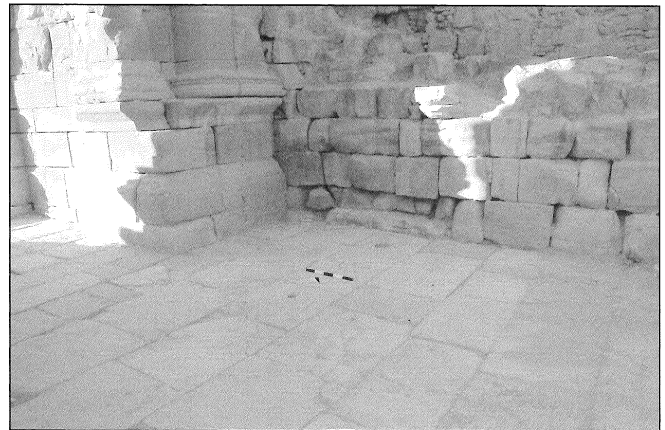




2. General view of the area between the Temenos Gate and Qaṣr al-Bint showing location of trenches 4 to 7 (Schmid).

and various building phases of the Temenos Gate itself. As a matter of fact, the chronology of the Temenos Gate, the Temenos itself and the Qaṣr al-Bint still remain rather enigmatic (see the short summary by Graf 2006: 448-449). The dates proposed for the construction of the Temenos Gate range from the time of Aretas IV (Kader 1996: 136-144) through the mid-first century AD (Starcky 1966: 948) until the late second – early third century AD (Wright 1961: 126). Since from the early 1960s onwards it was clear that the Temenos Gate is at best contemporary with, or probably later than the pavement of the Temenos area, these two structures have to be seen in context (Parr 1960: 131-132; McKenzie 1990: 132-134). On the basis of our previous sounding inside the Temenos precinct near the Gate, the evidence supported a date no earlier than the end of the first century AD for the paving of the colonnaded street and Temenos area, implying a corresponding date should be taken into consideration for the Temenos Gate (Graf *et al.* 2005: 427-432; cf. Fiema 2001: 47-52, 2003: 48).

In order to resolve these issues the Temenos Gate was a focus again of our 2005 campaign. In order to expose the foundations of the Temenos Gate, it was necessary to remove the pavement slabs from a small area in the southwest corner of the Gate that abuts the southern postern (Fig. 3). This was carefully executed, with the slabs



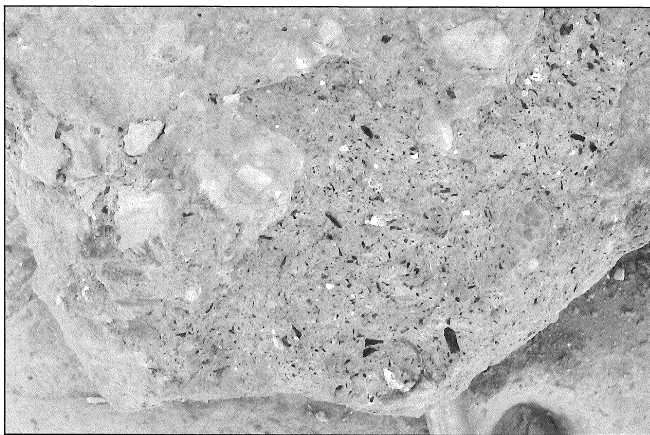
3. The SW corner of the Temenos Gate before excavation (Schmid).

numbered and placed in order to the west of the gate, and then carefully placed back in their original position after the excavations (see Fig. 21). None of the existing stones of the Gate or adjacent wall were disturbed, so that this area of the Temenos Gate remains virtually as it did prior to our excavations. This disturbance was minimal and temporary, and provided new and important evidence for the construction of the Gate and sacred precinct of Qaṣr al-Bint.

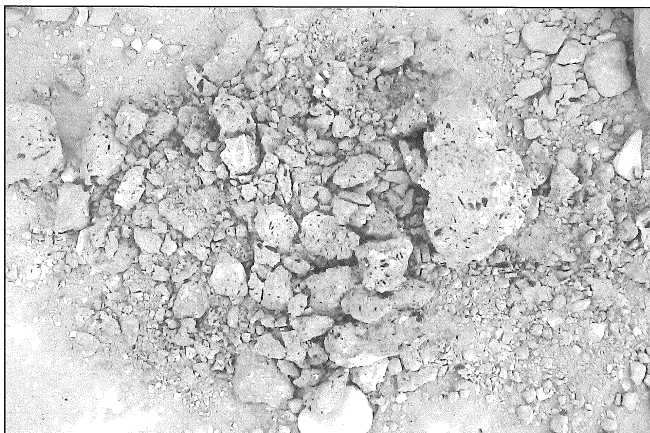
The pavement slabs of that area are bedded in a layer of greyish mortar, a kind of cement, containing clearly visible fragments of charcoal and ashes, giving the mortar its greyish colour (Figs. 4-6; no. 2 on Fig. 14). This is exactly the same technique and material for bedding the floor slabs as was observed during the first season of



4. Trench 4 after lifting of pavement slabs and excavation of bedding for slabs (Schmid).



5. Detail of lower side of one pavement slab with traces of mortar bedding (Schmid).



6. Traces of mortar bedding for pavement slabs (Schmid).

our project in trench 2 on the northern side of the Gate just inside the Temenos area (cf. Graf *et al.* 2005: 430-431 with fig. 30). This same procedure was also observed in 2005 in all of our other trenches in the sacred precinct, i.e. Trench 4 at the Temenos Gate and Trenches 5, 6 and 7 along the southern Temenos wall (on these see below). Furthermore, the chronological evidence yielded for dating the mortar used in the paving

of the Temenos area is homogeneous with that in all of our other trenches in the Temenos precinct. In Trench 4, as with the Temenos pavement elsewhere, considerable amounts of Nabataean pottery were mixed into the mortar. Among the pottery finds are some rim fragments of phase 3 of plain Nabataean fine ware, ranging from ca. AD 25 to AD 100. In addition, there are fragments of painted Nabataean fine ware belonging to sub-phase 3b and running from ca. AD 75 to AD 100 (Fig. 7). This evidence provides a clear *terminus post quem* of the last quarter of the first century AD for the paving of the Temenos area (on the chronology of Nabataean fine ware pottery see Schmid 2000).

