

# SWISS-LIECHTENSTEIN EXCAVATIONS AT AZ-ZANṬŪR IN PETRA 1997

by

Bernhard Kolb

With contributions by Daniel Keller and Yvonne Gerber

## Introduction

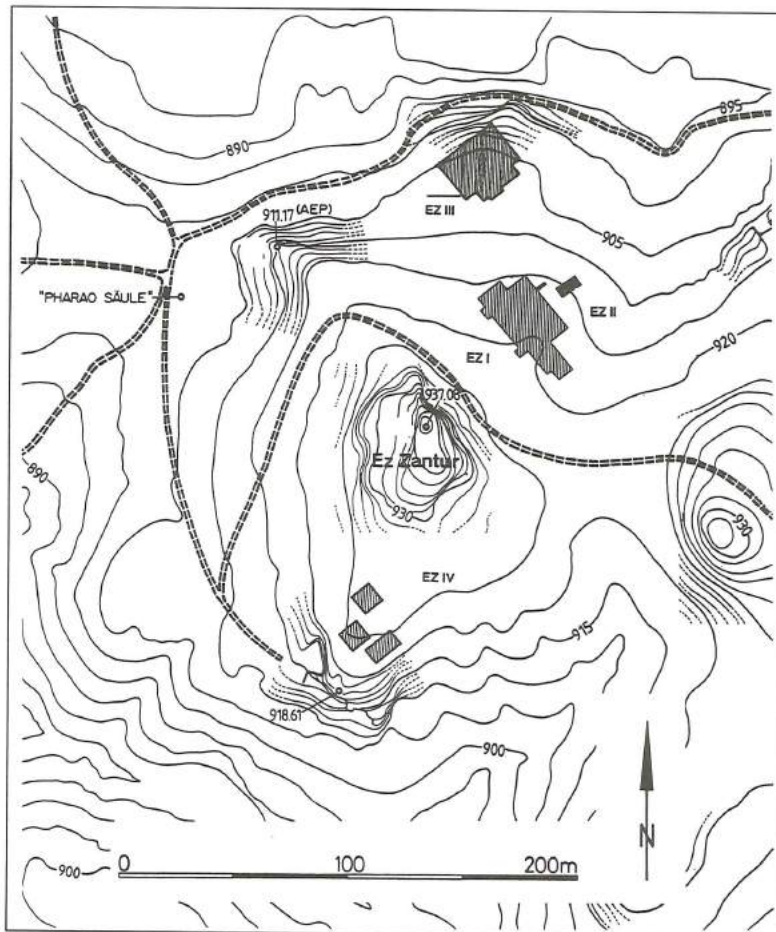
The eighth season of excavations in Petra of Basel University in cooperation with the Swiss-Liechtenstein Foundation for Archaeological Research Abroad (SLFA), lasted from the August 17 till October 14, 1997. The following archaeologists worked under the direction of B. Kolb: André Barmasse, Maxime Boillat, Annegret Reber, Yvonne Gerber, Rolf Frank, Daniel Keller, Christoph Schneider und Matthias Grawehr. Jacqueline Studer (Musée d'Histoire Naturelle Genève) analysed the bone material, while Christiane Jacquat (ETH Zürich) and Danièle Martinoli, University Neuchâtel,

studied the archaeo-botanical material.

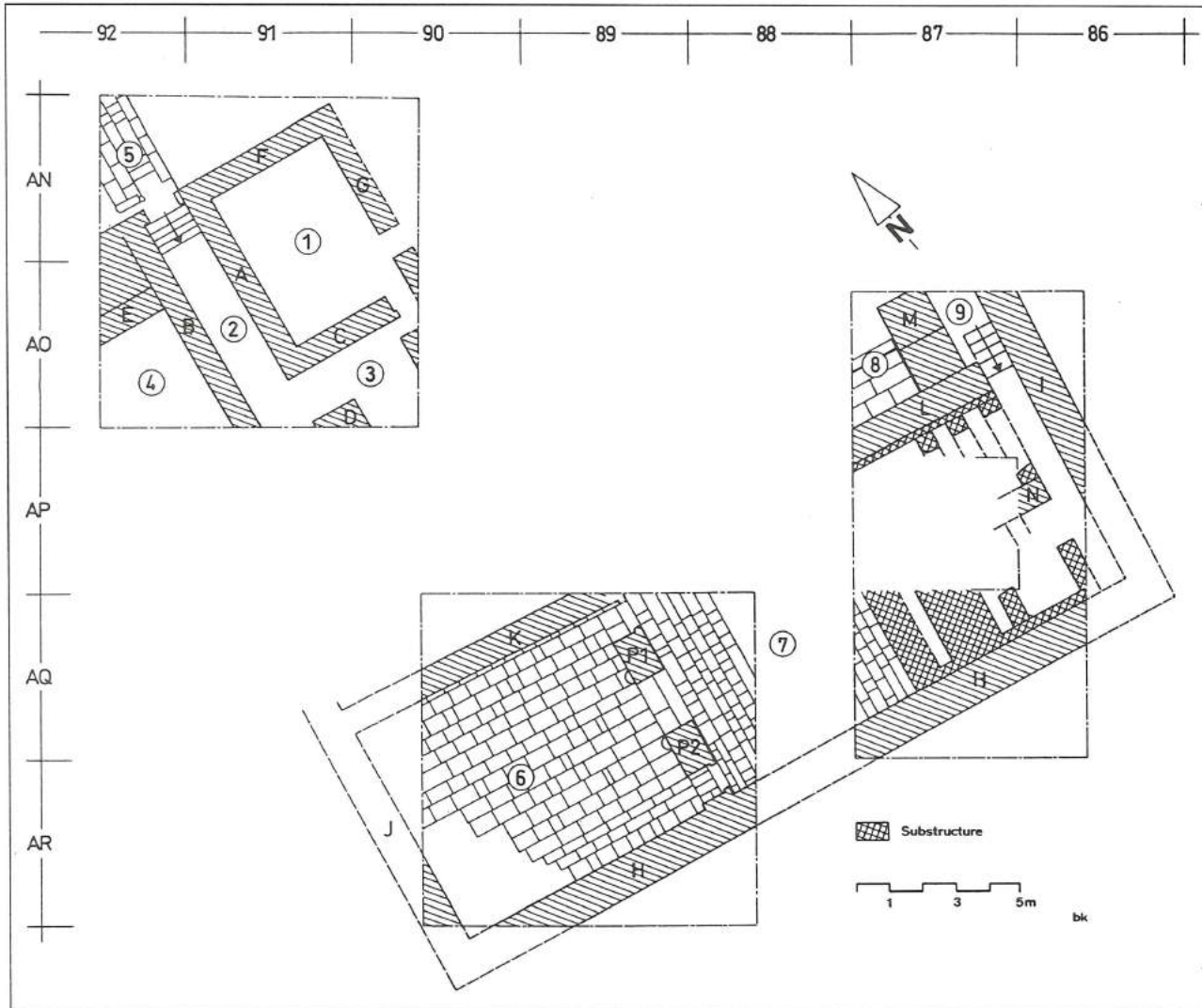
The restorer Christine Pugin again dealt with the small finds which were drawn by Irma Haussener and photographed by Othmar Jäggi. The coins were studied by Markus Peter. Necessary conservation and restoration of structures and wall-paintings was done by a team from Intermonument Restauro under the supervision of U. Bellwald.

We resumed the exposure of the Nabataean "villa" on site EZ IV with its spectacular inner decoration (Figs. 1 and 2). An area of 200 m<sup>2</sup> was investigated inspite of up to 3.5 m thick destruction layers.

With the exposure of several rooms



1. Az-Zanṭūr: Topographic map with fields of excavation (drawing: B. Kolb).



2. EZ IV. Schematic plan of the structures (drawing: B. Kolb).

along the north-western edge of the terrace and an eastwards extension of the excavation area we brought the excavation in the Nabataean structures on site EZ III to a provisional end. Consolidation and restoration of the walls and floors will be the main aim of the 1998 season.

**EZ IV: The Nabataean “Villa”**

During the 1997 season the southernmost part of the mansion, that is walls H, I and J, was exposed. The building has an east-west extension of approximately 24 m (Figs. 1 and 2). Wall I, which is most probably the building’s eastern enclosure wall, runs the entire length of the terrace on its steep eastern flank. On the gently sloping wes-

tern flank, however, several stretches of walls visible on the surface, as well as the two doorways in wall B (Kolb 1996: 233, Figs. 3-4) indicate that the ground plan reaches further west than the area so far excavated.

