

## 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

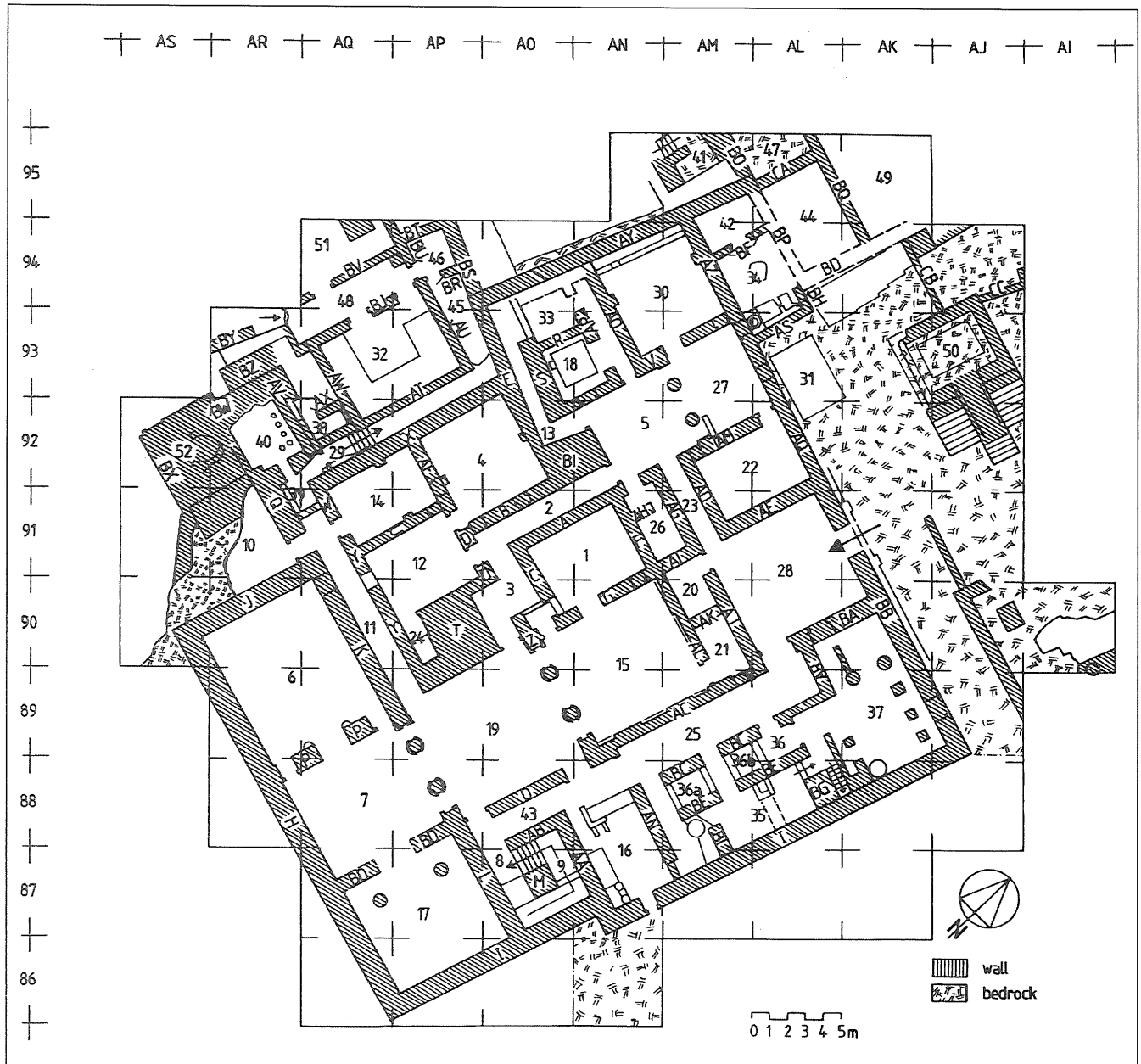
on the north side of the site: the search for clues as to how the large building was provided with access and services. Where did the access road run, and the access path to the north of the main entrance? Was the same route followed by the water conduits that fed the two large cisterns under rooms 22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



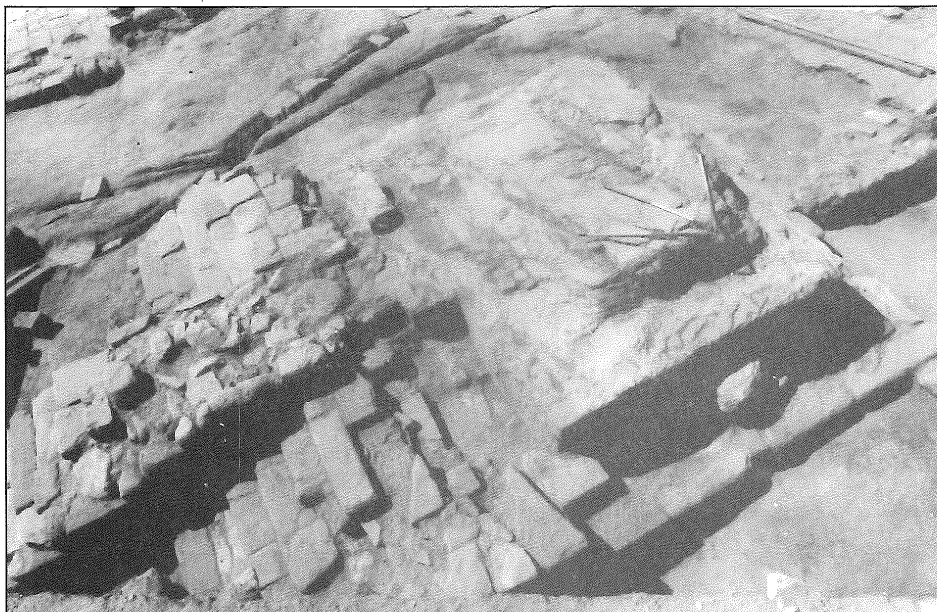
1. Schematic plan of the structures on EZ IV (drawing: B. Kolb).

facade of the house at a distance of just over 3m (see Fig. 8, lower third of picture). The narrow wall that continues in the same direction in square 90/AJ belongs to a later phase of construction and has nothing to do with the presumed temple building. As a result of the higher level of the rock (926.15m above sea level, or approximately 1m above the level in front of the main entrance to the mansion), the structures examined in square 90/AI were only 40-45cm below the present surface of the terrace and their state of preservation is correspondingly poor. Fig. 4 shows the remains of a neatly joined stone slab floor which is separated from the bedrock only by a thin levelling layer. To the east, the boundary of the stone slab floor is formed by a *sty-*