As could be expected, special preparation was made by the builders for the foundation of the Temenos Gate. As a matter of fact, the Gate is constructed above a carefully executed foundation of stones, held together by the same mortar as was used for the bedding of the pavement slabs (Figs. 8 and 9). Not only is the general aspect of this mortar the same, but it also con-



7. Pottery of the last quarter of the first century AD from the mortar bedding of the pavement slabs (Schmid).

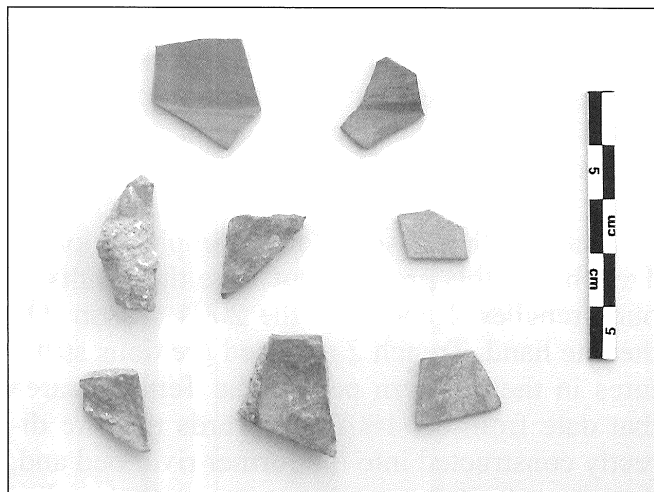


8. Trench 4, foundation of the Temenos Gate (Schmid).



9. Trench 4, foundation of the Temenos Gate after cleaning (Schmid).

tained the same types of Nabataean pottery (**Fig. 10**). Therefore, there can be no doubt anymore that the Temenos Gate was constructed around or slightly later than AD 100, but by no means earlier. In other words, the hypothesis, maintained until recently (cf. for instance by Kader 1996: 136-144), that the actual Temenos Gate could be dated to an earlier period, more specifically to the reign of Aretas IV, must definitely be ruled out. For the construction of the foundation of the Gate, several architectural fragments with decoration were used. Although it is impossible at this time to know which monuments they were originally associated with, the incorporation of these elements into the foundation of the Gate indicates the presence of earlier monumental building in the area, either still lying in ruins nearby or from existing buildings destroyed in order to erect the Temenos Gate. Although this observation is partially speculative, it indicates



10. Trench 4, pottery of the last quarter of the first century AD from foundations of the Temenos Gate (Schmid).

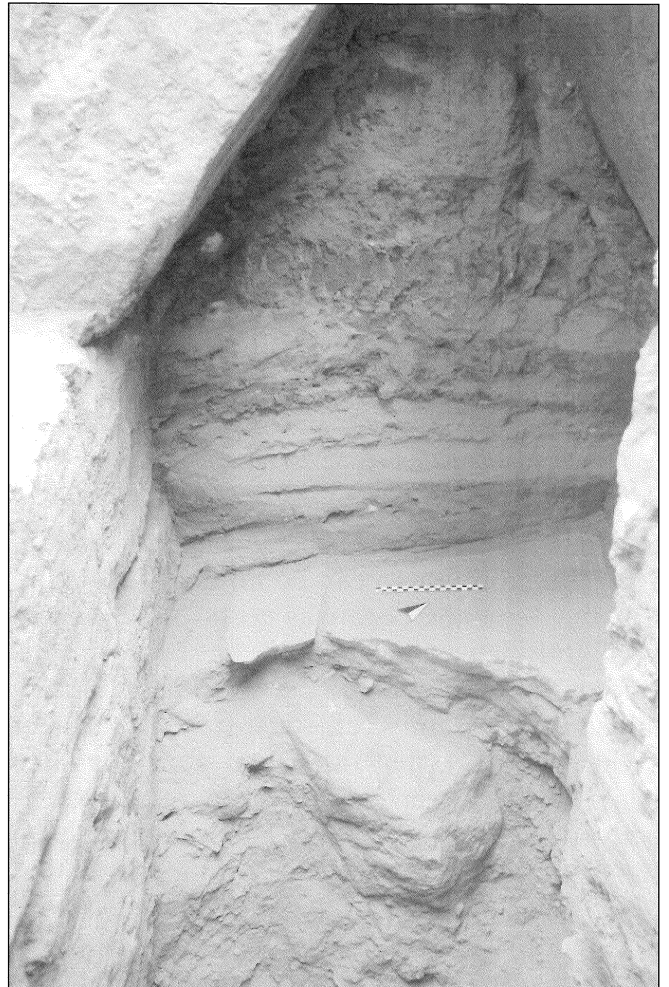
the Temenos Gate probably belongs to the period immediately after the Roman annexation of Arabia, i.e. post AD 106, rather than to the prior period of the reign of the last Nabataean king Rabbel II (AD 72/6-106).

In addition, another observation should be mentioned in regard to the Temenos Gate. In both our Trenches 2 (2004) and 4 (2005) near or at the Temenos Gate there are no indications that an older monument existed at this location. In other words, if there was a previous (i.e. Nabataean) Gate, it has to be located elsewhere. It is, however, clear, that there were monumental and richly decorated structures at the present entrance to the Temenos area during the Nabataean period as is indicated by the Nabataean stylobate found during our 2004 season, the architectural fragments used in the foundation of the Temenos Gate we found this season, and, last but not least, by the previous findings of architectural sculpture in the Gate area, especially the so-called 1967 group of sculpture (for a recent update on these see Wenning and Hübner 2004; cf. also McKenzie 1990: 134-135).

Of equal interest, we discovered about 60cm beneath the top of the pavement slabs a rather huge canalisation running in an East-West direction towards Qaşr al-Bint that was adjacent to the northern side of the foundation for the south pylon of the Temenos Gate (**Figs. 11-13**; no. 4 on **Fig. 14**). The canalisation is built of superficially cut stones with its side walls being 120 to 140cm of depth and is covered by massive slabs, put together in a diagonal way forming a kind of roof. Initially, the canalisation had a floor built of huge but rather thin slabs sitting on a foundation of bigger gravel stones. Exactly at the spot of trench 4, most of this initial canalisation floor was missing and, therefore, the whole channel was filled up with successive layers of silted earth containing considerable amounts of pottery as well as some 13 coins (see below). Neither the inner sides of the walls nor the floor of the canalisation show traces of mortar in order to prevent it from leaking. It is, therefore, pretty clear that we are dealing with a large drainage system for waste and rain water that was running through this part of the city center. Also, the fact that the remains of floor slabs inside the water channel are located about 90cm above the lowest level of the lateral walls (cf. **Fig. 14**)



11. Trench 4, water channel beneath pavement slabs (Schmid).



12. Trench 4, water channel with partially preserved floor slabs (Schmid).

may indicate later reuse of the installation, with an hypothetical initial floor being situated on a lower level.

