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## **New Light on Nabataean Mortuary Rituals in Petra**

In 2012, a joint North Carolina State University and East Carolina University excavation explored three first century AD shaft tombs on Petra's North Ridge. These large chamber tombs contained extensive artifactual and skeletal data that can be used to reconstruct Nabataean mortuary practices and the health and quality of life of the inhabitants of pre-Roman annexation Petra. The artifacts point to a relatively diverse mortuary program in terms of disposal of the body, but identify rather strict patterns in terms of the types of artifacts buried with the dead and / or used in mortuary rituals. This may indicate that the identity and importance of the physical body shifts during different stages of decomposition, marked in stages by funerary rituals in and around the tomb. In addition, skeletal analysis of the remains of at least 38 individuals reveals a relatively healthy population with few markers of chronic disease or malnutrition. Most models of disease ecology indicate that urban centers such as Petra should have high rates of infectious disease due to crowding, contamination of water and food sources, and the influx of new pathogens with immigrants. Petra, on the other hand, presents an example of a relatively disease-free urban environment, which can be due to a number of environmental and political factors. In sum, the tombs from the

North Ridge greatly enhance our understanding of the quality of life and death in first century AD Petra.

### **Mortuary Archaeology in Petra and the North Ridge Tombs**

Petra's mortuary landscape still remains its most visible architectural feature, with intricately carved monumental tombs encircling the city center and lining various approaches to the city. The bedrock hillocks within and outside of the city also are pockmarked with less visible, less ornate chamber tombs. In fact, some of the earliest excavations at the site focused on tomb features within the site (*e.g.* Horsfield and Conway 1930; Horsfield and Horsfield 1938, 1939, 1942; Murray and Ellis 1940). However, these explorations have only supplied limited snapshots of Nabataean mortuary practices. Most archaeological excavations in Petra have focused on large monumental structures and documentation of the tomb facades, with tomb excavations primarily occurring owing to their fortuitous discovery while excavating other features. Almost no publications of the contents of these tombs exist beyond preliminary reports, with almost no mention of even basic biological information of the human skeletal remains.

The picture provided by early tomb excavations has expanded recently, largely

as a result of more careful excavation of tomb interiors, increased focus on non-monumental shaft tombs, and the inclusion of bioarchaeological research on the human skeletal material. In addition, the technological advantages of GIS and other spatial analysis technologies have given archaeologists a site-wide perspective of the temporal and spatial development of mortuary areas in Petra. The clearing and excavation of facade tombs such as Tombs 62A-D below the al-Khaznah (Farajat and Nawafleh 2005), Tomb 64b across from the al-Khaznah (reported on by Zayadine 1982, 1986), Tombs 813 (Lindner 1989; Zayadine 1974, 1997) and 779 and 781 (Wadeson 2012a) across from the Roman Theater, and the Renaissance Tomb in Wādī Farasa (Schmid 2005) all recovered a surprising amount of human skeletal remains and associated artifacts, despite disturbance in antiquity and in some cases, the prolonged occupation of the tombs as domestic structures until the 1980s. In addition, David Johnson reportedly excavated Tomb 676 in Wādī al-Maṭāḥa in 2010 (Jarus 2010), but the results of this excavation have not been published. Furthermore, stylistic, chronological and spatial studies of primarily the façade tombs also adds to the archaeological explorations outlined above to understand mortuary patterns at Petra (Nehmé 2012; Sachet 2009; McKenzie 1990; Wadeson 2012b, 2012c).

Non-monumental shaft and chamber tombs have generally experienced fewer disturbances than the façade tombs, and the renewed efforts at documenting them have recovered extensive information on Nabataean mortuary rituals within the capital city. Excavations conducted by Zayadine (1974, 1979, 1986: 248-258) on al-Khubtha discovered two chamber tombs, one with six and the other with four floor shafts, that likely date to the first century BC. To the west of the Soldier's Tomb complex, 15 rectangular multi-layered shaft tombs in use from the second half of the first century

AD into the second century AD have been excavated (Schmid and Barmasse 2006). Although these tombs had also been looted in antiquity, one burial remained intact and others had only disturbances to the cranial region. Six rectangular shaft tombs dating to the first and early second century AD, similar to those in Wādī Farasa, have also been excavated in Wādī al-Maṭāḥa, to the north of the city center (Johnson 2013; Johnson *et al.* 2007). In addition, a shaft chamber tomb near Tower Tomb #503 in the ath-Thughra area of Petra in use from the first century BC into the middle of the early fourth century AD with significant disturbance was excavated (Augé and Sachet 2006; Sachet 2009). Finally, the first phase of the Petra North Ridge Project, directed by Patricia M. Bikai of ACOR, included the excavation of two shaft chamber tombs near the Ridge Church (Bikai and Perry 2001; Bikai *et al.* in prep).