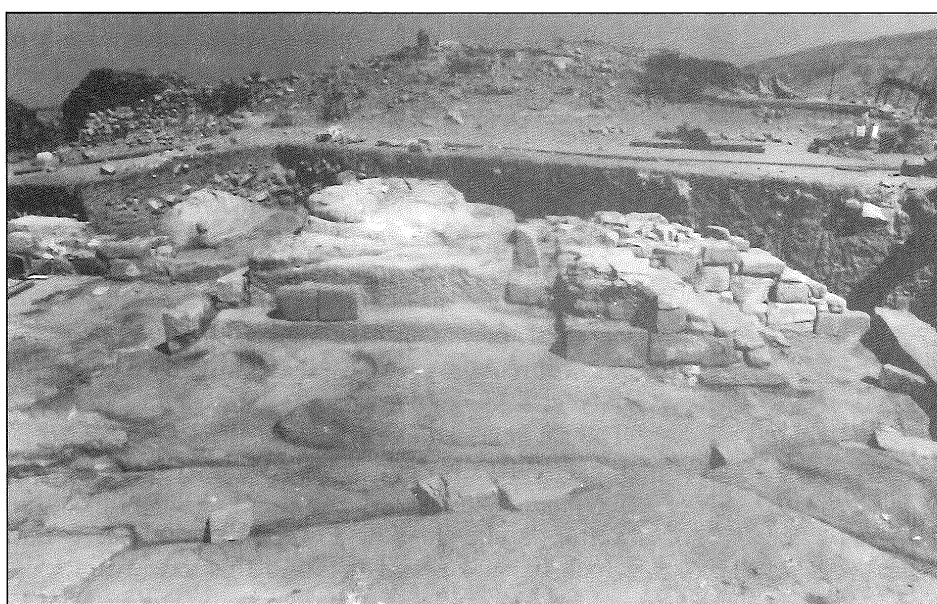
*lobate*(?) with a half-exposed column drum. Unfortunately this evidence is insufficient to give a clear picture of the body of the building.

The important question of the date of construction of the neighbourhood shrine or its chronological relation to the mansion cannot be answered for the present. Both the altar and the structures in square 90/AI are built directly on the rock, and thus lack foundations that might contain possible dating evidence. It was decided not to carry out a partial dismantling of the altar stairways because the remaining structure shows clear signs of repair and there would be no certainty of finding undisturbed fill material beneath the steps.

During the excavation of square 91-92/AJ, a



2. View from the north of the partly rock-hewn, partly built altar 52 with the main entrance to the mansion in the upper left corner of the picture (photo: D. Keller).

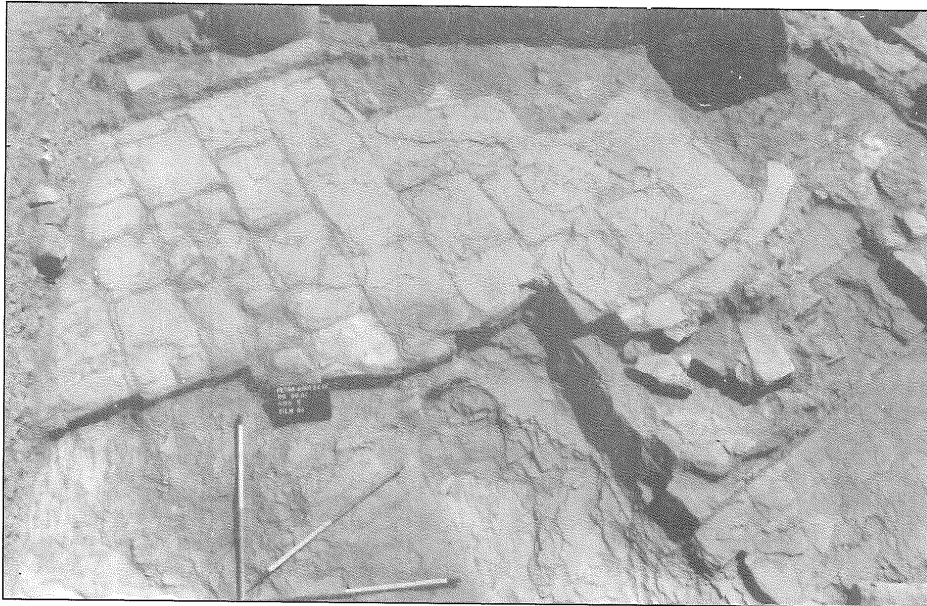


3. Altar 52 from the south with az-Zanṭūr in the background (photo: D. Keller).

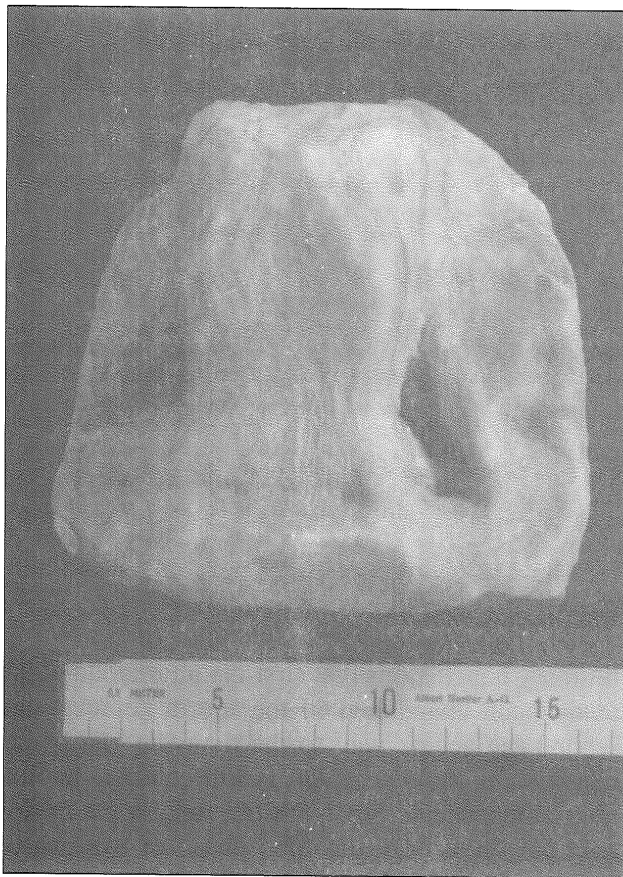
layer of ash with a thickness of up to 1.5m was documented which extended from the north, continued over the altar steps and petered out on an east-west line roughly 3m from the facade of the house. On this line the ash met with the northernmost debris of the north facade of the mansion that was destroyed in the earthquake of AD 363. The described clear dividing line between ash and debris is also reflected in the finds made in the two zones: the material from the lowest ash strata dates from the second and more towards the third century AD (squares 91/AJ, Abs.5, FK 3611; 92/AJ, Abs.5, FK 3543 and Abs.6, FK 3549), while the small finds from the layer beneath the debris of the collapsed facade date uniformly from the fourth century (91/AK, Abs.4, FK 3339). This allows the pre-

liminary conclusions that first the altar area had already been abandoned in the fourth century, and second the access way to the mansion can be reconstructed, at least in the fourth century, as running along facade BB from the east, since in this area the finds from the final phase of use extend down to the bedrock.

