

# AN INFANT JAR BURIAL FROM THE PETRA GREAT TEMPLE<sup>1</sup>

Megan A. Perry and Martha Sharp Joukowsky

In 2001, exploration of the East Perimeter Wall<sup>2</sup> of the Petra Great Temple's Upper Temenos uncovered an infant jar burial within Room B (Fig. 1). The jar was recovered from deposits attributed to Roman period reuse of the temple complex and its subsequent abandonment prior to the 363 AD earthquake. Infant jar burials, while rather commonplace in the Neolithic, Chalcolithic, and Bronze Age Levant, are a rare component of the Classical-period or Islamic Near Eastern mortuary program. Discussion of the stratigraphic context and other examples of infant jar burials place this find into temporal and geographic perspective.

## Archaeological Context

The jar containing human skeletal remains was discovered in Trench 84 Room B Locus 10, just above the Locus 35 floor bedding (elevation = 908.370m). Excavated by José Ignacio Fusté in 2001, Room B was a dead end corridor measur-

ing 8.75m N-S by 2.50m E-W (Fig. 2). Subdatum control point C, located at 910.140m, served as the point of reference for the excavation.

Excavation of Trench 84 served to examine the accumulated fill inside the casemate East Perimeter Wall. The long, narrow corridor located between the parallel interior and exterior East Perimeter Walls, south of the earlier discovered small water reservoir adjacent to the north, was excavated to better understand the area's functional and architectural relationship both to the wall itself and the site as a whole.

## Room B and its Artifacts

The interior walls of Room B (Fig. 3) were plastered and painted (traces of which still remain *in situ*) and some of the stucco was gilded. The walls were appointed with two niches<sup>3</sup>. Located just above the bedrock floor, Room B locus 35 floor bedding was contemporaneous with the Great Temple dating to Site Phase IV<sup>4</sup> of the

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1. The final publication of the Petra Great Temple is underway. The importance of publishing detailed analyses has intriguing implications for our understanding of both the type of burial and the infant associated with it.

2. What we do know about the Upper Temenos East Perimeter Wall is that it was endowed with well-constructed rooms inside massive walls that delineated the eastern extent of the Great Temple precinct. These colossal walls have sustained multiple earthquakes throughout the past two millennia, and yet they still tower over the site.

3. Both of these niches (Loci 43 and 44) are set into the east face of the west wall of the East Perimeter Wall system. Locus 43 measures 0.62m by 0.44m and Locus 44 measures 0.77m by 0.44m. Found in the Great Temple Propylaeum and in other parts of the Petra Valley, including the Siq, twin niches are tradition among the Nabataeans for representing their deities in pairs. The evidence suggests that Room B originally served as a small religious or cultic space. These room B niches however cease to serve their primary function during