Scattered pit graves also have been recovered recently in Petra, including an infant jar burial from the Petra Great Temple, possibly dating to the Roman or Byzantine period (Joukowsky 2001: 336; Perry and Joukowsky 2005). Other scattered burials include those from the precinct of Qaṣr al-Bint (Zayadine 1982: 380, 2003: 96) and Islamic period burials from near the Temple of the Winged Lions (originally incorrectly identified as Byzantine by Hammond 1987/1988: 82-83).

It is within this context that the Petra North Ridge project was developed in order to excavate tombs dating to the first century AD within the city of Petra in a systematic manner. This includes understanding the formation processes and patterns of natural and anthropogenic disturbances in the tombs, studying the material remains of Nabataean funerary rituals, and analyzing the human skeletal material to assess the age and sex structure of each tomb, look for evidence of pathologies related to disease and malnutrition, and engage in isotopic analyses of diet and migration patterns.

### The 2012 Petra North Ridge Tomb Excavations

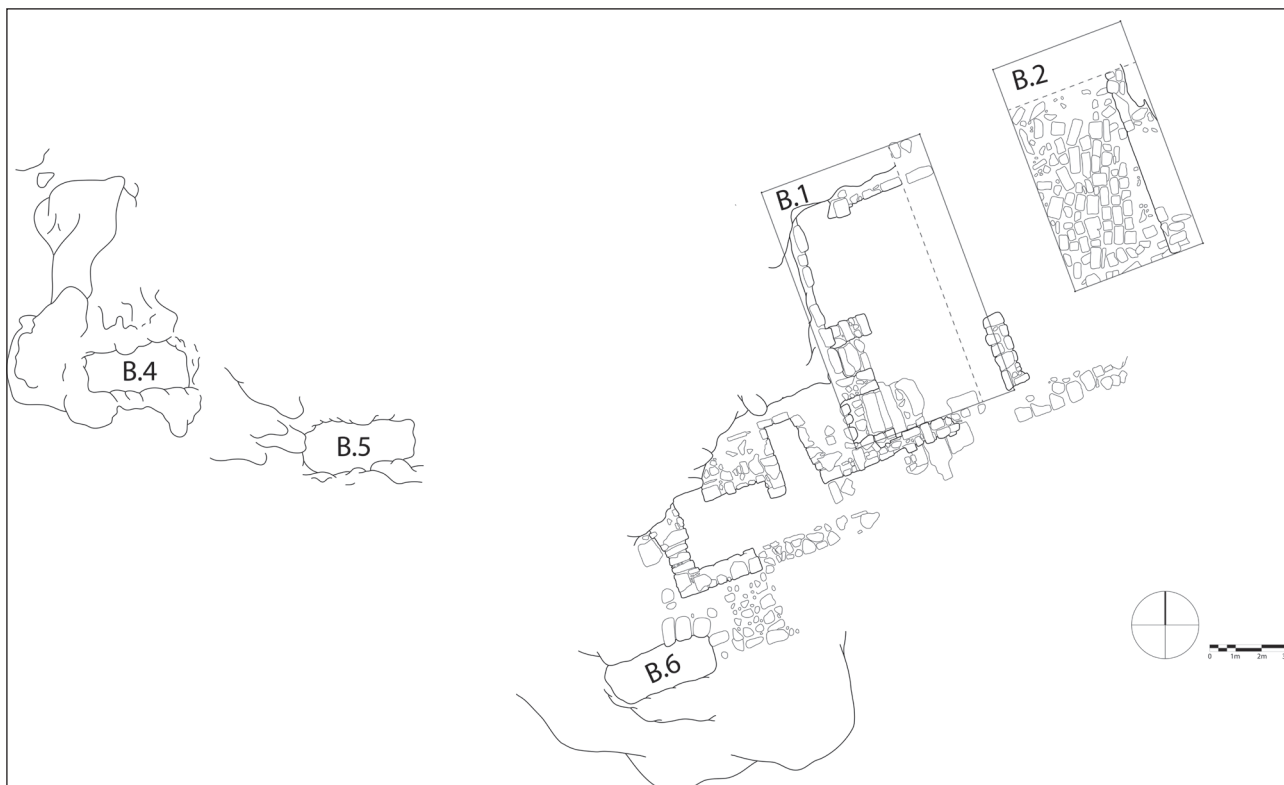
Three tombs (B.4, B.5 and B.6) approximately 80m east of the Ridge Church and 22m inside the northern city wall along the upper sector of the North Ridge were selected for excavation (FIGS. 1 and 2). These tombs were located near slightly later domestic structures explored in Trenches B.1 and B.2. Each of the selected tombs had a slightly different level of disturbance in order to assess the impact that looting would have on the condition and representation of the skeletal remains and, possibly, the artifacts within the tomb. Excavation of B.6 had only removed the chamber fill layers by the end of the 2012 season, and thus tombs from this feature will not be reported on here. Tomb B.4 was completely excavated and the majority of B.5 was cleared in the 2012 season. We will return to Tombs B.5 and B.6 in 2014.