The walls of the channel are built directly in the former riverbed (on this see below). The covering slabs as well as the side walls of the canalisation show clear evidence of the same type of greyish mortar as described above and suggest that the canalisation was built at about the same period as the Temenos Gate and the pavement of the Temenos area. This is confirmed by the findings from the clearly visible foundation trench that was dug in order to construct the channel. Again, the pottery collected from the foundation trench belongs to the late first century AD, giving an analogous *terminus post quem* for the construction of the canalisation.

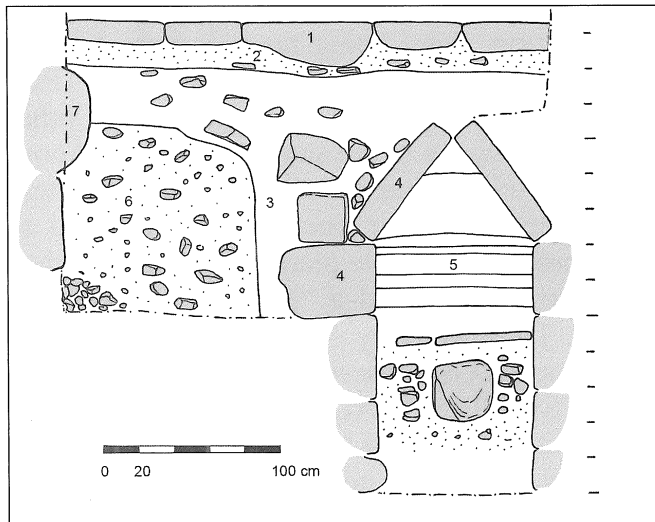
Since most of the channel's floor slabs were missing, the fill inside may not be of great relevance for the date of its construction. However, we should mention that down to the lowest

layers, being slightly beneath the foundations of the canalisation walls, pottery of the second century AD and some bronze coins were found. Although they are heavily corroded and need cleaning as well as detailed analysis, some of them seem to be of clearly late Roman date, indicating that the channel was working for a considerable time after its construction. The fact that some floor slabs are missing is a further indication for the canal being used for drainage of waste water.

Some of the reasons for the implantation of Trench 4 at this precise spot were the results of our Trenches 2 and 3 of the 2004 season. On the one hand, Trench 2 revealed previous structures in the northern part of the Temenos area that date from ca. 100BC onwards that are directly constructed into the former river bed and, therefore, further soundings may reveal earlier structures on the south side of the Gate. On the other hand, our Trench 3 as well as the results



13. Trench 4, massive retaining wall (top), foundation of the Temenos Gate (left) and water channel (bottom) (Schmid).



14. Trench 4, drawing of the NW-section (Schmid).

from Peter Parr's Trench III seem to indicate that the earlier settlement is located along and just south of the colonnaded street. Since Trench 4 is located more or less exactly on the same overall east-west line as our Trench 3 and Pe-

ter Parr's Trench III, it is possible that we could locate similar earlier evidence in the vicinity of Trench 4 as well.

However, it became clear that the river bed was wider in antiquity and extended into the Gate and Temenos area. Both the foundation of the Temenos Gate as well as the canalisation are dug into the river bed, which is characterized by yellowish sand mixed with bigger and smaller gravel stones (no. 6 on Fig. 14). This means that there is little expectation that any previous structures will be found in this area. Interestingly, the wall that delimitates Trench 4 on the South is built on massive foundations of huge boulders (on the upper center of Fig. 13; no. 7 on Fig. 14), far too massive to support the later wall that was built on top of them. It is, therefore, very likely that they comprise an earlier retaining wall for the wadi. For the time being it is premature to attribute a date to this retaining wall, but this perhaps could be determined by a sounding on the southern side of the retaining wall. Since this is the area of the so-called southern vestibule, it would be interesting to ascertain the depth of this structure and what is beneath.

Appendix to Trench 4: The Coins (By Steven E. Sidebotham)

All of the 14 coins recovered from the 2005 excavations were bronze (*aes*) issues from Trench 4. Only two of the coins were identifiable: a small bronze Nabataean issue likely of Aretas IV (9BC-40AD) and an AE 20 (follis) of Constantine II as Caesar of 325-326AD struck at the Antioch mint. Three others were mid to late fourth century although the rulers could not be identified; one other was likely fourth century. The remaining eight coins were unattributable / unidentifiable. With the exception of a single residual find of a Nabataean issue in the upper layers, the rest of the coins are late Roman in date and were found in the fill and aqueduct silt deposit in the trench.

The coins were chemically cleaned using a solution of hydrochloric acid diluted with tap water. Coins were weighed on an Acculab Pocket Pro C/60 precision electronic balance with a gradation of 0.01 grams.

The following abbreviations are used:

AE	<i>aes</i> (copper alloy)
g.	grams

mm. millimeters
r. right
l. left
Obv. obverse
Rv. reverse
Inv. inventory

The catalogue is arranged as follows: 1) Inv. no., 2) level/locus no.; 3) AE followed by size in mm. (denomination); 4) weight in g.; 5) Obv. [if preserved]; 6) Rv. [if preserved]; 7) mint [if ascertainable]; 8) date minted [if known]; 9) Obv. and Rv. die positions [if extant]; 10) published parallels [where possible].