**Room 6**

The 100 m<sup>2</sup> surface of squares PQ 89-90/AQ-AR exposed most of room 6 (Figs. 2-3). The room with walls H, J and K and pillars P1 and P2 covers an area of about 6.8 m x 8 m. Wall H is built directly on bedrock. Its thickness is 1.2 m and the widest on terrace EZ IV. The double-faced dry stone wall is constructed with well cut ash-lars of sandstone, some of them with bos-



ses. The eastern part of the wall is built on a foundation of one, sometimes two courses of hugh hammer-dressed brecie blocks.

The two pillars P1 and P2 limit a broad central passage of 1.8 m width which is flanked on its inner side with stuccoed and painted half-columns (Fig. 3). The half columns have stone socles covered with a thin layer of plaster. The socle of the half column on pillar P1 is connected with the upper plastered part with two simple half roundels. The preserved parts of the columns have smooth shafts. A few ashlar found in the debris have protruding half column drums and imply that the parts of the half columns made of stucco were stabilised with these supports, jutting from the walls at regular intervals.

The central passage is flanked by two lateral doors, which were also accentuated with architectural stucco: in the area of the south door lay a fragment of a quarter column 1.5 m in length, decorated with painted convex flutes and gilt arrises (Fig. 4). It seems fairly certain that the quarter column decorated the corner between the door and wall H. A similar find near the door on the northern side of the passage – which was not completely cleared in 1997– has not yet been made.

The floor of room 6 is laid out with a



3. EZ IV. Room 6 from NE (photo: D. Keller).



4. EZ IV. Room 6: quarter column made of plaster, *in situ* (photo: D. Keller).

well-preserved limestone pavement which is missing only in the western corner, where the bedding for the flagstones, made of beaten earth and closely set stones is still *in situ*. The thresholds of the central passage and the side doors are missing. A few fragments of the painted wall decoration rescued from the loose earth from the threshold areas, had decorated the room till its destruction in the earthquake of 363 AD (see below). The thresholds must, therefore, have already been missing in the last phase of use.<sup>1</sup>

The countless smaller and larger fragments of a black and white mosaic found in the debris of room 6 almost certainly belonged to the original building context (Fig. 5). The geometrical design of the mosaic consisted of



5. EZ IV. Room 6: black and white mosaic fragment (photo: D. Keller).

1. Few remains of the mortar bedding of the lost threshold were found in the area of the doorstep of the northern door. It is impossible at the mo-

ment, to explain a wooden slat discovered in the fill of the southern threshold-area some 20 cm below the level of the adjacent flooring.



squares and triangles and is directly comparable with the painted decoration of the upper zone in room 1 (Kolb 1997: 238f., Fig. 9). The mosaic probably covered the upper floor of room 6. A glass sherd, stuck in the mortar-bedding of a mosaic fragment can be dated to the first century AD and seems to support the provisional dating of the villa.<sup>2</sup>

Wood has been an extremely rare find since the beginning of our excavations in 1988. The substantial remains from the debris in room 6 are therefore particularly significant. They consist of six carbonised wooden beams ranging between 1.2 m and 1.4 m in length and with diameters of c. 0.12 m (Fig. 6). The cracked flagstone visible below the beams in Figure 6, is a witness to the violence with which the wood hit the floor. An identification of the beams as parts of the floor construction of the upper storey is likely but in no way secure: the ends of the beams which reach down to the floor, appear to have been sawed off and not broken. This – given their position in the

middle of the room – seems to imply that they were not part of the supporting structure of the first floor.

### The Last Phase of Occupation

Household objects such as a basalt hand mill, two bone spoons, an alabaster pyxis and a number of unidentifiable iron objects, as well as large quantities of ceramics and glass vessels of the fourth century AD lay buried on the pavement, along walls H and K, beneath innumerable fragments of stucco from the wall- and ceiling decoration (see below for the contributions of D. Keller and Y. Gerber). The datable objects confirm last year's findings from room 2, where the coins indicated that the end of the final phase of occupation came with the earthquake of 363 AD (Kolb 1997: 234).

The thick layer of mural and moulded stucco fragments on top of the household utensils of the fourth century proves beyond any doubt that the Nabataean decor remained on the walls up till the aforementioned natural catastrophe.<sup>3</sup>



6. EZ IV. Room 6: carbonized beams, *in situ* (photo: D. Keller).

2. D. Keller pointed out, that a comparable glass sherd from Callirhoë was dated by Dussart to the period of the first century BC-AD.; cf. O. Dussart, *Les verres*, in Clamer 1997: Pl. 22.14; For a date of the structures on EZ IV see Kolb 1997: 234.
3. In Palmyra M. Gawlikowski demonstrated stratigraphically that a dwelling of the second century

AD was still decorated with its original stuccoed and painted wall decoration in the Abassid period, i.e. about 600 years later! Cf. M. Gawlikowski, *Fouilles récentes à Palmyre*, in: *Académie des inscriptions et belles-lettres. Comptes rendus des séances de l'année 1991*: 399-410.



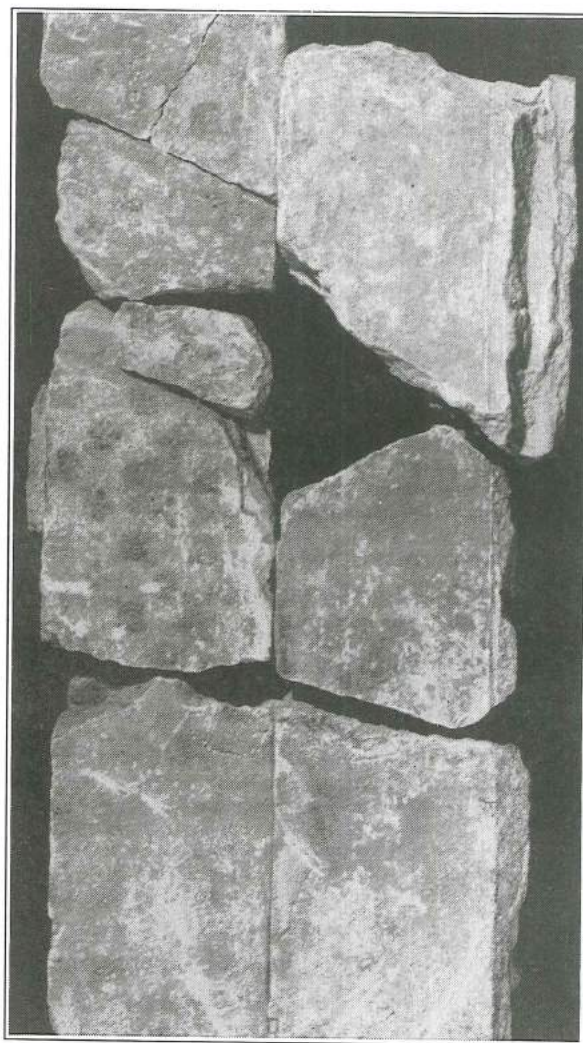
### Interior Decoration of Room 6

The c. 40 cm thick layer of fallen stucco which was removed just north of wall H revealed an unbelievable quantity of fragmentary cornices, representing no less than a dozen different types (Fig. 7). The walls of room 6 appear to have been extremely richly decorated with horizontal divisions. It is also possible to make first statements about the decoration of the wall between the cornices. A first clue is given by three large fragments painted with white flowers, fruit and leaves on a dark green background. Another pattern is also represented by several fragments (Fig. 8). Two horizontally stepped (broken forward and back) decorative strips, each about 15 cm wide are painted plain orange with a geometric pattern in black, white and red. The slight projection of the geometrically painted strip on the one hand and a base fragment on the other - again broken forward and back - make it clear that we are dealing with the remains of a vertically arranged pilaster-decoration. Both schemes appear to belong to the building's second decorative phase:<sup>4</sup> the mouldings of the first phase, which divided the walls into panels and which were subsequently plastered over in the second phase, are plainly visible on the broken edges and on the back of the fragments.

The provisional dating of the second phase of decoration towards late first cen-



7. EZ IV. View of fragmented stucco cornices from room 6 (photo: O. Jäggi).



8. EZ IV. Room 6: fragments of the painted stucco-decoration (photo: O. Jäggi).

ture/early second century AD as suggested in 1996 has been pushed forward a little on our site EZ III. In room 121 (see below, Fig. 12) we came upon fragments of murals and cornices closely related to those on site EZ IV. A coin which had been struck under King Rabbel II, was embedded in a piece of rough plaster (rendering coat). The coin defines a *terminus post quem* of 103-106 AD for the decoration of room 121.