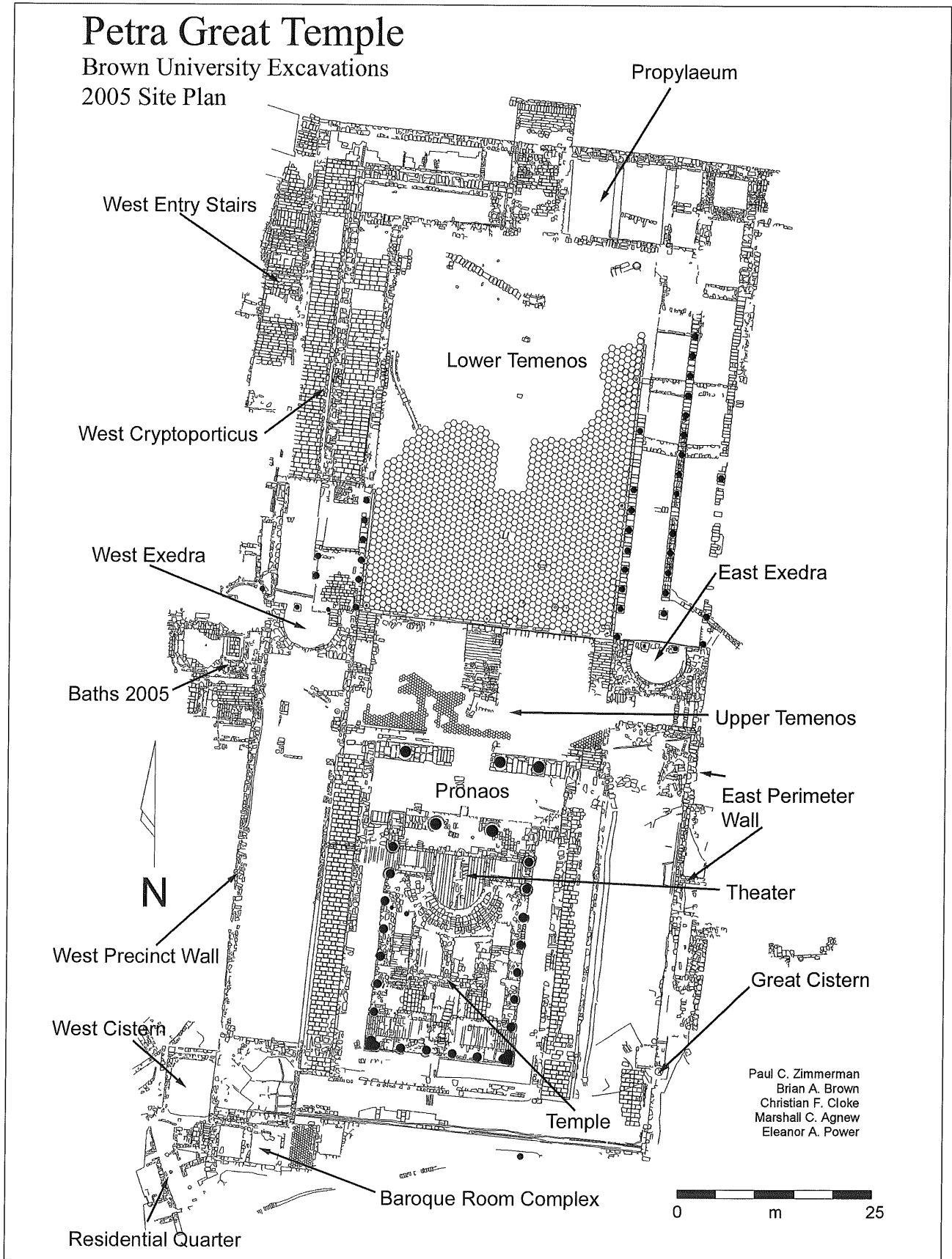
the first century BC.

4. Fifteen phases of activity have been identified through excavation of the Great Temple precinct (see Joukowsky 1998). Beginning in the second or first centuries BC is Pre-Site Phase I. Site Phases I (preparation of the site) and II represent construction of the *distyle in antis* temple dating to the first century BC. These phases are followed by Site Phase III which is represented by minor damage, that is not well-defined in the Upper Temenos area. Site Phase IV is the Nabataean "Grand Design" when the *tetrastyle in antis* Great Temple façade is erected in the first century BC. During this phase Room B is constructed in the East Perimeter Wall and the adjacent East Reservoir is constructed. After collapse and repair during the first century AD (Site Phase V) is a Nabataean redesign of several features. In Site Phase VI, ca. 106 AD, more collapse and damage occurred. Site Phase VII, dating to the mid-second century AD, contains further repair and configuration, including insertion of the theater into the Great Temple. This probably occurs after 95BC, or concurrent with build-