- 1) HPP 05-105; level 7, locus 108; AE15; 1.76 g.; Obv. (laureate) head r.; Rv. crossed cornucopiae, o in center and n to right, other letters illegible; likely Aretas IV (9BC-40AD); ↑ X; Meshorer 1975: 99 & Plate 5 (nos. 73 and 73A similar).
- 2) HPP 05-111; level 9, locus 140; AE20; 2.59 g.; Obv. bare-headed bust l. CONSTANTINVS IVN NOBC (Constantine II as Caesar); camp gate with 2 turrets and star above; in ex. [SM]ANT[-] (Antioch); 325-326AD ↑ X; Brunn 1966: 688 nos. 65-66 (similar), but the Petra example seems to have a door in the gate.
- 3) HPP 05-112; level 9, locus 140; AE15; 1.54 g.; Obv. bust r., legend faint/lost; Rv. soldier advancing r., drags barbarian, legend lost; mid fourth century AD; ↑ X.
- 4) HPP 05-107; level 7, locus 108; AE17 (broken, about 1/3 to 1/4 missing); 1.07 g.; Obv. laureate bust r., legend faint [?]ST[?]V[?]; Rv. indistinct; mid-late fourth century AD
- 5) HPP 05-113; level 9, locus 140; AE12 (broken, about 1/2 missing); 0.56 g.; Obv. bust r., legend lost; Rv. lost; mid-late fourth century AD.
- 6) HPP 05-101; level 8, locus 109; AE13; 1.22 g.; tiny part of legend visible on one side; unidentifiable.
- 7) HPP 05-103; level 8, locus 109; AE12; 0.54 g.; unidentifiable, but probably fourth century AD.
- 8) HPP 05-102; level 8, locus 109; AE16; 1.72 g.; unidentifiable.
- 9) HPP 05-109; level 7, locus 108; AE12; 0.51 g.; unidentifiable.
- 10) HPP 05-106; level 7, locus 108; AE12; 0.64 g.; unidentifiable.

- 11) HPP 05-100; level 8, locus 109; AE14; 0.49 g.; unidentifiable.
- 12) HPP 05-104; level 8, locus 109; AE11 (broken, about 1/2 missing); 0.28 g.; unidentifiable.
- 13) HPP 05-108; level 7, locus 108; AE13 (broken, about 1/2-2/3 missing); 0.46 g.; unidentifiable.
- 14) HPP 05-110; level 7, locus 108; AE13 (broken into at least 4 fragments); 0.67 g. (total weight of all fragments); unidentifiable.

II. The Temenos Wall and Western Benches

As a result of the British excavations in the 1960s, there remained a number of lingering chronological questions concerning the construction of the Temenos area. The dating sequence of the Temenos wall, the western benches and the eastern benches were all at issue. The problems were clearly confronted by Parr and defined with clarity. The only chronological clue that existed was the small plinth (30 x 50cm) with the Aretas IV inscription 5m from the end of the western wall that is assigned paleographically to the early years of his reign (Starcky and Strugnell 1966: 238-240; cf. Zayadine, Larche and Dentzer-Feydy 2003: 90) and that is clearly associated with the western benches that abut the Temenos wall. It was initially assumed that the Aretas IV plinth was “patently in its original position, there being no evidence at all of its being a reused stone from elsewhere” (Parr 1967-68: 13). Adjacent to it are several other sandstone blocks in the same western wall construction with either a badly eroded Greek text or evidence of their once having attached to them bronze or marble plaques, suggesting they perhaps once formed a “gallery of royal portraits”. The discovery of a marble plaque near the Temenos Gate inscribed to King Maliku and Queen Shaqilat (i.e. AD 40-70) with holes used to affix it to a base has been assigned to the same complex and seems to confirm the hypothesis (Zayadine, Larche and Dentzer-Feydy 2003: 90-91). As a result, the Aretas IV text was interpreted as the *terminus ante quem* for the western benches and therefore “the Temenos wall must be a good deal earlier than this”. If this is the case, the Temenos wall, pavement and eastern benches would have originated long before the Common Era, suggesting that Qaşr al-Bint ei-

ther had a Hellenistic predecessor or was contemporary with the wall. This made it possible that the eastern benches once ran the length of the Temenos wall and were later replaced by the existing western benches at a much later time.

As decades passed, suspicion increased that the initial hypothetical reconstruction of the Temenos precinct may not be correct, and Parr entertained a second possibility that the entire sequence of construction should be reversed (1996: 66). In this scenario, the western benches are possibly the earliest, a vestige of an earlier sanctuary that preserved a royal portrait gallery that pre-dated the existing Temenos wall, the eastern benches, and presumably the existing Qaşr al-Bint itself. Parr's new thesis assumed that a "substantial building [existed] on this site prior to the construction of the present temple". In actuality, all Zayadine could report is that a podium or platform had been discovered beneath the monumental stairway, and that some ashlar blocks with stucco revetment from it had been reused in the construction of the present temple. In his opinion, this early podium was not significant enough to justify the construction of a magnificent Temenos wall. As a result, Zayadine argued the Qaşr was built during the reign of Obodas III (28-9BC), a generation before the erection of the plinth of Aretas IV was erected with the western benches, and that the Temenos wall was executed sometime before the second part of the first century AD (Zayadine, Larche and Dentzer-Feydy 2003: 91, 96 [French], 117 [English]; note the foundation of the Qaşr is assigned to the reign of Aretas IV in the French version, which perhaps reflects the most recent opinion: see Graf 2006: 447). In rejecting Parr's new hypothesis, Zayadine argued that the Qaşr, Temenos pavement, and Temenos wall were all part of the same architectural program, minimizing any difference in the eastern and western benches along the southern Temenos wall.

These competing and conflicting hypotheses indicated the necessity of a fresh inquiry to determine the chronological sequence of the Temenos gate, Temenos pavement, Temenos wall, and the construction of the eastern and western benches. Our strategy was to place sondages along the wall in the east (trench 5) and west (trenches 6 and 7), particularly addressing the relationship of the western benches to the Temenos

pavement and wall. In addition, our probes were designed to determine whether or not there was any evidence for any earlier Hellenistic construction in the Temenos precinct.