The northwest profile of squares 92-91/AJ contained architectural parts such as fragments of bases and capitals, architraves etc. which may have belonged to a *portico* forming the northwestern limit of the area with altar and small temple. Without further excavations in this zone it will be impossible to determine with any clarity how the small temenos to the north of the mansion was configured and how this complex fitted into the layout



4. The rock outcrop and the remaining structures of a small temple (?) to the east of the large altar 52 in square 90/AI (photo: D. Keller).



5. Fragment of an imported alabaster statuette of Isis (photo: R. Hügli).

of the buildings in the vicinity. Let us briefly consider the question of which deity the area was dedicated to. In square 91/AJ, between the large altar and the probable temple, in Abs. 4 a very well preserved fragment of a cast bronze statuette came to

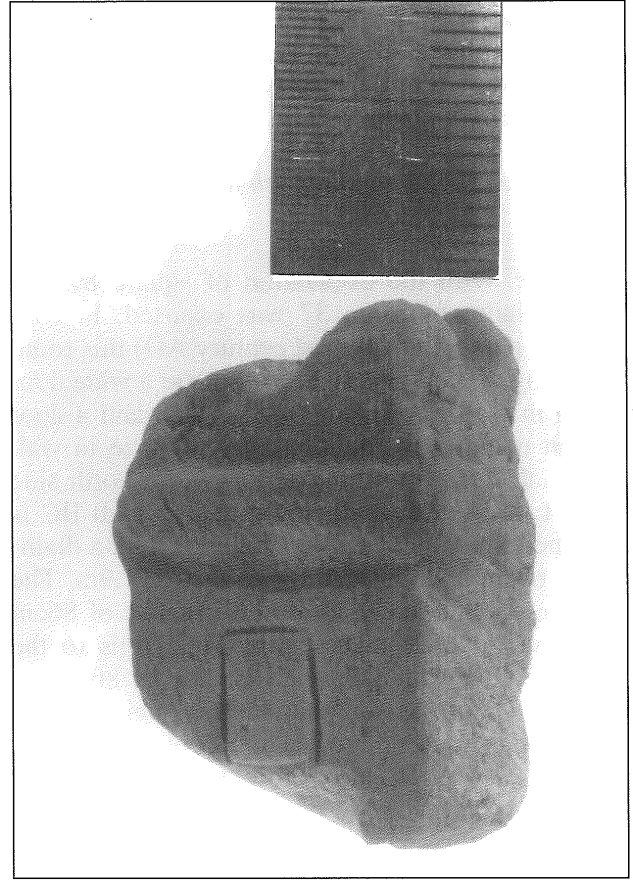
light, a lyre — the instrument of Apollo (EF 3483, height 5.1cm, max. width 4.7cm). On the back of this masterfully formed instrument, the left hand by which it is held and the wrist are preserved. Some 6m to the west of the altar, in the areas of rooms 44 and 49, two statuette fragments of enthroned female deities in stone were recovered. Fig. 5 shows the heavily weathered, preserved legs of a seated female figure in Egyptian alabaster (95/AK, Abs. 3, EF 3430, height: 17cm, width: 18cm, depth: 18cm). The certain origin of the stone and the still recognisable seat leave little doubt as to the subject's identity as a mourning or nursing Isis.<sup>1</sup> The second statuette fragment (Fig. 6) can also be presumed to be part of the same type of Isis, of which various examples have been documented in Petra. Again only the lower part, sculptured in a block-like form and made in this case from local calcareous sandstone, is preserved (Square 95/AL, Abs. 1, EF 3379, height: 8.8cm, width: 5.7cm, depth: 5.7cm). If we also consider the relief medallions with positively identified representations of the gods Ares/Dusares and Allat/Athena, the circle of possible "candidates" is further enlarged (Kolb and Keller 2001: 314-315 and fig. 6). The remarkable number of possibilities opened up by the finds does not allow the deity to be named with any certainty — a situation which is typical of Petra. For none of the three temples so far excavated at Petra has a principal deity been positively identified without doubt. In this connection mention should also be made of the eye idol briefly presented in the report of the previous season, which was found secondarily incorporated into a stone alignment

1. The mourning Isis is well documented in Petra. Cf. Bricault 1992: 37-49; Hammond 1990: 115-130. For more general in-

formation on Isis see V. Tran Tam Tinh, Isis in *LIMC* V 1 (Zurich and Munich 1990): 761-796.



6. Fragment of a statuette of Isis made from Petra limestone (photo: R. Hügli).



7. Fragment of a miniature horned altar in limestone (photo: R. Hügli).

(Kolb and Keller 2001: 320-321 and fig. 14); finally, among the new finds with a cultic significance, a fragment of a miniature altar (Fig. 7) warrants mention. It was found in square 86/AN, Abs. 5, in the sloping area to the east of the outer wall (EF 3460, height: 3cm, width: 2.6cm, depth: 1.8cm).

The findings made in 2001 throw a new light upon the architecture and painted decoration of the northern facade as presented in the report on the 2000 campaign (Kolb and Keller 2001: 315 and figs. 4-6): A year ago, the reconstructed quasi-monumental main entrance to the mansion with its lateral pilasters supporting a Doric frieze with busts of gods in medallion frames, and also the paintings which depict a libation on the lateral surfaces of the facade, confronted us with a number of interpretation problems. The most recently unearthed structures now show that the whole configuration of the northern facade can be regarded as a decorative boundary to the sacred space in front of the main entrance. But there is also no doubt that the owner of the mansion (and possibly also priest) could count on his house being “ennobled” by having the shrine in the immediate vicinity. His two-storied domicile was enthroned upon the highest rock ter-

race of the al-Kātūta ridge (الكاتوتة), and its exposed south, west and east sides probably dominated the view from the whole southern part of the city of Petra. Only the northern side was hidden by the rocky hill of az-Zanṭūr, and it is here that we find the little shrine set in front of the mansion. We can confidently say that the building was sited in this way with the specific aim of enhancing status, in the same way as is familiar to us from late Hellenistic and Roman republican private architecture of the highest level.

To sum up the activities in the northernmost grid squares, it can be said that after the completion of the excavation on EZ IV, not only has the most important Nabataean private building of Petra been exposed, but also that with the discovery of the close spatial connection with the probable neighbourhood shrine, this building complex has been revealed as one that seeks its equal even beyond the limits of the Nabataean realm. The only parallel that can be named in the narrower geographical area is the Herodian construction at Samaria. Beside of the large temple dedicated to Augustus lie the remains of a peristyle villa from the late first century BC, which was most recently in-

terpreted as part of the palace area of Herod the Great.<sup>2</sup> In contrast to EZ IV, however, the podium temple dominated the private building that stood beside it in every respect.