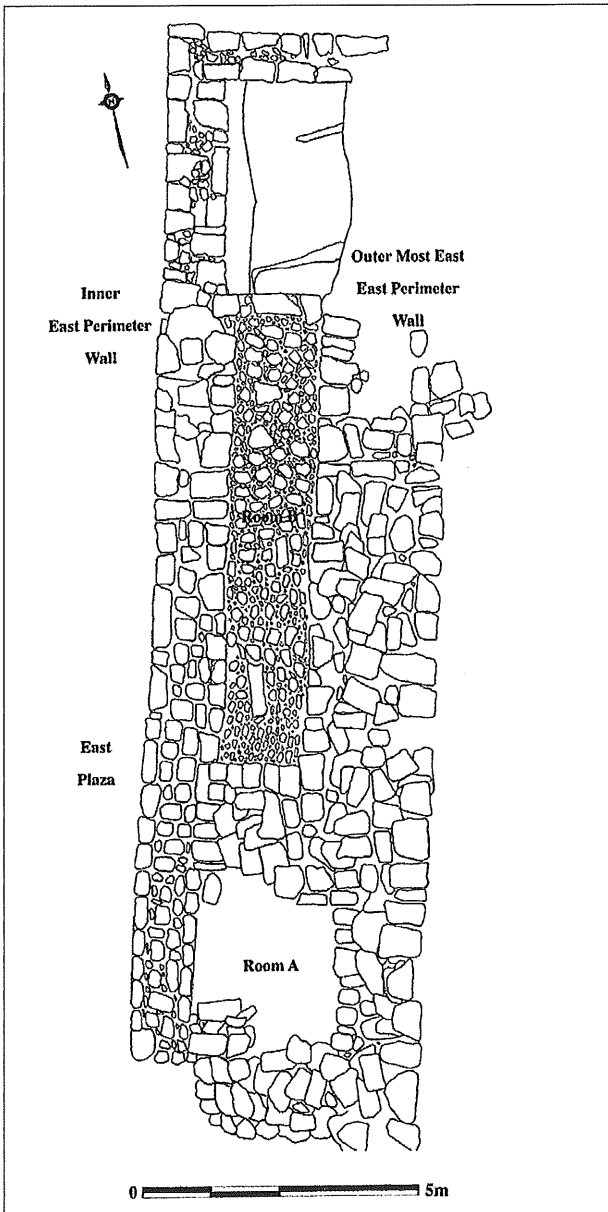
# Petra Great Temple

Brown University Excavations

2005 Site Plan



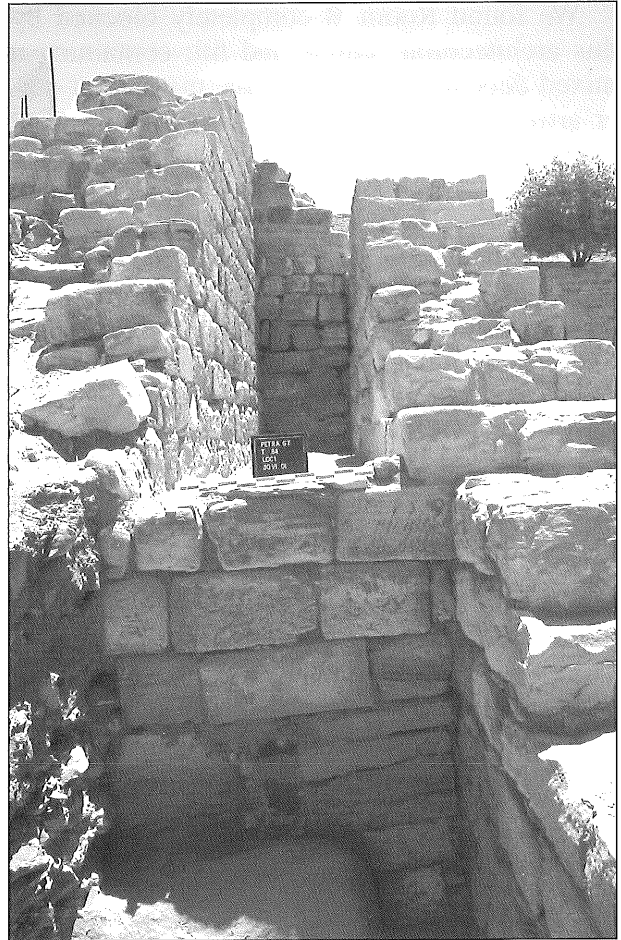
1. Site Plan of the Petra Great Temple. Drawing: P. Zimmerman, B. Brown, C. Cloke, M. Agnew, E. Power.



