

SWISS-LIECHTENSTEIN EXCAVATIONS AT AZ-ZANṬŪR IN PETRA 1996 THE SEVENTH SEASON

by

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with contributions by Daniel Keller and Regine Fellmann Brogli

The seventh season of excavations, by Basel University in collaboration with the Swiss Liechtenstein Foundation for Archaeological Research Abroad (SLFA), in the area of az-Zanṭūr took place from August 18 through October 19, in 1996 under the direction of Bernhard Kolb. Participants of the seventh campaign were: archaeologists: André Barmasse, Maxime Boillat, Marie-Claire Crelier, Yvonne Gerber, Rolf Frank, Daniel Keller, Stephan Schmid, Christoph Schneider and Jane Wolff; archeo-osteologist: Jacqueline Studer; restorers: Christine Pugin (small finds), Ulrich and Titus Bellwald (consolidation and restoration of structures and wall-paintings) and draughtswoman: Irma Haussener.

We resumed the excavations on the two terraces north of az-Zanṭūr (upper terrace: EZ I, lower terrace: EZ III) and started to investigate our new site - the terrace immediately south of az-Zanṭūr (EZ IV). In order to give an introduction to the important finds on terrace EZ IV at some length, the report on the results of EZ I and EZ III will be shorter this time.

EZ IV: Soundings 1 and 2

During the 1996 campaign we opened soundings 1 (5 x 10m) and 2 (5 x 5m) close to the southern edge of the terrace (Fig. 1). In sounding 1 (PQ 90-92/AO) four rooms had been partially exposed (Figs. 2-4). The walls are preserved to an average height of 3 m. They stand directly on the bedrock and are of the usual double-faced type. The bedrock surface was planed and the quarried material built into the walls - as the matching quality of the roughly dressed quarried stones in the walls shows. All walls had

been covered with a thick layer of coarse under-plaster and fine finishing stucco. Wall B (corridor 2) had two doorways, which were blocked up and plastered over during a phase of secondary use (Fig. 4). In the original building context pillar D and the corner of walls A and C demarcated a passage from corridor 2 to room 3. This passageway, as well as the doorway between rooms 1 and 3 were also closed off later on. In other words all the doors so far exposed in sounding 1 were walled up in a later phase. This implies that in the secondary use of the building only a small proportion of the rooms available were called into service.

Figs. 2-3 show that practically nothing remains of the original flooring. The carbonized wooden threshold of one of the blocked doorways between rooms 2 and 4, however, as well as two fragments of flagstones still *in situ* in the corner of walls A and C, give an indication of the original floor level resp. the original covering: The floor level in rooms 2 and 3 was just a few cm above the bedrock and probably consisted entirely of flagging. This seems to be corroborated by the almost identical levels of the flagstones (913. 94 m) and the plaster floor in room 1 (913. 90-97 m). In sounding 1 we found a good dozen stone tiles of various size and stone quality - obviously elements of an *opus sectile* floor. It is, of course, far too early to draw any definitive conclusions after just one season but it is certainly not to be excluded that there may originally have been an *opus sectile* floor embedded in plaster in room 1.

Under the original pavements of rooms 2 and 3 two channels were carved out of the rock (Figs. 3-4). The main channel runs



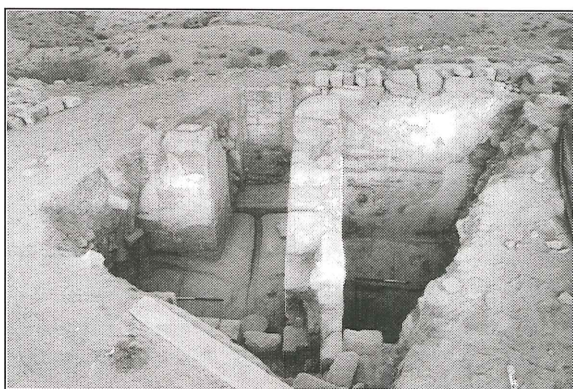
1. General View of the sites EZ I, EZ II and EZ IV north and south of az-Zanṭūr (Photo: R. Frank).



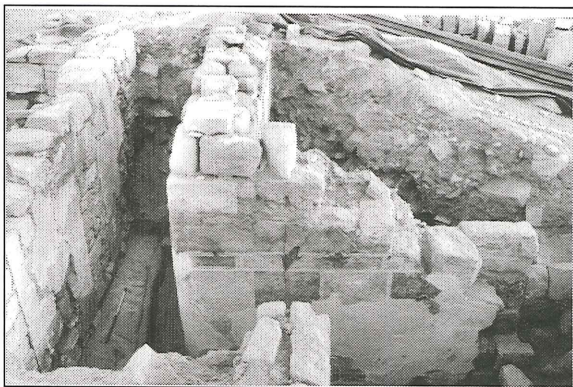
2. EZ IV. Top plan of soundings 1 and 2 (Drawing: B. Kolb).

down the middle of corridor 2 and falls at a slight inclination from north to south (3 cm per metre). The second channel (room 3) is connected at a right angle to the main one. Both of them probably transported waste- or run- off water.¹ The very shallow and irregular secondary channels, or rather, grooves in rooms 1 and 3 incline to the east and were probably for drainage.² The profile along wall C (room 1) shows the drainage-groove in the bedrock covered by a levelling earthfill, on top of which lay the plaster floor (Fig. 5).

About 1.5 m under the surface level (room 1, locus 3019) we came upon a destruction layer of more than 20 fallen flagstones, roughly 50-80 cm long and 20-60



3. EZ IV. Sounding 1 from the east (Photo: D. Keller).

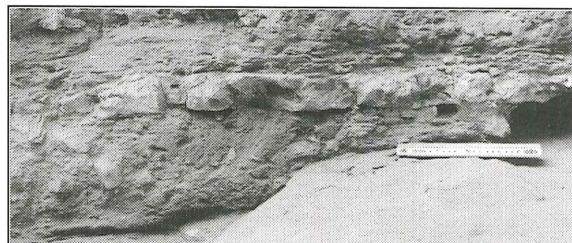


4. EZ IV. Sounding 1 from the south (Photo: D. Keller).

1. It is possible that the main channel was connected to the huge cistern at the southern foot of the terrace.
2. The T-shaped system of grooves in room 1 falls 30 cm towards the east within a measurable

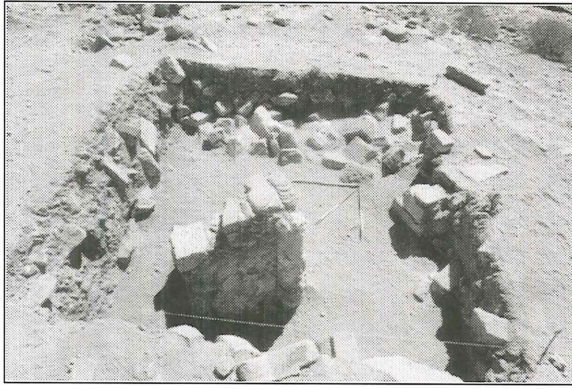
cm wide. While the fire-blackened surfaces of these slabs were smoothly worked, the reverse sides were only very roughly dressed and account for the enormous variation in the thickness of the slabs between 5 and 20 cm. Taking into account the variable length of the slabs as well as the irregular finish of the reverse sides, we must assume that they were part of the floor of the upper storey supported not by arches but by a vault construction. As there do not appear to be any springers in walls B and C— which are preserved, as already mentioned, to a height of 3 m – the vaulted ceiling must have started higher up and, given the length of the walls exposed, reached a crown height of at least 5 m.³

We have not yet reached floor level in sounding 2 (PQ 88-89/AQ) (Fig. 6). The top plan shows that the exposed pillar with its stuccoed half column and the related wall to the south certainly belong to the same building as the rooms in sounding 1 but do not yet allow any more precise conclusions as to their function or architectonic incorporation in the building context. The most important finds from sounding 2 are fragments of a monumental Corinthian capital which will be discussed below and quantities of moulded architectural stucco. Fragments of painted and gold-plated cornices, modillions and dentils give proof of richly decorated wall systems.



5. EZ IV. Sounding 1. Profile showing plaster floor in room 1 (Photo: D. Keller).

- length of 4 m. Compare the very similar grooves in room 3 (Figs. 2-3).
3. This minimum is provisional and has been calculated on the basis of the exposed length of wall A.



6. EZ IV. Sounding 2 from the west (Photo: D. Keller).

It is of course, at present, impossible to determine the function of the structures on EZ IV. However, a comparison of the relatively poor quality of the masonry on EZ IV with the excellent quality of that of the temples and other monumental buildings at Petra indicates that we are more likely to be dealing with a wealthy private dwelling than a public building.

Chronological Remarks

The limited size of the excavated area and the scarcity of pottery finds make a close dating of the structures difficult, but the following finds give us some clues: 1) From the levelling earthfill under the plaster-floor in room 1 came a gem, datable to the late second century BC - early first century AD (see below R. Fellmann Brogli). 2) A very lucky find was a sherd of a painted Nabataean bowl stuck in a piece of wall-plaster as a tempering element. The plaster-fragment is a complete section from the painted stucco-finish to the coarse under-plaster. It was found in the debris of corridor 2 and must have been part of the first floor wall-decoration.⁴ As for the sherd - we can definitely say that it was part of a bowl dated between 20 and 70/80 AD.⁵ The generally sparse pottery finds and a coin of King Aretas

IV (18-40 AD) from the floor level in room 1 seem at the present to confirm the dating. So we can provisionally assume that the construction and decoration of the building took place after the year 20 AD.

The last phase of occupation is best documented in corridor 2. Bronze coins found on the late floor level of beaten earth were struck between 313 and 358 AD.⁶ So the last modest use of the structures on EZ IV falls in the same period as the first building phase of the Late Roman houses on the northern terrace EZ I (Kolb 1996:74f. 85f.). The dating of the coins imply that the earthquake of 363 (Russell 1980:47ff.), which severely damaged the houses on EZ I, put an end to the occupation of the buildings on EZ IV.

