

EXCAVATIONS AT THE PETRA SMALL TEMPLE, 2000-2001

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Introduction

W. Bachmann's map of the central city of Petra is well-recognized today, as are the buildings appearing on it, although several have yet to be explored and excavated. Each structure that has been excavated at Petra has added to our knowledge of the organization of the city as a whole, and how these individual components contributed to Petra's role in trade and commerce in the Near East.

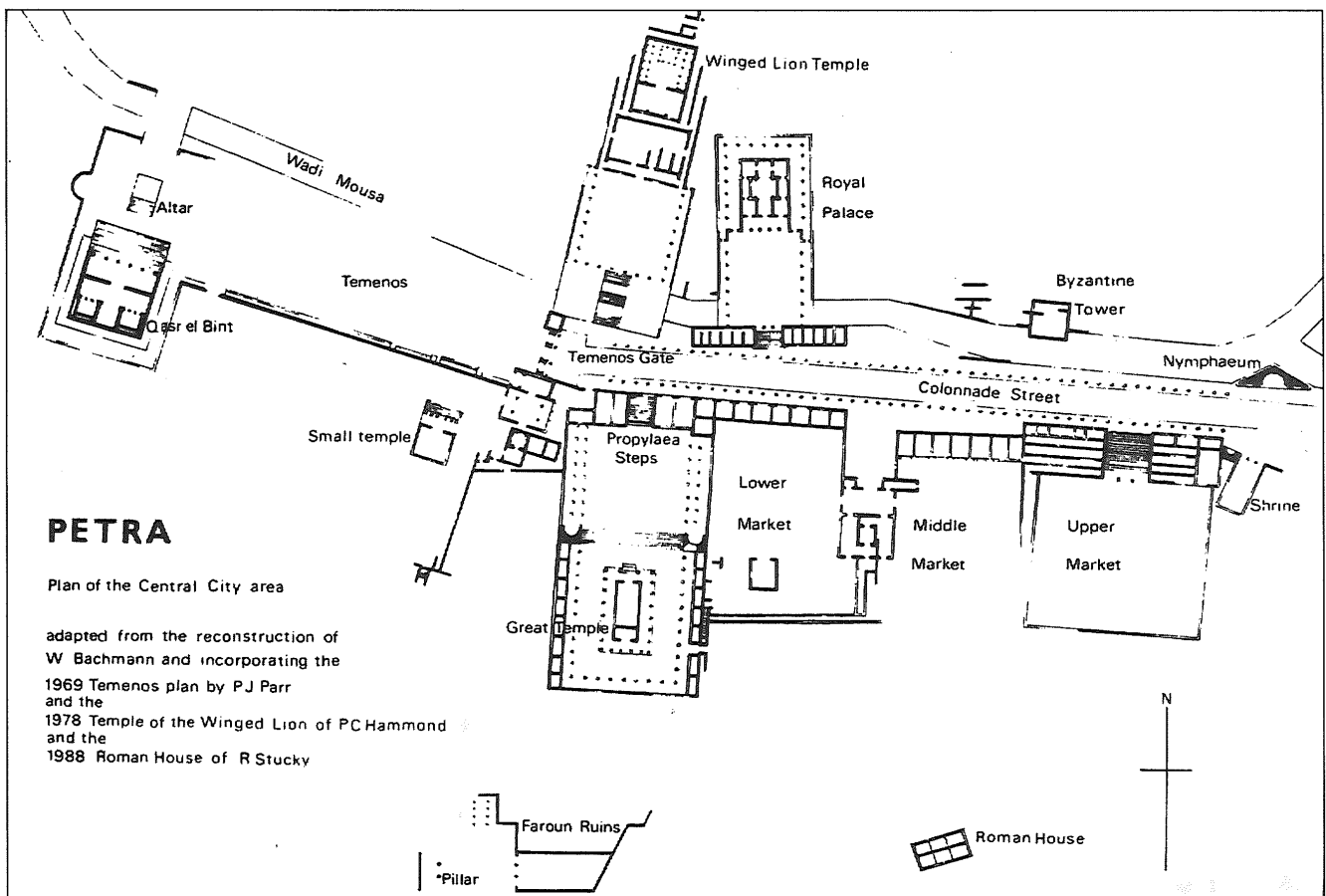
One of the smaller structures on Bachmann's map is labeled the "Small Temple," a name probably first given to it by Wiegand (McKenzie 1990: 108) (Fig. 1). Called a temple out of the belief that the building lies within the religious core of the city, this name is used today out of convention. Although the Small Temple, located between Qasr al-Bint (قصر البنت) to the west and the Great Temple to

the east, has been identified on maps since the early twentieth century, there would be no excavation at the site until the beginning of the next century.

Surveying began in 2000, and the first full season of excavation in 2001, under the auspices of the Jordanian Department of Antiquities and Dr. Martha Sharp Joukowsky of the Department of Anthropology at Brown University. Surveying and excavation of the Small Temple is under the supervision of the author, in order to establish its historical development, function, and relationship to other structures in the center of Petra.

2000-2001 Field Activities

Two seasons of field research have been completed, although the 2000 season was very abbreviated, and 2001 represented the first full season of



1. Central City Area of Petra, after Bachmann (Browning 1989: 144).

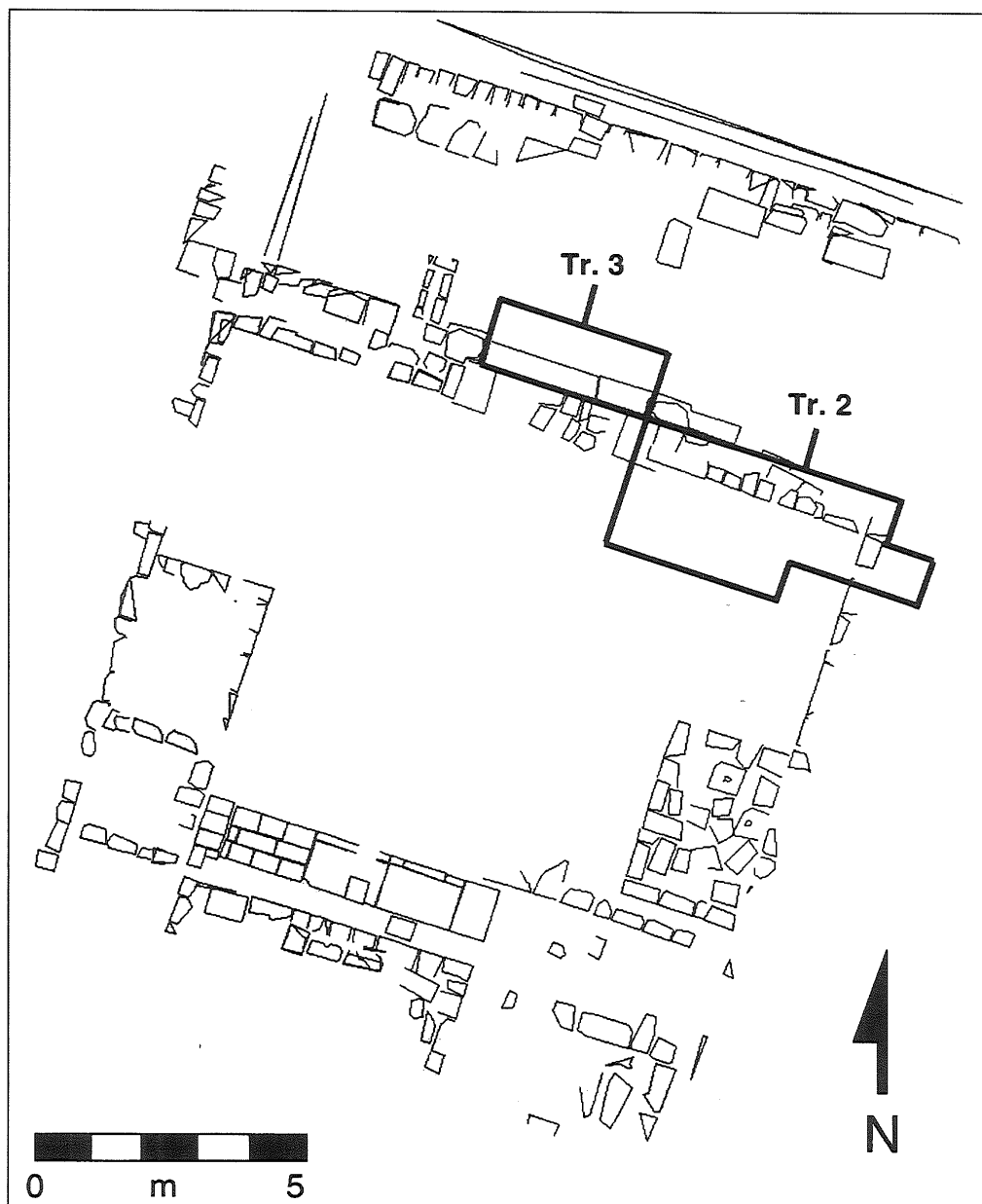
excavation. Surveying for both seasons was conducted with the same Electronic Digital Mapping System (EDM) as used at the Great Temple. The EDM was provided by the Museum Applied Science Center for Archeology (MASCA) of the University of Pennsylvania, and was operated by Brian A. Brown of the University of California at Berkeley.