### Rooms 7-9

In squares 87-88/AO we reached the floor level of the partially excavated room 7 (see Fig. 2). The flagstone pavement is laid at a right angle to that in room 6 and con-

4. The sequence of phases is sketched in Kolb 1997: 239f.



sists of considerably smaller and much less well-preserved sandstone pavers on a slightly lower level (923.80 m compared to 923.85 m in room 6). To the east, in squares 86-87/AP-AQ, the pavement of the ground floor is lost. Only two sides of the room are clear - the pillars P1 and P2 in the west and wall H in the south. Since there are no indications of a separating wall between walls L and H, room 7 probably extended to wall I in the east (see Fig. 2). The function of room 7, when one takes into consideration the adjacent, richly decorated room 6, was probably that of a courtyard.

The eastern faces of pillars P1 and P2, facing room 7, were as richly decorated as those on the west side. On the east foot of pillar P1 were found a modillion-cornice of 70 cm length as well as fragments of the connected painting. A vegetative decor in black is painted on an ochre coloured ground. Red cherry-like fruits are depicted among a dense black foliage.

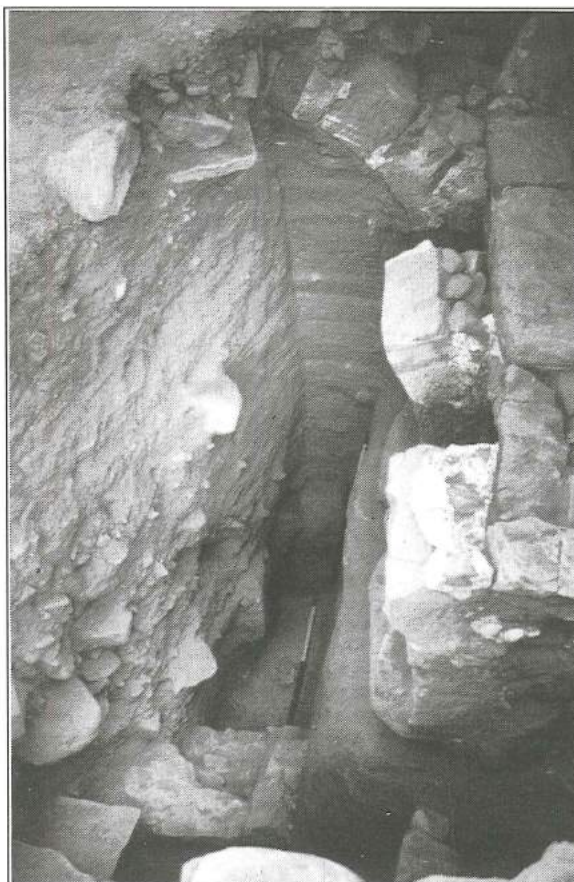
While the bedrock in the area of room 6 and the western section of room 7 can be assumed to be just below the floor level, it falls sharply further eastwards, necessitating the construction of the extraordinarily well-preserved sub-structures in squares 86-87/AP-AQ. The easterly edge of what is preserved of the pavement in room 7 marks the transition to the area of the lost floor which was supported by the said sub-structure. Rows of arches ranged between walls H and N and between N and L, some of which are completely intact while others are preserved as pillars (Fig. 9). The pillars of the arches along wall L stand somewhat higher in a ledge hewn out of the rock. The sub-structures extend about 3.5 m down to the bedrock surface of the lower floor. This cellar or these cellars were originally reached by a short staircase in corridor 9 which was walled up during the last phase of use in the fourth century.

The pavement in the partially exposed room 8 is laid more or less on the same le-

vel as the floors of rooms 1-3 and 6-7 (918.72 m). The floor in room 8 rests on a sub-structure just like that of the aforementioned room 7. The coins found in rooms 8 and 9 confirm that the end of the last phase of use of the southern corner of this large building was again due to the earthquake of AD 363.

### Room 1 and its Murals

In PQ 90-92/AN the second half of room 1, which measures c. 4 m x 5 m, was excavated during the campaign of 1997. In addition to the door in wall C room 1 opened with a passage to the east (see Fig. 2). The debris in room 1 again contained a large number of flagstones from the collapsed upper floor. The last 30 cm above the floor level consisted almost exclusively of fragmented stucco cornices and wall-paintings. The careful removal of this last layer re-



9. EZ IV. View of the substructures in 87/AO-AP from the east. (photo: D. Keller).



quired more than a week and gave the impression that there could hardly be any large sections of wall decoration still clinging to walls A and F behind the protective bulk left in front of them. This foreboding was fortunately only confirmed in the northern part of wall A, where the roots of plants had, in the course of time, reached deep down and forced away resp. destroyed the wall covering. On the northern wall F a few, small, painted patches are still *in situ*.

The consistent theme of the decorations allows a reconstruction of the basic design of this wall despite its bad state of preservation. In contrast to wall C opposite, which is decorated along its entire length with a single illusory painted architectural façade, two smaller façades of 2 m length had been depicted on wall F, separated by a central painted pilaster. Both façades were framed above by the blue-grey epistyle – like those on walls A and C – supported by painted pilasters in the corners of the room (Kolb 1997: 235, Figs. 7-8).

In contrast to walls A, C and F, which are preserved to a height of at least 3 m, wall G has collapsed eastwards down to the last course of stones. In many places the preserved sections of the wall decoration were higher than the remaining wall itself and stood as fragile, painted stucco-lamina. In the last days of the dig numerous large fragments of wall-painting could be recovered from the area east of wall G, which will allow a reconstruction of the decoration up to the height of the pilaster-supported blue-grey epistyle. An architectural façade is once again depicted differing only in details from the better preserved one on wall C.

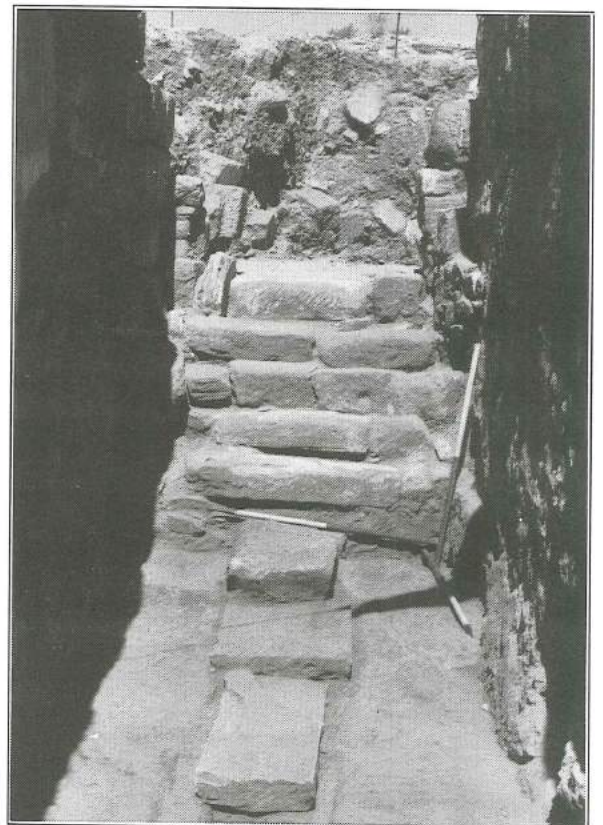
### Rooms 2 and 5

The remaining part of corridor 2 (c. 923.95 m) was cleared in square 92/AN (Fig. 2). A five-step stairway at the north

end of the corridor, leading up to room 5 (925.20 m), was built over the covering slabs of the rock-hewn channel in room 2. The hastily built stairway, like the cover slabs of the channel, belong to the final phase of construction and use (Fig. 10).

