṣayhūn and the surrounding villages were employed on the excavation site. The management of the excavation house was again in the hands of Adnan Falahat with the collaboration of Mohammed Salamin and Haroun 'Id. For the provision of the necessary financial support we owe thanks to SLSA (Zurich), the Canton of Basel-Stadt, the University of Basel, Novartis International (Basel) and DEZA (Berne).

### **The Nabataean Mansion on EZ IV: Results of the Sixth and Last Excavation Campaign**

Work with a view to attaining one of the main objectives of the 2001 campaign was commenced

on the north side of the site: the search for clues as to how the large building was provided with access and services. Where did the access road run, and the access path to the north of the main entrance? Was the same route followed by the water conduits that fed the two large cisterns under rooms 22 and 27, or did the canal network follow a different plan?

Although the findings made during the nine week period in squares 89-93/AJ did little to answer these questions, our excavations brought to light other, completely unexpected and spectacular structures.

### *A Neighbourhood Shrine on EZ IV?*

Roughly six metres to the north of the main facade AQ/BB, in squares 92-92/AJ and 93/AK, we encountered an altar measuring approximately 6 x 7.5m with a preserved height of approximately 2m and a tripartite stairway leading up to it on the east side (Figs. 1-3). Each flight of stairs on the two sides has a width of ca. 2.1m, while the steps of the central flight which projects 1.5m towards the east have a width of 1.7m. The tripartite stairway has step heights of 0.16-0.19m, and on the basis of the preserved total height of the altar it can be estimated that roughly 70% of its original length still remains. The body of the altar was hewn in the form of a squat "step pyramid" from an elevation in the exposed sandstone bedrock. The two bottom steps served as a base for the altar faces built with large, well-cut ashlar which can still be seen along the west, north and south sides (Figs. 2, 3). In other words, the rock core of the altar was not originally visible but was encased in masonry.

Positioned at right angles to the main facade of the mansion, the altar relates to a structure that is also located on the same east-west axis — probably a small temple which could only be subjected to a preliminary study in squares 89-90/AJ and 90/AI (Figs. 1 and 4). In accordance with the topography of the altar area, on the eastern side of the terrace the bedrock rises markedly and in the zone of square 89-90/AJ, in the form of a poorly preserved foundation wall or terracing wall, it carries the northern end of a building that stood parallel to the