The field recording system used at the Small Temple is also the same system as has been developed by Dr. Martha Sharp Joukowsky for use at the Great Temple. Several modifications have been made that are specific to the recording of the numerous marble inscriptions discovered over the course of excavation.

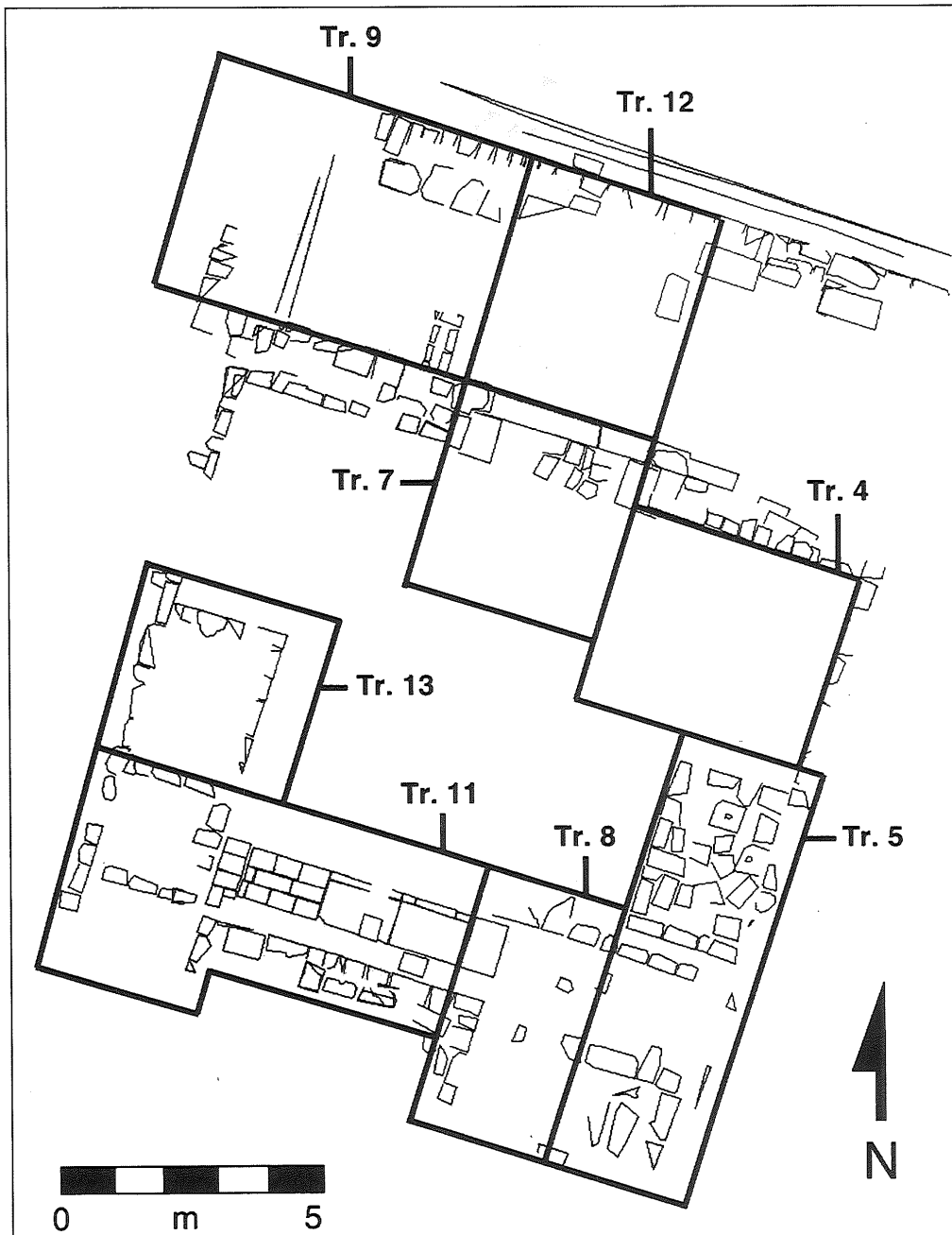
Activities in 2000 began on August 2 and ended August 10, and focused on surveying visible sur-

face architecture, and the excavation of two test trenches (Fig. 2). Test trenches were sunk in order to clarify the dimensions of the north elevation of the building, and also to locate the main entry. The author opened Trench 2 with the assistance Erin E. McCracken in the northwest corner of the building. Steven J. Larson opened Trench 3 within the doorway of the building.

Field activity in the second season, 2001, began on June 10, and ended on August 5. Eight trenches were excavated by the author and Amanda G. Henry over the course of the 2001 season (Fig. 3). Goals for 2001 included clarifying the dimensions of the entire building, and following the extent of marble revetment on the interior walls. Six trenches were located within the building, tracing the interior circumference of the main walls. The two re-



2. Petra Small Temple excavated trenches, 2000 (Brian A. Brown).



3. Petra Small Temple Site Plan and excavated trenches, 2001 (Brian A. Brown).

maining trenches were located on the Portico of the Small Temple, further defining the entry in the north.

The Small Temple Complex and Excavation Results

Introduction

The Small Temple is situated on a flat plain, located between the base of al-Kātūta (الكاتوتة) and the Temenos. A slight rise to the south effectively creates the southern border for the precinct. The north is bounded by the Temenos Wall, and the east by an unidentified wall. There is no clear western boundary to the precinct, which currently

stretches uninterrupted to Qaṣr al-Bint.

The complex itself incorporates two main levels; the building located on the rise in the south, and slopes down to a Courtyard to the north (Fig. 4). The inclined slope between the north side of the building and the south side of the courtyard appears to be a staircase. The approximate overall dimensions of the complex are 75.6m north-south, and 31.1m east-west, although the east-west measurement is necessarily a very rough approximation. These figures give a total area of 2351.16m².

Trenches

Excavations so far have focused on the building itself, and the adjacent Portico to the north. The to-



4. Aerial view at the completion of the Small Temple 2001 excavations, looking southeast (Sara Karz Reid; all photographs by the author).

tal area represented by the combined Main Structure and Portico is approximately 255.30m². Almost 70% of the Portico and the Main Structure has been excavated. In the Portico, only the portion east of the doorway remains, while in the Main Structure the center and the interior northwest corner have yet to be excavated.

The stratigraphy in the interior of the building generally followed a predictable, set pattern. The top soil locus, or overburden, was typically 0.50 to 1.50m thick, sandy in texture, and contained large, unshaped rocks and the occasional architectural fragment. Below the overburden was a thin layer of roof tile fill, usually less than 0.30m thick, and consisting almost entirely of roof tile fragments, and the occasional marble revetment or inscription fragment. With the removal of the roof tile fill, plain and inscribed marble was found in abundance from this depth to the subfloor level where excavation stopped.

The following section will discuss specific areas in the Small Temple, beginning in the south with the Main Structure, and working north to the Courtyard (Fig. 5).

The Small Temple Complex

Main Structure: The Small Temple is a freestanding structure aligned on an axis slightly east of north. The location of the south wall of the building is still in doubt, but current estimates of the building's dimensions are 13.6m north-south, and 13.8m east-west.