### EZ III

In squares 117/G-H the northern edge of room 111 was cleared (Figs. 11 and 12). Only a few stones of wall BG, which is very badly preserved, are still in place. The same is true of the two short walls CQ and BH, which join on to wall BG. The walls stand on the levelled rock terrace which ends in an arch shape in the north of squares 117/H-I. The west side of room 111 opened, with 2 columns, onto room 118 and was accessible in the south, that is in the east from rooms 112, 120 and 114.<sup>5</sup> Its close connection with the structures of the southern



10. EZ IV. Corridor 2 and steps leading up to room 5 (photo: D. Keller).

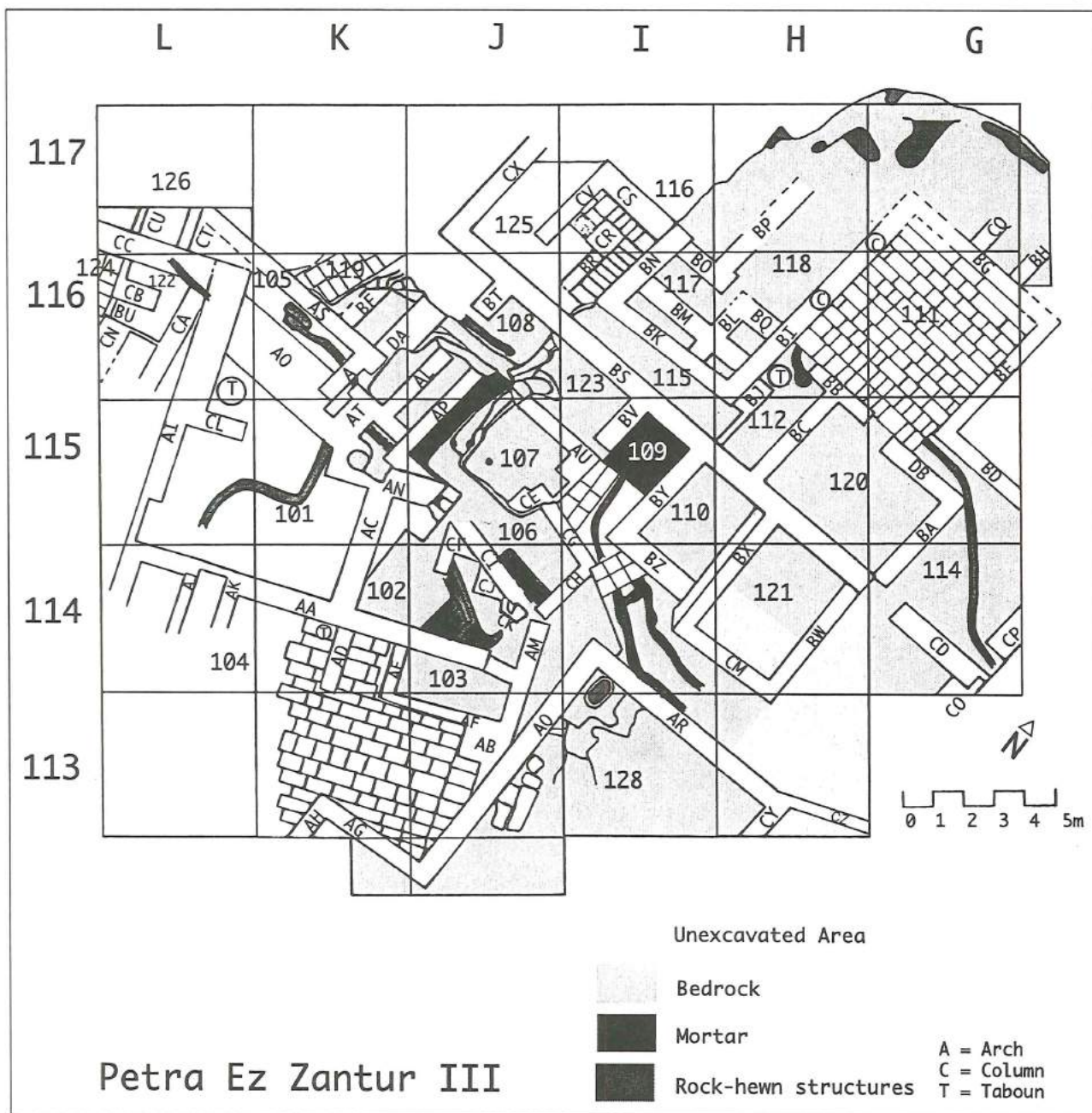
5. The previous reconstructions of room 111 as a peristyle are thus untenable.



rooms characterizes room 111 as courtyard. A further indication is its weatherproof flooring of flagstones; the neighbouring rooms 112, 120 and 140 have floors of beaten earth. A short, corridor-like extension connects courtyard 111 with room 114 (c. 3.7m x 5m) in 114-115/G (Figs. 11 and 12). The unusually broad door, with a span of 1.2 m, opens to the east and may have been the main entrance of the house. If this assumption is correct, room 114 was a foyer con-

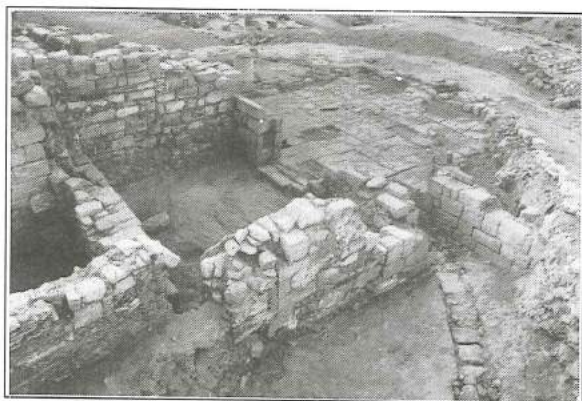
necting the eastern rooms around courtyard 111 and through the passage in wall CD, to the neighbouring area to the south. A wastewater channel hewn out of the bedrock runs from a funnel-shaped gully in room 112, along wall BB, across room 114 and can be followed to the threshold in wall CP.

In room 120, to the south of courtyard 111, we reached bedrock (Figs. 11-12). The room, measuring 3.5 m x 4.5 m stretches along the courtyard and was probably a rep-



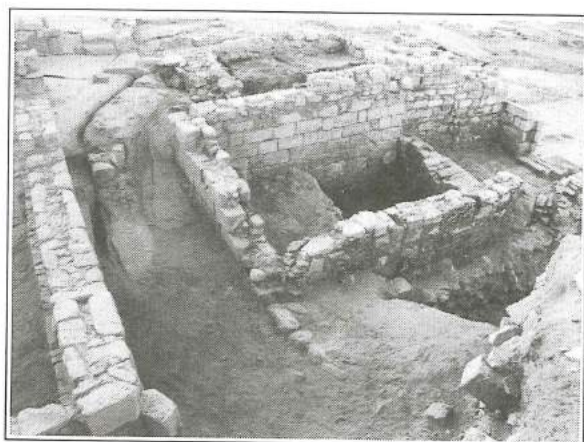
11. EZ III. Schematic plan of the structures (drawing: M. Boillat).





12. EZ III. Rooms 111, 120-121 and 114 from SE (photo: R. Frank).

representative room in the original building context. Room 121, south of wall BS, has a badly built east wall BW which is only loosely jointed to walls BS and BA (Figs. 11-13). Room 121 originally opened through a later blocked door in wall BS. About 2 m below surface we came upon strata containing large quantities of ash, debris of the collapsed walls and their decoration, that is, fragments of red plaster and polychrome cornices. These strata reached almost down to the floor level, where a deposit of several broken Nabataean coarse ware vessels and a coin from the reign of Commodus (180-191 AD) were found. However, the most remarkable find from room 121 was the previously mentioned bronze coin of Rabbel II dating from the last years of the independent Nabataean kingdom (103-106 AD). It was stuck in a piece of under-plaster and provides a good



13. EZ III. Wall AR, the rock-hewn channels and rooms 120-121, from the east (photo: R. Frank).

*terminus post quem* for the decoration of room 121, for the wall BS and for the walls of room 120.

In PQ 114/I we excavated down to the bedrock from the western edge of the pavement in room 109 (Figs. 11 and 13). It was again evident that during the early use of the site – probably still in the first century BC – water played a central role: two more or less parallel channels connected with an overflow are carved out of the rock and run from room 109 to the east. The sloping bank built of slabs and hydraulic mortar along wall BX in room 110 seems to indicate that this room, too, was originally used in connection with water.

In the western squares 116-117/I a staircase with two flights was exposed at the edge of the terrace. Its upper flight runs from corridor 115 down to a flagstone paved landing between wall CS and staircase pillar CR (Figs. 11 and 14). The obvious danger of walls CS and CV collapsing dissuaded us from clearing the visible door opening in wall CV.

The staircase proves that the terracing of the structures was not confined to the two main levels on EZ III already mentioned, but that it continued in the steep parts of the north-western slope.

The fact that the stratified finds are not chronologically homogeneous makes it difficult to date the rooms. A preliminary analysis of the finds indicates that the rooms were abandoned in the Severan period, that is significantly earlier than the building EZ IV which was inhabited until 363 or the dwelling on EZ I destroyed in the early years of the fifth century AD.

B. Kolb

#### **EZ IV: Glassfinds from Room 6**

The destruction by an earthquake was clearly demonstrated by the contexts in room 6: Below the collapsed wooden beams and fragments of the wall decoration there were diverse, broken vessels of both glass





14. EZ III. General view of the rooms along the north-western edge of the terrace. Staircase 116 in the foreground (photo: R. Frank).

and pottery, lying directly on the paved floor. The fact that this destruction layer on EZ IV can be connected with the earthquake of 363 AD was already proved by the coins found during the 1996 campaign in corridor 2 (Kolb 1997: 234).