Wall-Decoration in Room 1

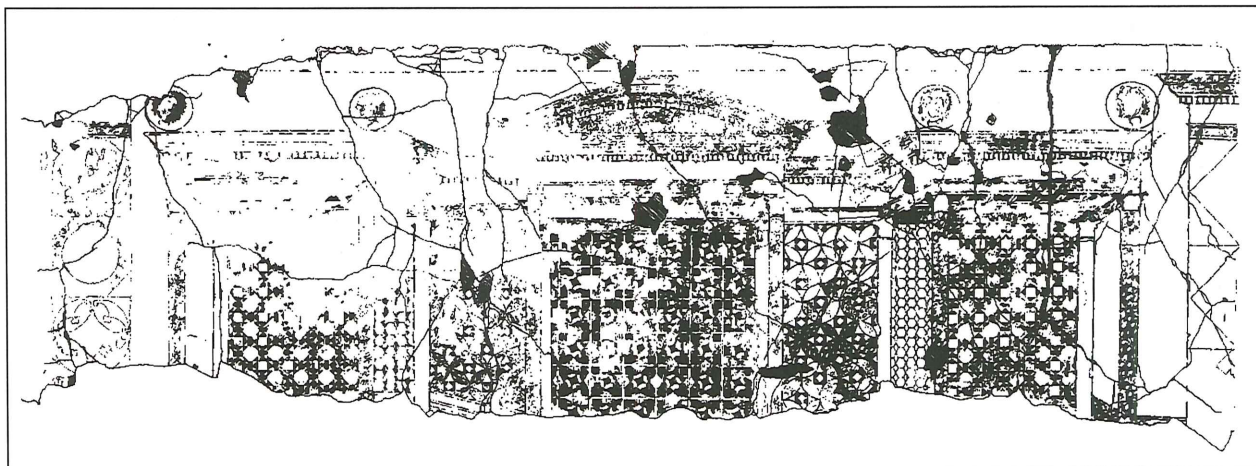
The wall-paintings in room 1 were certainly the most spectacular finds of the 1996 campaign (Figs.3, 7-8). Aware that the preservation of these walls had absolute priority we left a protective layer of earth in front of the paintings – apart from the few patches already exposed – while continuing work until the restorers U. and T. Bellwald arrived at Petra. They only had 20 days to expose the paintings and to consolidate the walls resp. the decoration. This work carried on almost to the end of the season, so that there was very little time left to study the walls, in a more detailed manner. The following comments are thus to be taken as provisional.

The polychrome frescoes extend across the entire length of the north face of wall C to a length of 2.9 m between the blocked doorway in the east and the corner with wall A in the west (Fig. 8). The paintings carry on along the east elevation of wall A to a so-far uncovered length of 1.8 m. A

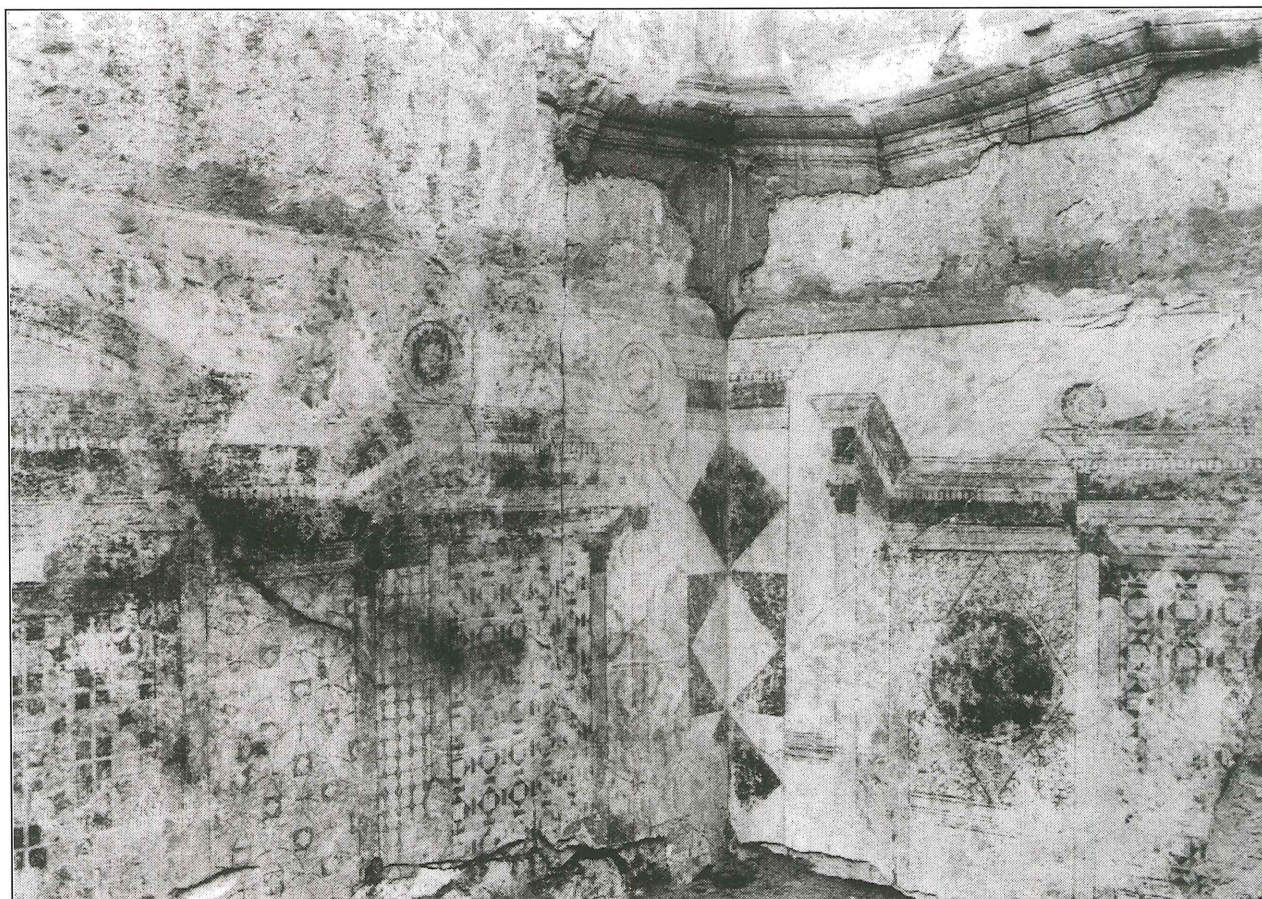
4. The traces of a very coarse red marbling on white background on the said fragment do not match the glossy Masonry Style decoration on the western face of wall A (corridor 2).

5. Compare S.G. Schmid, *Die bemalte Feinkeramik von az-Zanṭūr*, in *Petra- az-Zanṭūr I*: 166 fig. 700.

6. EF 3012; 3014; 3020-3025; 3033-3036. The coins have been analysed by M. Peter.



7. EZ IV. Sounding 1. Drawing of Wall-paintings on wall C (room 1) (Drawing: T. Bellwald).



8. EZ IV. Sounding 1. Wall-paintings on walls A and C (room 1) (Photo: D. Keller).

narrow epistyle and supporting pilasters frame the architectural paintings on three sides (Figs. 7-8). The upper edge of the epistyle runs at only about 1.5 m above the actual floor level in room 1. Considering the proportions of the composition a dado of about 0.5 m is to be expected. Above the

painted main zone are the remains of stuccoed architecture in the upper zone. The pilaster-motif – painted as framing elements in the main zone – is repeated in stucco in the upper zone. Fig. 7 shows that the pilaster's base and the supporting cornice have sagged a few cm from their original posi-

tion, but are still sticking to the wall despite the broken metal dowels. The narrow area between the main zone and the moulded cornice in the upper zone was decorated with profiled stucco-panels.

On both walls illusionistic architectural façades are depicted on a closed background imitating alabaster.⁷ The basic design of the fresco on wall C is composed symmetrically and evolves as *trompe l'oeil* from the closed background into the open room of the spectator. On the background of the broad main building a four columned central pavilion with a segmental pediment is flanked by two sidewings with entablature, each of which is decorated with two disc shaped acroteres depicting *gorgoneia*.⁸ The perspective, slightly from below, shows the coffered ceilings of the pavilions. The decoration of the main building is rather unusual with its two-dimensional but colourful geometric patterns. As a consequence of these patterns the illusionistic architecture is set off from the main building in a strangely untectonic manner. The changing patterns on the other hand accentuate to a certain degree the illusion of depth. This is possible because the perspectively depicted column-architecture sets the – again very untectonic – limits of the different decoration – areas. The threedimensional effect is increased by the uniformity of colour of the columns at the front and the connecting entablature of the façade. These elements are painted in a red marble imitation on white background. The rear columns show a strongly contrasting blue-green. The same blue-green is used in the epistyle, supported by the side-

pilasters, which frame the main zone.

For decades the al-Kaznah and the other monumental façades in Petra have been quoted as parallels in the discussion of the architectural paintings of the Second Pompeian Style. The question as to whether the architecture depicted on the frescoes actually existed or not and where it originated from cannot be discussed here,⁹ but it should be noted, that the architecture on the paintings discovered on EZ IV is actually very close to the architecture of the monumental façades just mentioned. The closest stylistic parallels to the frescoes of EZ IV seem to originate from the early Augustan period, for example the rear wall of the so-called Room of the Masks in the House of Augustus (ca. 30 BC) in Rome (Carettoni 1983: 23ff., Pl. E). The general impression of reduced illusionistic effects, the monochrome screen-walls, the brittleness of the architecture and the relatively flat rendering of the architectural framework consisting of pilasters and a narrow epistyle are quite similar to the mural paintings of EZ IV. But two major differences remain: The first concerns the illusion of depth. We have seen that the architectural paintings from EZ IV develop from a closed wall-surface in the direction of the observer. The Pompeian Second Style, on the other hand, works very much with a perspective opening of the front plane of the picture: The illusion of depth is striven after. This is particularly clear in the vista through the central aedicula in the Room of the Masks. The second difference concerns the size of the painting in relation to the available surface.

7. The forerunners and most probably the models for painted imitation of alabaster are known from Hellenistic Alexandria. Cf. the Hellenistic Alabaster Grave in Alexandria, which is built of huge monolithic alabaster slabs, in Adriani 1963/6: no. 89, 140ff. Pls. 61-63. Hypogeum 2 in the An-fushi-Necropole dated to the 2nd or 1st century BC shows early examples of painted alabaster imitation; cf. Adriani 1963/6: nos. 142, 192-194, Pl. 109.

8. The rendering of the acroteres are reminiscent of Hellenistic shieldbusts resp. of *imagines clipeatae*, as depicted on the walls of atrium 5 in the Villa of Oplontis. See R. Winkes, *Clipeata Imago* (Bonn, 1969) 10ff. resp. De Franciscis 1975: 19, Fig. 4; 25 Fig. 11.