### *Tomb B.4 (Minimum Number of Individuals [MNI] = 14)*

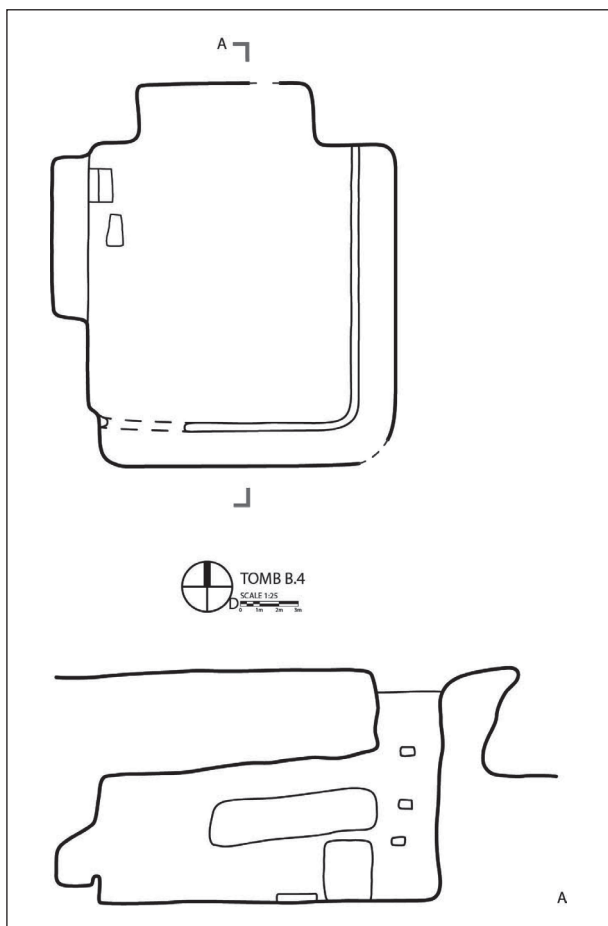
Tomb B.4 was a typical chamber tomb entered via a 2.13m × 0.99m wide and 2.54m deep shaft cut into the sandstone bedrock (FIG. 3). The chamber opens to the north of the shaft and measures 6.45m × 6.20m. The bedrock drops off immediately to the south and east of the shaft entrance, which resulted in some unique modifications to the tomb and its shaft as described below. Tomb B.4 contained two different receptacles for disposal of the deceased. Carved lengthwise along the eastern wall is a 1.97m long, 0.42m wide and 0.47m high rectangular burial niche that contained three individuals, two adult males and a possible adult female. The western and northern sides of the chamber contained a trough bordered along its edge by a 0.12-0.18m high lip and with a slightly arched ceiling. The partial remains of one adult female was located in the western trough and it



1. Location of the areas explored on the Petra North Ridge in the 2012 season, including Area B, the location of the tombs.