*Room 37 and the Soundings along the Eastern Facade*

*Room 37:* With the excavation of square 89/AK, the remainder of room 37 was exposed. In construction phase 1 (early first century AD) this room measuring approximately 8.2 x 4m had a wide door (1.2m) in wall BA leading to room 28 and a door with an opening of roughly the same size in wall BB which opened to the exterior on the north side (Figs. 1, 8, 9). The north-south axis of wall BC is continued in room 37 by two columns with a diameter of 63cm and an intercolumnium of 1.9m. The northern column is followed at a distance of 86cm by a row of three square pillars that runs to the south of outer wall BB at a distance of 80cm. A small *tābūn* built against the servants' staircase and wall I stands in the southwest corner of the room.

A look at Fig. 1 clearly shows that in its original state the room had none of the supports shown in the plan, for the southern columns block access to the door in the northwest and one of the three pillars on the northeastern long side obstructs the exterior door in wall BB. An approximate *terminus post quem* for the parts incorporated at a later stage is provided by the findings from the two door areas. The data which have yet to be discussed from the area of the exterior doors in the northeast, and the finds from the partly dismantled walling-up of the northwestern doors, both suggest that the door closing devices date from the early second century AD, i.e. construction phase 2. All the described supports incorporated at a later stage were built directly on the floor of sandstone slabs, which did not jeopardise stability since the rock surface was only a short distance below the floor. In the destruction horizon of AD 363 (Abs. 2, FK 3460; Abs. 3, FK 3467), an unusually large number of tile fragments (several hundreds of kilograms) was found in the zone between the supports and wall BB, which suggests that the supports in room 37 carried a tile-covered gallery. The relatively high proportion of brick fragments must have been incorporated in the upper parts of the pillars or is attributable to brick-built structures at storey level.

It has not yet been established why the small *tābūn* from the last occupation phase in the south-east corner of the room was built on a layer of ash 40cm thick, which extended 1.5m into the room, or in which connection the ash came to be in the room.

In squares 87/AK-AL and 88/AJ, the rubble was cleared to the level of the fourth century AD, which, in combination with the evidence in 86/AN (see below) gave an idea of the fourth century level along the east facade. The fourth century surface is particularly well preserved in square 88/AJ, where a layer of stone chips a few centimetres thick with added loam descends steadily in a southerly direction from the northern corner of the house (Fig. 9). At the corner of the outer walls I/BB the layer has a surface level of 924.56m above sea level. Surprisingly, in the adjacent square 89/AJ there is no evidence that the layer extends along the main facade to the northwest or of the existence of a wall or stair construction. (cf. Fig. 9). The bedrock surface that was reached in 89/AJ, Abs. 5 runs just over 50cm below the level of the layer with values of approximately 923.90-924.00m above sea level, and the finds (FK 3530) indicate that it was still walked upon in the fourth century.

At this point we must again consider the possible course taken along the north facade of the mansion by the road mentioned at the outset. In the original state of the building, room 37 opened with a wide door (opening width approximately 1.3m) onto the zone of the presumed road in front of the north facade.<sup>3</sup> Due to the extensive destruction of wall BB in the earthquake of 363, the level of the outer threshold can be only approximately stated as 925.00m above sea level (cf. Fig. 8). Immediately to the north of wall BB, a levelled, strip-like structure of flat stones and ample quantities of earth fill material runs for a distance of just under five metres along the main facade (level approximately 924.65-70m above sea level). Two details are of significance: 1. a thin stratum of ash divides the cross-section of the structure into two layers; 2. at the level of the western door post, a small architectural block with a finely worked *Lesbian cyma* protrudes from the profile beneath the ash (marked with arrow in Fig. 8). The outlined findings suggest to us that the architectural block broke away from its original place in the architectural decor of the north facade in the earthquake of the early sec-

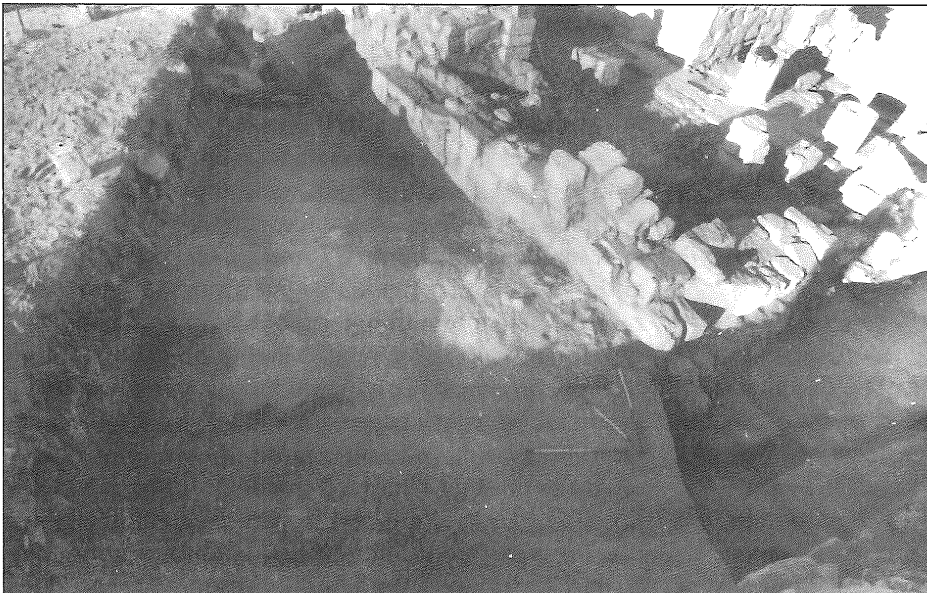
2. Barag 1993: 4ff, considers the peristyle house to be part of a complex consisting of various buildings which was built for Herod the Great in Samaria. It is quite conceivable that in the choice of the site for the dwelling house, Herod was inspired by the house of Augustus in Rome, which is known

to have been built beside the Temple of Apollo, cf. Carettoni 1983.

3. The door was probably walled up as part of the measures to consolidate the structures after the stated earthquake in the second century AD.