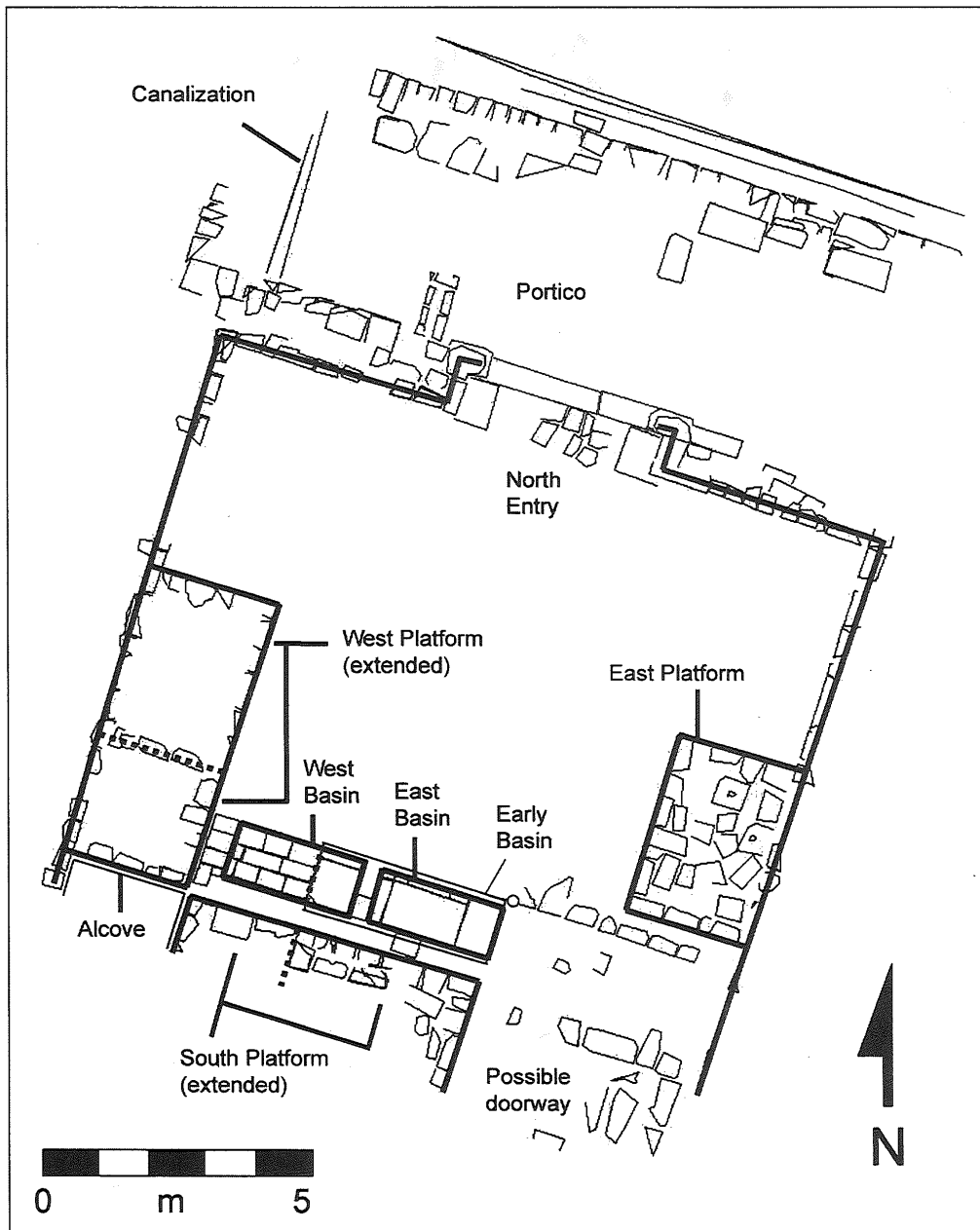
The threshold, centered in the north wall of the structure, measures 3.4m in width, and is constructed of two limestone ashlar, the western ashlar being considerably larger than the eastern.

This threshold is flanked by unadorned, L-shaped doorjambs to the east and west that bond to their adjacent walls, preserved to a maximum height of 1.69m. In the area north of the doorway, four decorated limestone doorjamb capitals were discovered, with an additional three doorjamb fragments later located east of the north wall. These decorated doorjambs fall into two categories; cassettes or floral designs. The floral designs incorporate pomegranate, flower, and vine motifs (Fig. 6). While of course there cannot be complete certainty that these were once incorporated in the doorway, their measurements are consistent with the *in situ* doorjambs flanking the threshold.

The doorway on the north side of the building was probably not the only point of entry into the structure. There are also two possible doorways flanking the central axis of the building along the tentatively identified south wall, and a hypothetical doorway in the west wall of the structure.

Seven trenches are located along the inside perimeter of the building, almost completing the entire interior circumference. The three remaining trenches are located outside the north wall of the building, to be discussed in the following section. Although the interior remains unexcavated, it seems likely that the building had an open floor-plan because there is no evidence of interior walls bonding or abutting with the outer walls of the structure. The building walls are composed of limestone and sandstone ashlar, very roughly shaped and non-uniform in size.

Along several interior walls, however, these rough ashlar are hidden by marble revetment. Several different colors of marble, including gray and white, and black and white, have been identified *in*



5. Small Temple Components
(Brian A. Brown).

situ, affixed to the walls with bronze tacks and a generous layer of plaster approximately 0.10m thick (Fig. 7).

Some of the *in situ* revetment shows a line of red paint, applied as a horizontal line near the bottom of the tile. The purpose of this line is uncertain, but it is possible that it was not meant to be seen, but rather a guide line for the location of additional architectural elements (such as cornices) in the interior of the building. On the other hand, this paint line seems quite bold and wide merely to have been used as a guide line, which leaves the possibility that the red paint did serve a decorative function.

In places where the revetment and plaster are no longer extant, it is possible to see holes drilled into

the ashlar to receive the bronze tacks, some of these still *in situ* although the marble itself is no longer present. An upper register of drill holes in the ashlar correspond with holes identified on the backs of many marble cornice fragments, almost two hundred of which were found within the building, but none *in situ*.

A third type of marble discovered in profusion within the Small Temple was fragmentary inscribed marble. Like the marble cornices, none of these were found *in situ*, with two notable exceptions to be discussed later in more depth. Four hundred sixty-nine inscribed fragments were identified, all but 35 found within the walls of the building. These fragments range from small pieces only two or three centimeters long, to much larger



6. Floral doorjamb capital.

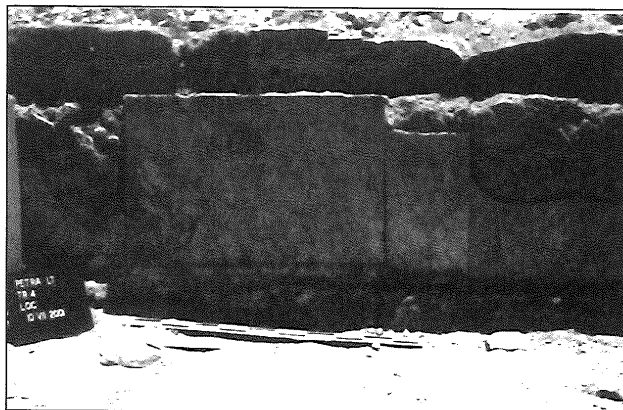
pieces over to forty centimeters across. The identifiable fragments include both Greek and Latin, but no complete inscriptions.

The total number of marble fragments of any type (revetment, cornice, or inscription) is 4669. Four thousand three hundred and sixteen of these fragments, or 92% of the total, were discovered within the building. Almost half of the inscribed fragments are so small that it is impossible to make any determination of language.

Although there are no walls bonding or abutting the main structure, there is a series of platforms; a pair of platforms in the west and east, and another in the south. All three platforms show evidence of having once been clad with marble revetment. The east platform still exhibits revetment *in situ* on its south side. The east platform, the best preserved of the three, consists of two extant courses of ashlar forming its north, south, and west boundaries. The platform appears to have been filled after these three retaining walls were built, and contains a number of identifiable elements in secondary use, including a column capital fragment that originally may have been part of the Great Temple to the east.

The platform in the west exists today as only fill. The retaining walls for this platform have been removed at some point in the past. The west and east sides of the platform in the south line up with the west and east sides of the entryway in the north wall of the building, and is approximately the same width.

Associated with the west and south platforms are sections of wall abutting these platforms, one constructed west of the south platform, and the other south of the west platform. These sections of wall do not quite meet in the southwest corner of the building. The two sections of wall create a small alcove outside the southwest corner, in which 55 fragments of inscribed marble were discovered, along with *in situ* marble revetment on the west side of the wall segment to the west of the south



7. Marble revetment *in situ*.

platform.

The last major architectural element in the Small Temple building itself is a pair of marble and limestone basins in the southwest of the building. The two basins are roughly equal in size, and are placed adjacent to each other, although the west basin is slightly larger. The west basin measures 2.57m east-west, while the east basin is only 2.49m. Both basins are 1.09m north-south, and roughly 0.18m deep (although the depth does vary slightly). The volume of the west Basin is thus 0.50m³, and the east Basin is 0.49m³ (Fig. 8). The basins are separated by a ledge constructed of lime-



8. Marble and limestone basins in the south of the building.

stone slabs. The floor of the east basin is entirely gray-and-white veined marble, and the west basin displays a continuation of this gray-and-white veined marble in its eastern portion, however, the remainder of the west basin floor is constructed of limestone slabs. The east edge of the east basin, and the westernmost extent of the marble floor in the west basin line up exactly with the eastern and western extents of the south platform. The two basins exhibit completely different floor patterns; the west basin in limestone and marble, and the east basin in marble alone.