9. For a short summary of the said discussion see A. Barbet, *La peinture murale romaine* (Paris, 1985) 49ff.

The painting in the Room of the Masks covers, as usual in the Second Style, the whole height of the wall, whereas the paintings of EZ IV comprises a relatively narrow band in the lower half of the wall.

We know a number of architectural wall-paintings of the Second Style in Israel originating from the time of Herod (Fittschen 1996: 139ff.), for instance in the Northern Palace at Masada, which E. Netzer dates to the years 30-20 BC (Netzer 1991: 617f.). The walls in *tepidarium* 106 for example are decorated in a relatively simple scheme of dado, orthostats, string-course and main zone, reflecting the early Second Style (Foerster 1995: pl. VIb). Somewhat closer to the frescoes on EZ IV are the paintings in the Wādī as-Siyyagh cave near the inner city of Petra (Zayadine 1987:140f.). A row of painted blind doorways; completely lacking in perspective, is set within an architectural framework of slim columns and an epistyle stretching over them. Comparable to the paintings on EZ IV is the placement of the paintings low down on the wall. To sum up we may say, that somewhat simple versions of the architectural paintings related to the Second Pompeian Style were quite common in Nabataea and especially in the neighbouring kingdom of Judaea. Also evident is the fact, that the stylistic rendering of the frescoes of EZ IV is unique among the examples of architectural painting in the Near East as yet known.

There is a great deal of speculation about the origin of the architects and artists who created and decorated the buildings of Petra. We will examine on the basis of a few details what the paintings of EZ IV can contribute to this discussion: The painted pilaster in the corner of walls A and C (Figs. 7-8) is divided into square fields decorated with red lozenges on a white background al-

ternating with white lozenges on a red background. The less well-preserved-eastern pilaster near the blocked doorway shows the same basic decorative system (Fig. 8). The black and white painted motifs are also arranged in a system of squares decorated with a series of circles and quadrilobes of four diagonally placed *peltae* around a central concave square. The basic design of the pilasters – also known from Hellenistic Alexandria (Adriani 1963/6: 192ff. no. 142) – has direct forerunners in the architecture of Petra, both built or carved out of the cliffs as well as in the stucco decoration: The antae of Qaşr al-Bint (late first century BC) are decorated with stuccoed square panels, themselves ornamented with octagons and circles (McKenzie 1990: 135ff., Pls. 67, 71-72). The stuccoed architecture on the south façade of Qaşr al-Bint gives another example.¹⁰ The central stuccoed façade shows a segmental pediment in the middle and broken pediments at the sides. Under the entablature are the familiar pilasters with panelled decoration. The same scheme of decoration shows the stuccoed pilasters on the east façade of the temple (Zayadine 1987: 138, Fig. 13). The general similarity of the stuccoed façade on the south façade to the painted one on EZ IV is striking: Both depict a tripartite façade with a hexastyle front. A final example for the specific decoration of the pilasters should be mentioned – the architectural framework of an eye idol (Moutsopoulos 1990: 71, Pl. VI) found in the Temple of the Winged Lions, which was built in the 20s of the first century AD (Hammond 1986: 29). The pediment's supports show framed lozenges and panel decorations again very similar to the painted ones on EZ IV.

On the basis of the small selection of parallels, it seems reasonable to assume that

10. Zayadine 1987: 138, Fig.14. McKenzie 1990: 137. Pls. 73-74; cf. the pilaster decoration of the *aedicula* in room 468 opposite ad-Dayr, in

McKenzie 1990: 150f. Pls. 111-112; cf. the pilaster decoration of the Temenos Gate, in McKenzie 1990: 132ff. Pls. 56-57.

the painter employed was a local artisan from Petra, who knew the monuments at first hand and allowed certain elements of Nabataean architectural decoration to flow into his work.

The unusual patterns covering the background architecture imitate *opus sectile*, as proven by the red-on-white marbling prominent in all but one of the patterns. Identical or very similar patterns are known since the first century BC from *opus sectile* and mosaic floors: The orthogonal pattern consisting of black intersecting circles on red-marbled background with two inner squares (see Figs. 7-8) is known from Pompeii and from the Northern Palace at Masada.¹¹ Another pattern shows the combination of red lozenges and black-rimmed hexagons on a white background. Contemporary examples of hexagonal flagstone pavements are known in Petra.¹² We are familiar with the pattern, executed as a black and white mosaic, in the Northern Palace at Masada.¹³

We may conclude, that the artist created a most original but at the same time provincial interpretation of architectural paintings of the early Augustan period which were already "old-fashioned" at the time of execution in the first century AD. Comparisons with the architectural paintings of the Second Style in Judaea and Petra have also shown, that the two-dimensional inter-

pretation of the Second Style wall systems was wide-spread in this geographical zone. It seems, that the extraordinary graphic decoration of the main building on wall C has to be seen within this context.

Above the main zone follows the upper zone already mentioned decorated with stuccoed architecture, a decoration 'system' known as the Masonry Style¹⁴ in the Hellenistic East and as First Pompeian Style in the Roman West.¹⁵ The design of the upper zone had two phases: In the first phase the wall was divided up by the stuccoed pilasters and finely profiled ledges, which separated panels. In the second phase the recessed spaces were filled in with plaster and painted with geometrical patterns already familiar from the main zone. One plaster slab from this second phase was found just a few cm below its original position (Fig. 9). It is lined on both long sides by the ledges of decoration-phase 1 and shows an orthogonal pattern of triangles in black and white forming hourglasses. Further proof of the two decoration-phases is also given by a series of plaster fragments from soundings 1 and 2.

Still unresolved is the chronological relation of the decoration of the main zone with those of the two phases in the upper zone. The broken lower edge of the painted main zone shows no trace of two phases. On the other hand the similarity of the geo-

11. Pattern without inner squares: Black and white mosaic in the oecus of the House of M. Caesius Blandus (P. VII 1, 40), around the middle of the 1st. century BC; cf. Pompei. Pitture e mosaici. Vol. VI (Rome, 1996) 392, Fig. 26. Black and white mosaic in cubiculum 78 of the Northern Palace at Masada; cf. Foerster 1995: 151ff., Figs. 260. 261a. Pattern with inner squares: Casa del Sacello Iliaco (P. I 6, 4), cubiculum q. See Pompei. Pitture e mosaici. Vol. I. Parte prima (Milan, 1990) 326, Fig. 80; Casa del marinaio (P. VII 15, 2); cf. E. Pernice, Die hellenistische Kunst in Pompeji, VI. Pavimente und figürliche Mosaiken (Berlin, 1938) 64, Pl. 27.5.

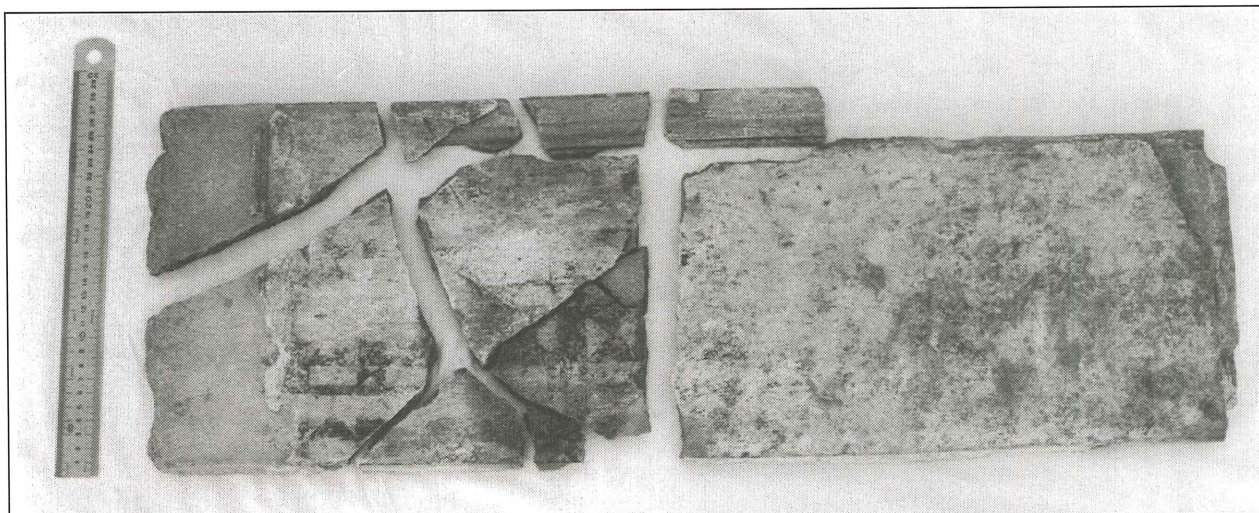
12. Compare for instance the pavement in room XVII of the Nabataean house on EZ I, in *Petra -Ez-Zantūr I: 77*, Fig. 112; Pavement of the "Lower

Temenos" of the Southern Tempel at Petra: M. Sharp Joukowsky, 1994 Archaeological Excavations and Survey of the Southern Temple at Petra, Jordan. *ADAJ* 39 (1995): 246, fig. 4.

13. *Petra -Ez-Zantūr I* 1996: Figs. 57. 59. Compare G. Foerster 1995: 151ff., Figs. 262-263.

14. A. Andreou, Griechische Wanddekorationen (Michelstadt, 1988) 109f., kat.nr. 136. 138: Tombs I and III in Lefkadia (end of 4th resp. 3rd century BC); *idem*, 106, Cat.no. 132: Hellenistic House in Knidos. Cf. R. Gordon, Late Hellenistic Wall Decoration of Tel Anafa (Ann Arbor, 1977) 230 Fig. 24.

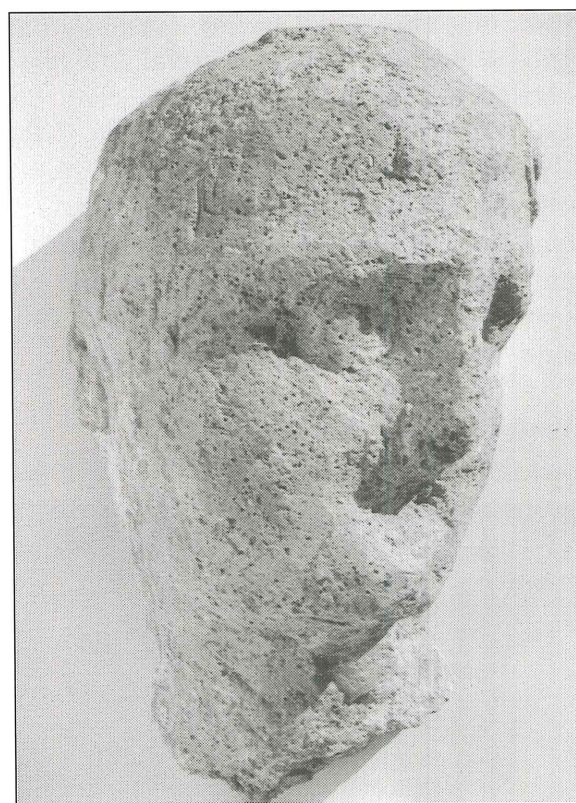
15. A. Laidlaw, The First Style in Pompeii: Painting and Architecture (Rome, 1985) 89ff., Pl. 97b-c: Casa della Nave Europa (Pompeji I 15, 1/3), *cubiculum IV*.