8. Northeast corner of the mansion with room 37 seen facing south from square 90/AI (photo: D. Keller).

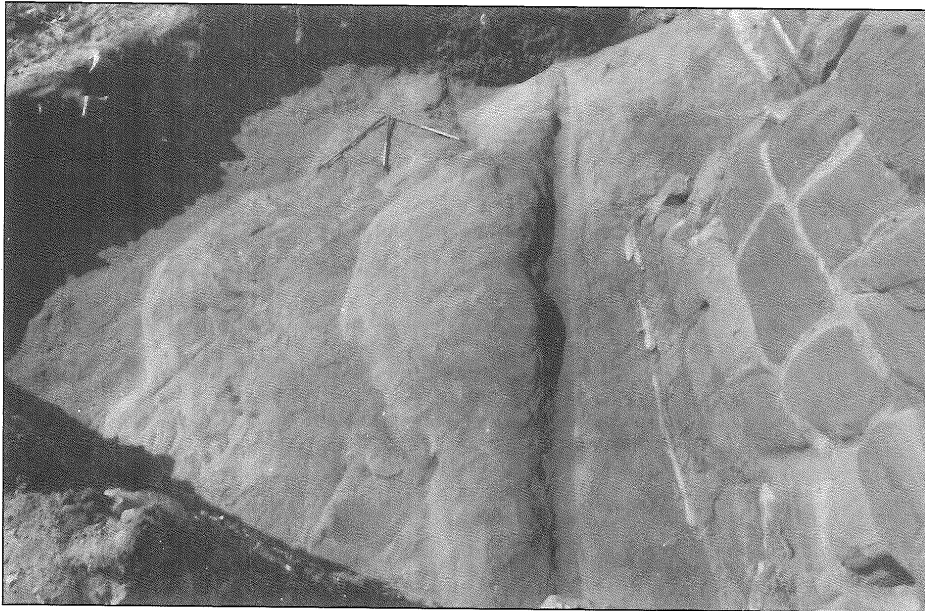


9. The exterior level of the fourth century AD and room 37, viewed facing southwest (photo: D. Keller).

ond century AD which has already been repeatedly referred to, and came to rest in front of the door to room 37. The overlying thin layer of ash can be attributed to the same event. From the location in which the block was found we can deduce the “street level” in the early second century, and arrive at a figure of approximately 924.50m above sea level. The difference in level between the outside/street level and the door of room 37 must accordingly have been roughly 50cm — a height that is quite possible in the private architecture of Petra (Kolb 2000: 254). In this zone, the same is confirmed as was established a year earlier for the area to the north of the main entrance: in the last phase of use the surface of the access path was completely torn away except for the above-mentioned nar-

row strip along the facade. In view of this fact it remains unclear how the building was linked with the much higher fourth-century level in square 88/AJ which is discussed above.

Squares 86-87/AN were cleared down to the bedrock in order, on the one hand, to obtain a reference for the course of the rock on the east side of the terrace, and on the other hand in order to establish whether traces of a stair construction are preserved directly beneath the narrow door of room 16 (cf. Fig. 1). It can be seen from Fig. 10 that in the rock flank that falls away irregularly and steeply to the east there is an entrenched gulley — probably a drainage canal — which originates 15 metres further to north in a shallow basin at the foot of house corner I/BB (cf. Fig. 9) and follows the east facade



10. Square 86/AW: view facing southwest of the steeply downward-sloping rock with drainage canal in front of the east facade I (photo: D. Keller).

in a southward direction at an average distance of 30cm.

In square 87/AN, despite the large height difference of 1.35m between the door threshold in wall I and the exposed rock, no evidence could be found of stairs leading down from the door of kitchen 16. In view of the narrow door opening (0.5m) and the lack of evidence of an outside staircase, a customary use for the door can be ruled out — it may have served for the disposal of kitchen or other waste.

Stratigraphic excavation in square 86/AN unexpectedly brought useful data on the history of the mansion's construction phases and destruction. The ash deposit in Abs. 2 with FK 3524 and 3533 provided clear indications as to the final destruction in 363. A further chronological "bar line" — a somewhat vaguely defined construction phase 2 in various parts of the terrace in the late first or second century AD — received clear confirmation in the form of a thin layer of ash. The lamp and glass finds from the associated FK 3546 date homogeneously from the second century AD, and confirm the assumption of a moderately severe (not historically documented) earthquake that led to the structural repairs observed in various places and the renewal of a number of interior decorations. The last-mentioned FK also included a small series of painting and stucco cornice fragments that will be of great value in the coming reconstruction of the two-phase wall and ceiling decorations. In other words, the stratigraphy in square 86/AN enabled the most important events in the constructional history of EZ IV to be more clearly visualised than

was the case in any other part of the terrace.

#### *The Cisterns of Rooms 22, 27 and 17 (Southern Substructure)*

A team of six workmen was entrusted for the duration of the campaign with the difficult and complex task of clearing the rubble-fill from the cisterns beneath rooms 27 and 22. In order not to unduly endanger the damaged floor structure of room 27, the remaining rubble amounting to approximately 40 cubic metres had to be hauled up in buckets on ropes. This procedure was also used in the neighbouring cistern 22, although in this area the rubble could only be cleared down to floor level in the northern half of the rock-hewn installation. Thanks to the care taken in clearing the rubble, the waterproof layer of hydraulic mortar on the cistern walls was very largely preserved (Figs. 11, 12).

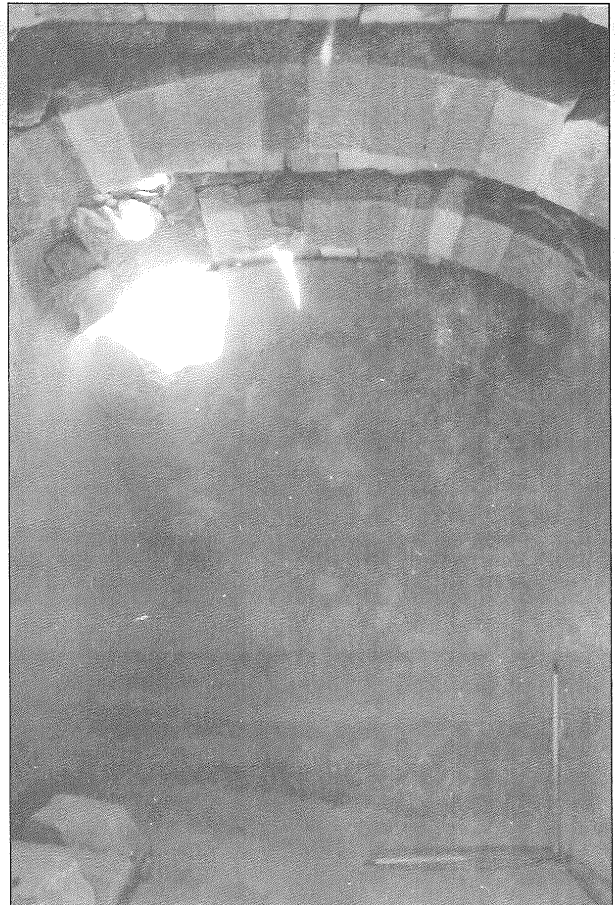
The water stored in cistern 27 originally flowed from a smaller, likewise rock-hewn cistern located to the north under room 34 through a vertical rectangular opening 1.45m high and 0.4m wide (Fig. 1).<sup>4</sup> The neighbouring cistern under room 22 also has a storage installation further to the north which communicated with the main storage container via a shaft, and even the two main cisterns were linked by a tunnel 0.8m wide and approximately 1.5m wide under wall AM (cf. Fig. 11). The water storage complex in squares 92-93/AL-AM is of first-class workmanship and in excellent repair but provides no clues as to the route followed by the lost water conduit(s) that fed the cisterns. The finds deposited on the floors of the cisterns show that the

4. The connection was walled up and sealed with hydraulic mortar at an unknown point in time.





11. Cistern under room 27: view to the east of the rock-hewn communicating tunnel to the cistern under the adjacent room 22 (photo: D. Keller).