Portico: The excavation of three trenches uncovered much of the Portico of the Small Temple, and cleared the exterior of the north side of the building west of the doorway. This section of exterior wall is not flush all the way across, but includes two small niches. The niches are approximately 1.25m wide, and cut into the wall less than 0.25m. The eastern niche contains a small installation of sandstone ashlar for an unknown purpose, possibly a later reuse of the area.

The Portico is paved with both square and rectangular white limestone pavers. The pavers are in varying states of repair. A very few pavers are relatively intact, most are crushed in varying degrees. The floor surface is no longer flat, but looks like a surface of rippled water.

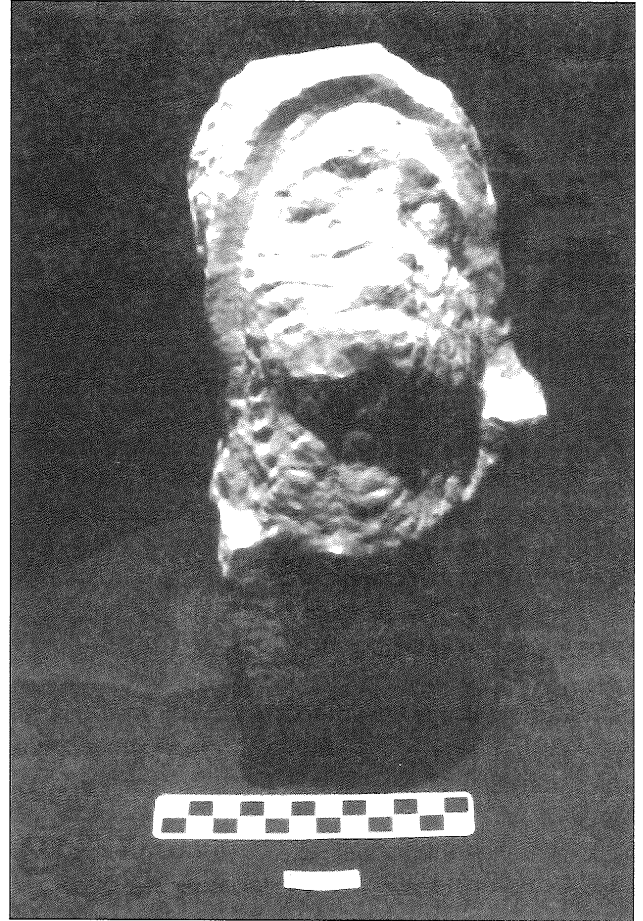
Two important sculptural elements were discovered in the central area of the Portico, near the doorway. Discovered in 2000 was a well-worn sculptural head with a flat reverse side, and a missing nose. The head was found in the doorway, and may be a representation of a veiled male figure (priest or deity) with a beard, gazing to the upper left. The head bears a resemblance in composition to the Hellenistic "Dushara" head in the annex niche of the Petra Museum (Fig. 9).

In 2001, the second sculpture fragment was found just beneath the surface directly in front of the doorway in 2001. Also part of a sculptural head, this fragment (although smaller) is in much better condition, and consists of the right eye of a man or woman and part of the hairline. Stylistically, the curls of hair and the lack of a pupil may indicate that this piece is of Nabataean origin (Fig. 10). Although it is intriguing that both of these sculptural elements were found in close proximity, there is no firm evidence that either was part of the decoration of the Small Temple. The find spot of the 2001 fragment, very high in the soil profile, may suggest that it simply washed into the precinct at a later date.

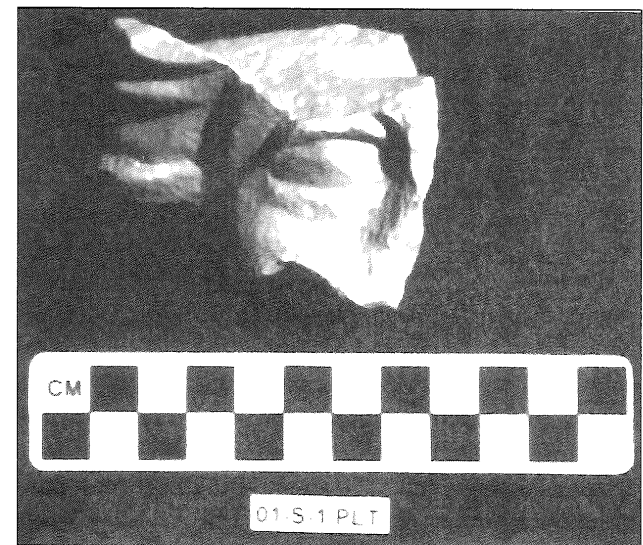
The remaining components of the Small Temple Complex have not yet been excavated, but only

tentatively identified.

Upper Precinct: The Upper Precinct surrounds the Main Structure on the west, south, and east. The area is bounded to the south by a small rise towards al-Kātūta, and to the east by an unidentified wall. The west boundary is arbitrary, and is not marked by any physical structure or natural feature.



9. Complete limestone sculptural head.



10. Fragmentary limestone sculptural head.

Staircase: The Staircase is located on the north side of the Portico, descending down to the Courtyard below. While there is clear evidence for stair treads immediately in front of the doorway on the north, the exact width of the staircase is unknown.

Courtyard: The Courtyard is located north of the Staircase, and is bounded on its north by the Temenos Wall.

Subterranean Elements: While the area under the subfloor or basins of the Small Temple has not yet been explored, there have been several clues suggesting that there is a subterranean component to the building. The string course of the north wall in Trench 4 near the northeast corner has buckled slightly. After excavation in this trench was completed, small sinkholes began to appear in the subfloor, into which a plumb bob could be dropped to slightly over 0.10m in depth.

There is also evidence for subterranean elements in the Portico. Outside the northwest corner of the building there is evidence of canalization that goes underneath the building, in the form of a stone-lined channel. Where the channel terminates is still unknown, but it is speculated that the entire building and Portico were constructed upon an artificial platform and that the channel may lead to a reservoir under the structure.

Access from the Temenos to the Courtyard: Today, there is no direct access between the Temenos and the Courtyard of the Small Temple, immediately south of it. There is a small bench, or possibly the base of a set of stairs, in alignment with the Small Temple to the south. Iain Browning suggests the evidence for access to the Small Temple from the Temenos is perplexing (1989). He writes, "The axis of the steps is the same as that of the temple but this theory would entail the steps originally passing over the top of the wall or through it if the wall had been carried to any great height. There is no indication in the stonework to suggest that a flight of steps was ever integrated into the wall or had abutted it, which leads one to conclude that the original steps were dismantled when the present Temenos South Wall was built, leaving only the bottom steps. The small temple would then have been isolated from the precinct and without direct access to it. This suggests that the temple and the platform under discussion are of an earlier date than the South Wall" (Browning 1989: 160). Hopefully future excavation will be able to address this issue.

Architectural Elements

The Small Temple, thus far, falls under the classification of a prostyle building, constructed on a podium with steps leading to a portico on one end (MacDonald 1986: 110). One heavily weathered, red sandstone column drum, measuring 1.01m in diameter, may have been identified *in situ* near the northeast corner of the Portico. This drum is plausibly located where one might expect to find one of four columns across the front of the portico. Bachmann's map and later maps of the city center support this conclusion, although it is by no means definitive. Uncertainty about the architecture in the rear, or south, of the building may change the classification. If, in fact, evidence for columns is later discovered in the south, the Small Temple could instead be classified as an amphiprostyle building (Vitruvius 1960). The possibility of two doorways in the south, however, could cloud the issue further.

The architectural decoration of the Small Temple is still uncertain. The lack of architectural elements may be the result of Bedouin agricultural practice in the area in recent decades. With the exception of the doorjamb capitals found in close proximity to the north doorway, no other large architectural fragments excavated at the Small Temple can be closely tied to any specific location of the complex, with the possible exception of one column drum. Several weathered, sandstone column drums were found, but only seven were complete enough to determine diameter, ranging from 0.40 to 1.01m.

Two partial column capitals of interest were discovered outside the southwest corner of the building, in Trench 11. Both fragments were deeply carved with vines, grape clusters, and grape leaves. Unfortunately, the column capitals are so damaged that it is difficult to judge their original dimensions.