9. EZ IV. Sounding 1. Painted plaster slab of decoration phase 2 (from wall A) (Photo: D. Keller).

metric motives of the main zone with those of phase 2 of the upper zone may suggest a simultaneous production. Another indication for a redecoration of the main zone in phase 2 could be the painting's unusually modest height of just 1.5 m. If we consider that the stuccoed and painted orthostats of the Masonry Style decoration in room 3 reach an approximate height of 1.7 m (Fig. 4), the narrow zone may reflect the height of the orthostats, that is the decoration of a hypothetical first phase, which had been removed completely up to the stuccoed panels and redone in a different style.

A human plaster-head affix of 30 cm height, which was most certainly part of the lost upper wall decoration in room 1 came to light in the debris in front of wall C (Fig. 10). The thin finishing coat of stucco with the detailed modelling of the physiognomy is unfortunately mostly broken away. What one can still see is that the head is slightly tilted to the left in a typical pathos formula. We know from Philip Hammond's excavation reports that the Temple of the Winged Lions was also decorated with plaster-head affixes (Hammond 1977-8: 246, Pl. LX). Since the sizes of all but one of the heads remain unpublished it is difficult to make comparisons. The published fragmentary head is only 10 cm high and thus much



10. EZ IV. Sounding 1. Plaster head affix from room 1 (Photo: D. Keller).

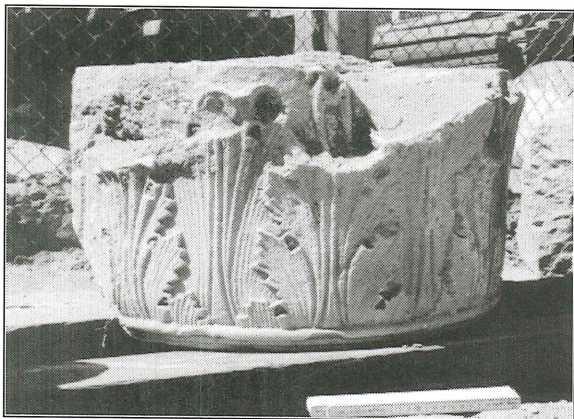
smaller than ours and its relief seems to be lower (Hammond 1986: 27, Fig. 18).

An interesting point is Hammond's distinction of two phases of decoration: The original richly painted stucco panels of the 20s AD had been replaced with bare plaster panels in a phase of redecoration pro-

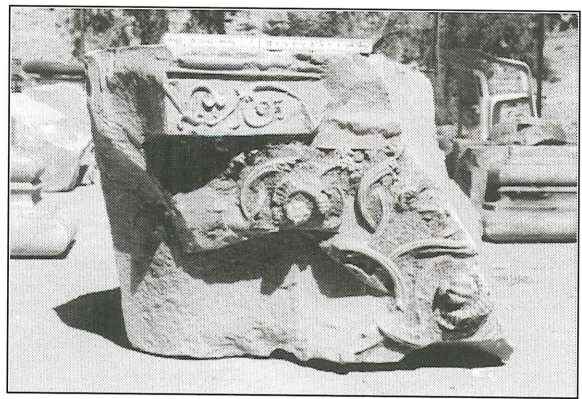
visionally dated to the reign of Malichus II (40 -70 AD). In regard to the mural decoration on EZ IV with a provisional *terminus post quem* of 20 AD, it would be very helpful to know in detail how the two phases of the temple decoration were related to one another. Until these findings are available to us we must content ourselves with the fact that the dating of the stucco and paintings on EZ IV is apparently very close to that of the related examples from the Temple of the Winged Lions, an assumption corroborated by a fragmentary Corinthian capital from sounding 2 (Figs. 11-12). The almost completely preserved lower part has a collar of acanthus leaves with plastered details. The state of preservation of the upper part is good enough to identify a floral capital of McKenzie's Type 1 (McKenzie 1990: 95, 190, Fig. f). The tendril decoration of the abacus is to the writer's knowledge an, up till now, unknown feature of this type. As to type and style the capital resembles strongly the specimens from the temple and does not seem to contradict an approximate contemporary dating of the two buildings.

Wall-Decoration in Rooms 2 and 3

Less important rooms, as we know from



11. EZ IV. Sounding 2. Lower part of a Corinthian floral capital (Photo: D. Keller).



12. EZ. IV. Sounding 2. Upper part of a Corinthian floral capital (Photo: D. Keller).

the houses and villas in Campania continued to be decorated in a simpler and somewhat anachronistic manner (Strocka 1975: 101ff.). We have to see the stuccoed and painted decoration in corridor 2 (west face of wall A) and room 3 (south face of wall C: Fig. 4) taking this into account.¹⁶ The better preserved decoration in room 3 displays a decorative scheme in the Masonry Style: Above a black plinth of ca. 30 cm follows a zone of 140 cm showing panels alternately painted red and yellow with a white lining imitating drafted orthostats. The panels are delineated by thin grooves. Above the orthostats is a string-course consisting of red stretchers and yellow headers and the remains of isodomic courses of the upper zone (Fig. 4). Close parallels to this Masonry Style decoration and its colour scheme are known from the staircase of the Baths next to the Temenos Gate at Petra.¹⁷

It is to be hoped that further excavations will help to clarify the still uncertain chronology of the different types of wall-decorations at Petra - until today mainly based on typological and stylistic comparisons for lack of published archaeological findings. As a preliminary result of the discussed paintings on EZ IV we may say that the walls decorated in the Masonry Style

16. It cannot yet be ruled out, that the wall decoration in rooms 2 and 3 belong to an earlier phase than the frescoes in room 1.

17. A. Barbet, *Les caractéristiques de la peinture mu-*

rale à Petra. Pp. 383-389 in *SHAJ V.* (1995), Amman. She dates the decoration in the staircase stylistically to the late 2nd or early 1st century BC.; compare Zayadine 1987: 137ff.

seem to challenge the early date of the similar specimens in the staircase of the Bath at Petra (late second-early first century BC).¹⁸

EZ I

During the campaign of 1996 further parts of the workshop area at the north-western foot of the big Nabataean house had been cleared (cf. Campaign 1994: 298, Fig. 1). It is now clear that rooms XXI and XXV are connected to a narrow L-shaped courtyard (Fig. 13). Unlike the coarsely stone-paved room XXV, room XXI (4.5 x 3.5 m) has a floor of beaten earth. A small channel runs from a gully-hole in the courtyard under the sill of the north-western door of room XXV, crosses the room at a slight inclination and disappears under the sill of the south-western door. The finds confirm the decades 70/80 AD as the date of destruction of the workshops XXI and XXV (Schmid 1996c: 170ff.).

The findings along room XXV's north-western outer wall give new indications for the build up of the private quarters north of az-Zantūr: In PQ 106/O we excavated down to a level of 2 m below the floor level in room XXV without reaching the wall's foundation or a floor. The rooms, steeply terraced, obviously follow the inclination of the slope. The buildings' close reference to the terrain conditions may explain the fact



13. EZ I. General view of the rooms XXI and XXV from the north-east (Photo: R. Frank).

18. Cf. Barbet, *supra* n. 17, 389.

19. Campaign 1994: 305, Fig. 9 shows a schematic

that the walls of the workshops do not connect to the house on the terrace at a right angle: The humble rooms were constructed favourably in relation to the slope causing the oblique angle between them and the north-western outer wall of the house on the terrace (Campaign 1993: 272f., Figs. 1-3).

EZ III

Work on the terrace EZ III focused on the north-eastern area (PQ 113/I-J; 114-116/G) and soundings in PQ 115-116/K-L).¹⁹ The peristyle in PQ 116/G, already partially exposed in 1994, was cleared completely (Fig. 14). The almost square courtyard (5.3 x 5.6 m) is paved with flagstones. The colonnade along the north-eastern side has completely disappeared; the only proof for its former existence is the stylobate still *in situ*. To the south-east of the peristyle a number of walls has been cleared which obviously belong to different building phases considering the different qualities of construction. Its not possible yet to draw any chronological conclusions, because we have not yet reached the respective floor levels. The finds from the destruction layers substantiate an occupation of the structures during the second and third centuries AD, while the pottery finds from the pavement of the courtyard belong to the first century AD. Soundings in the big room in PQ 115/K-L supplied further indications



14. EZ III. Peristyle in PQ 116/G from the west (Photo: R. Frank).

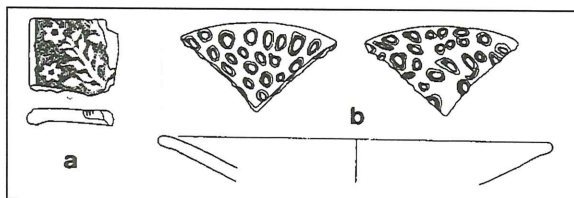
ground plan of the structures on EZ III.

for extensive use of water in the building complex of EZ III: A channel system, partially carved out of the bedrock enters the room from the southeast, crosses the room and the northern wall A and continues in the area with the arch of the building's sub-structure still standing (Campaign 1994: 302, Fig. 6; 305, Fig. 9). Still unresolved is the question concerning the function of the different water installations. The sounding in PQ 116/L exposed a plastered pillar structure of the up till now earliest building phase. According to the pottery finds it dates between the middle of the second and the middle of the first century BC.