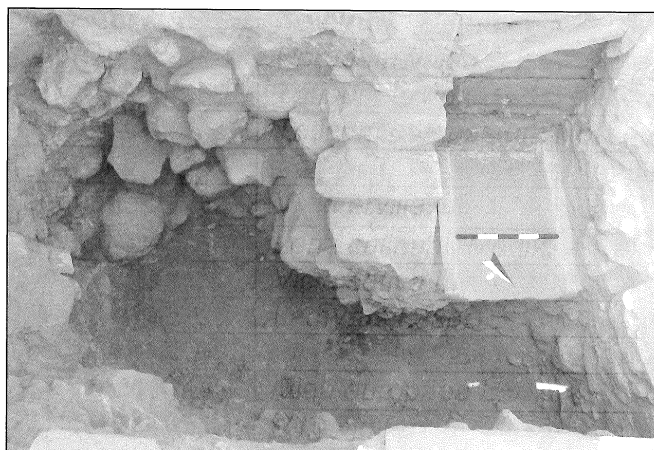
Trench V (Elena Ronza assisted by Emilie Prost)

Trench 5 was located 30m east of the southern vestibule or "baths" along the southern wall of the Temenos precinct, just beneath and in correspondence with a water channel, clearly visible into the lower face of the wall (**Fig. 15**). There is a similar channel about 5m further east along the wall, which was excavated between 1958 and 1964 by the British Expedition directed by P.J. Parr but unreported as far as we can ascertain. Our trench was situated just west of the British excavations and in an interval between the eastern benches and where the wall is exposed and unobstructed by any benches or other constructions. This location was selected in order to obtain a date for the Temenos wall and pavement, and establish their relationship to the eastern benches. Most of the pavement-slabs in the area adjacent to the wall were missing (except two), so there was minimal inference with the Temenos pavement.

The trench was excavated to a depth of about 2.10m and the wadi bed was reached at a depth of only 1.31m. In the process, the foundation of the Temenos wall, the structure of the water channel and the foundation of the pavement were all exposed and thirty-eight loci were identified (**Fig. 16**). The wall (W 100 – level 1) is founded directly on the wadi bed (loci 135, 139, 167) at a depth of 1.58m. The foundation (level 4) is built of large unshaped limestone boulders (30-



15. Trench 5 at the base of the Temenos wall before excavation (Schmid).



16. Trench 5, water channel with floor slab in situ (Schmid).

70cm) with the spaces filled with sifted compact soil (locus 132). Above the foundation there is visible a line of blocks (level 2) bedded on a very fine light grey mortar without any inclusion (level 3). Four standing courses of the wall are preserved to a height of approximately 1.80m above the ground; the two courses at the bottom still preserve diagonal (45°) dressing, but the surface of the upper courses is badly weathered. The wall is made of sandstone blocks in header and stretcher fashion. The blocks have similar dimensions, but are not of standard size.

Inside the wall is an arched water channel (ST 100 – level 7) also constructed of dressed sandstone (**Fig. 17**). The eastern side of the channel runs in a northwest-southeast direction and lies directly on the wadi bed (loci 135, 139, 167) at a depth of 1.58m; it is constructed of three courses of roughly shaped limestone blocks. The wall on the western side runs north-south, but its foundation was not reached; it also is made of roughly shaped limestone blocks. These two walls are



17. Trench 5, general view with foundations of the so-called Temenos wall and water channel (Schmid).

connected by an arch made of sandstone dressed blocks. The diagonal dressing (45°) is still visible on the blocks. The wall has been grooved to fit the convex outer shape of the curved arch and sealed with coarse grey mortar. At the base of the arch, on the same line of the Temenos pavement, there are two slabs preserved (level 9); underneath them is a thick layer of grey coarse mortar (level 10) and then a thin oblique slab that provides the roofing for the channel (level 12). At the bottom of the water channel, a single U-shaped roughly dressed limestone block (locus 137 – level 17) was discovered. It is bedded on a thin layer of brown crumbled soil just above the wadi bed (locus 164 – level 18). Its purpose was clearly for channelling the flow of the water, but no other blocks of this type were found in the trench and there is no indication that the water channel continued beyond this point.

The Temenos pavement (ST 101) is also founded directly on the wadi bed (locus 111). It is bedded on a grey mortar, containing clearly visible fragments of charcoal and ashes (locus 123), as was observed in our other trenches in the area of the Temenos Gate (Graf *et al.* 2005, Trench 2, and Trench 4 above). Beneath the mortar is the foundation of large unshaped boulders (30-70cm) filled by sifted soil (locus 132). The pavement is made of dressed blocks of different dimensions. One of those blocks presents a square concave area with five holes, but its function is not clear. The adjacent eastern benches were placed directly on this pavement. They are made of dressed sandstone blocks decorated with a very schematic diagonal moulding at the upper front lip.

The finds in the trench were minimal: a few pottery sherds were found in the various strata with a few animal bones, but no coins and no objects. Most of the stratified pottery belongs to the first century AD, but one sherd of Attic ware and some fragments of a Greek amphora were found in the contaminated upper loci of the trench without any stratigraphic context. They were probably washed down from the terraces above the wall. In spite of the minimal findings, it is possible to conclude that the wadi bed was wider in antiquity than today. In fact, both the channel and the Temenos wall are founded on the wadi bed.

In spite of not being able to establish any pre-

cise chronology for Trench 5, it is possible to suggest a relative sequence of building-phases for the exposed structures:

Phase 1 – The construction of a water channel (ST 100): It is irregularly constructed, with the side-walls differing in orientation and the level of their foundation. Both are constructed of limestone, as is the U-shaped block and the foundation boulders of the Temenos wall. The wall on the eastern side appears to be earlier, due to its deeper foundation and to the fact that its orientation diverges from the rest of the structure. The arch was then built. It presents two phases: 1) the eastern part and the two central blocks belong to the initial construction; 2) the western part is a restoration, most likely contemporary to the construction of the Temenos wall. The position of the stone-dressing of the western blocks is not coherent with the rest of the arch. In addition, the grey coarse mortar used to seal this restoration, is very similar to the mortar found in association with that of the arch and wall. This is the same type of mortar used as the bedding for the pavement slabs. This suggests that all these constructions cannot be dated any earlier than the late first century AD (Graf et al. 2005: 431).

Phase 2 – The construction of a pavement (level 2) and an arch above the channel: The pavement was added to cover the water channel and the line of blocks on which the Temenos wall was later constructed. This pavement appears to be contemporary or slightly earlier than the construction of the arch, since it is bedded with the same light grey fine mortar (level 3) as was used in the eastern part of the arch. Further soundings along the wall may reveal this pavement extended southward beneath the wall. The construction of the arch presents two phases: a) the eastern part and the two central blocks belong to the initial construction (level 2); they were later chipped away in order to construct the Temenos wall; b) the western part represents a restoration most likely contemporary to the construction of the Temenos wall (see phase 3). This is indicated by the orientation of the stone-dressing pattern on the western blocks, which is not coherent with the rest of the arch. In addition, the grey coarse mortar used to seal this restoration is very similar to the mortar in the connection between the arch

and wall. The arch was probably built to support a structure overrunning the channel, but no traces of this structure were attested. The mortar used in these lower blocks also is different to that used in the temenos pavement, further indicating they were part of an earlier construction.