Phasing and Interpretation

Phasing

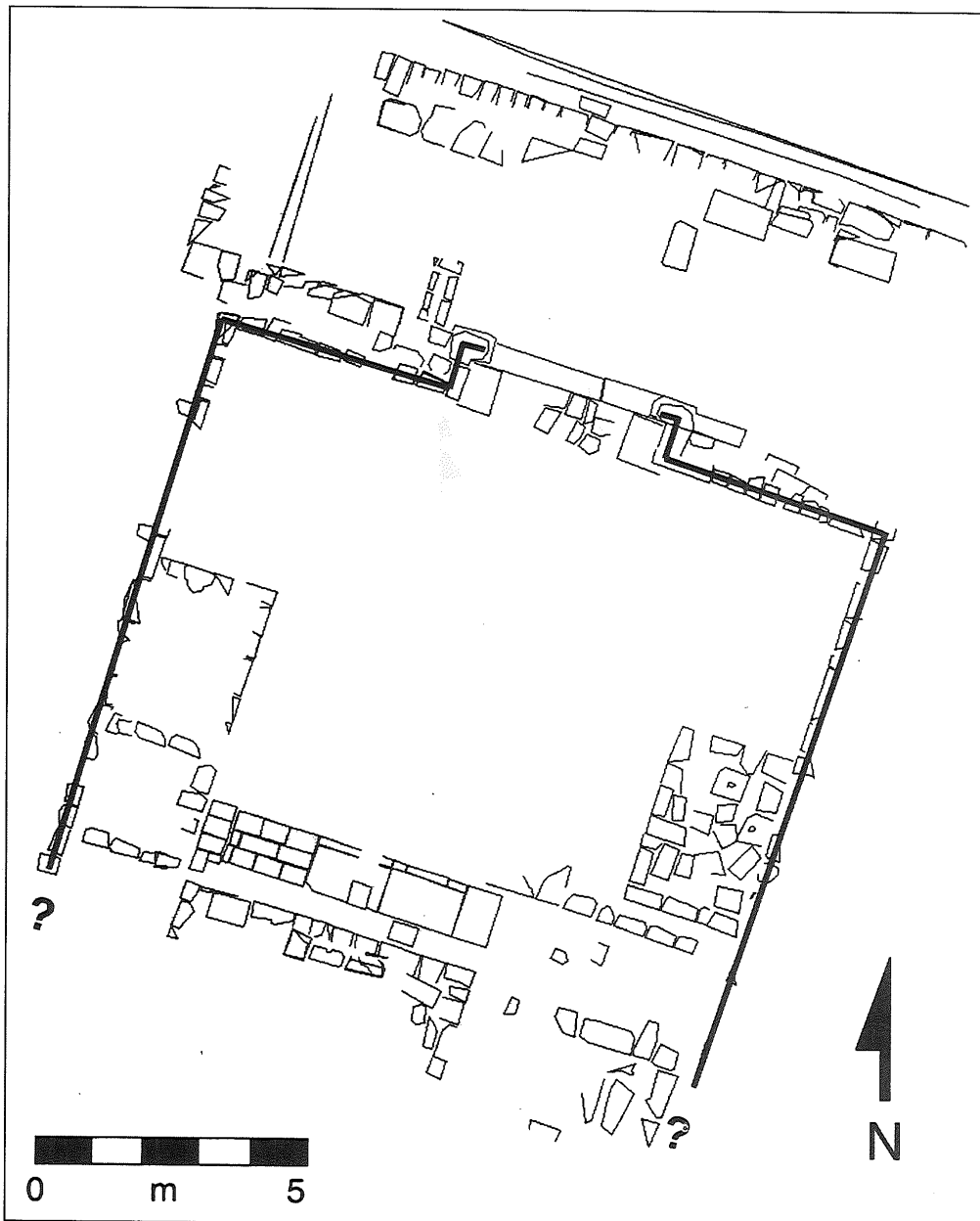
The phasing of the building is still open to debate. At the moment, I believe the evidence supports four major construction phases, followed by a series of destruction phases. The first phase consists only of the construction of the shell of the building, and any necessary platform construction. Even in this early phase, the limestone and sandstone ashlar of the building walls probably would have been covered by stucco, or some other material because of their uneven execution. Today, however, no evidence remains of any such covering (Fig. 11).

The second phase is distinguished by the addition of the three platforms in the west, east, and south, and the addition of marble revetment throughout. The west and east platforms abut the inside walls of the building, and the platform fill includes reused architectural elements. The marble was attached to the walls with a thick layer of plaster, and bronze tacks. The marble revetment was found *in situ* on the walls, as well as on the sides of the platforms (Fig. 12).

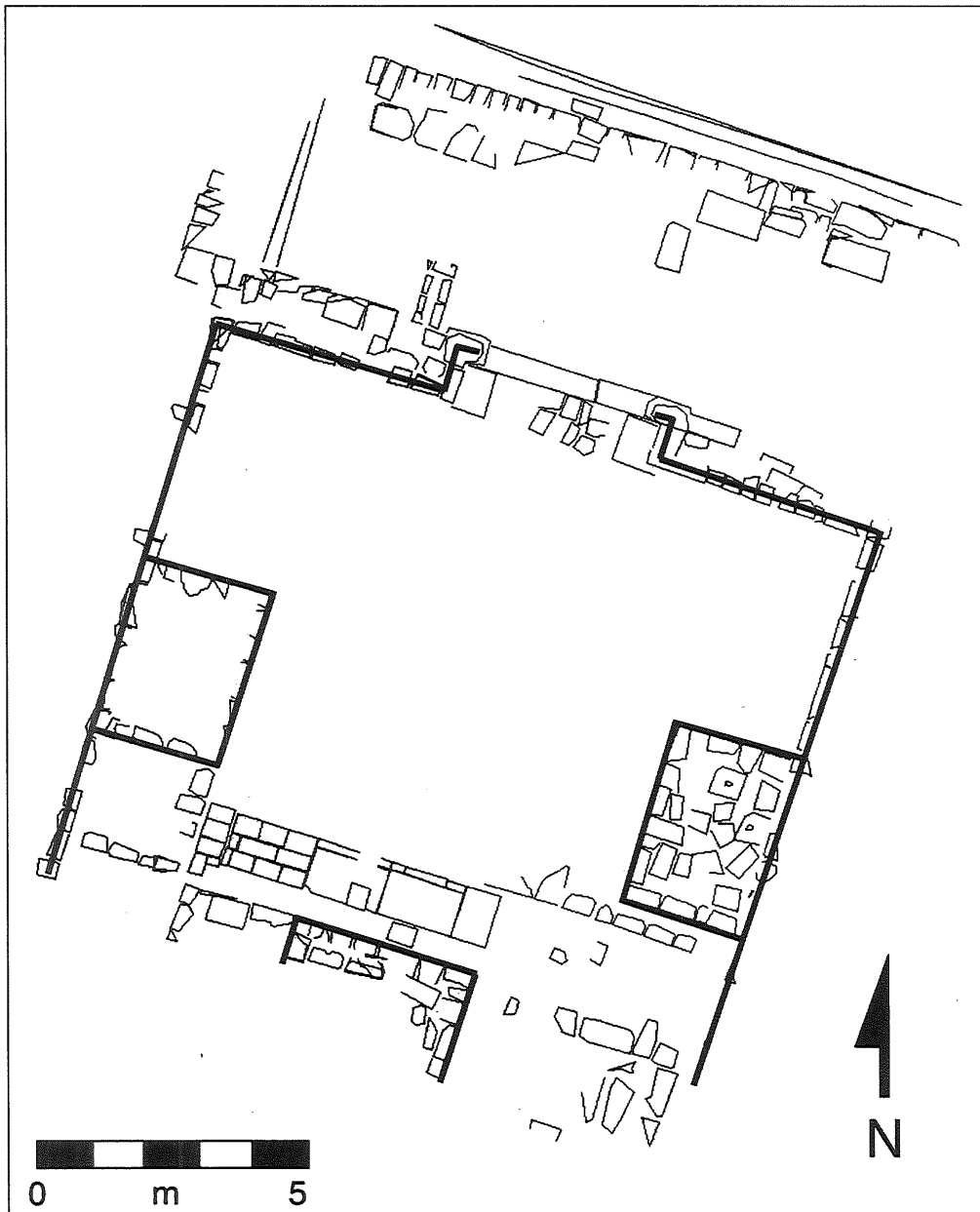
The third phase saw the addition of a single rectangular basin in front of the south platform. This early basin, predating the pair of basins briefly discussed earlier, was 3.85m west-east, 1.09m north-south, 0.18m deep, and was constructed of gray-and-white veined marble slabs. This early basin had a volume of 0.75m³. The south platform prob-

ably stood independently of the basin for at least a little while, because of the presence of marble veneer on the north side of the platform, behind the basin wall. To place this marble only to have immediately covered it up would have been a waste of the resource (Fig. 13).