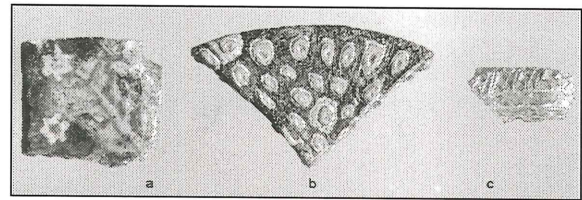
B.Kolb

Mosaic Glass from az-Zanṭūr

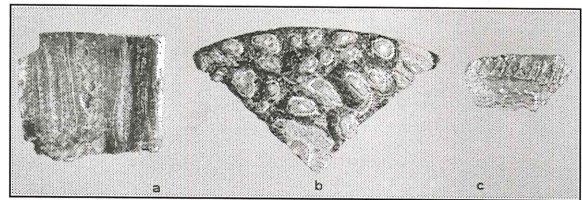
1) A fragment consisting of a number of polychrome sections of composite mosaic canes (Figs. 15a. 16a. 17a) was found in room 1, sounding 1 on EZ IV. The individual elements of decoration are only inlaid in the front, they do not penetrate through to the back. The latter consists of a dark opaque matrix veined with pale stripes. The piece measures 3.1 cm x 2.8 cm, is 0.53 cm thick and is part of a mosaic glass inlay which was intended for view on only one side. The original rim border which protrudes slightly at the back is preserved on the left. The fragment is broken off on the top, the right and on the bottom. The pattern on the front of the fragment is recognizable despite a creamy layer of



15. a: Front and profile of mosaic glass No. 1
 b: Front and back of mosaic glass No. 2
 c: Front, back and profile of mosaic glass No. 3
 (drawings: I. Haussener).



16. a: Back of mosaic glass No. 1
 b: Front of mosaic glass No. 2
 c: Back of mosaic glass No. 3



17. a: Back of mosaic glass No. 1
 b: Front of mosaic glass No. 2
 c: Back of mosaic glass No. 3
 (Photos: D. Keller).

sinter. The colour of the background is the only thing which cannot be definitely determined but it was probably dark green. On the left, next to the rim are two flowers each with six white petals and six or seven red stamps on a yellow background; they probably represent narcissi. A stem with five white-veined, pale green leaves leads to the top of both these flowers. The lower part of a tulip consisting of red and yellow stripes and leafy stalk is still visible in the top right hand corner. A red petal with a white or yellow centre is recognizable further down, in the middle. The pattern can probably be reconstructed symmetrically to the fractured right edge.²⁰

As is clear from the description our fragment belongs to the group of mosaic glass inlays with floral decoration; these can be divided into two groups – one with a clear plant pattern on a dark blue ground and the other with a dark green background and less clearly defined plants. The fact that the floral motif on our fragment is not clearly offset from the background suggests that it belongs to the second group. These inlays are

20. Compare e.g.: Cooney 1976: Pl. 2 middle.

usually 12-15 cm long and 6-7 cm wide. The reverse side was sometimes reinforced with glass waste. Ten to eleven different plants could be portrayed on the front in a variety of ways. Besides narcissi and tulips, poppy flowers and capsules, ears of grain and lettuces have been identified (Müller 1964: 162; Grose 1989: 355-356, Fig. 167; Nenna 1993: 46-47; Stern and Schlick-Nolte 1994: 404-406). Mosaic glass inlays with a floral motif have been found mainly in Egypt.²¹ Only a few finds are known from other regions – from Ptuj (Slovenia), Olympia and Dion (Greece) as well as from Upper Galilee.²² The overwhelming quantity in Egypt and the scanty distribution elsewhere indicate that these inlays are of Egyptian provenance. How to date them is less clear. Neither the Egyptian pieces nor that from Galilee nor the two from Greece can be dated from their find contexts. Only the example from Ptuj gives any indication. It stems from a complex dated in the late first century BC to the early first century AD (Korosec 1982: 33-36; Stern and Schlick-Nolte 1994: 404-405). The piece from *az-Zanṭūr* is also datable: the entire debris in room 1 contained almost exclusively phase 3a (20-70/80 AD) Nabataean fine ware with just a few earlier and later sherds.²³ It is therefore plausible that the fragment under consideration was in use during the second or third quarter of the first

century AD. How much earlier it was produced cannot be determined. This result does not in any case contradict the dating of the mosaic glass inlays with floral decoration in the late first century BC - early first century AD.

The size of this fragment and its miniature plant motif make it unlikely that this glass inlay belonged to a wall tile from room 1 as does its status as a solitary individual find. It is much more likely that it was part of the revetment panel of a piece of wooden furniture. The unburnt fragments of wood which came to light in this room could point to the same solution.²⁴

An early find from Petra shows that the Egyptian mosaic glass inlay from *az-Zanṭūr* is not an isolated phenomenon: a vegetative decor in black, red and green is inlaid in a narrow strip of opaque yellow glass. A six-leaved palmette rises over two tendrils with side-volutes; half a lotus blossom above volute-tendrils is preserved next to it (Horsfield 1942,; 200 no. 458, Pl. 47: 458). Comparable pieces show that this is a late Hellenistic/Early Roman Egyptian glass inlay with alternating palmettes and flowers above tendrils (Goldstein 1979: 222-223 no. 643-644).²⁵

2) The only rim sherd of a mosaic glass vessel from the excavations on *az-Zanṭūr* belonged to a small shallow bowl with a rounded, slightly downward-curving rim

21. Alexandria: Breccia 1912: 104-106 nos. 338-345, Figs. 70-77; Oxyrhynchos: Müller 1964: 162 no. A 234 s-x; Grimm *et al.* 1978: no. 133, 10; Schnitzer *et al.* 1978: 28 no. 44 a; Sotheby's 1992: 76 no. 398; Antinoopolis: Cooney 1976: 133 nos. 1642-1643; Assiut: Cooney 1976: 134 nr. 1661; Dendara: Flinders Petrie 1900: 35.

22. Ptuj: Korosec 1982: 33-34, Fig. 3; Dion (unpublished): see Nenna 1993: 47; Olympia: Furtwängler 1890: 207 no. 1335; Three Trees (Upper Galilee): Davidson Weinberg 1973: 47-51, Figs. 5-6.

23. FK 3019, Abs. 5, 90-91/AO. On Nabataean fine ware: Campaign 1993: 281-284; Schmid 1996a: 151-218.

24. For the use and attachment of these mosaic glass inlays: Stern 1987: 30-31; Grose 1989: 355;

Nenna 1993: 47; Stern and Schlick-Nolte 1994: 404. The predecessors of these floral mosaic glass inlays existed in Egypt from the period of the New Empire onwards and were used primarily for the decoration of sarcophagi and furniture (e.g. thrones) (Bianchi 1983: 29-35). For the attachment of rectangular glass inlays (not opaque with mosaic glass inlay but translucent over gold foil) see e.g. the wooden kline from the so-called tomb of Phillip II in Vergina from the late fourth century BC: Andronikos 1984: 123-124, Fig. 75.

25. Compare also a mosaic cane with a six-leaved palmette (Grose 1989: 362 no. 628) and a mosaic cane with a lotus blossom (Stern and Schlick-Nolte 1994: 394 no. 138), from which pieces were pinched off and melted together to produce such stripes.

(Figs. 15b. 16b. 17b). The decor consists of peacock eyes surrounded by a heavily corroded glass-mass, probably originally dark green. The eyes consist of two rings—the inner yellow and the outer red. The diameter of the bowl measures 13.8 cm and the wall is 0.57 cm thick at the broken edge. This fragment came to light during the 1989 campaign just north of the Nabataean house in square 104/L on EZ I. The find complex is homogeneous with fine ware from phase 2a (50 - 25 BC).²⁶ This mosaic glass fragment would thus also be datable in the third quarter of the first century BC. There are no published parallels among the mosaic glass bowls for the form of the az-Zantür rim fragment; a bowl decorated with peacock eyes and found near Koblenz (Germany) comes the closest (Follmann-Schulz 1992: 10 no. 1). Peacock eyes as the only decorative element on mosaic glass vessels are not very common, fragments have been found only in Dura Europos, Rome and Alexandria besides the bowl from Coblenz just mentioned.²⁷ Mosaic glass bowls with peacock eyes in combination with other motifs are more common; there are published examples from Jerusalem, Aleppo, Luni (Italy), Augst (Switzerland), Haltern (Germany) and Velsen (Netherlands).²⁸ Apart from the late third century BC - first century AD Hellenistic and Early Roman mosaic glass bowls²⁹ there was also a later production in the second/third century AD. A pattern of peacock eyes belongs to the

repertoire of millefiori decoration in the second/third century AD as well - as demonstrated by examples from Rome and the Germanic and Gaulish Roman provinces (Rütti 1991: 126-133, Figs. 77. 86, A). The fragment from the Roman catacombs has a *terminus post quem* in the late second century AD (Rütti 1991: 129). But the bowl from Haltern (Germany) has a *terminus ante quem* of 9 AD (Kühlborn 1988: 600-602 no. 450), some of the examples from Augst (Switzerland) were found in Tiberian/Claudian contexts (Rütti 1991: 130) and the rim sherd from Jerusalem comes from a layer dated in the first century AD (Ariel 1990: 155-156 nr. GL 23, fig. 29). Mosaic glass bowls with peacock-eye pattern can also be typologically dated by form: the bowls preserved whole with this decoration are either cups with constricted curvilinear walls terminating in an everted lip or plates with oblique, externally fluted walls and everted lips (e.g.: Goldstein 1979: 185 no. 492; Grose 1989: 309. 311-312. 315-318. 320 no. 439. 442. 450. 455. 475. 480. 489. 494. 502). Both are common forms in the monochrome opaque or translucent glassware produced between 1 and 70 AD (Isings 1957: 17 Form 2; Berger 1980: 25; Grose 1989: 254-258; Grose 1991: 1-11; Stern and Schlick-Nolte 1994: 328 no. 99; Chirac 1996: 103-104).³⁰ The same forms appear in the Italian and south Gaulish Sigillata as well as in Eastern Sigillata B from the

26. FK 148, Abs. 2, 104/L. On Nabataean fine ware: supra n. 23.

27. Dura Europos: Clairmont 1963: 10-12 nos. 20-23, Pl. 18, 20-23; Rome: Fremersdorf 1975: 34 no. 108, Pl. 7, 108; Alexandria: Breccia 1912: 106 no. 346, fig. 78.

28. Jerusalem: Ariel 1990: 155 156-no. GL 23, Fig. 29; Aleppo: Exposition des verres syriens 1964: 6 no. 19, Fig. 2; Luni: Roffia 1973: 464-465 no. 2, CM 864, Pls. 81, 1. 109, 2; Augst: Rütti 1991: 124; Haltern: Kühlborn 1988: 600-602 no. 450;

Velsen: van Lith 1977: 12 no. 6, Pl. 1, 6.