It is noticeable that all the ceramic and glass vessels lay on the floor along walls H and K and that not a single one was found in the central area of the room. Wooden shelving, standing against these walls would be a possible explanation for this phenomenon – but if they existed they have left no trace.

#### *Analysis of the Glass Finds*

Apart from a large quantity of undeterminable and undecorated body sherds there were seven more or less determinable glass vessels. These are: the rim fragment of a shallow bowl with cracked-off rim and a broad incised groove on the outside just below the rim (Fig. 15: 1); an almost completely preserved conical beaker with cracked-off rim, three broad incised grooves

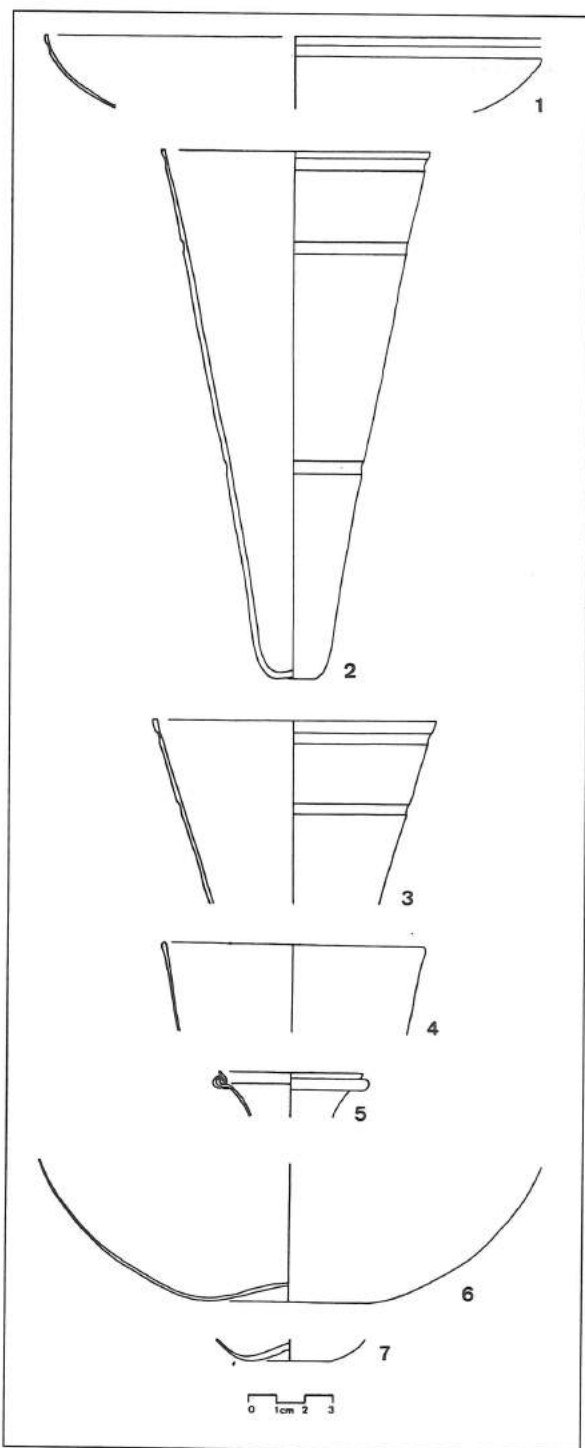
on the outside and a small shallow slightly concave bottom (Fig. 15: 2); a rim sherd of a second beaker with the same form but with two broad incised grooves (Fig. 15: 3); a rim fragment of a conical goblet with a rounded straight rim (Fig. 15: 4); the rim fragment of a bottle or an *unguentarium* with a rounded, sloping rim, funnel-shaped spout and a folded flange immediately below the rim (Fig. 15: 5); the concave bottom of a large vessel with a spherical body (Fig. 15: 6) and finally, a second concave bottom sherd (Fig. 15: 7).

There are two distinguishable qualities of glass: on the one hand vessels of good quality clear glass with fairly thick walls (Nos. 1-3) and on the other hand vessels of thin, corroded bluish green to greenish blue glass (Nos. 4-7). It is very likely that the thin-walled, greenish-blue glass of lower quality belong to a cheap local production while the vessels of better quality thick-walled bleached glass could be regarded as imports.<sup>6</sup> Whether the difference in quality

6. This supposition is made partly because greenish blue glass is much commoner than colourless glass, at least in the Late Roman strata on az-Zantur. On the phenomenon of simple cheap glass vessels being locally produced in Roman towns while lighter quality glass was imported

from specialised workshops, see Rütli 1991: 144-168. On the existence of specialised glass workshops of the fourth century AD in Palestine see Davidson Weinberg 1987: 62-70; Kuhnen 1990: 285; Kuhnen 1994: 47.





15. Nos. 1-7: EZ IV. Glass from room 6 (drawings: D. Keller).

7. On vessel No. 1 see Davidson Weinberg and Goldstein 1988: 94-96 Nr. 459-464 Figs. 4, 48, 459-464; on the pair of conical beakers No. 2-3 see Davidson Weinberg and Goldstein 1988: 93 No. 439-449 Figs. 4, 47, 439-449. On the dating of the glass factory in the decades between 350 and 380 AD: Kuhnen 1994: 47 n. 28.
8. This is true not only in the Syro-Palestinian area

of the glass is really a reflection of its provenance can only be suggested at the moment. There are numerous comparisons for the thick-walled, colourless vessels with cracked-off rim (Nos. 1-3) from the glass factory in Jalame in the Carmel region (Israel) which was active in the third quarter of the fourth century AD.<sup>7</sup> It is tempting to consider these vessels as imports from the Palestinian area, for example from Galilee.

A completely preserved rim (No. 1) is comparable to a bowl from Samaria, which not only has horizontal incised grooves but also an incised decoration of stars and Greek letters. It is supposed to come from a fourth century AD context (Crowfoot 1957: 416-417 No. 1; Fig. 97:1). Rims of undecorated bowls of this shape are known from our site EZ I in Petra from layers of the fourth and fifth centuries AD. These shallow bowls can thus be regarded as a typical example of glass drinking vessels of the fourth century in Palestine and Transjordan.<sup>8</sup> Conical glass beakers with wide incised grooves occasionally appear in later find contexts in Transjordan, for example in the first half of the fifth century AD in Callirrhoë ('Ayn az-Zārā) and from the late fourth till early sixth century in the legionary fortress of al-Lajjūn.<sup>9</sup> Undecorated beakers of the same form appear on site EZ I chiefly in the layers of building phase Late Roman I, that is before 363 AD; the same is true of similar beakers with blue blobs. A fragmentary conical beaker with engraved decoration from the American Excavations of the Temple of the Winged Lions in Petra is also from the destruction level of the 363 AD earthquake (Hammond and Johnson 1994: 333, 336, Fig. 5). The

or in the Eastern Mediterranean but also in Europe: Isings 1957: 143-144 Form 116.

9. Callirrhoë: O. Dussart, *Les verres*, in Clamer 1997: 100 Pl. 26, 1. On the dating of the Late Roman settlement of Callirrhoë see the coins dated to the years 383 - 457 AD; cf. Clamer 1997: 92-93 No. 22-57; al-Lajjūn: Jones 1987: 624, 626, 634, 642 No. 20, 45 Figs. 127, 20, 131, 45.



conical beaker can therefore – at least in Petra – be considered a leading form in the middle of the fourth century AD with a few late follow-ups – whether these beakers were used as drinking cups or lamps in the Late Roman period is still a matter of discussion. There are convincing arguments for both uses – both from the find contexts and from the pictorial sources – so that both suggestions can be taken into consideration.<sup>10</sup> The find contexts in room 6, however, suggest that these beakers were used as drinking vessels rather than as lamps, since there are absolutely no holders which could have supported the beakers as lamps. These would have been necessary, had they been used as lamps while for a drinking cup they are not necessary, since a drinking cup can be held in the hand and placed upside down on its rim when empty.<sup>11</sup> Rim fragment No. 4 with its rounded rim and conical wall likewise has parallels from Jamale (Davidson Weinberg and Goldstein 1988: 40-41. 62 No. 8; 187 Figs. 4: 2, 8: 4, 24, 187). However, comparable rims are already present in Dura Europos (Syria) of the third century AD (Clairmont 1963: 103 No. 473 Pl. 11, 473). Such vessels also appear in the Late Roman fort of Mazed Tamar (Israel); however, they cannot be more precisely dated there since the fort was occupied from the late third to the early seventh century AD. Most of the glass finds from Me'zad Tamar belong to the fourth and fifth century AD.<sup>12</sup> The rim fragments of this form from Khirbat Shema' (Israel)