The fourth phase, and maybe the final phase of construction before the building went out of use, is more convoluted. Much of the construction activity in this phase relates to the southwest corner of the building. A second basin was built west of the original. It is important to note that the addition of the second basin destroyed the symmetry of the building around its north-south axis. This was accomplished by removing the west wall of the original basin (the early basin), excavating into the subfloor west of the original basin, laying down new basin



11. Petra Small Temple: Phase I (Brian A. Brown).



12. Petra Small Temple: Phase 2 (Brian A. Brown).

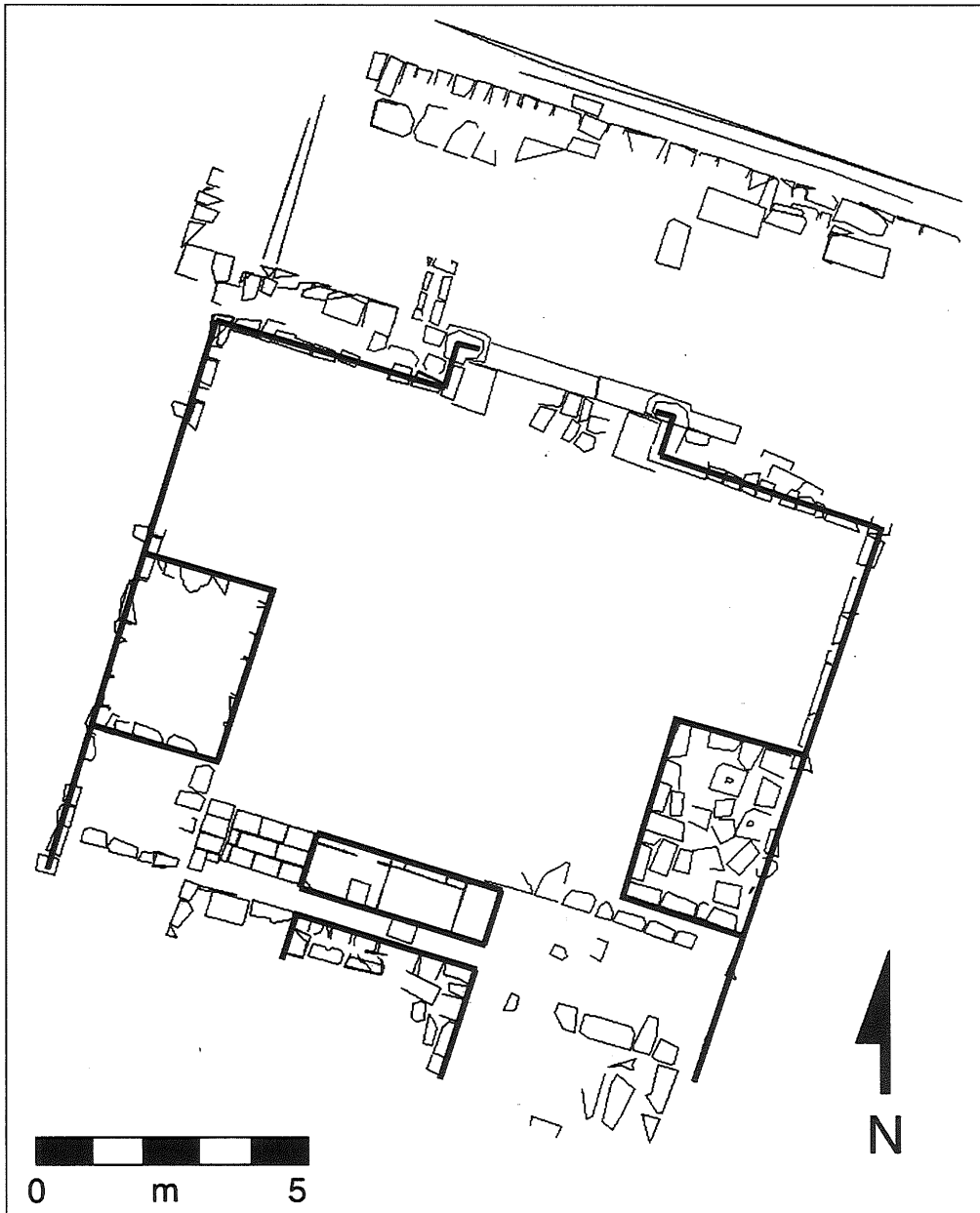
floor in this newly excavated area, putting in new basin walls (in the north, south, and west only), and then dividing the basin into two separate basins by placing a divider on the basin floor. The resulting two basins are roughly equal in size, although the west basin is slightly larger (Fig. 14).

There are several differences between these two basins that allow for such a certain distinction between the two. The new section of basin floor, added west of the original marble basin floor, is entirely composed of a yellowish limestone laid in a brick-like pattern of small tiles. The walls of the west basin on the north, south, and west are variously composed of this same yellowish limestone, the gray-and-white veined marble, and white marble. The floor of the early basin clearly goes underneath the ledge now dividing the two basins. The

stone in this ledge is entirely limestone, rather than marble.

A final important element relating to the basin itself is regarding the marble used in the construction of the north wall of the west basin. Three segments of the north wall of the west basin collapsed over the course of the excavation. Two of these sections were inscribed in Greek on the back side; material in secondary use. The level of preservation of these fragments is incredible. Bright orange paint is still visible in the clearly-cut letters (Fig. 15).

These Greek inscription fragments point to a renovation of the building that seems to indicate at least two phases during which inscriptions were on display in the Small Temple. During the first inscription phase, the Greek inscriptions later discov-



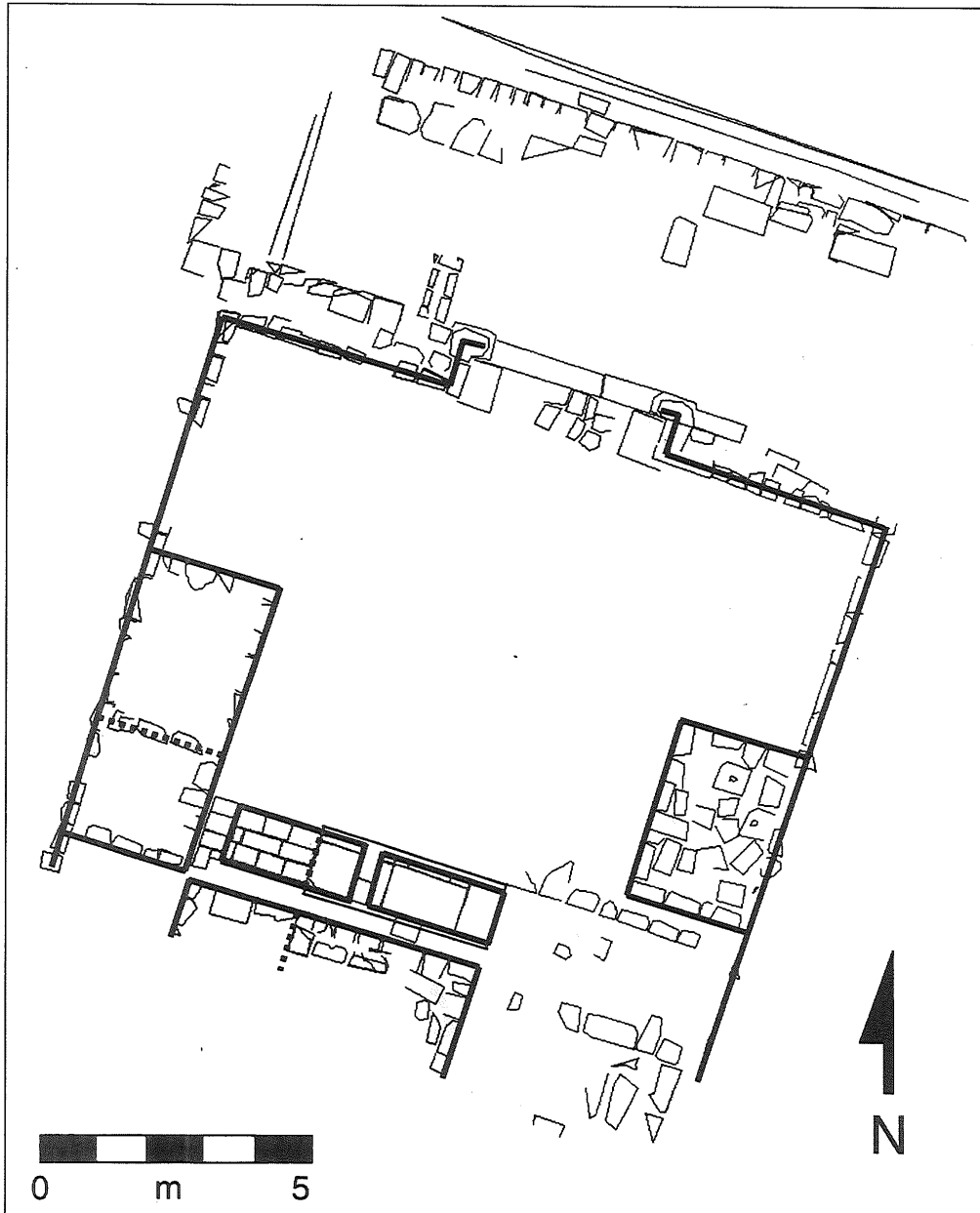
13. Petra Small Temple: Phase 3 (Brian A. Brown).

ered as part of the north wall of the west basin would have been on display. At some point in time, they were no longer relevant and were reused in the expansion of the original basin. It is quite clear that these inscriptions were cut to size specifically for use in the basin wall. One of the basin fragments, for example, clearly shows that a line of text has been cut off to produce a fragment of the correct dimensions.