12. Cistern under room 27: view of the west wall and the roof construction (photo: D. Keller).

cisterns were used and maintained up into the fourth century.<sup>5</sup>

In the southern substructure of room 17, the removal of the rubble-fill from the small cistern of the earlier building which began in the previous year was completed (see Kolb and Keller 2001: 317-319). We again recovered many fallen architectural fragments and fragments of the wall and ceiling decoration from room 17. The rich finds of curved stuccoed cornice fragments were evidence that banqueting room 17 was roofed by a barrel vault (Fig. 13). Some sequences of the wall decor could also be reconstructed. Fig. 14 shows the margin of an endless repeat pattern consisting of polychrome octagons and squares which is terminated by a painted stucco profile with a key-pattern frieze. The achieved “wallpaper effect” is reminiscent of decoration systems of the fourth Pompeiian Style from the last third of the first century AD.<sup>6</sup> In other words we can assume that the preserved parts

of the decoration of room 17 belong to construction phase 2 and date from the early second century. However, the system “à la mode romaine” has — quite characteristically of the Nabataeans — been enriched with elements that are not found on contemporary Roman walls, such as the notching of the outlines of both the squares and the octagons. Here we thus have an anachronistic element which originates from the Hellenistic Masonry Style which was highly esteemed by the Nabataeans and was combined with contemporary decor types in the described form (cf. Kolb 2001: 441-442 with bibliographical references).

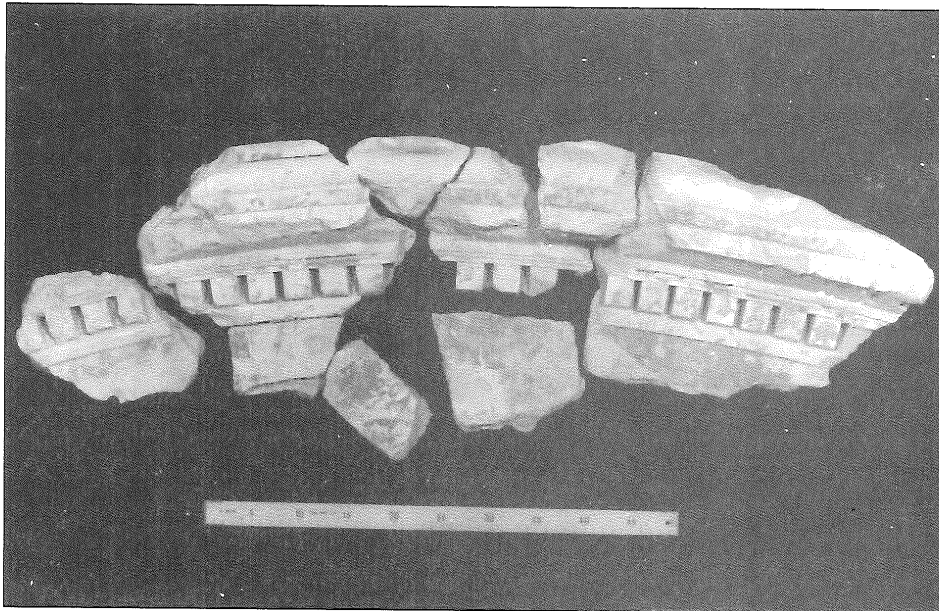
#### *Final Soundings on the West Flank of Terrace EZ IV*

*The Bath-house:* In the southwest corner of the building, in the preceding year, with room 40 and room 39 we exposed the caldarium and the praefur-

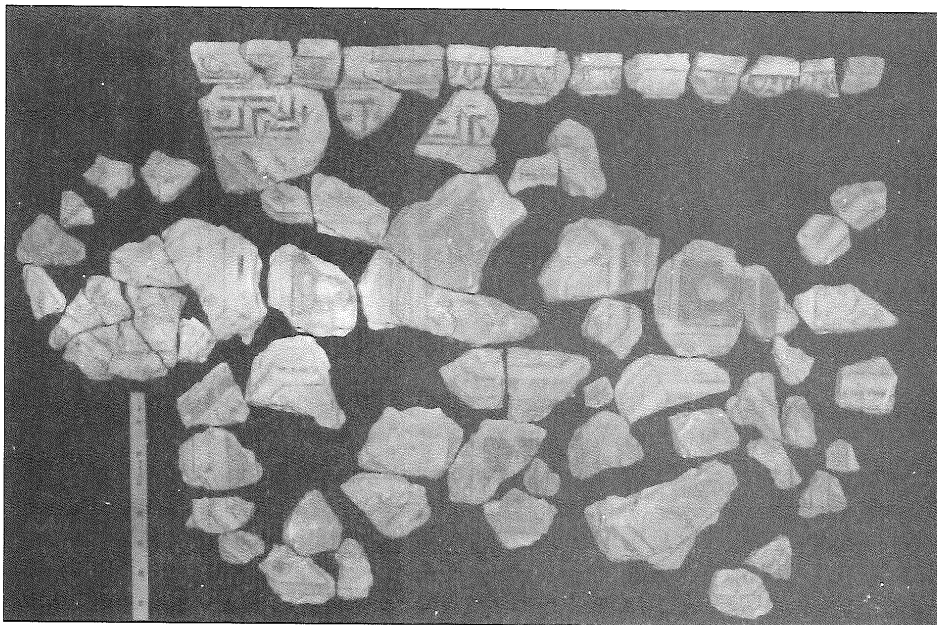
5. The small amounts of sand deposited on the cistern floors indicate that maintenance and cleaning work continued until the very end.

6. For Roman examples of “wallpaper patterns” from the time

of Vespasian cf. Thomas 1995: 156 figs. 100-101 with details of walls from room 9 of the Villa d’Arianna in Stabiae and from Cubiculum I of the Casa degli Amorini Dorati in Pompeii (VI, 7.38).