29. On Hellenistic mosaic glass vessels see: Harden 1968: 21-47; Oliver 1968: 48-70; Grose 1989: 189-197; Stern and Schlick-Nolte 1994: 276-281 nr. 75-77; on Early Roman mosaic glass vessels see: Grose 1989: 256-261; Stern and Schlick-Nolte 1994: 330-333 nos. 100-102.

30. The earliest plate with oblique, externally fluted wall and everted lip comes from Haltern (Germany) and has a *terminus ante quem* of 9 AD (Kühlborn 1988: 601-602 no. 451).

late Augustan period onwards.³¹ So patterns of peacock eyes are known at least from the early first century AD onwards. The fragment from az-Zanṭūr shows that mosaic glass vessels with a decor of peacock eyes already existed in the third quarter of the first century BC. The mosaic glass bowls from the early first century BC from the shipwreck of Antikythera (Greece) could be cited as predecessors for this type of decoration. These vary from the usual spiral motif of Hellenistic mosaic glass because the centre of the spiral consists of a peacock eye made up of two concentric rings (Davidson Weinberg 1965: 35-37 nos. 4-8, Figs. 11-17; Davidson Weinberg 1992: 108 nos. 66-70).

The location of the centres of production for mosaic glass vessels is disputed but in the modern literature Egypt, Syria and Italy are all mentioned (Grose 1989: 257; Rütli 1991: 141; Stern and Schlick-Nolte 1994: 330-332 nos. 100-102). Strabo mentions glassmakers in Alexandria during the early Augustan period who produce valuable polychrome vessels by which he probably meant mosaic glass vessels.³² This literary reference stands contrary to the archaeological finds: only a small number of fragments of mosaic glass vessels have been found in Alexandria and the rest of Egypt up till now.³³ However, thanks to Strabo and the numerous mosaic glass inlays mentioned above we can assume that mosaic glass was part of the Egyptian glass production in the pre-Augustan and

Augustan periods. The numerous mosaic glass vessels from Syria and Italy with shapes which appear first in the late Augustan period indicate a local Syrian and Italian production which begins in the early first century AD and draws the inspiration for its shapes from contemporary pottery forms.³⁴ As the find from az-Zanṭūr cannot be dated later than the third quarter of the first century BC it must be an import from Egypt. Mosaic glass bowls such as this with a decoration of peacock eyes may have served as the model for the decoration scheme of the painted Nabataean fine ware of phases 2c - 3a in early and mid-first century AD (Schmid 1996b: 133-134, Pls. 28, 2, 29, 1).

The fragment of another mosaic glass bowl or plate is also known from Petra: it is a rim sherd with a horizontal lip and a rim folded downwards. Careless representations of red flowers are irregularly distributed on a creamy ground. The piece was found within a grave complex together with a lamp and Nabataean ceramics of the late first - early second century AD (Murray and Ellis 1940: 11-12. 26 no. 28, Pl. 36, 28). This dating is supported by the fact that the millefiori pattern is common in the first century AD (Grose 1989: 257, Fig. 143). Whether the fragment stems from an Egyptian, Syrian or Italian glass workshop is not determinable.

3) A small bichrome fragment consists of three stripes of translucent orange glass smelted together but divided from each other by a fine silvery-white line (Figs.

31. The cups with constricted curvilinear wall terminating in an everted lip is the equivalent of the Italian form *Conspectus* 32 (Ettlinger et al. 1990: 108, Pl. 29), the south-Gaulish form *Dragendorff* 27 (Oswald and Pryce 1966: 186-188, Pl. 49) and the ESB form 51 (Hayes 1985: 62, Pl. 13, 13), the plate with the oblique, externally fluted wall and everted lip is the equivalent of the south Gaulish form *Dragendorff* 16 (Oswald and Pryce 1966: 172-173, Pl. 41) and the ESB form 9 (Hayes 1985: 55, Pl. 12, 1).

32. Strab. 16, 2, 25.

33. Alexandria: Breccia 1912: 102-106 nos. 323-347, Figs. 65-79; Cooney 1976: 137-138 nos. 1698-1706; Oxyrhynchos: Cooney 1976: 137 nos. 1691-1692; Quseir al-Qadim: Meyer 1992: 36-37. 164, Pl. 13.

34. On Syrian mosaic glass bowls: Harden 1960: 59-60; Abdul-Hak 1951: 164-166, Pls. 57, 2, 58, 1-2; Exposition des verres syriens 1964: 6-7 nos. 14-20, fig. 2; Zouhdi 1964: 68-78; on Italian mosaic glass bowls: Harden 1960: 54-55. 57. 59-61; Kiechle 1974: 54. 60 n. 34.

15c. 16c. 17c). A spiral of turquoise glass is wound around one of the outer pieces of glass. The stripes of glass are bent at a right angle at one end of the fragment. The vessel wall is straight - only one end of the fragment curves slightly upwards. This sherd belonged to a broad shallow striped mosaic glass bowl with quadripartite pattern. Each of the four segments consists of stripes running at right angles to each other and meeting in the middle (Grose 1989: 250-251, Fig. 126). The extreme thinness of the wall (0.1 cm thick), unusual in a formed mosaic glass vessel, is due to heavy corrosion.

Two striped mosaic glass bowls with quadripartite pattern were found in a graveyard near Adria (Italy) dating from the late first century BC to the early first century AD.³⁵ A third, complete bowl was placed as a valuable antique in a grave in Hellange (Luxembourg) dating from the second half of the first century AD (Kisa 1908: 252. 524-525, Fig. 213; Isings 1957: 16 form 1; Wilhelm 1979: 11 no. 1, colourpl. 1; Grose 1989: 251, Fig. 127). Rim fragments of two further such bowls have been found in Magdalensberg (Austria) in an Augustean layer (Czurda-Ruth 1979: 19 no. 1, pl. 17) and in Vindonissa (Switzerland) in a pre-Flavian context (Berger 1980: 12-13 no. 1, Pls. 1, 1. 17, 11). The production of striped mosaic glass bowls with quadripartite pattern during the late first century BC - early first century AD is postulated on the basis of these few datable finds (Grose 1989: 252; Rütli 1991: 121 n. 82). This postulation is supported by the find from az-Zanṭūr: it was found in a

layer of sounding B on EZ I during the 1991 campaign³⁶ which contained Nabataean fine ware phases 2a - 2b i. e. from the second half of the first century BC and a sherd of an imported Augustan Pompeian red ware plate.³⁷ This fragment is thus datable to the last two decades of the first century BC. The decorative pattern on striped mosaic glass vessels probably served as the pattern for painted Nabataean fine ware of phase 3a in the middle of the first century AD (Schmid 1996b: 133-134, Pl. 29, 1).

The fact that striped mosaic glass bowls with quadripartite pattern including two undated bowls from Cherchel (Algeria) and from the area around Vesuv (Italy) (De Caro 1994: no. 236) are found almost exclusively in the Western Roman Empire possibly indicates a production centre in the west. In the late first century BC Italy is the only area which really comes into question (Grose 1989: 251). Strabo mentions that there are glassworkshops in Rome during the Augustan period.³⁸ It thus appears that glass was imported to Petra not only from Egypt but also from Italy.³⁹

D. Keller

An Engraved Gem Depicting Athena as Palladion from az-Zanṭūr

Gems are rare finds within the town area of Petra (Horsfield 1942: Pl. 17, 117; Wenning 1987: 301). The find of a small garnet gem, which came to light during the excavation of room 1 on EZ IV, is therefore all the more important (Fig. 18).

Petra 96 EZ IV. PQ 90-91/AO. Abs. 7. FK 3027. EF 3027.

35. One is now in Corning (Goldstein 1979: 200-201 no. 545, Pls. 27, 545. 42, 545; Harden *et al.* 1988: 40 no. 16), the other in Adria (Bonomi 1990/91: 308, Fig. 3; Bonomi 1996: 156 no. 348, Pl. 3, 348); see Stern and Schlick-Nolte 1994: 65 n. 232.

36. FK 341, Abs. 9, 104/N. On the position of sounding B: Schmid 1995: 641, Fig. 4; Schmid 1996a:

plan 3.

37. On fine ware: supra n. 23; on import ceramic: Schneider 1996: 137 no. 119.

38. Strab. 16, 2, 25.

39. On the import of a few sherds of Italian Terra Sigillata during the Augustan period see: Schneider 1996: 136-137 nos. 106-114, Figs. 532-533. 566-574.

Material:⁴⁰ garnet, rich in almadin, deep red, slightly translucent.

Shape: longoval, heavily convex obverse, reverse slightly concave.

Measurements: 10 x 7 x 3.5 mm.

State of preservation: a number of small nicks at the rim. Obverse slightly porous due to wear.

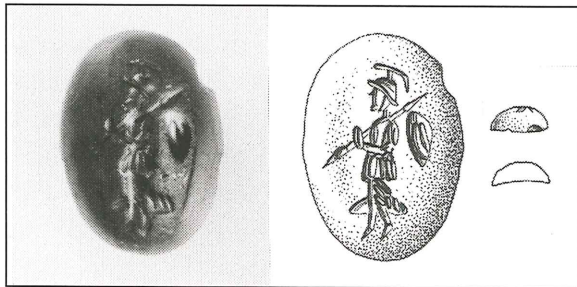
Description: Athena is shown walking, facing to the left. She wears a chiton and a crested helmet, carrying a spear across one shoulder and a shield on the other arm. As no groundline is indicated she appears to be floating.

Cutting: The figure is well-proportioned and engraved with fine rounded drills of varying sizes.

Dating: End of second century BC - early first century AD.

For the motif and design compare:

H. B. Walters, *Catalogue of the engraved Gems and Cameos, Greek, Etruscan and Roman in the British Museum* (London, 1926) no. 1144; Brandt 1968: nos. 352. 494. 610-612; Henig and Whiting 1987: nos. 149-150; Sena Chiesa 1966: nos. 141-148; U. Pannuti, *Museo Archeologico Nazionale di Napoli. Catalogo della collezione glittica I* (Rome, 1983) 14f. nos. 14-19; Spier 1992:



18. Garnet depicting Athena as Palladion (Scale: 4:1; 4:1; 1:1).

no. 340; M. Henig, *Classical gems. Ancient and modern intaglios in the Fitzwilliam Museum, Cambridge* (Cambridge, 1994) nr. 273 and references; Maaskant-Kleibrink 1978: nos. 906. 976. 1038.

Dating

The gem is well placed within the stratigraphical context under the massive destruction layer, in the levelling fill under the plaster floor of room 1. According to the finds it seems possible that the room was constructed after 20 AD (cf. Kolb supra).