There is one important point of caution, however, regarding the use of inscriptions in the Small Temple. It is possible that the inscription fragments discovered in the Small Temple were all in secondary use and none of them were ever intentionally on display. I do not think this extreme example is likely to have been the case because almost all of the inscriptions had clean faces, free of the plaster

that should have been noted in at least minimal quantities to indicate that the inscriptions had been mounted to the walls or other surfaces of the building. Regardless of how or where the inscriptions were used at the Small Temple, however, it is important to recognize the importance of such an abundance of inscriptions in Petra, where many of the known inscriptions of the city were inscribed on local stone (Tracy 1998: 372).

The existence and placement of several other architectural features are directly related to the expansion and division of this original basin (Fig. 16). The original South Platform and basin may have originally been flanked by a pair of openings or doorways to the east and west. The scanty evidence for a south wall of the Small Temple is located in the southwest corner of Trenches 5, as a



14. Petra Small Temple: Phase 4 (Brian A. Brown).

lone ashlar. The construction of the west basin in Trench 11, however, forced a significant architectural change in the southwest corner of the building.

The west basin would have been placed directly in the path of foot traffic of this proposed west doorway. Anyone attempting to walk to the west side of the South Platform after the addition of the west basin would get wet feet. Furthermore, logic dictates that the South Platform, which was clearly related to the original, early basin, be expanded to the west in order to have the same relationship with the new, west basin as well. The South Platform was thus expanded to the west by the addition of a section of wall.

Interestingly, this new wall segment west of the south platform was not constructed across the entire width of the hypothesized west doorway, but

only halfway across. The west platform, in Trench 13, was expanded to the south to block the remaining western portion of this hypothetical doorway. The result of these platform expansions, expanding the south platform to the west, and the west platform to the south, was to block this doorway after the addition of the west basin.

There are a few loose ends in this phase of the building, and hints that the builders may not have been expert craftsmen. First of all, the extended platforms do not physically meet in the southwest corner. There is actually a gap of at least 0.07m, which has been filled in with a very thick layer of plaster, maybe to cover the mistake.

The expanded section of the west platform is oddly constructed. The bottom two courses protrude into the Small Temple interior several centi-



15. Greek inscription in marble from the north wall of the west basin.

meters beyond the courses above. The plaster on the bottom courses is very thin here; only 0.03m as opposed to the usual 0.09m or 0.10m. The builders may have forgotten to take into account the thickness of the combination of plaster and revetment (usually totaling 0.11-0.13m in thickness), and how they would encroach on the desired interior dimensions of the building. By using a very thin layer of plaster, they reclaimed some of this space. The upper courses that have been set further back may reflect an attempt to correct the mistake. Doing so would allow the builders to again apply thicker plaster, without giving up floor space.

Another quirk of this phase is that the expansion of the platforms created an alcove outside the southwest corner of the building. This alcove appears intentional because its walls were also clad with marble revetment. If the space in this alcove was not intended for use, why bother mounting any marble? Today, the alcove is defined on three sides; on the north and east by the expansion of the west and south platforms to the south and west, and by the original west wall of the building in the west. The alcove itself contained 55 inscription fragments. Perhaps at some point the niche became a dumping ground for broken or otherwise undesirable and irrelevant inscriptions.

Several specific inscriptions deserve mention. The largest reconstructed panel to date consists of two sections composed of joining inscription fragments, 01-I-103 PLT, and 01-I-104 PLT (Fig. 17). This Latin inscription consists of these two sections, as well as several loose fragments. All of the fragments are of dark greenish-gray veined marble, and have consistency in the style and size of the let-

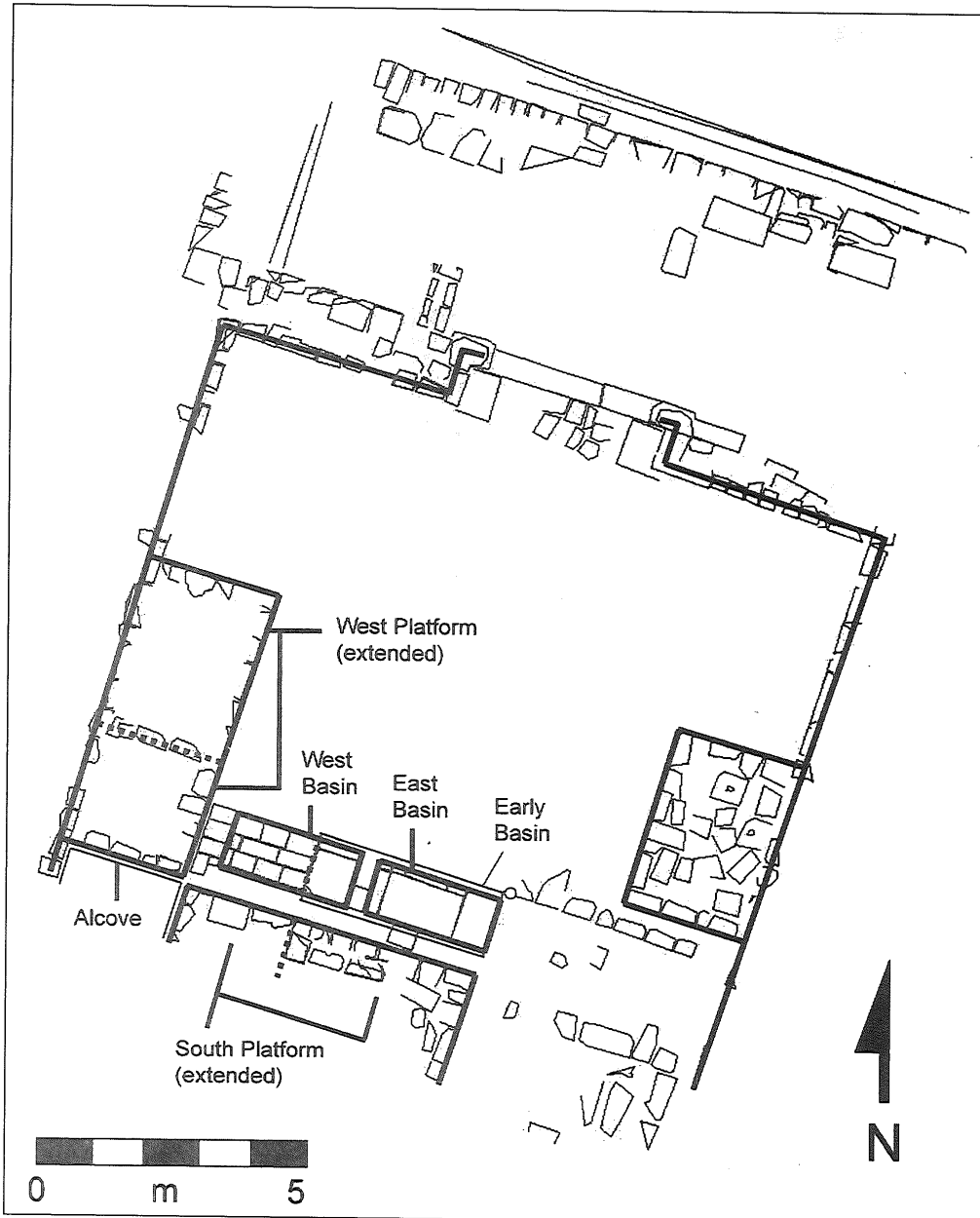
ters. Parts of five rows of text are preserved in the left section, although there are no complete words. Two of the floating pieces, however, contain significant parts of individual words. One fragment may include part of the word "Imperator", while a second clearly says "Caesar". Fragments of this panel have been found in the northeast corner of the building as well.