Phase 3 – The construction of the wall (W 100) and pavement of the Temenos (ST 101) was accompanied by the restoration of the water channel (ST 100): Both the wall and the pavement of the Temenos have the same foundation (locus 132 – level 5). A grey mortar containing visible fragments of charcoal and ashes was used as bedding for the pavement, just as was found elsewhere in our other trenches in the Temenos area (Graf et al. 2005: 431 and Trench 4 above). The Temenos wall and pavement then can be assigned no earlier than the late first century AD. After the construction of the wall or perhaps in consequence of a collapse during its construction, the channel and its arch were restored and sealed with a grey coarse mortar. The roofing of the channel (level 12) is also sealed with a similar mortar to that used in the restoration of the arch in the wall, suggesting it was constructed contemporaneous with the restoration of the arch in the wall. In order to execute these interventions, the pavement (in our level 2) was removed.

Phase 4 – The construction of the eastern benches: These benches rest on the pavement and are a subsequent addition and clearly later than the construction of the Temenos wall and pavement. The precise date for this development could not be determined by our localized exploration, but an analytic survey of the entire Temenos wall and further soundings might provide chronological clues for dating this sequence of constructions and provide a more precise chronology for the development of the Temenos area.

Trench 6 (Graf and Schmid)

As observed above, the benches along the Temenos wall appear to be of different construction. These differences are clearest just to the east of the dedicatory block of the statue of the Aretas IV inscription that forms part of the western bench (**Fig. 18**). The eastern benches have a simple bevelled crown and an extended lip that juts out several inches. In contrast, the western



18. Trench 6, join between the eastern and western benches of the so-called Temenos wall before excavation (Schmid).

benches are more ornate, with a complex *cyma reversa* moulding. This led Parr to suppose that the western benches possibly were earlier than the eastern benches, assuming the architectural shift from the complex to the simple suggested elsewhere at Petra. As a result, it was proposed the western benches may be older and should be associated with the construction of the Qaṣr al-Bint Temple around the beginning of the Common Era or maybe even an earlier monument that preceded it. The basic problem with this hypothesis is that the pavement slabs of the Temenos area are broken or removed in front of the western benches, whereas the eastern benches rest on the pavement slabs. The gap between the western benches and the pavement is between 10 and 40cm and runs the entire length of the western bench. On the surface, this suggests the western benches were a later addition than the eastern benches, which rest on the Temenos pavement. If the eastern benches were part of an earlier construction and once ran all the way west to Qaṣr al-Bint, this would have required their removal in the western end for the construction of the western benches. Which one of these proposals is correct needed to be determined by excavation since it has important consequences for the dating of Qaṣr al-Bint and possibly could expose earlier Nabataean remains.

For this reason, a small sounding was placed in front of the benches exactly at the nexus where the eastern and western benches adjoin or come together (Figs. 18-19). The sounding ran about 2m in front of the benches. It was immediately discovered that the pavement slabs from this



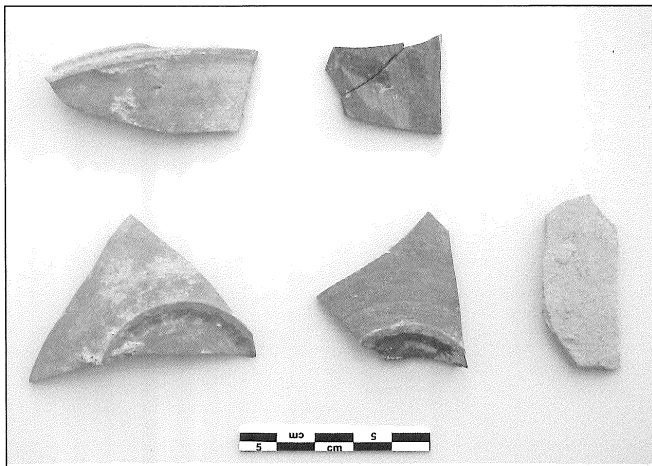
19. Trench 6 with water channel turning beneath the western benches (Schmid).

area had been removed a considerable distance from the western benches, far more than the anticipated 10 to 40cm. As we proceeded with the excavation, it became evident that this area had been disturbed and was previously excavated at some undetermined time, and then filled in with stones and loose earth and covered over. The signal that this was the case was not only the loose fill in the trench, but modern broken glass at some depth. The area had been clearly disturbed and evidence for its construction contaminated. This previous excavation may have ceased because it was located over an ancient water drainage canal that curved from Qaṣr al-Bint and ran beneath the Temenos pavement in a northeast direction toward Wādī Mūsā (Fig. 19). What evidence was immediately available and visible for dating the benches and aqueduct was retained, but the trench was backfilled and abandoned at this point. We were now forced to relocate our exploratory trench elsewhere along the Temenos wall if we were to obtain any desirable results for dating the construction of the benches.

Despite the modern disturbance, some observations for a relative and absolute chronology for the construction of the different benches can be made. It is clear that the eastern benches stand on top of the Temenos pavement. It is also clear that the pavement and especially the mortar bedding for the slabs is exactly the same as the pavement in trenches 2 (in 2004), 4 and 5 (in 2005). Furthermore, the same pottery types belonging to the late first century AD were extracted from the mortar bedding beneath the slabs and the eastern benches (Fig. 20). This means that the pavement slabs were not constructed earlier than ca. AD 100 and the eastern benches, since they are standing on top of the slabs, can be at the earliest just contemporary. The western benches then are certainly later than the eastern ones, and must date sometime later in the second century AD. In other words, the Aretas IV inscription is clearly reused and of no value for determining the date of the western benches or Temenos wall.

Trench 7 (Graf and Schmid)

Since it was particularly the date of the western benches that was at issue, we decided to locate a trench just to the west of the Aretas IV inscription. The trench was placed in alignment and parallel to the benches and measured only about 1.5m in length. It was immediately clear that this was a good decision, since the gap between the pavement slabs and the western benches was precisely the dimensions observed by the British excavations conducted by Peter Parr and appeared to be undisturbed (Fig. 21). As



20. Trench 6, pottery of the last quarter of the first century AD from beneath the pavement slabs and the eastern benches (Schmid).