2. *Petra Great Temple, Plan of Room B along East Perimeter Wall. Drawing: J. I. Fusté, Drafted by M. S. Joukowsky.*

Nabataean Grand Design from the first century BC to the first century AD. Room B was used as a “special place” throughout Site Phase IV, but in Site Phase V it may have served a domestic function. At some point between Site Phases

ing of the Roman Road, until the mid-second century AD. Site Phase VII is a brief period of abandonment predating the mid fourth century AD. This is when we hypothesize the infant jar burial is deposited in Room B. The major 363AD earthquake and collapse of the upper courses of the South and East Perimeter Walls characterizes Site Phase IX. After this, during Site Phase X from the fourth to fifth centuries AD, the site is all but



3. *Petra Great Temple, Trench 84 to south. Photo: A. W. Joukowsky.*

VI and VII, the Room B pavement was robbed, and sometime during Site Phase VIII, a period of Roman mid-second century AD collapse and repairs, the jar burial was apparently inserted. Subsequently the rooms behind the East Perimeter Wall were abandoned. The architecture thereupon collapsed, probably during the fourth century AD earthquake, and the rooms filled with architectural detritus, wash, and wind-blown debris. The fill also was full of rocky inclusions of every size from small stones to large ashlars that fell from the upper courses of the wall or from the az-Zanṭūr site located high on the southern ridge behind the Great Temple.

abandoned. Further collapse occurs during Site Phase XI, possibly the result of the 512AD earthquake. Site Phase XII represents more site looting and abandonment, and during Site Phase XIII, Room B as well as the rest of the site is abandoned and building collapse continues to accumulate. Site Phase XIV dates to the modern period, characterized by localized activities prior to the inception of our excavations.

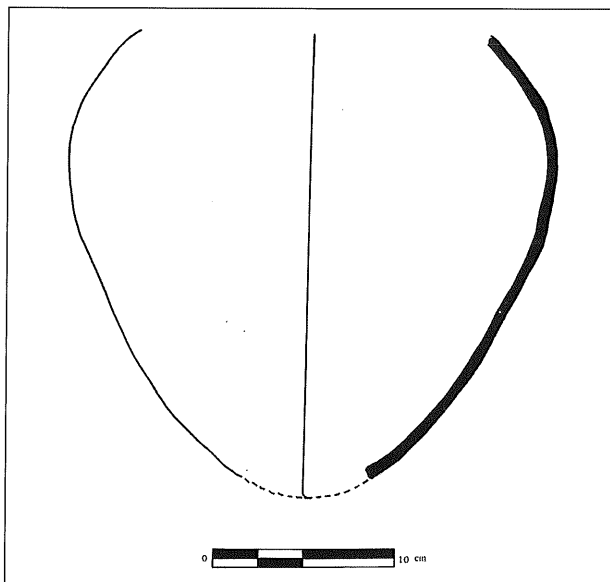
We found Room B completely blocked by this architectural tumble and fill; containing a mixed deposit of pottery, glass, metal, and other artifacts. These include an inscribed lamp,<sup>5</sup> coins,<sup>6</sup> and collapse from the 363 earthquake. We cannot, however, assume that any of these artifacts are contemporary or associated with the jar burial. The soil consisted of a fine, compacted strong brown (Munsell 7.5 yr 4/6) deposit; no significant change in color or content of the deposit was discerned during the excavation.