probably also belong in the fourth and early fifth centuries.<sup>13</sup> The form is also known in Transjordan, but in later find contexts – for example Callirrhoë ('Ayn az-Zārā) in the first half of the fifth century and from al-Lajjūn in the first half of the sixth century AD (Callirrhoë: O. Dussart in Clamer 1997: 100, Pl. 26: 3-4; al-Lajjūn: Jones 1987: 625. 640 No. 39-40 Figs. 130: 39-40). Rims of such beakers appear on terrace EZ I in layers belonging to the fourth and fifth centuries AD. Whether this rim can be reconstructed as a conical beaker with a shallow pushed-in base, as other, well-preserved vessels imply<sup>14</sup> can only be suggested. A reconstruction of such beakers with a concave bottom would also be possible. Most importantly, this form is one of the commonest glass types of the fourth century AD although it already appears in the third century and continues into the fifth and sixth centuries. The funnel-shaped spout closed with a folded flange immediately below the rim of the spout can be compared with Syrian gutturnia with pear-shaped bodies (Hayes 1975: 60-61 No. 157 Fig. 7: 157), usually dated to the third century AD for example the rims from Dura Europos dated pre-256 AD (Clairmont 1963: 104-106 Nos. 487-488. 500-501 Pl. 12: 487-8, 500-501). Such ointment containers appear in the necropole on the Mount of Olives in Jerusalem until the middle of the fourth century AD.<sup>15</sup> This form can thus also be considered as a representative of the Late Roman glass corpus of the mid-fourth century in the Near

10. Now concisely summarised by Fleming 1997: 32; Zevulun and Olenik 1978: 21. 41-42; Davidson Weinberg and Goldstein 1988: 89-91.

11. On the phenomenon that artificial stands for drinking vessels without an appropriate base are a rare commodity, see e.g. the painted Nabataean fineware: S.G. Schmid, *Die Feinkeramik der Nabatäer: Typologie, Chronologie und kulturhistorische Hintergründe*, in B. Kolb and S.G. Schmid, *Petra-az Zanṭūr II, Terra Archaeologica III* (forthcoming).

12. Erdmann 1977: 106-107 No. 565. 570 Pls. 6, 565. 570. On the postulated dating of most of the glass

vessels and the duration of occupation of the fort see Erdmann 1977: 98. 111; Kuhnen 1989: 64.

13. Meyers and Kraabel and Strange 1976: Pls. 8, 4, 16-21; on the debated stratigraphy and chronology as well as the uncertain break in occupation in the early fifth century AD in Khirbat Shema' see Kuhnen 1989: 24-25. 33.

14. See e.g. such glass from Samaria: Crowfoot 1957: 416 No. 10 Fig. 96, 10; a similar vessel in Toronto cf. Hayes 1975: 104 No. 379 Fig. 11, 379.

15. Bagatti and Milik 1958: 143-144. 152 No. 12. 24. 26 Figs. 33, 12. 24. 26. On the dating of the grave 230 see Kuhnen 1989: Beilage 3 No. 53.



East. Glass vessels with concave bottoms (Nos. 6 and 7) are extremely common in the Near East in the Late Roman period. While they usually belong to bottles, when found in the glass factory of Jalame (Davidson Weinberg and Goldstein 1988: 76-77 Nos. 309-317), the finds from the Late Roman dwellings on az-Zantūr (EZ I) in Petra show that, at least in the fourth and fifth centuries they were more likely to be found on bowls (Keller 1996: 295-297. 303 No. 1 Fig. 879, Pl. 6:1). While the relatively high preserved body of No. 6 suggests a closed form it is not possible to draw a conclusion about either fragment.

In general what we have is a small but – for the 363 AD earthquake level – typical group of glass vessels.<sup>16</sup> That four of these vessels can be described as drinking vessels is not surprising, but illustrates the position which glass had in the Late Roman tableware where it had, to a large extent, replaced fine ware – or at least complemented it.<sup>17</sup> In Late Roman Petra this seems to have been especially true of drinking vessels, the bowls and cups. However, the glass here did not appear as the replacement for stamped TS-vessels as it did in Palestine, but in concurrence with local Nabataean fine ware. Plates and platters could also be ARS vessels.<sup>18</sup> What is surprising is that there are more cups (Nos. 2-4) than bowls (No. 1) in this ensemble. This proportion is completely reversed – in favour of bowls – in the layers of building phase Late Roman II on EZ I which is dated only a couple of decades later.<sup>19</sup> The situation in the late fourth and early fifth centuries where glass bowls had completely replaced the local fine ware bowls is already apparent in the mid-fourth

century AD where bowls in both materials appear together in the same find complex (see below, bowl Fig. 17).

**Catalogue: Glass Finds from Room 6 (Fig. 15)**

1. Rim of a shallow bowl with cracked-off rim and a broad incised groove on the outside below the rim.  
PQ 89-90/AQ-AR, Abs. 3, FK 3065, in front of wall K.  
Colourless; Diam.: c. 18 cm, height: 2.6 cm, wall thickness: 0.08 cm (broken edge), 0.09 cm (rim).
2. Whole profile of a conical beaker with cracked-off rim, three broad incised grooves on the outside and a flat, slightly concave, small bottom.  
PQ 89/AR, Abs 3, FK 3051, in front of wall H (EF 3066).  
Colourless; Diam.: 9.6 cm, height: 19.1 cm, wall thickness: 0.20-0.25 cm (wall), 0.15 cm (rim).
3. Rim of a conical beaker with cracked-off rim and two broad incised grooves. PQ 89-90/AQ-AR, Abs. 3, FK 3065, in front of wall K.  
Colourless; Diam.: 10.2 cm, height: 6.6 cm, wall thickness: 0.14 cm (broken edge), 0.16 cm (rim).
4. Rim of a conical goblet with rounded lip. PQ 88-89/AQ-AR, Abs. 3, FK 3051, in front of wall H.  
Greenish blue; Diam.: 9.4 cm, height: 3.2 cm, wall thickness: 0.05 cm.
5. Rim of a closed form with rounded lip and a folded flange immediately below. PQ 89-90/AQ-AR, Abs. 3, FK 3065, in front of wall K.  
Bluish green; Diam.: 5.2 cm, height: 1.6

16. Another find complex with glass vessel-fragments similar in composition (FK 1301, 113/H Abs. 4) was found during the 1997 season on site EZ III together with 3 coins: EF 1311 (third-fourth centuries AD), EF 1313 (358-361 AD) und EF 1316 (Nabataean).

17. See Kuhnen 1989: 66-67, where the central significance of glass of Palestine, at least in the mid-

dle of the fourth century AD is demonstrated.

18. See e.g. the ARS vessels from the Late Roman dwellings on EZ I in Schneider 1996: 139-140 Figs. 592-598.

19. See Keller 1996: 295-297. 303-305 Nos. 1-11, Figs. 879-889. The other glass finds from the layers of Phase Late Roman II confirm this picture.



cm, wall thickness: 0.10 cm.

6. Bottom and body sherd of a vessel with a concave bottom and hemispherical body (Fig. 15. Nr. 6). PQ 88-89/AR, Abs. 3, FK 3051, in front of wall H.

Greenish blue; Diam.: 5.8 cm, height: 5.0 cm, wall thickness: 0.05 cm (broken edge), 0.13 cm (centre of bottom).