Garnet was a rather rare material in glyptic art and was considered especially valuable. It came into a more regular use only during the Hellenistic period⁴¹ and was again only rarely used by the time of the early Roman Empire (cf. Zazoff 1983: 270f. n. 50 and p. 344). Typical for Hellenistic ringstones in general and for garnets in particular is their more or less heavily convex obverse. This shape was particularly suitable for sealing, especially when set in a simple Hellenistic ring type (cf. Zazoff 1983: 213 with Fig. 54; Alessio 1984: 261ff.; Brandt 1968: nos. 381. 393. 425; Deppert-Lippitz 1985: nos. 88. 93. 96. 97. 101. 130. 136). The group of these simple ring types is known up until the Augustan period. Apart from the typical examples with a relatively large convex ringstone a further group of specimens with small, only semi-convex gems is known. According to A. Alessio the change from large rings mostly with convex ringstone to the types with smaller gems with increasingly flat engraved sides takes place at the end of the second century BC and becomes in-

40. For the kind help I received in determining the material I should like to thank I. Diethelm, Basel and H. A. Hänni, Basel.

41. Cf. Zazoff 1983: 209; Spier 1992: 5. An increased appearance of garnet as material for gems in the Levant can not be proved for the gems of the period of the Roman Empire, which are anyway known mostly from collections. Cf.

A. Hamburger, *Gems from Caesarea Maritima. Atiqot* 8, 1968: 2ff.; Henig and Whiting 1987: 1ff.; F. Manns, *Gemmes de l'époque gréco-romaine provenant de Palestine. LA* 28, 1978: 147ff. Somewhat confusing in this respect is the title suggesting a regional preference for this material in Spier 1992: 90ff. nos. 213-217.

creasingly apparent in the first century BC (Alessio 1984: 265f.). Considering the shape of the gemstone from EZ IV one could imagine that it was intended to fit the setting of the simple ring type (e.g. Alessio 1984: 264ff. Type 19 nos. 232-246 esp. nos. 238. 243-244; Deppert-Lippitz 1985: nos. 93. 96. 101. 130. 136; Spier 1992: nos. 216-217).

The cutting technique with its well placed rounded drills is particularly impressive considering the small size and the heavily convex face of the gem. The figure is well-proportioned and carefully executed. For these reasons our specimen may be reckoned among the large group of gems in the so-called rounded drill style, whose earliest examples date to the end of the second and the first century BC (cf. Zwierlein-Diehl 1991: 8ff.; M. Maaskant-Kleibrink 1978: 99ff.).

The gem's material and form, cutting technique and style suggest a dating in the period from the end of the second century BC up till the early first century AD.

Motif and Meaning

The figure type of the walking or floating Athena / Minerva is already present in the late Hellenistic period and becomes popular during the time of the Roman Empire, mainly from the first through the third century AD (examples cf. supra)

In the glyptic art the type can be divided into three sub-types. Most common is the one represented on the Petra gem showing Athena carrying her spear over her shoulder and her shield on the other arm. To the same type belong the pictures showing Athena / Minerva with the shield held completely in front of her (e.g. Spier 1992: no. 340), or holding the spear downwards and keeping the shield protectively in front of her (e.g. Zwierlein-Diehl 1973: no. 182).

The three sub-types are related because they are most probably all intended to represent the Palladion. What at first sight may

seem amazing, becomes more plausible after consideration of the provenance and the development of the sub-types. Athena / Minerva with the shield held in front of her body is certainly connected with a representation of the Palladion with which we are familiar firstly from a Denar struck under Caesar in the year 47/46 BC (Crawford 1974: no. 458; cf. also Schürmann 1985: 33ff.) and secondly from gems portraying Diomedes' theft of the Palladion (Vollenweider 1966: Pls. 39, 1. 41, 1-3; cf. also Schürmann 1985: 26ff.). The sub-type with sunken spear and the shield held protectively is reminiscent of Athena Promachos. The difference lies mainly in the more closed position of the legs and the less aggressive character. The third variant corresponds to the gem from EZ IV and can only be compared with a Dupondius of C. Clovius from 45 BC (Crawford 1974: no. 476/1a) and with a representation on the foot of an Augustan marble candelabrum (Cain 1985: kat. 29, Pl. 65).

In his study of the iconography and typology of the Roman Minerva cult statues W. Schürmann has established that actually only the closed position of the legs can be considered characteristic for the portrayal of the Palladion (cf. Schürmann 1985: 17ff.). All other elements, such as the archaic contour or clothing as well as its bellicose character can appear in varying combinations. It is only the combination of several of these traits which makes the interpretation as Palladion clear. The variability of the glyptic type becomes comprehensible given these premises and it is thus, in my opinion, clear that all three sub-types can be interpreted as Athena as Palladion.

The emergence of this type in the glyptic art may also be explained by means of the provenance of the prototypes. The eclectic character of the type, the archaistic traits of the figure as well as the stilted rendering of the garment indicate that it is taken from the late Hellenistic, the so-called neo-Attic rep-

ertoire of motifs.⁴² It is possible that in this context it was mingled with the iconography of Nike / Victoria, which explains why the type appears to hover on some specimens.

As the figure type is definitely represented earlier in glyptic than in numismatic art, it is possible that the glyptic representations served as typological models for the minters. This connection does not, however, allow us to draw any conclusions about the meaning of the early glyptic representations. The only clue towards an interpretation in this early phase is the mixing with the type Nike / Victoria, which may have lent the Palladion nuances of a new significance.

However, the situation changed in the second phase. In the course of the first century AD the type became increasingly common in glyptic art, which may reflect its dependence on Roman coinage, although the glyptic figure type did not belong to the types programmatically employed during the Augustan period. In numismatic art the Palladion, after its first appearance in the Caesarean period, reappears under Galba and is from then on mostly used as a programmatically employed symbol – standing for the power and the *aeternitas* of Rome (cf. Schürmann 1985: 33ff.).

Concerning the interpretation of the motif on our garnet also in relation with its place of discovery at Petra the following may be concluded: The generally Hellenistic character of the gem - expressed by

the figure type, the shape of the gem as well as the material - and its findspot indicate in my opinion that the garnet belongs to the earlier group of gems depicting Athena as Palladion. There is no direct implication of a primarily programmatic meaning, as is later common on Roman coins. This assumption, cannot be definitely proved however because the gem cannot be dated precisely enough and because too little is known at the moment about glyptic production centres as well as trade routes.⁴³ For these reasons and because the garnet is still an isolated find at Petra, our present knowledge cannot elucidate the relation of the gem to the Nabataean culture.

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42. For a review of the eclectic character of glyptic types resp. its adaption from the late Hellenistic repertoire of motifs see: Fellmann Brogli 1996: 86ff. 102f; cf. also Schürmann 1985: 28ff. For the types see Cain 1985: 104f. Unconvincing is the direct link between the glyptic types and the fragmented relief of an Athena in Basel, as postulated by R. Thomas in Die "schwebende" Athena in Basel. *Jdl* 97, 1982: 59ff.

43. On the state of research on the production centres and their organisation mainly of the 1st cen-

tury BC-1st century AD see Sena Chiesa 1966: 69ff.; Zazoff 1983: 261ff.; G. Sena Chiesa, Gemme romane di cultura ellenistica ad Aquileia. *Antichità altoadriatiche* 12, 1977: 197ff. Contacts of the Romans with the Nabataeans are known through literary sources at least since the years around 60 BC. See U. Hackl, Geschichte der Nabatäer. Pp. 5ff. in *Petra und die Weihrauchstrasse*. Ausstellung Zürich u. Basel 1993 (Zurich, 1993).

Bibliography

- Abdul-Hak, A.
1951 *Catalogue illustré du Département des Antiquités greco-romaines au Musée de Damas*. Damascus.
- Adriani, A.
1963/6 *Repertorio d'Arte dell'Egitto Greco-Romano*. Serie C. Vols. I-II. Palermo.
- Alessio, A.
Anelli. Pp. 261-266 in E. M. De Juliis *et al.*, *Gli ori di Taranto in età ellenistica*. Mostra 1984 Milano. Milan.
- Andronikos, M.
1984 *Vergina. The Royal Tombs*. Athens.
- Ariel, D.T.
1990 *Excavations at the City of David 1978-1985 II*. Qedem 30. Jerusalem.
- Berger, L.
1980 *Römische Gläser aus Vindonissa 2*. Brugg.
- Bianchi, R.S.
1983 Those Ubiquitous Glass Inlays from Pharaonic Egypt: Suggestions about their Functions and Dates. *JGS* 25: 29-35.
- Bonomi, S.
1990/91 Le tombe romane dalla localita. Cuora: un inquadramento. *Padusa* N.S. 26-27: 307 - 316.
- Bonomi, S.
1996 *Vetri antichi del Museo Archeologico Nazionale di Adria. Corpus delle collezioni archeologiche del vetro nel Veneto 2*. Fiesso d'Artico.
- Brandt, E.
1968 *Antike Gemmen in deutschen Sammlungen I,1*. Munich.
- Breccia, E.
1912 *La necropoli di Sciatbi*. Catalogue des antiquités égyptiennes (Musée d'Alexandrie) 63. Leipzig.
- Cain, H.-U.
1985 *Römische Marmorkandelaber*. Beiträge zur Erschliessung hellenistischer und kaiserzeitlicher Skulptur und Architektur, vol. 7. Mainz.
- Stucky, R.A. *et al.*
1994 Swiss-Liechtenstein Excavations at ez-Zantūr in Petra 1993: The Fifth Campaign. *ADAJ* 38 (1994): 271-292.
1995 Swiss-Liechtenstein Excavations at az-Zantūr in Petra 1994: The Sixth Campaign. *ADAJ* 39 (1995): 297-315.
1996 *Petra-Ez Zantur I. Ergebnisse der Schweizerisch-Liechtensteinischen Ausgrabungen 1988-1992*. Mainz.
- Carettoni, G.
1983 *Das Haus des Augustus auf dem Palatin*. Mainz.
- Chirac, C.
1996 About a Glass Imitation of the Sigillata Form Dragendorff 27 = Conspectus 32.2. *ReiCretActa* 33: 103-104.
- Clairmont, Ch.W.
1963 *The Glass Vessels, The Excavations at Dura-Europos, Final Report IV*. 5. New Haven.