Collapse from the 363 AD earthquake may provide a *terminus ante quem* for the jar burial. The jar was discovered on top of the Locus 35 floor bedding and surrounded by Locus 10 fill.<sup>7</sup> The jar's location at the bottom of the fill and on top of the floor bedding indicates that it was placed in the room after the floor paving stones were removed but before the fill accumulated. The jar may postdate the Roman and Byzantine periods assuming a burial shaft was dug through the fill for placement of the jar, although no shaft was noted during the excavation.

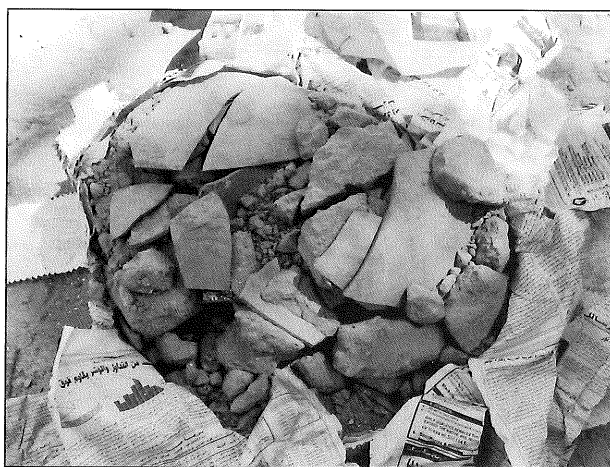
### The Jar and its Contents

The rimless jar containing the infant is shown in Figure 4. During excavation the jar was removed *en bloc*, wrapped in plaster gauze, boxed, and safely stored in Petra to await analysis. In 2004, the protective plaster was removed (Figs. 5 and 6) and the skeletal remains analyzed. The fragmented jar, 0.26m in height, was restored and drawn by Christopher A. Tuttle and drafted by Martha Sharp Joukowsky.

The storage jar contained a single individual apparently interred without any grave goods. The skeleton may have originally been a primary burial, although destruction of the pot by falling debris in antiquity and inadvertent removal of



4. Profile of the storage jar containing the infant burial. Drawing: C. Tuttle and M. S. Joukowsky



5. Jar burial after removal of plaster gauze. Photo: M. Perry.

some of the skeletal elements during excavation resulted in mixing of the remains. Examination of the skeleton included an inventory, assessment of age, sex, and skeletal pathologies using

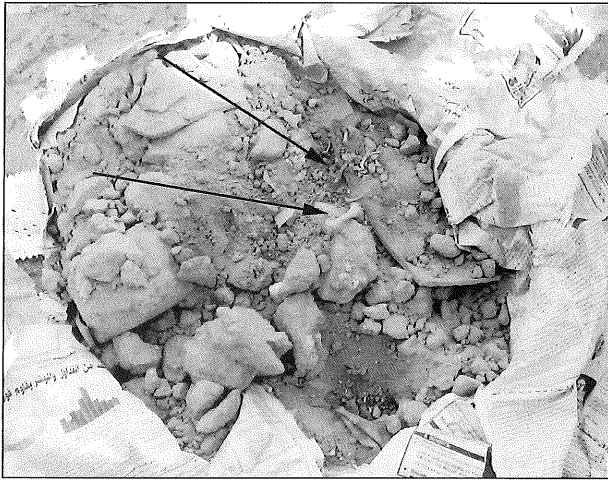
5. Nabataean inscribed lamp base fragment (Seq. No. 84207) with the letters "RAYT," meaning, "I saw," within a double base ring with splashes of red slip on either side of the base (Khairy 1990: 10 and 11). This lamp probably was deposited in the room during Site Phase XI or post fifth century AD, possibly due to the 512AD earthquake. This room probably represents a secondary context of the lamp.

6. Half of a Nabataean bronze coin (Seq. No. 84211), with two jugate busts to the right on the obverse and the letter, Sh, in the right field. On the reverse are two crossed cornucopiae with an inscription in to lines: First line, [HR]TAT; Second line, SHAQUI/[LAT]; Third line, LAT. (Meshorer 1975:112, 114). Dated between 18 and 40 AD.