2. Plan showing location of Tombs B.4, B.5 and B.6 in relation to portions of the Area B domestic complex.



3. Plan and section of Tomb B.4.

appears that the bones of another adult female had been located in the northern trough but had washed on to the floor below. The north-western corner contained an oval ‘window’ that had been covered with molded flat glass (FIG. 4), either a deliberate addition to the tomb or an accident caused by misjudging the location of the western bedrock slope in relation to the tomb chamber. Another oval opening was also located in the southern wall of the shaft, where the bedrock slopes dramatically leaving only a *ca.* 0.40m thick wall of intact bedrock on the southern shaft wall. Unlike the ‘window’ in the north-western corner, this opening contained no obvious stonemason’s tool-marks and instead had the characteristics of natural weathering. It could be that any tool-marks which existed have been obscured by weathering.

The floor of the main chamber tomb contained the remains of eight additional individuals, in addition to some elements that had been swept out of the niches and troughs due to water intrusion. This includes one adult male, three adults of unknown age and four

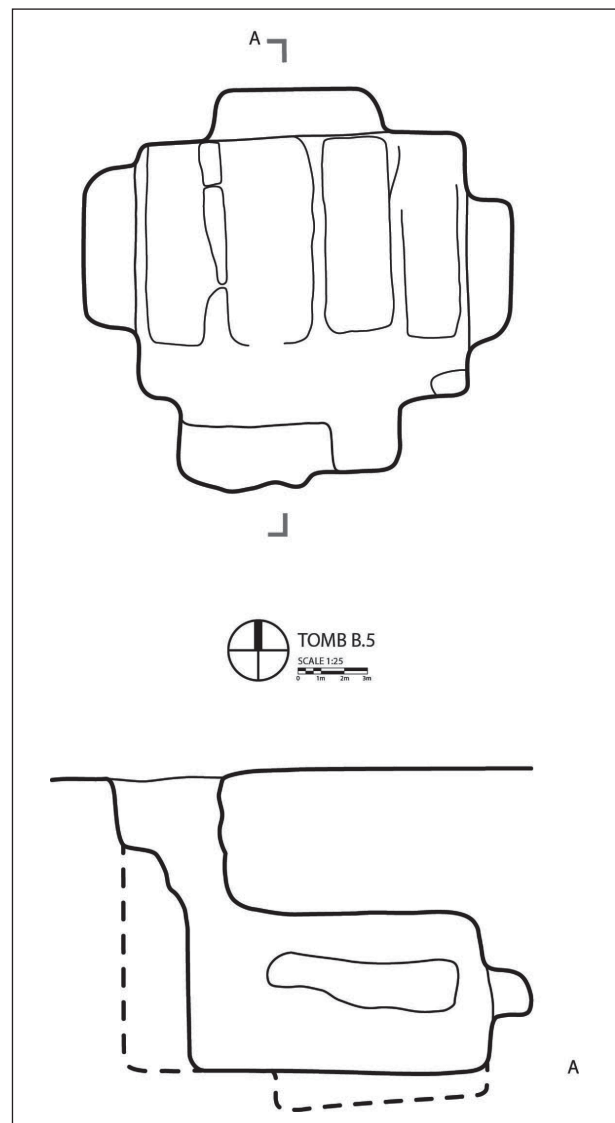


4. 'Window' in the north-western corner of Tomb B.4.

children: a 2-3 year-old, a 4-6 year-old, a 14-16 year-old and a 16-18 year-old. In addition, the skeleton of a newborn baby was found within the south-western corner of the shaft. Four individuals were partially articulated and these were found lying directly on the chamber floor. They were surrounded and covered by 0.20-0.30m of silt that contained the commingled remains.

*Tomb B.5 (MNI at the end of the 2012 Season = 16)*

This tomb was constructed in a manner very similar to B.4, with a 2.4m × 0.7m wide shaft dropping 3.1m below the surface to open up to a 3.54 × 2.80m chamber (FIG. 5). Three of the chamber walls contained rectangular niches, two of which held primary articulated burials. The western niche contained an adult female, the northern niche a young adult female and the eastern niche stood empty. In addition, three rectangular shaft graves and one possible unfinished shaft aligned north to south were cut into the floor. Only one of these shaft graves was excavated by the end of the 2012 season. This grave, second from the east, contained the remains of an adult male and top of the shaft fill (*ca.* 80m from the bottom) contained portions of the lower limb of another male individual. The



5. Plan and section of Tomb B.5.

opening was covered with four large rectangular capstones. The two eastern shaft graves will be excavated in the 2014 season and therefore our tomb MNI will likely increase. It appears that the margins of the far western shaft had been outlined by excavation to a depth of *ca.* 15cm, but construction was never completed.