21. Trench 7 before excavation showing cut off pavement slabs and foundation for the western benches (Schmid).

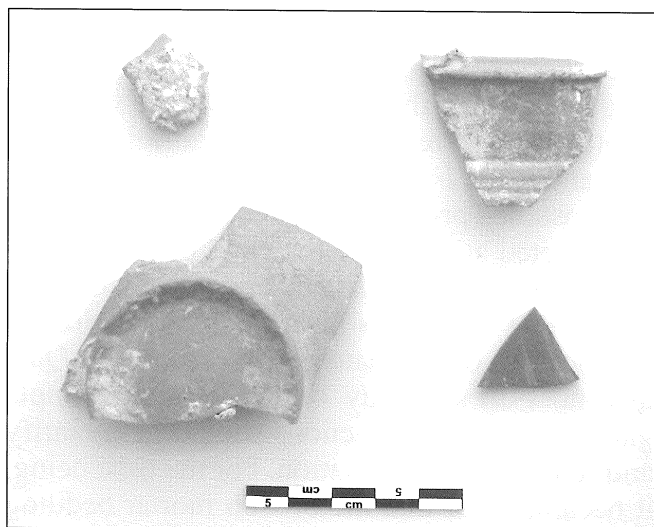
the excavations proceeded, it was also clear the area was undisturbed and that it may be possible to obtain evidence for the date of the western benches. One stone of the bench was removed to expose any mortar and pottery in the filling (Fig. 22). The tentative suggestions indicate that the western bench has been inserted at sometime after the annexation of the Nabataean kingdom. This means that the inscription for the statue of Aretas IV was removed from its original position and is not *in situ*. The eastern benches were then installed prior to this date and possibly were constructed at the same time and/or in conjunction with the Temenos Gate and pavement. This means that the Aretas inscription has no longer any bearing on the date of the erection of Qasr al-Bint. Further study of the ceramic sample gathered by our inspections should help clarify and refine our interpretation. For the time being, it became clear that the broken mortar bedding of the pavement slabs was reused for the foundation of the western benches. The pottery extracted from that mortar was not surprisingly the



22. Trench 7 after excavation showing foundation of the western benches (Schmid).

same as from the other trenches in the Temenos precinct, i.e. Nabataean ware of the last quarter of the first century AD (Fig. 23).

It should be emphasized the conservation and protection of all the important areas was consid-



23. Trench 7, pottery of the last quarter of the first century AD from reused mortar bedding of the western benches (Schmid).

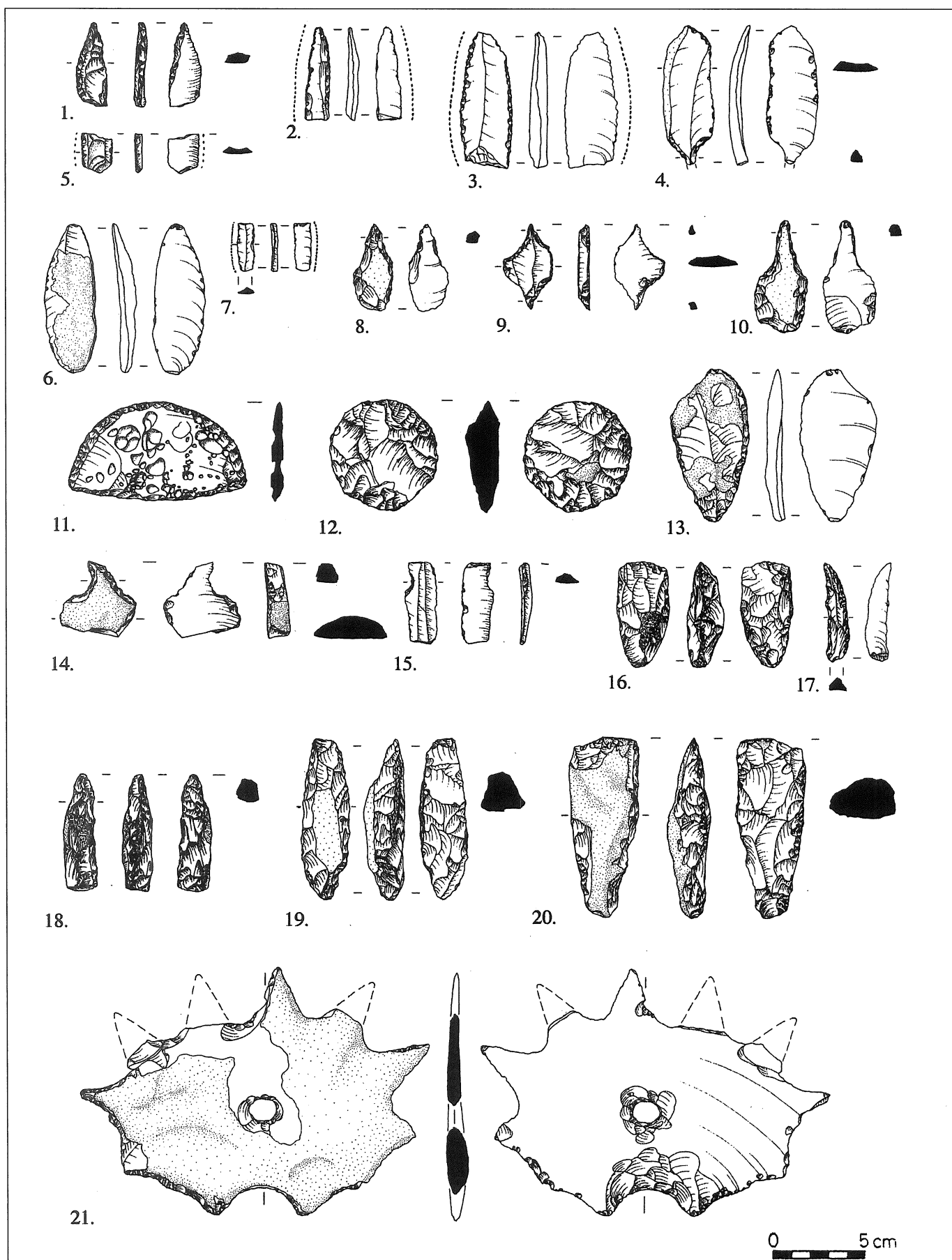
ered a high priority. All the trenches were back-filled and the appearance is virtually the same as before the excavations began. The few pavement slabs near the Temenos Gate removed were carefully replaced in their original position, and have been solidly affixed both to the adjacent slabs and the stones beneath so as to provide firm footing (Fig. 24). As the following summary of our results will indicate, a maximum amount of valuable information and chronological data was achieved by a limited amount of time and effort.