Bronze coin (Seq. No. 84226). On the obverse are two jugate busts to the right with no traces of an inscription of letters in the field. On the reverse are two crossed cornucopiae and a legend in three lines: HARETAT/SHAQUI/[LAT] (Meshorer 1975: 112, 114). Dated between 18 and 40AD.

Bronze coin (Seq. No. 84228), minted in Rome dating to Constantine I (312-320AD) (Waage, Antioch, No. 1407). On the obverse is the bust of Constantine laureate with a mantle and circle of dots with the legend IMPCONSTANTINVS PFAVG. On the reverse is the sun standing with its right hand raised, holding a globe and the legend, SOLIINV-ICTOCOMITI.

7. The Locus 10 fill measured 2.93m in depth.



6. Interior of jar showing infant remains (indicated by arrows) within soil matrix. Photo: M. Perry.

the protocol outlined in *Standards for Data Collection from Human Skeletal Remains* (Buikstra and Ubelaker 1994). The skeleton was approximately 2/3rds complete and did not include most of the pelvis and the lower limbs. Age of the individual was estimated as birth to 9 months based on stage of epiphyseal union, dental eruption, and long bone length (Fasekas and Kósa 1978, Krogman and İşcan 1986; Ubelaker 1989, Moorees *et al.* 1963a, 1963b). Additionally, the left and right orbital sockets displayed porosity and coalescence of diploë indicative of *cribra orbitalia*. This condition, along with porotic hyperostosis, is usually attributed to iron-deficiency anemia (Aufderheide and Rodríguez-Martín 1998; Ortner and Putschar 1985), although other factors have recently been implicated (Sullivan 2005; Wapler *et al.* 2004). The frequency of *cribra orbitalia* and porotic hyperostosis in Jordan and Israel during the Nabataean, Roman, and Byzantine periods ranges from 0% to 50% (Perry 2002). Its presence in this child therefore is not unusual.

### Discussion

Jar burials in antiquity have a wide geographic and temporal range. Archaeologists have recovered jars containing human skeletal remains from prehistoric southeast Asia (Andrews and Glover 1986; de Beauclaire 1972/1973; Dizon 1979; Fox 1970; Fox and Evangelista 1957; Hanawa 1999; Källén and Karlström 1999; Seroso 1997; Stamps 1983), Neolithic, Chalcolithic, and Bronze Age Levant (Blackham *et al.* 1997; Dessel *et al.* 1988/89, 1989; Dothan 1955;

Dunand 1968; Eisenberg *et al.* 2001; Epstein 1984; Kahila Bar-Gal and Smith 2001; Kempinski and Niemeier 1993; Mallon *et al.* 1934; Nakhai *et al.* 1987/88, 1988; Pritchard 1980; Riis 1948; Yassine 1984), Chalcolithic Turkey (Grauer 1994; Stein and Misir 1994), and Punic Carthage (Bénichou-Safar 1991; Brown 1991; Lee 1994; Picard and Picard 1968; Stager and Wolff 1984). A few scattered examples of infant jar burials also have been recovered from Medieval Levantine contexts (Stern 1978; Toombs 1985). A primary difference between the jar burials from southeast Asia and those from the Mediterranean region is the age of the interred individuals: jar burials from southeast Asia contain individuals from all age categories, while those from the Mediterranean, with the exception of Bronze Age Hama in Syria (Riis 1948: 29) and Chalcolithic Byblos in Lebanon (Dunand 1968:43), are mostly of infants and very young children. In addition, the human infant and animal skeletal remains recovered from Punic Carthage (Bénichou-Safar 1991; Lee 1994; Stager and Wolff 1984) and human infant and adult skeletons from Hama (Riis 1948) were cremated, unlike a majority of Levantine examples.