Similar to Tomb B.4, the floor of B.5 contained the commingled remains of 11 individuals: a 50+ year-old male, a 20-25 year-old female, a 30-35 year-old female, a 35-45 year-old possible female, six males of unknown age, an adult of unknown age and sex, and a 12-13 year old. Zayadine (1974: 140) noticed a parallel situation where partially disarticulated remains were discovered on top of the intact capstones of a floor shaft grave. The skeletal remains were concentrated in the western side of the tomb and are spread throughout at least three strata, as described below.

### Tomb Taphonomy and Stratigraphic Sequences

These two tombs contained a number of artifacts that may or may not have been associated with a particular burial or mortuary ritual. Only two objects appeared to be associated with specific individuals: a first century AD *unguentarium* found near the

cranium burial B.4:22 (Object #533), a partially articulated burial located on the floor of B.4 (FIG. 6) and a first century AD lamp (Object #373) found amongst the remains from the eastern niche in B.4 (FIG. 7). All other artifacts were found amongst the commingled remains or within later layers of the tomb fill.

The mixture of articulated and commingled bodies within the two tombs implies that postmortem disturbances of human and / or natural origin occurred: (1) humans interring the dead within the tombs removed previous burials from the burial receptacles (niches, troughs or shaft graves) for the placement of new individuals; (2) interment of bones recovered from location of decomposition (*i.e.* secondary burial); (3) looting of the tombs for valuables after they went out of use; (4) displacement and ‘stirring’ of previously articulated remains through fluvial disturbances during winter rains. I am going to suggest here that a combination of secondary burial, tomb looting and natural processes led to the creation and disposition of the tomb samples at the Petra North Ridge.

Although a detailed study of bone taphonomy remains to be completed, the bones from both tombs had experienced varied post-depositional damage. Fragmentation was the primary issue, but also weathering and cortical and trabecular



6. Piriform *unguentarium* (object #533) found associated with an articulated burial placed on the floor of Tomb B.4.



7. Lamp (object #373) found associated with human remains displaced through water intrusion from a rectangular wall niche in Tomb B.4.

bone exfoliation and cracking typical of aqueous contexts. No postmortem damage due to animal scavenging was documented, although at least two human bones displayed cutmarks that occurred sometime in antiquity, based on coloration that matched that of the outer surface of the bone.

The disposition of the bodies provides the clearest evidence for post-mortem alteration of some kind. In both Tombs B.4 and B.5, bodies on the floors of the chambers, and in the case of B.5, within the floor grave shaft, were interred upon a layer of fine silty sand, anywhere from 3-5cm thick, that only contained a few artifacts (B.5:21). The commingled remains on the floor were encased on another layer of silty sand, rich with artifacts. There appeared to be two of these artifact-rich strata in Tomb B.4 and three in B.5. In B.4, a layer containing partially articulated remains (B.4:23), as well as one almost completely intact burial (B.4:22), along with some commingled material, was covered and surrounded by another layer (B.4:16) containing only commingled human bone and artifacts. In B.5, commingled skeletal remains were found within a *ca.* 20cm thick layer of burnt material (B.5:19) above the floor deposit, followed by another layer of silty sand (B.5:15) that included one almost intact burial, and a

final layer (B.5:9 and B.5:13) with commingled remains and two partially intact skeletons. The uppermost layer, B.5:4, contained a few commingled remains at its lowest reaches.

Furthermore, some of the bodies placed in wall niches or troughs experienced postmortem disturbance. The skeletal remains in the eastern niche in Tomb B.4 were found partially swept out of the niche and into the existing fill in at least two stratigraphic levels (B.4:10) (see FIG. 7). In addition, most of the bones from burials in the western and northern troughs had fallen on to silt and sand covering the chamber floor below (B.4:17 and B.4:22). In Tomb B.5, a mandible belonging to the burial in the northern niche was found in the fill only a few centimeters below the bottom of the niche.