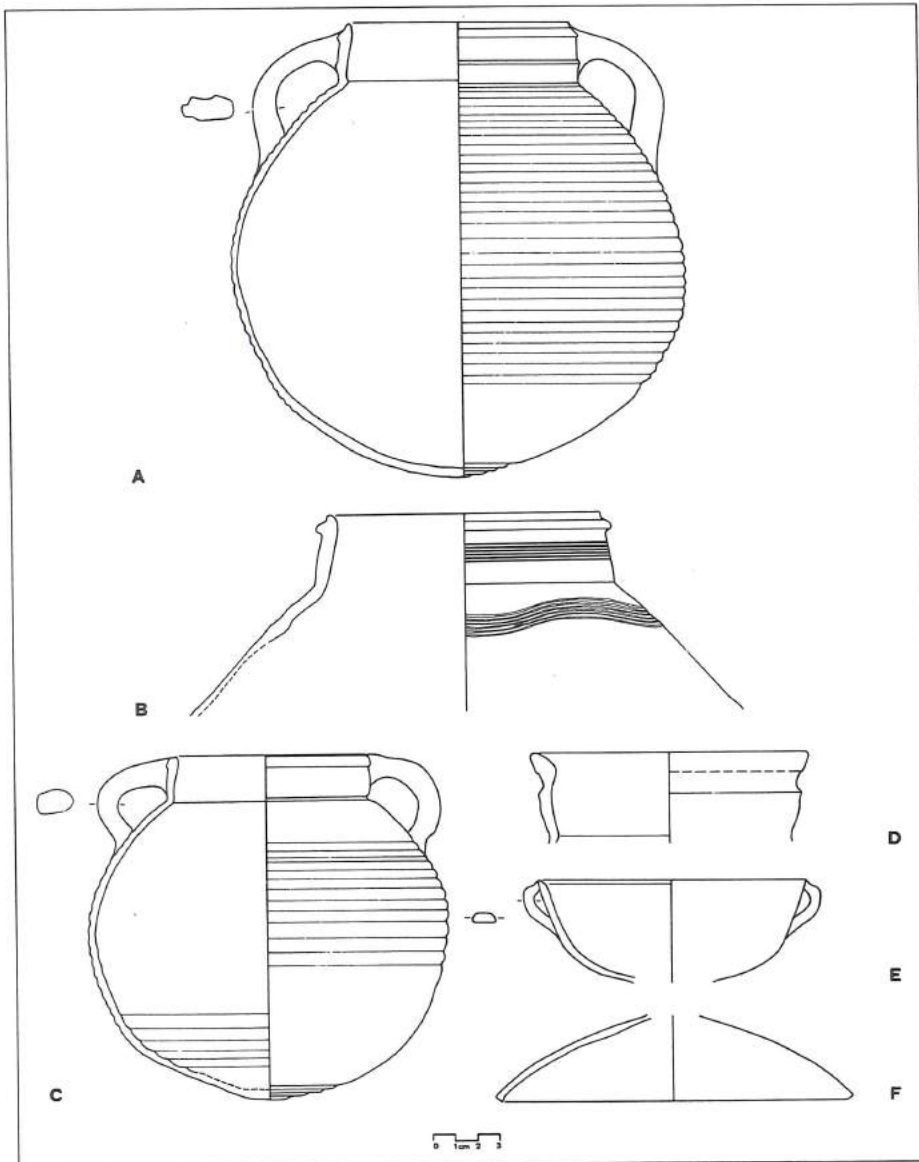
7. Bottom of a vessel with concave bottom. PQ 88-89/AR, Abs. 3, FK 3051, in front of wall H.

Greenish blue; Diam.: 3 cm, height: 0.75 cm, wall thickness: 0.05 cm (broken edge), 0.23 cm (centre of bottom).

D. Keller

### Coarse Ware Pottery from Room 6

Among the finds of Room 6 there were two complete cooking pots (Fig. 16: A and C), a complete jug (Fig. 17:H), a complete pilgrim flask (Figs. 17: G and 18), a complete basin (Fig. 17: I), two rims of two different jars (Figs. 16: B and D), the rim of a jug (Fig. 17: K), the rim of a juglet (Fig. 17: L), a casserole which was reconstructed from eight rim sherds, four body sherds and three bottom sherds (Fig. 16: E), several sherds counted as 6 individual lids (like Fig. 16: F), four were of 16 cm in diameter, two of 12 cm in diameter. There was also the upper part of an incense burner, made of clay, and two complete "Nabataean" bowls,



16. A-F: EZ IV. Coarse ware pottery of the fourth century AD from room 6 (drawings: I. Haussener).

16.A EF K 3046.3062 Cooking pot. Reddish yellow (Munsell 5YR 7/6), surface: red (Munsell 2.5YR 5/6), bottom blackened. Diam. rim: 10 cm.

16.B K 3046.1514 Jar. Light red (Munsell 10R 6/8), surface: white (10YR 8/2). Diam. rim: 12 cm.

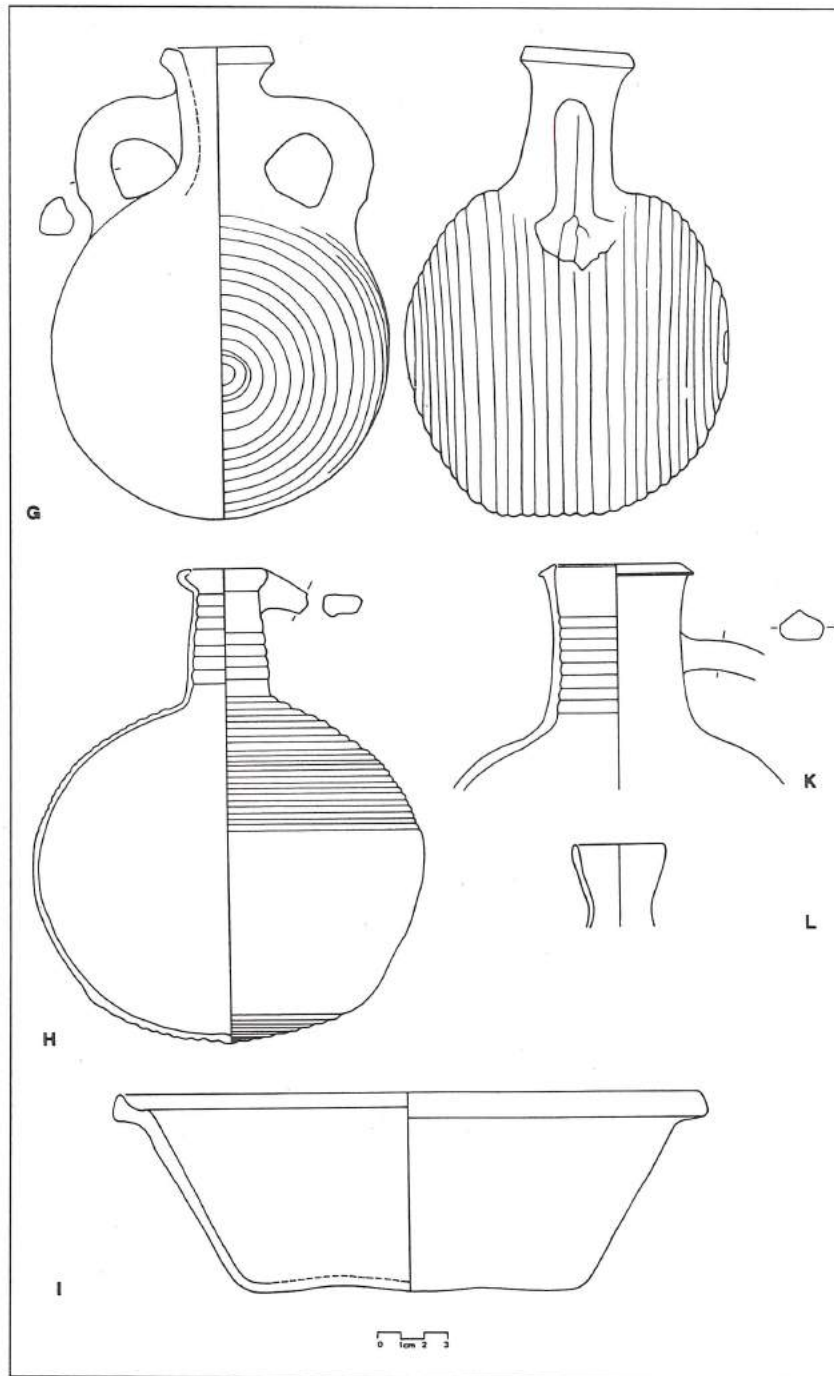
16.C EF K 3046.3057 Cooking pot. Light red (Munsell 2.5YR 6/6), surface: very pale brown (Munsell 10YR 8/3). Diam. rim: 9 cm.

16.D K 3046.1513 Jar. Light red (Munsell 10R 6/8), surface: very pale brown (Munsell 10YR 8/3). Diam. rim: 12 cm.

16.E K 3046.1511 Casserole. Reddish gray (Munsell 10R 6/1), surface: light gray (Munsell 5YR 7/1). Diam. rim: 12 cm.

16.F K 3046.1512 Lid. Reddish yellow (Munsell 5YR 6.5/6), surface: light gray (Munsell 10YR 7/2). Diam. rim: 16 cm.





17. G-L: EZ IV. Coarse ware pottery of the fourth century AD from room 6 (drawings: I. Haussener).

17.G EF K 3046.3058 Pilgrim flask. Pink (Munsell 5YR 7.5/4), surface: white (Munsell 2.5Y 8/2). Diam. rim: 4.5 cm.

17.H EF K 3046.3059 Jug. Red (Munsell 10R 5/8), surface: red (Munsell 10R 4/8). Diam. rim: 3 cm.

17.I EF K 3065.3081 Basin. Light red (Munsell 2.5YR 6/8), surface: reddish brown (Munsell 5YR 5/3) and white (Munsell 10YR 8/2). Diam. rim: 24 cm.

17.K K 3046.1600 Jug. Light red (Munsell 2.5YR 6/8), surface: white (Munsell 2.5Y 8/2). Diam. rim: 5.4 cm.