An inscription consisting of four joining fragments also incorporates fragments from disparate trenches. In this case, two fragments from Trench 11 in the southwest corner of the building join with two fragments from Trench 4 in the northeast corner. This partially preserved inscription, however, is in Greek rather than Latin. The third line of this inscription reads, "ΔΡΙΑ," which could be part of the name of the emperor Hadrian, who may have visited the city of Petra in ca. AD 130.

The abandonment and destruction of the building also has several phases, after these four main phases of construction. There is a thin layer of ash at floor level, concentrated in the southeast, suggesting either a small, unchecked fire, or a squatter's camp. The bulk of the marble was discovered above the ash layer. And above the marble layer is a dense, thin layer of roof tile fragments, suggesting the sudden collapse of the roof. This collapse may have deterred people from using the Small Temple as a source of marble after the building was no longer in use. Above the roof tile layer are ashlars, rocks, and fill, hinting at general collapse and a final abandonment.

Interpretation

The mere presence of marble at sites such as Pe-



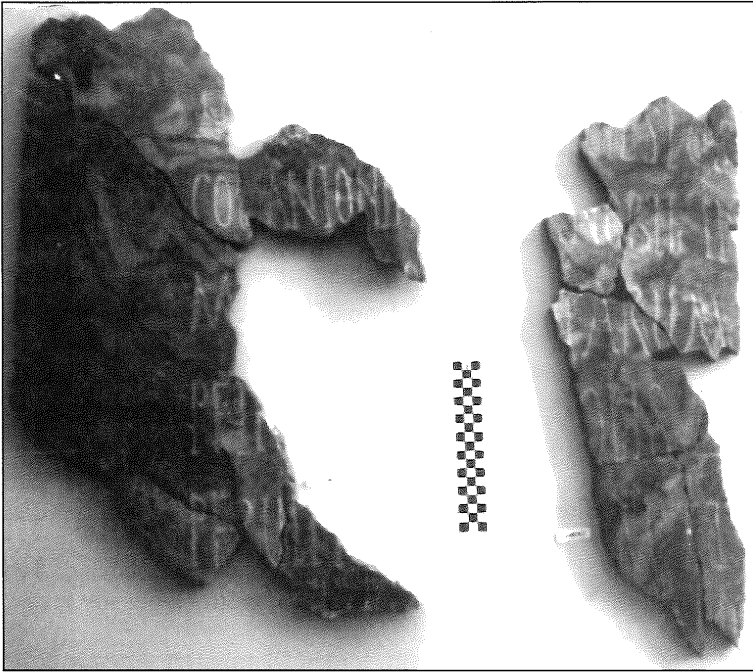
16. *Small Temple platform and basin elements (Brian A. Brown).*

tra, where none is locally available (Fischer 1988: 162), suggests that any buildings incorporating it were of some importance. Marble at Petra was necessarily imported, which would add to a building's expense, yet it is unnecessary for structural integrity. Furthermore, marble had Roman imperial associations (Fant 1988: 149), which meant that by using the same material valued by Roman dynasts, the builders could hope to add some of the same prestige.

Marble would certainly have been considered a luxury item at Petra, especially because, "land and not sea transport was the critical factor in determining the cost of production of marble; once the goods were on the boat, distance was no object" (Walker 1988: 190-191). According to Fant, "Long-distance trade in stone is an improbable phe-

nomenon. Stone is dense, voluminous, and very expensive to transport. Most kinds of stone were distributed locally; the frequency of finds drops off sharply with distance from the source" (1988: 147). Renfrew proposes something similar with his law of monotonic decrement, stating that, "When a commodity is available only at a highly localized source or sources for the material, its distribution in space frequently conforms to a very general pattern. Finds are abundant near the source, and there is a fall-off in frequency or abundance with distance from the source" (1977: 72).

There is, however, an important caveat to this rather simplistic model. The same straight line distance covered over both land and water requires different amounts of effort. The transport of heavy items, such as marble, would be more easily ac-



17. Inscriptions 01-I-103 PLT (left), and 01-I-104 PLT (right).

completed over water than over land, meaning that you might be more likely to find marble at a more distant location if its transport was accomplished only by trade over water. Petra's inland location would have necessitated the transport of the marble via an overland route after being unloaded from a ship, probably adding to its cost.

But what was the Small Temple, and can dates be assigned to the previously discussed phases? The building's north-south axis is aligned with several other structures in Petra, including the Qasr al-Bint, and the Temple of Winged Lions, suggesting that its first phase may correspond to approximately the same time; no later than the first century AD (McKenzie 1990: 108). The closest building to the Small Temple, the Great Temple, does not share this alignment.

The dating of later phases will be heavily dependent on stylistic dating of the inscriptions, although this is problematic because not one of the inscription fragments has been found attached to a wall or other surface. The Latin inscriptions certainly suggest a Roman phase (or phases) of the building, presumably around the time of the annexation of Petra in AD 106, during the reign of the Roman emperor Trajan.

If, however, all of the inscriptions were in secondary use in the Small Temple, scavenged from other locations, and then mounted on the walls inscription-side inward, dating and deciphering the inscriptions will be significantly less useful, although they can help to determine a *terminus post quem* for this phase of marble use.

It is possible that the Romans used the Small

Temple as an imperial cult building, dedicated to the worship of the emperor, his family and ancestors, and emperors that came before him (Adkins and Adkins 2000: 104). Imperial cult reached the height of its popularity in the first and second centuries AD, and continued into the middle of the third (Adkins and Adkins 2000: 106). Maybe the basins were reflecting pools associated with sculptures dedicated to the emperor, placed on the south platform. It is also possible that the purpose of the Small Temple, as a pagan building, also contributed to its destruction. In Petra, earthquakes have destroyed many buildings, including those in AD 363, 551, and 658 (Joukowsky 1998). There is reasonable evidence, however, that at least some of the destruction in the Small Temple was intentional.

The examples of joining inscription fragments from opposite corners of the building may be such an indicator. While an earthquake certainly can destroy buildings, removing inscriptions or revetment *in situ* on the walls, it is less likely that an earthquake could scatter such fragments so widely throughout the building. This latter scenario has demonstrably occurred in the Small Temple. It seems much more likely that people tossed these fragments to opposite ends of the building, rather than earthquakes. There are several churches at Petra, including the sixth century AD Byzantine Church across the wadi from the Small Temple. Maybe its congregants destroyed what was to them an offensive pagan building.

Post-Season Research

Post-season research has been primarily focused

on the marble and inscriptions. Epigraphy and palaeography, the study of letter forms, will hopefully prove useful in dating the building, or at least the phases during which the inscriptions were presumably on display. The content of the inscriptions may help in determining the building's purpose.

Isotopic analysis, as written about by Harmon and Valerie Craig (1973), can be used to determine geographic provenance marble. Only small amounts of marble (less than 50mg) are needed for analysis to determine the sample's "signature". This signature is the deviation of the ratio of ^{18}O and ^{13}C , to ^{16}O and ^{12}C , to the PDB (Pee Dee belemnite) isotopic standard (Craig and Craig 1973; Herz and Wenner 1981). These signatures are then compared to already-existing records of signatures associated with known quarries of the Roman world in order to determine marble provenance (Dodge and Ward-Perkins 1992; Fischer 1998; Fischer *et al.* 1992; Herz 1987).

During the 2001 season, 42 drill samples were collected from marble excavated at the Small Temple, including marble from both the 2000 and 2001 seasons. Twenty-five samples were taken from inscription fragments, fifteen samples from plain fragments of marble, and two from marble cornice fragments. The samples were analyzed at the Center for Applied Isotope Studies of the University of Georgia, by Dr. Norman Herz.

The hundreds of inscription fragments have also been approached as a ridiculously large (and heavy) jigsaw puzzle. Partially successful efforts were made during the 2001 season to reassemble the fragments. Modern technology has recently made available another method that might be useful in this effort. Dr. B. Kimia of the Department of Engineering and LEMS (The Laboratory for Engineering Man/Machine Systems) at Brown University has been developing programs for computer vision and image processing. Inscription fragments from the Small Temple are being used as a case study for this project, concerned with the recognition of two dimensional shapes from real images, in this instance, scanned photographs.

Conclusions

The abundant marble finds of the Small Temple can be approached as an indicator of Petra's role in trade and commerce during Roman occupation. By using the marble as a case study of cultural and economic interaction at Petra, and examining the mechanisms of trade that brought marble to Petra, I plan to explore the effects of distance, geography, and transport technology and how they can be used to estimate the effort as opposed to the benefits of trade.

The primary goal of the 2002 field season at the Petra Small Temple, to be under the continued supervision of the author, will be to complete the excavation of the interior of the building. Excavation will also expand into the surrounding area, including the Staircase, the Courtyard, and the Upper Precinct.

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