Seasonal flooding of the tombs explains most of the disturbances described above. The pattern of dispersal of the remains from the burial receptacles built along the walls, the poor bone preservation typical of water contact, and nature of the tomb chamber fill all imply fluvial intrusion into the tomb throughout its history. However, flooding does not explain all of the disturbances observed. First of all, the pattern of commingling on the chamber floors, with some remains, even almost complete skeletons, left intact and others dispersed at random, may

imply a more selective type of disturbance. One possibility includes looting of the tomb shortly after they went out of use, when some remains (such as the partial lower limb found in the upper layers of the floor shaft grave in Tomb B.5) remained joined by soft tissue, clothing or funerary wrappings, and before deposition of the natural fill within the chamber. The soil containing the majority of artifacts and human skeletal elements in Tomb B.4, for instance, has a ‘churned-up’ appearance, with no clear stratigraphic sequence in deposition. This type of haphazard activity also could have left some bodies partially intact. In addition, the distribution of skeletal elements within a substantial (*ca.* 0.40-0.50cm) thick layer of sand would make sense if looting had occurred a few decades, if not centuries, after the tombs went out of use, during which sand and silt built up on top of the burials within which it got mixed during the looting process.

Another factor could have been the practice of secondary burial. The ancient first century BC geographer Strabo in fact describes what some have interpreted as exposure of the dead by the Nabataeans:

*[The Nabataeans] have the same regard for the dead as for dung, as Heracleitus says: “Dead bodies are more fit to be cast out than dung”; and therefore they bury even their kings beside dung heaps (Geography XVI.4.24).*

It is possible that the deceased were left to decompose, either elsewhere or within the tomb itself, which would explain the commingled nature of the remains on the floor of both chamber tombs and the underrepresentation of some elements such as dentition in both chamber tombs and hand bones in Tomb B.4.

### **Nabataean Mortuary Rituals**

The 2012 excavations of the North Ridge tombs at Petra, along with other sites, are beginning to provide a more intimate view of how the Nabataeans commemorated and treated their dead. The visibility of the monumental façade

tombs and *nefesh* commemorating the deceased lining routes into the city and surrounding the city center itself remains without question. However, even the less monumental houses of the dead such as those on the North Ridge also held permanence and visibility through their close temporal and spatial proximity to the houses of the living. While the tombs are centered on the top of the ridge, the slopes during the first century AD are home to neighborhoods of Petra residents (Parker and Perry 2012). Toward the end of the first and beginning of the second centuries AD, the tombs went out of use and almost immediately were surrounded and subsumed by neighborhoods expanding from the lower slope. A neighborhood of the dead became a neighborhood of the living, even as the living continued to mourn the dead over which they lived.

Almost no epigraphic or material cultural data from Petra identifies the relationships between individuals buried within the tombs. Only one funerary inscription has been recovered on the North Ridge, in Greek and dated epigraphically to before the second century AD (Starcky and Bennett 1967/1968: 49-50). Epigraphic evidence from the monumental façade tombs in Mada’in Saleh, which date to the same period as the majority of those in Petra (first century AD) identify tomb owners and those with whom the tomb was shared (Healey 1993; McKenzie 1990), which in some cases may include many unrelated individuals rather than family members (Wadson 2012b). In one case (Tomb C6 / IGN 127), tomb ownership was clearly split between husband and wife, with the husband owning only one-third of the tomb and burial chamber while the wife owned two-thirds, along with other burial structures nearby (Healey 1993). Schmid (2012) and Wadson (2012b, 2012c) both note that many monumental façade tombs at Petra seem to be organized around a key apical ancestor of the family group based on the organization of the burial receptacles.



The living regularly visited the homes of the dead both during and after burial of the deceased for commemorative feasts, to offer libations, and to inter both primary and secondary burials. Ceramics and faunal remains provide the strongest evidence for funerary feasting in the North Ridge tombs. Although a complete inventory of the ceramics from Tombs B.4 and B.5 is ongoing, earlier excavation of Tombs 1 and 2 farther west on the North Ridge revealed literally thousands of pieces of delicate Nabataean painted fine ware – cups, bowls, dishes and other receptacles for eating, drinking and liquid offerings (Bikai and Perry 2001). Remains of animals sacrificed for the feast also were deposited in the chamber, and evidence of desiccated fruits possibly related to funerary feasting has been found at Mada'in Saleh (Bouchaud *et al.* 2010).