17.L K 3046.1510 Juglet. Light red (Munsell 10R 6/8). Diam. rim: 4 cm.

one with birds and palmettes as decoration. The style of the palmettes clearly indicates that the painted bowl was also manufactured in a late period (contemporary with the common ware discussed here) according to the context in which the bowl was found.<sup>20</sup>

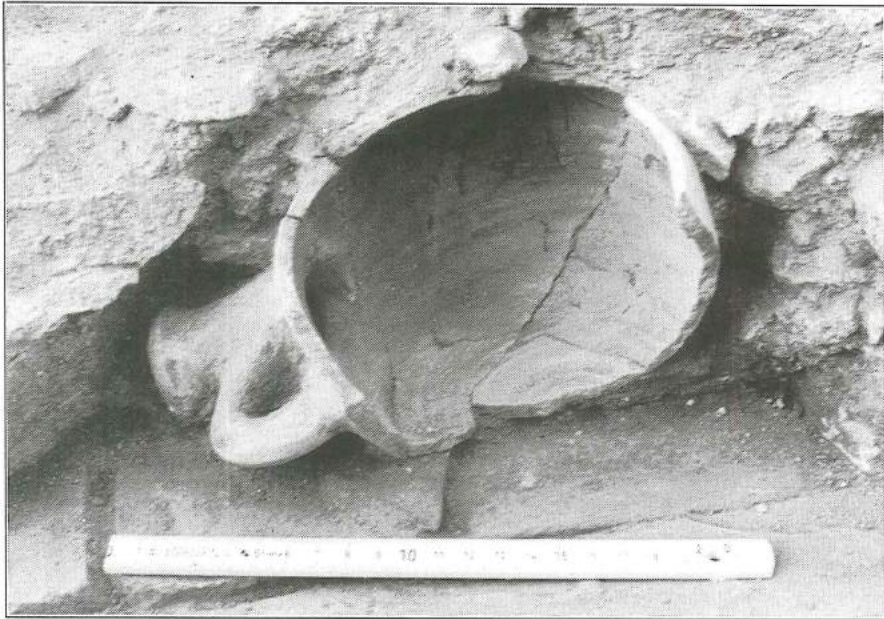
The vessel forms are a representative

cross-section of the current coarse ware repertoire from the fourth century AD. The six lids – only one of which belongs to a retraceable vessel, the casserole (Fig. 16:E), suggest that in all likelihood this ceramic assemblage was composed of more vessels than those found. Nevertheless, the basic

20. The plain Nabataean bowl, EF 3056. The painted Nabataean bowl, EF 3055, shall not be discussed further in this report; it will be subject of

another report which will investigate the development of the Nabataean painted pottery after the middle of the second century AD.





18. EZ IV. Room 6. Pilgrim flask *in situ* (photo: D. Keller).

outfit of a Late Roman house is present.

### Comparisons with the Late Roman Pottery from Site EZ I

Some of the vessels are well-known from the Late Roman houses on the terrace on the other side of the hill, *az-Zanṭūr I*, such as the big jar decorated with fine incised lines (Fig. 16:B; cf. Fellmann Brogli 1996: 242, Figs. 728-729, type A.2a), the casserole with two vertical handles (Fig. 16:E; cf. Fellmann Brogli 1996: 257 Figs. 773-774, type C.6a), the basin (Fig. 17:I; cf. Fellmann Brogli 1996: 260 Fig. 788, type C.1a), the pilgrim flask (Fig. 17:G, 18)<sup>21</sup> and the lids (Fig. 16:F; cf. Fellmann Brogli 1996: 269 Fig. 841, type D.1a). The two cooking pots, one with a broad ridge running directly below the rim (Fig. 16:C) and the other big pot with a sloping outer rim and a small ridge below it (Fig. 16:A) have no direct parallels in the Late Roman houses from site EZ I, but are in the tradition of the Late Roman cooking pots classified as A.2a/A.2b and A.1a in the corresponding publication (Fellmann Brogli 1996: 244 Figs. 733-734, and 245 Figs. 736.738).<sup>22</sup> Also unparallelled

in the *az-Zanṭūr* Late Roman houses are the rim forms of the jar with a thickened end (Fig. 16:D), the narrowing rim of the juglet (Fig. 17:L) and the sloping outer rim of the jug with a single vertical handle extending from the neck to the shoulder (Fig. 17:K). The jug with the rim curved inward is striking (Fig. 17:H). Not only is the rim form unparalleled and unusual for *az-Zanṭūr* pottery; the clay, with its lighter red fabric and slightly darker red surface, suggests the possibility that this jug was not manufactured locally (the clay has not yet been analysed). The clay of all the other vessels from Room 6 is typical of Late Roman ware from Petra, that is the fabric is mainly light red, sometimes reddish yellow, with the exception of the pilgrim flask with a kind of pink fabric.

### Chronology

The pottery from the Late Roman houses on site EZ I (*az-Zanṭūr*) dates from the fourth century AD. There were two occupation phases, one which ended with the earthquake of 363 AD (Late Roman I), the second supposedly lasting from the last

21. Its rim form and handle shape resemble more type B.18b of Fellmann Brogli 1996: 267 Fig. 828, than her type B.18a: 267 Fig. 827.

22. In the meantime the typology has been more differentiated and some of the types already published are divided in further sub-types.



quarter of the fourth until the early fifth century AD (Late Roman II; Fellmann Brogli 1996: 222; 236, also with a reference to B. Kolb in the same publication). All of the EZ I vessels which are referred to as comparisons to the ceramic shapes from Room 6 occur in both occupation phases.<sup>23</sup> On the other hand none of the forms which are peculiar to, and only to, occupation phase Late Roman II and probably arise at the end of the fourth century AD were found in Room 6. This, and also the corroborating observation that Room 6 was probably destroyed by some violent event (possibly the earthquake from 363 AD, which is known to have caused severe damage on terrace EZ I), is a strong argument in favour of dating the pottery assemblage to the middle of the fourth century AD, that is before 363.

Although no clear differentiation of the ceramic repertoire emerges between phase Late Roman I and Late Roman II (see also Fellmann Brogli 1996: 237), some further observations support a dating of the Room 6 assemblage before AD 363. The clay fabric of the vessels, which are from an early fourth century context, is mostly of a bright red (light red, sometimes reddish yellow), carefully levigated, and well, that is, hard-fired whereas pottery from late fourth century onwards very often show clay colour which is greyish or darker red, and the fabric is more 'porous' – that is, coarser tempering, maybe more sand, is added.<sup>24</sup> All of the vessels from Room 6 have a bright red coloured clay and are well fired.

### General Comparisons

For parallels to the cooking pots, the casserole, the lids and the basin it is best to refer to the studies of R. Fellmann Brogli

(Fellmann Brogli 1996: 238-239). The cooking pot with a sloping outer rim (Fig. 16.A) has some resemblance to the rim published by P. Parr (Parr 1970: 371 Fig. 8: 134), dated to the fourth century / first half of the fifth century AD. The fine incised lines of the storage jar (Fig. 16:B) and the rim form of the pilgrim flask (Fig. 17.G) are well-known features of Late Roman/Early Byzantine Petra (Hammond 1977-1978: 232 Pl. 46:1). The jug with the sloping outer rim and the vertical handle extending from the neck (Fig. 17:K) resembles another example from Petra (Zayadine 1974: 235 Pl. 59:3 (8) and 236 Pl. 60:8), dated by F. Zayadine to the beginning of the fourth century AD, and a jug from the al-Lajjūn fortress, Area K, trenches 1-2, also dated to the first half of the fourth century AD (Parker 1987: 577 Figs. 103, 109). Our example seems not to have carinated shoulders as in al-Lajjūn. The unusual rim form of the red coloured jug (Fig. 17:H) is comparable to examples only from much farther north, for example from Mount Nebo (Bagatti 1985: Pl. 19, Fig. 18:8). The original distribution area of this vessel with this rim form is not yet clear.

All these comparisons support our dating pertaining to the pre-363 AD strata. This small pottery assemblage from the fourth century AD is an important contribution to our knowledge of the pottery in South Jordan which is still insufficiently known.

Y. Gerber

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23. Types (A.1a), A.2a, (A.2b), B.18b, C.1a, C.6a, D.1a. Compare the types with the list in Fellmann Brogli 1996: 237 Fig. 727.

The difference in sherd counts between occupation phases Late Roman I and Late Roman II is due to the different numbers of sherds found

overall: 589 versus 111 sherds respectively. Thus, even if the sum of the different types is less in phase Late Roman I, the types were already in use during the first occupation phase.

24. The pottery analyses are not yet finished.



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