III. Conclusions

Although the specific objectives of the Hellenistic Petra Project in 2005 were not as successful as the 2004 season, the results were immensely important for clarifying the chronological development of the civic center and Qaṣr al-Bint temple complex. It is clear from our widely separated trenches in the Temenos area that Wādī Mūsā was much wider in antiquity and before the extensive construction that took place in the late Nabataean and Roman era. At the entrance



24. Trench 4 after excavation (Schmid).



14. Chipped stone from 2005 excavations.

Figure 14.#	Cat	Description	Context
1	5/1187	Misc. point	E9 1578
2	c2568	Arched backed sickle blade	I1 1605
3	5/3121	Sickle knife	H2 1740
4	5/2390	Retouched blade	E8 1594
5	c3194	Canaanian segment	H1 1543
6	5/206	Retouched blade	G1 1486
7	5/922	Simple sickle blade	G1 1422
8	c1897	Awl	I1 1600
9	c3588	Double awl	I3 1617
10	c1896	Drill	I1 1600
11	c5138	Tabular scraper	E12 1826
12	c2716	Disc	I2 1513
13	5/2391	Knife	E8 1594
14	5/1178	Notch	E9 1578
15	5/4136	Notch	E8 1816
16	c2451	Straight edged axe	D5 1571
17	c403	Denticulate	E7 1409
18	c3587	Pick	I3 1617
19	c3898	Chisel	I2 1615
20	5/1483	Adze	E9 1579
21	5/4131	Star scraper	G3 1499

cavated units. One example has been identified as a tongue-shaped endscraper.

Notches and denticulates: Steep notches (Fig. 14.14-15) and denticulates (Fig. 14.17) occur with great frequency. Flat notched and denticulates also occur regularly across the excavated units and the presence of these tool classes together reflects the largely *ad hoc* nature of the assemblage.

Retouched pieces: By far, the most prevalent tool group, the retouched pieces, including shattered and broken retouched pieces that may have been parts of more formal tools, dominate the assemblage. These expedient pieces number 6472 and their shape, material and retouch vary greatly.

Celts: These large tools include the adze, axe, chisel, pick and heavy-duty bifacial roughout typologies (Fig. 14.18-20). At al-Khawārij, these tools were generally produced on modified wadi cobbles; however, some were produced from larger, bifacially reshaped flakes.

Straight and round edge axes occur in relatively equal frequency (n= 6 and 7 respectively), adze are similarly represented with twelve examples, and there are four examples of picks and eight roughouts. In all cases the roughouts appear to have been abandoned due to knapping errors. Chisels are the most common celt tool (n=24) – this is thought to be related to the agricultural/horticultural activities practiced on the site.

Miscellaneous: Two chopping tools, four burins and one threshing tooth, as well as the varia make up this category. The varia includes the limited intrusive elements recovered, two Neolithic-type drills on blades from units I2 and H2, and one enigmatic piece, approximately 30 cm in length, tear-dropped in shape, marginally flaked, flat but with a thick proximal end. This piece may have been a tested cobble or stored raw material ready to be modified. It was recovered in trench I2 and is made of medium to fine grained brown flint, different to that locally available.

to the colonnaded street at the eastern entrance, alluvial deposits were encountered throughout the area in soundings conducted in the earlier Roman Street Project, evidence of constant flooding in antiquity and that Wādī Mūsā was “originally much wider” (Fiema 1997: 417). Our investigations of the area further west along the colonnaded street support this conclusion. In our Trench 3 in 2004 located some 90m east of the Temenos Gate, the “riverine gravels” were reached at approximately 1.5m below the paved street. In Trenches 2 and 4 at the Temenos Gate at the end of the street, the natural wadi deposits were reached at around 2m below the Temenos pavement. At Trench 5, some 35m west of the Temenos Gate, the river bed was reached at just 1.31m below the pavement, and some 80m further west at Trenches 6 and 7 the yellowish gravel bed was encountered at about just a meter below the surface (Graf 2006: 449). What Nabataean and Roman constructions we encountered in the area were built directly on the wadi bed. This means that we can remove from consideration any possibility that there was an earlier Hellenistic settlement located in the Temenos area. It seems evident that the Wādī Mūsā once extended beneath the Temenos pavement as far as the southern Temenos wall, and from the Temenos Gate extending perhaps even to the brink of Qaṣr al-Bint (cf. Zayadine, Larche and Dentzer-Feydy 2003: 82-83). It appears that the “podium” of Qaṣr al-Bint was actually located on a promontory that extended into the Wādī Mūsā, suggesting if an earlier sanctuary existed at this site, it was approached by a northern bridge that crossed the wadi from the opposite northern banks of the river bed. If this is the case, it would help explain why the E-W axis of the paved road and Gate are perpendicular to the Temple that faces to the north.

From a more positive perspective, the results of the 2005 campaign have important implications for the development of the civic center. As indicated in the discussion above, there has been endless speculation about the date of the Temenos Gate and complex vis-a-vis their relationship to the construction of Qaṣr al-Bint. The previous dating procedure was based purely on architectural and artistic parallels from elsewhere in the Roman Empire. From this perspective, the dates for the Temenos Gate ranged broadly be-

tween the reign of Aretas IV (9BC to AD 40) to the Severan period (AD 193-235). Now, as a result of our soundings in the Temenos area, it has been established that the Temenos Gate and pavement were constructed around AD 100, and probably in the initial decade or so following the Roman annexation of the Nabataean kingdom in AD 106. At this time, the Temenos area was constructed and paved, and a Gateway erected for entering the enlarged sacred precincts leading to the Qaṣr al-Bint Temple. It is possible that the Temenos wall was constructed at the same time or shortly after the Gate complex. This conclusion is in agreement with and supported by the evidence of the Trajanic inscriptions found at the eastern end of the paved street (Tracy 1999 with Kanellopoulos 2002) and at the small temple at the western end of the street, located just above the Temenos Gate on the southern side of the Temenos complex (Bodel and Reid 2002). In sum, the date of the gate, wall, benches and pavement are no longer at issue, and all can be safely dated to the early second century AD. As for our quest for the early Hellenistic settlement at Petra, it appears the prospects are better sought in the vicinity of the colonnaded street along the southern banks of Wādī Mūsā.

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