The funerary feasts likely included family along with members of larger socio-religious or fraternal groups (see Hackl *et al.* 2003; Healey

2001; Nehmé 2012). Often these ritual activities took place in ‘dining halls’, large spaces surrounded on two (*biclinium*) or, more often, three (*triclinium*) sides by stone-carved benches for the participants (Healey 2001; Patrich 1990). These dining halls are usually found associated with the monumental façade tombs and temples or other sacred contexts. Non-monumental tombs without facades, such as those on the Petra North Ridge, have no associated monumental *triclinia* (with the exception of the Aşlah Triclinium near Bāb as-Sīq [Gorgerat and Wenning 2012]). Where would these feasts have occurred without the presence of formal dining halls? The archaeological data from the North Ridge suggest that these activities occurred in prepared open-air locations near the tomb. Tomb B.6, only partially excavated in 2012, contains a clear prepared area surrounding the tomb (FIG. 8), as did Tomb 2, excavated near the Ridge Church in 1998 (Bikai and Perry 2001). Similar examples of open air dining halls and



8. Modified flattened bedrock near the opening of Tomb B.6 with two of the three libation receptacles visible.

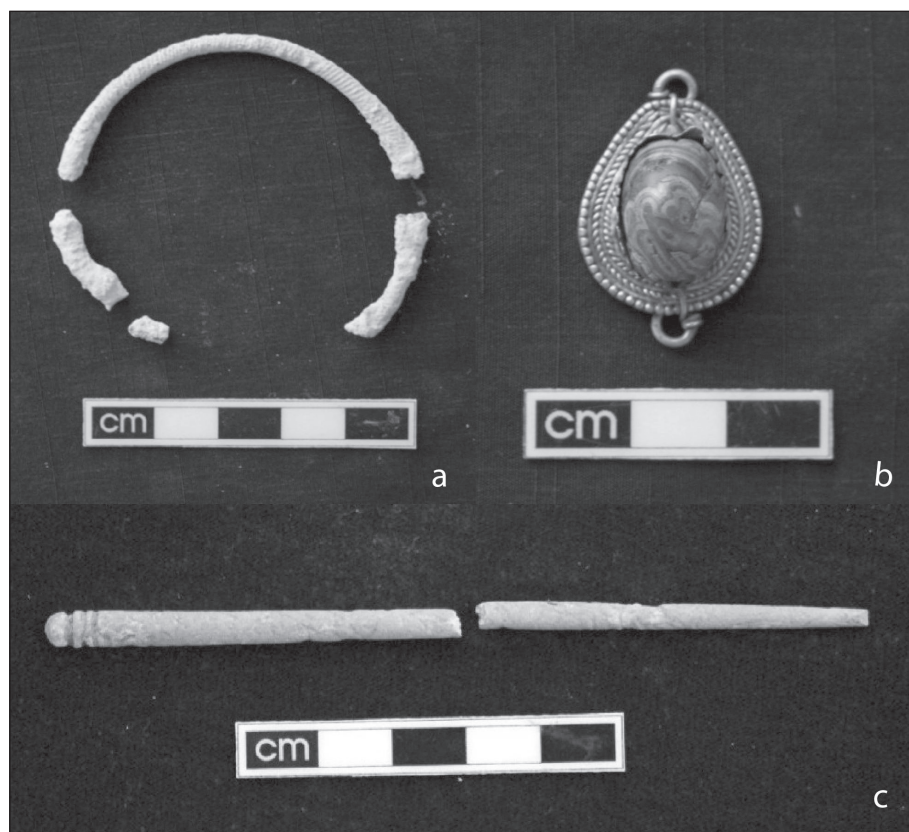
‘kitchens’ for preparing the feasts have been found amongst the Nabataean tombs at the site of Mamphis in the Negev (Negev 1971).

Tomb visitors also had the chance to leave libations within carved spherical receptacles outside of some tombs, examples of which were found next to the shaft of Tomb 2 and the partially excavated Tomb B.6 on the North Ridge (FIG. 8). Liquid libations could have come in the form of wine, sesame or olive oil, water, perfumed oils or even sacrificial blood (Sachet 2009). Chemical residue analyses of libation receptacles near Umm al-Biyārah identified residue of vegetal oils and dairy products, and Sachet notes that some of the vegetal matter could have come from resins such as incense or myrrh (Sachet 2009).

It is difficult to tell how often the tombs themselves were opened other than for interment of the deceased. Evidence for body preparation has been discovered in Nabataean tombs at Mada’in Saleh, where traces of residue from a plant of *Canarium* sp. has been found in textiles associated with the burials

(Mathe *et al.* 2009). Mourners burying the dead on the North Ridge ornamented them with bone hair pins (possibly also used as *kuḥul* sticks), bronze and copper bracelets and rings, some containing semi-precious stones such as amethyst and carnelian, a gold nose-ring, and a golden brooch or pendant that contained a polished and shaped agate (FIG. 9). These visual elements of identity and adornment possibly served as a recognizable remembrance of the dead, long after their familiar faces had rotted away. Other items encouraging communication and interaction with the dead include gaming pieces created from sheep and goat *astragali* and stone-carved dice.