No evidence supports a pre-Iron Age date for the infant jar burial. This jar burial likely dates to the Roman or medieval Islamic period based on stratigraphic context and paltry parallel examples. Dating the jar used in the burial using ceramic chronology is difficult due to the lack of diagnostic features on this vessel. If the jar burial dates to the Roman period, it provides the only evidence of human inhumation at Petra between the well-known first century BC–first AD century tombs (see Bikai and Perry 2001) and Byzantine period burials. Scattered burials have been recovered from Byzantine-period deposits in other areas of the Great Temple (Joukowsky 2001: 336), the area around Qaşr al-Bint (Renel personal communication 2000; Zayadine 1982: 380, 2003: 96), and near the Temple of the Winged Lions (Hammond 1987/88: 82-83). Some archaeologists working in this sector of the site feel that many of the structures were irreparably damaged after the 363 AD earthquake (Hammond 1996: 6; Joukowsky 1998: 139; Zayadine 2003: 96), and most of these burials apparently post-date the earthquake destruction. Byzantine occupants of Petra thus turned to the

destroyed western sector of the city center for burial of their dead.

The possibility remains however that this jar burial has a later date. Infant jar burials have been recovered Islamic-period contexts at from Tall Mevorakh (Stern 1978: 4-5) and Tall al-Hesi (Toombs 1985: 39-40), tentatively dated to the 12-15th centuries AD based on ceramic evidence (Toombs 1985:107). Medieval-period occupation in Petra and its environs has been well documented archaeologically (Bikai 2004; Brown 1987; Fiema 2001; Frösén *et al.* 2001; Hammond 1970; Schmid 2001; Schmid and Barmasse 2004; Vannini and Desideri 1995). No evidence for early Islamic burials has been discovered beyond tombstones recovered from a secondary context in Wādi Farasa (Schmid 2001; Schmid and Barmasse 2004). The possibility exists that Islamic-period mourners buried the jar by digging a burial shaft into the Roman and Byzantine tumble and fill not noted during excavation. If the burial dates to the Medieval period, it provides further evidence for human occupation in Petra's city center during the period.

Scholars have sought to identify unique characteristics of the infants from jar burials versus the remaining skeletal sample that may explain their anomalous method of interment. In the prehistoric Near East, no clear explanation exists for differential burial practices of some infants. Infants from jar burials do not display divergent levels of disease or violence (Kahila Bar-Gal and Smith 2001:169) nor have a different age and sex distribution (Smith *et al.* 1999:73) than the rest of the young subadult sample. In addition, both jar burials and regular interments were used contemporaneously (Smith *et al.* 1999: 73). Gopher (1995: 219) suggests that social identity of infants in children simply shifted during the Neolithic period, resulting in the incorporation of jar burials into the Neolithic mortuary program. This practice then continued in the Levant through the Bronze Age.

In Punic Carthage, however, the cremated infants and animals buried within jars were victims of sacrifice. Classical and Biblical sources describe the sacrifice of children to the god Ba'al Hammon and the goddess Tanit from the eighth-second centuries BC, descriptions confirmed by the excavation of the sacrificial burial ground

at Carthage (Bénichou-Safar 1991; Lee 1994; Picard and Picard 1968: 46-47; Stager and Wolff 1984). These sacrifices were to fulfill a vow or, some believe, were in response to population pressure or strife (Stager and Wolff 1984). The arrival of the Romans and subsequent plundering of Carthage led to a cessation of this ancient rite.

The similarity between the jar burial from Petra and earlier examples, particularly those from the prehistoric Levant, must remain coincidental. The practice of interring infants within storage jars seems to have fallen out of favor after the Iron Age and never regained popularity in the Near East. It thus is unlikely that Roman- or Medieval-period residents looked to prehistoric residents of the region for mortuary rituals and adopted any possible ritual significance these earlier burials may have represented. Instead a group of mourners in Roman or Islamic Petra simply chose to utilize a storage jar for this infant's burial.

Megan A. Perry  
Department of Anthropology  
East Carolina University  
Greenville, NC 27858  
USA

Martha Sharp Joukowsky  
Institute for Archaeology and the Ancient World  
Brown University  
Providence, RI 02912  
USA

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