13. Room 17: fragments of the dentil cornice from the lunette of the barrel-vaulted ceiling (photo: R. Hügli).



14. Room 17, wall decoration: continuous repeat pattern consisting of octagons and squares with terminal key-pattern frieze and stuccoed ledge (photo: R. Hügli).

nium of a small private bath-house which, with room 10, included a definitively identified third room (Fig. 1). With the aim of determining the groundplan of the remainder of the installation, which could be reached from corridor 11, work was commenced in the area which falls steeply towards the southwest (squares 90-92/AS). In contrast to the whole of the structure unearthed on EZ IV, the eastern wall segment BX departs from the orthogonal layout and runs from the wall corner H/J for a distance of approximately 6.5m along the bedrock flank, which has been left in its natural state (Figs. 1 and 15). To the northwest it is joined by the square foundation zone of room 52 with a side length of 4.8m. The visible faces of the walls

BX and BW show the best masonry quality so far documented on EZ IV: the *pseudoisodomic* masonry of sandstone ashlar is precisely jointed into the structure of headers and stretchers.

The majority of the structures marked by erosion and the robbing of stones could only be recorded in the foundation zone. The low surviving height can best be demonstrated on the basis of the levels of preservation. Room 27, with a preserved height at 922.77m above sea level, can be taken as a reference for the original floor level in the bath-house. If we compare this value with the preserved height of the western enclosing wall of room 52 (920.32m), we see that there is a gap of approximately 2.5m between the original floor level and



15. View from room 10 of wall BX (left half of picture) and the foundations of room 52 (photo: D. Keller).

the preserved masonry. Against this background, it is difficult to reconstruct the purpose of room 52 with its central, horseshoe-shaped foundation. If we make a comparison with the small private bath-houses of Palestine, the horseshoe-shaped foundation seems to have supported a circular structure that could have been a tiny *laconicum* (sweat bath).<sup>7</sup> The position of room 10 in the groundplan suggests that it might have served as an *apodyterium* (changing room) which could have housed a small frigidarium in a partitioned-off area.

As regards the extent of the mansion in the western slope area, the work in squares 91-92/AS and 93/AR threw light on the matter: Only the bath rooms accessible from corridor 11 belonged to the main building, while the triclinium 32 and its subsidiary rooms belonged to a separate structure. With its exterior rising up like a tower, the bath-house built in the early second century AD (construction phase 2) probably had a marked impact on the appearance of the mansion at the steep southwestern corner of the terrace.

*The Structure with Triclinium 32:* After the conclusion of the excavation work in 2001, the triclinium no longer stands isolated on the western side of the slope. In square 94/AP the small, trapezium-shaped subsidiary rooms 45 (1.2/2.2m x 4.8m) and 46 (2.4/3m x 2.7m) were uncovered, incorporated between the banqueting room and the extended exterior wall E of the mansion (Figs. 1 and 16). In both rooms much of the floor covering has been lost. In room 46, the floor must have been stepped so as to descend in a southward direction since the rock surface in front of the wall BS, with a height at

921.04m, is substantially higher than the threshold level of the door to corridor 48 (920.69m). The thin walls AU, BR, BU and BT with thicknesses of 0.4-0.5m are of good quality and needed to be consolidated from the bottom up largely because of erosion damage to the sandstone ashlar.

The finds from the lowest excavation strata in rooms 45 (Abs. 4, FK 3483) and 46 (Abs. 5, FK 3489) place the last utilisation in the decades before 363. No clues as to the first utilisation could be obtained because of the torn-out floor coverings.

The position of rooms 45 and 46 in relation to the triclinium suggest that they were at least initially used as service rooms. To the west of the triclinium are corridor 48 (approximately 7.2 x 1.8m) with a floor of beaten earth, and the partly excavated room 51 (Fig. 16). In the final days of the campaign, approximately 1m below the southern end of the corridor (square 93/AR) we came upon a vertical, roughly circular hole in the rock that proved on closer examination to be a window-like opening to a room completely hewn out of the rock, with a floor area of ca. 7 x 7m (Figs. 1 and 17). Since there was insufficient time for a proper study of the room, we limited ourselves to a massive blocking of the window opening in order to at least substantially hinder the expected illicit excavations.

*Rooms 44, 47 and 49:* Because of their poor state of preservation, it is difficult to say anything specific about the two rooms 44 and 49 located to the west of altar 50 (Figs. 1 and 18). Of the completely plundered walls BP and BD, only the impressions of stones in the underlying surface have been

7. Cf. the Herodian bath-houses in Netzer 1999: 45-55; Nielsen 1999: 42-43.



16. Triclinium 32, corridor 48, subsidiary room 46 and room 51 seen facing west from wall E (photo: D. Keller).



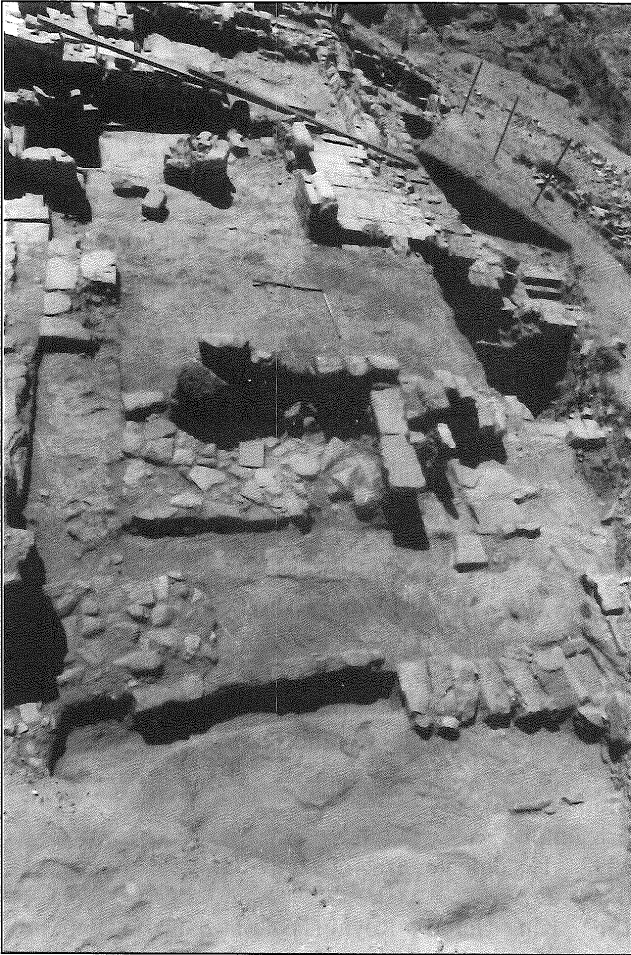
17. Window opening of the rock-hewn room under rooms 48 and 52, seen from the south (photo: D. Keller).

preserved thanks to the careful work of square supervisor M. Grawehr. The walls BQ and CA are in somewhat better repair, but most of these structures have also been lost. The same applies to the floor coverings. It can be concluded from **Fig. 18** that a rock-hewn channel covered with crude slabs passed through room 49 and effected drainage in a westerly direction. Room 47, which adjoins room 44 on its western side, belonged, like the rooms around triclinium 32, to one of the terrace buildings below the mansion on EZ IV. With a floor level at 922.50-60m, room 47 is roughly 3m lower than room 44 (925.42-46m). After six years of excavations, the structures unearthed along the west flank testify to a high building density on the slope, bordering the main building of EZ IV over its whole length.