- Cooney, J.D.
 1976 *Catalogue of Egyptian Antiquities in the British Museum IV. Glass.* London.
- Crawford, M.H.
 1974 *Roman Republican Coinage.* London.
- Czurda-Ruth, B.
 1979 *Die römischen Gläser vom Magdalensberg. Archäologische Forschungen zu den Grabungen auf dem Magdalensberg.* Kärntner Museumsschriften 65. Klagenfurt.
- Davidson Weinberg, G.
 1965 The Glass Vessels. Pp. 30-39 in G. Davidson Weinberg *et al.*, *The Antikythera Shipwreck Reconsidered TransactAmPhilosSoc N.S.* 55.
 1973 Notes on Glass from Upper Galilee. *JGS* 15: 35-51.
 1992 *Glass Vessels in Ancient Greece. Their History illustrated from the Collection of the National Archaeological Museum, Athens.* Athens.
- De Caro, S. (ed.)
 1994 *Il Museo Archeologico Nazionale di Napoli.* Naples.
- De Franciscis, A.
 1975 *The Pompeian Wall Painting in the Roman Villa of Oplontis.* Recklinghausen.
- Deppert-Lippitz, B.
 1985 *Goldschmuck der Römerzeit im Römisch-germanischen Zentralmuseum.* Bonn.
- Ettliger, E. *et al.*
 1990 *Conspectus Formarum Terrae Sigillatae Italico Modo Confectae.* Bonn.
- Exposition des verres syriens
 1964 *Exposition des verres syriens à travers l'histoire.* Damascus.
- Fellmann Brogli, R.
 1996 *Gemmen und Kameen mit ländlichen Kultszenen.* Bern.
- Flinders Petrie, W.M.
 1900 *Denderah 1898.* The Egypt Exploration Fund 17. London.
- Fittschen, K.
 1996 Wall Decorations in Herod's Kingdom: Their Relationship with Wall Decorations in Greece and Italy. Pp. 139-161 in K. Fittschen - G. Foerster (eds), *Judaea and the Greco-Roman World in the Time of Herod in the Light of Archaeological Evidence.* Göttingen.
- Foerster, G.
 1995 *Masada V. The Yigael Yadin Excavations 1963-1965: Final Reports. Art and Architecture.* Jerusalem.
- Follmann-Schulz, A.-B.
 1992 *Die römischen Gläser im Rheinischen Landesmuseum Bonn.* Cologne.
- Fremersdorf, F.
 1975 *Antikes, islamisches und mittelalterliches Glas sowie kleinere Arbeiten aus Stein, Gagat und verwandten Stoffen in den Vatikanischen Sammlungen Roms (Museo Sacro, Museo Profano, Museo Egizio, Antiquarium Romanum), Catalogo del Museo Sacro V.* Vatican City.
- Furtwängler, A.
 1890 *Die Bronzen und die übrigen kleineren Funde von Olympia.* Olympia IV. Berlin.
- Goldstein, S.M.
 1979 *Pre-Roman and Early Roman Glass in the Corning Museum of Glass.* Corning.

- Grimm, G. *et al.*
 1978 *Götter Pharaonen*. Mainz.
- Grose, D.F.
 1989 *Early Ancient Glass. The Toledo Museum of Art*. New York.
 1991 Early Imperial Roman Cast Glass: The Translucent Coloured and Colourless Fine Wares. Pp. 1-18 in M. Newby and K. Painter (eds), *Roman Glass: Two Centuries of Art and Invention*. London.
 1977-8 Excavations at Petra 1975-1977. *ADAJ* 22: 81-101.
- Hammond, P.C.
 1986 Die Ausgrabungen des Löwen-Greifen-Tempels in Petra (1973-1983). Pp. 16-30 in M. Lindner (ed.), *Petra - Neue Ausgrabungen und Entdeckungen*. Munich.
- Harden, D.B.
 1960 Glass-Making Centres and the Spread of Glass-Making from the First to the Fourth Century A.D. Pp. 47-62 in *Annales du 1er congrès des journées internationales du verre*. Liège.
 1968 The Canosa Group of Hellenistic Glasses in the British Museum. *JGS* 10: 21-47.
- Harden, D.B. *et al.*
 1988 *Glas der Caesaren*. Milan.
- Hayes, J.W.
 1985 Sigillate Orientali. Pp. 1-96 in *Atlante delle forme ceramiche II. Ceramica fine romana nel bacino mediterraneo (tardo ellenismo e primo impero)*, *EAA*. Rome.
- Henig, M. and Whiting, M.
 1987 *Engraved Gems from Gadara in Jordan*. Oxford.
- Horsfield, G. and A.
 1942 Sela-Petra, the Rock of Edom and Nabatene IV. The finds. *QDAP* 9: 105-204.
- Isings, C.
 1957 *Roman Glass from Dated Finds*. Groningen.
- Kiechle, F.K.
 1974 Die Struktur der gewerblichen Glaserzeugung in der frühen Kaiserzeit. Pp. 53-64 in *Annales du 6e congrès de l'association internationale pour l'histoire du verre*. Liège.
- Kisa, A.
 1908 *Das Glas im Altertume*. Leipzig.
- Kolb, B.
 1996 Die Spätromischen Bauten. Pp.51-89 in *Petra-Ez Zantur I*.
- Korosec, P.
 1982 Egipcanske najdbe iz Rabelcje vasi v Ptuju. *AVes* 33: 33-39.
- Kühlborn, J.-S.
 1988 Germanien und Rom. Pp. 580-605 in *Kaiser Augustus und die verlorene Republik*. Exhibition catalogue. Mainz.
- Maaskant-Kleibrink
 1978 *Catalogue of the engraved gems in the Royal Coin Cabinet The Hague*. The Hague.
- McKenzie, J.
 1990 *The Architecture of Petra*. Oxford.
- Meyer, C.
 1992 *Glass from Quseir al-Qadim and the Indian Ocean Trade*. *SAOC* 53. Chicago.

- Moutsopoulos, N.C.
 1990 Observations sur les représentations du panthéon nabatéen. Pp. 53-60 in F. Zayadine (ed.), *Petra and the Caravan Cities*. Amman.
- Müller, H.W.
 1964 *Ägyptische Kunstwerke, Kleinfunde und Glas in der Sammlung E. und M. Kofler Truniger, Luzern*. Münchner Ägyptologische Studien 5. Berlin.
- Murray, M.A. and Ellis, J.C.
 1940 *A Street in Petra*. British School of Archaeology in Egypt 52. London.
- Nenna, M.-D.
 1993 Eléments d'incrustation en verre des nécropoles alexandrines. Pp. 45-52 in *Annales du 12e congrès de l'association internationale pour l'histoire du verre*. Amsterdam.
- Netzer, E.
 1991 *Masada III. The Yigael Yadin Excavations 1963-1965: Final Reports. The Buildings, Stratigraphy and Architecture*. Jerusalem.
- Oliver Jr., A.
 1968 Millefiori Glass in Classical Antiquity. *JGS* 10: 48-70.
- Oswald, F. and Pryce, T.D.
 1966 *An Introduction to the Study of Terra Sigillata*. London.
- Roffia, E.
 1973 Vetri. Pp. 462-482 in A. Frova (ed.), *Scavi di Luni I*. Rome.
- Russell, K. W.
 1980 The Earthquake of May 19 A.D. 363. *BASOR* 238: 47-64.
- Rütti, B.
 1991 *Die römischen Gläser aus Augst und Kaiseraugst*. Forschungen in Augst 13. Augst.
- Schmid, S.G.
 1995 Nabataean Fine Ware Pottery from Petra. Pp. 637-647 in *SHAJ V* Amman: Department of Antiquities.
 1996a Die Feinkeramik Pp. 151-218 in Stucky 1996.
 1996b Die Feinkeramik der Nabatäer im Spiegel ihrer kulturhistorischen Kontakte. Pp. 127-145 in M. Herfort-Koch, U. Mandel and U. Schädler (eds), *Hellenistische und kaiserzeitliche Keramik des östlichen Mittelmeergebietes*. Frankfurt a. M.
- Schmid, S.G.
 1996c *Die Feinkeramik der Nabatäer*. Unpubl. Diss. Basel.
- Schneider, Ch.
 1996 Die Importkeramik Pp.129-149 in Stucky 1996.
- Schnitzer, B.K. et al.
 1978 *Glass at the Fitzwilliam Museum*. Cambridge.
- Schürmann, W.
 1985 *Typologie und Bedeutung der stadtrömischen Minerva-Kultbilder*. *Rivista di Archeologia Suppl.* 2.
- Sena Chiesa, G.
 1966 *Gemme del Museo Nazionale di Aquileia*. Padua.
- Sotheby's
 1992 Antiquities, 9th and 10th July 1992. London.

- Spier, J.
1992 *Ancient gems and fingerrings. Catalogue of the collections, the J. Paul Getty Museum.* Malibu.
- Stern, E.M.
1987 Early Roman Glass from Heis on the North Somali Coast. Pp. 23-36 in *Annales du 10e congrès de l'association internationale pour l'histoire du verre.* Amsterdam.
- Stern, E.M. and Schlick-Nolte, B.
1994 *Frühes Glas der alten Welt.* Stuttgart.
- Strocka, V.M.
1975 Pompejanische Nebenzimmer. Pp. 101-106 in A. Andreae and H. Kyrieleis (eds), *Neue Forschungen in Pompeji.* Recklinghausen.
- van Lith, S.M.E.
1977 Römisches Glas aus Velsen. *OudhMeded 57:* 1-62.
- Vollenweider, M.L.
1966 *Die Steinschneidekunst und ihre Künstler in spätrepublikanischer und augusteischer Zeit.* Baden-Baden.
- Wenning, R.
1987 *Die Nabatäer, Denkmäler und Geschichte.* Freiburg and Göttingen.
- Wilhelm, E.
1979 *La verrerie de l'époque romaine au musée d'histoire et d'art - Luxembourg.* Luxembourg.
- Zayadine, F.
1987 Decorative Stucco at Petra and other Hellenistic Sites. Pp. 131-142 in *SHAJ III.* Amman: Department of Antiquities.
- Zazoff, P.
1983 *Die antiken Gemmen.* Handbuch der Archäologie. Munich.
- Zouhdi, B.
1964 Les verres mosaïques et millefiori du Musée national de Damas. Pp. 68-78 in *Annales de 3e congrès des journées internationales du verre.* Liège.
- Zwierlein-Diehl, E.
1973 *Die antiken Gemmen des Kunsthistorischen Museums in Wien,* vol. I. Munich.
1991 *Die antiken Gemmen des Kunsthistorischen Museums in Wien,* vol. III. Munich.