#### **Glass Tableware of the Mid Fourth Century AD on EZ IV (D. Keller)**

Due to the sudden destruction of the house on EZ IV during the earthquake of AD 363, excellent archaeological contexts are preserved as the debris of the collapsed walls sealed the finds underneath them. Therefore, those finds represent the household inventory used in the different rooms of the house just before its destruction. A contextual analysis of the glass tableware found in these rooms offers a closer look at the function and the status of glass tableware in the mid fourth century AD in Petra.

In this preliminary study, the glass finds from room 6 as well as from a small part of another room — the niche at the western end of corridor 11 — will be presented and compared to the glass



18. The west terrace edge of EZ IV with rooms 44 and 49 in the foreground, seen from square 95/AJ (photo: D. Keller).

tableware from the other rooms on EZ IV. To quantify these glass assemblages, the method of estimating the minimum number of vessels (EMN) is adopted, where a conservative estimate of the minimum number of different vessels in an assemblage is made by judgments from the colour of the glass fragments and the preserved rim, body and base sherds found in the same room.<sup>8</sup>

The glass finds from room 6 (FK 3051 and 3065) — already presented in an earlier preliminary report<sup>9</sup> — consist of a shallow bowl and three conical beakers, each of them with cracked-off rim, decorated with wheel-cut lines (except one of the beakers) and made of good quality thick-walled colourless glass. Additionally, there are two other conical beakers with fire-rounded rim and a concave base as well as a jug with funnel-shaped mouth and a folded flange below the rim, and another closed form with a globular body and a con-

cave base, each of them made of thin-walled bluish green or greenish blue glass.

The glass vessel fragments from the lowest layer above the floor at the western end of corridor 11 (FK 3139) were found within an area of a little more than one square meter. This layer had a very large content of ashes of burnt wood and contained some iron nails and bronze fragments. The evidence suggests that the glass vessels were stored in a wooden shelf or a wooden box in the niche at the western end of corridor 11 just in front of the wall that divides this corridor from room 39.<sup>10</sup> The glass sherds belonged to two large bowls, one with a tubular out-folded rim and one with a fire-rounded rim and a double fold in the wall, two smaller bowls of the same shapes as the two larger vessels, four beakers (a cylindrical and a conical beaker with a fire-rounded rim each, a beaker with concave base and a conical beaker with folded pushed-in base), a jug with fire-rounded rim, funnel-shaped mouth and a single trail, a flask with cylindrical neck and a jar with fire-rounded rim and mould-blown ribs on the body. All these vessels are made of greenish blue to bluish green thin-walled glass, which could occasionally be nearly colourless. The only exception from this context is a large cylindrical beaker with cracked-off rim, which is made of thick-walled, probably colourless glass and which bears an abraded decoration showing a Greek inscription and a herringbone pattern.

Both assemblages show complete sets of glass tableware of the mid fourth century AD, but they differ from each other. The set in room 6 consists almost exclusively of good quality colourless thick-walled glass — at least the bowl for the presentation of food and three of the five beakers for drinking — with the addition of two beakers and two closed forms made of naturally coloured glass of a lower quality. The glass vessels from the western end of corridor 11, on the other hand, are all made of lower quality thin-walled glass, the only exception being the large beaker with the Greek inscription.

The typical high quality glass tableware set, as shown by the finds from room 6, consists of four thick-walled colourless vessels with cracked-off rims, being normally one shallow bowl and three conical beakers. Such sets with an identical composition were also found twice in room 12 and in the room between walls AN and BI. Occasionally one of the three beakers can be replaced by a thick-

8. This method of quantifying glass assemblages is fully explained and discussed by Cool and Price 1995: 9-10.

9. Kolb, Keller and Gerber 1998: 268-272 no. 1-7 fig. 15. The third conical beaker made of colourless glass and preserved

in a base sherd was omitted in this report by mistake.

10. This is only a preliminary interpretation of the metal finds from FK 3139. It may well be that they belonged to something different.

walled colourless hemispherical bowl with cracked-off rim, as demonstrated by finds of such sets consisting of a shallow bowl, a hemispherical bowl and two conical beakers from rooms 27 and 13.

While the mentioned high quality glass tableware sets are very uniform in their function, shapes and composition, the low quality set from room 11 shows a wider variety of forms and shapes. There are large bowls as well as small bowls, and there are different types of bowls as well as of beakers. But not only within this set there are different vessel shapes, the variety of shapes seems to be a common feature of the lower quality glass tableware sets within the house on EZ IV, as shown by similar sets in rooms 2, 12, 13, 16, 35, 37 and in the room between walls AN and BI. They always consist of one jug or flask and between three and five beakers of different shapes, but their bowl-composition can range between two large and two small ones like in room 11, one large and two small bowls (twice in room 12), one large and one small bowl (in rooms 2, 13 and 37) or only two small bowls (twice in room 16, twice in the room between walls AN and BI, and once in each of rooms 35 and 37).

Looking at the rooms on EZ IV, in which glass tableware was found, there were two rooms, in which obviously two sets of each quality were stored, namely in room 12 and in the room between walls AN and BI. While the former can be regarded as a kind of storage room in the southwestern part of the house according to the abundant glass finds, the later was a kitchen, as clearly shown by the huge *tābūn* discovered in this room (Kolb and Keller 2000: 364). Glass vessels were also stored in larger quantities at the western end of room 11 — as demonstrated above, in corridor 13, where one high quality as well as one low quality set were found, and in rooms 2 and 37, with one and respectively two low quality glass sets. While the glass vessels from room 11 were obviously stored on a wooden shelf at the western end of this corridor, and the glass finds from room 37 belonged to a kitchen as shown by the *tābūn* discovered in this room as well, the question why in the two smaller corridors 2 and 13 there were one or even two complete glass tableware sets, remains unanswered for the moment.

If one compares the other single glass tableware sets, it is remarkable that the two high quality sets were found in two rooms (6 and 27), both of which had prominent architectural features and rich interior decoration. In general, the spatial distribution of the high quality glass tableware within the house on EZ IV is concentrated in the western (or mainly

southwestern) part — with the remarkable exception of the two high quality sets stored in the kitchen between walls AN and BI, while in the other smaller rooms in the eastern wing of the house (rooms 16, 35 and 37) only glass vessels belonging to the low quality group were found. This shows once more that the glass used in this house at the time of its destruction is well divided between good quality glass in the larger rooms and low quality glass in the smaller rooms, as already shown with the glass lamps found in the same building (cf. Kolb and Keller 2000: 366-370, fig. 15.1; Kolb and Keller 2001: 321-323, fig. 15).

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