The act of interment within the tombs occasionally necessitated the removal of previous burials from the burial receptacles (niches, troughs or shaft graves) for the placement of new individuals, in addition to interring bones recovered from other locations of decomposition (*i.e.* secondary burial). Oil lamps lit the tomb interiors for the visitors, and both used and previously unused lamps were



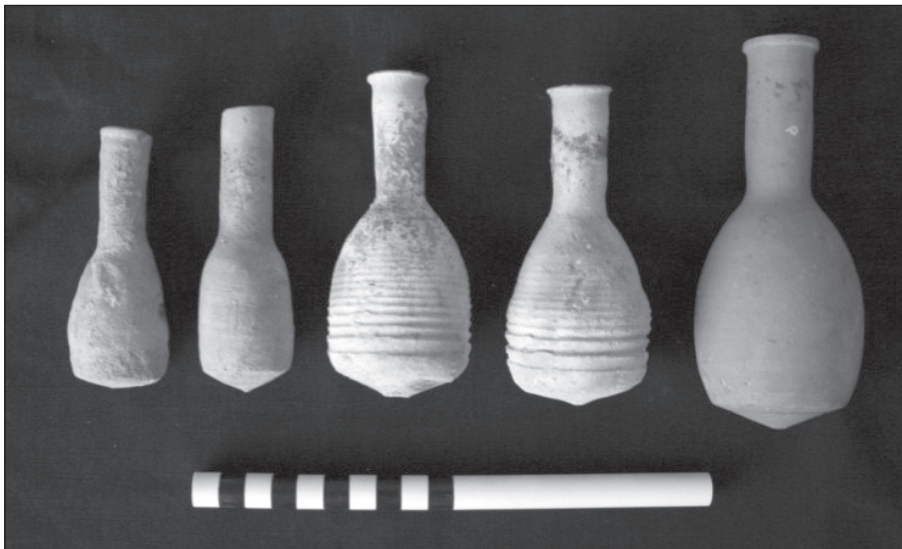
9. Items of personal adornment found within Tombs B.4 and B.5: (a) a copper alloy bracelet (object #176); (b) a gold brooch / pendant with polished and faceted agate (object #363); (c) a bone *kuḥul* stick / hair pin before conservation (object #268).

left in the tomb either for the next visit or, as in the case of the lamp with the burials in the eastern niche of Tomb B.4, with the deceased (FIG. 10). The lamps likely also served to heat aromatic oils held in complete and fragmented *unguentaria* found in the tomb, some placed with the deceased and others scattered amongst the commingled bones (FIG. 11).

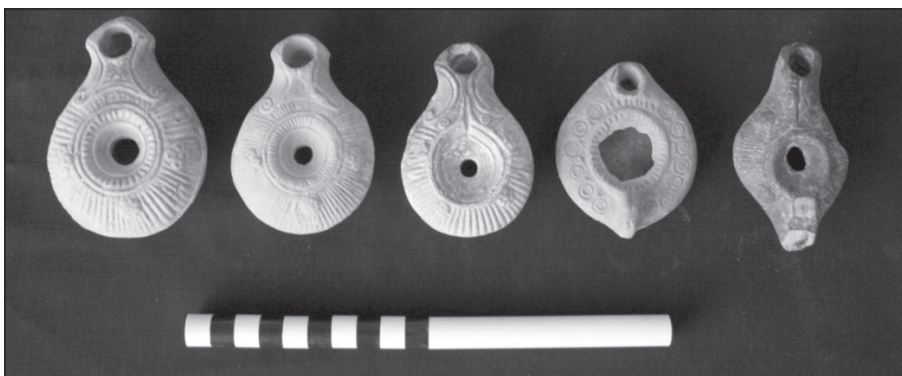
Further olfactory stimulation would have occurred through burning of what appears to be incense within the tombs. In Tomb B.5, human skeletal remains were interred within and placed on top of a *ca.* 0.20cm thick layer of burnt material in the eastern part of the tomb. The purpose of the incense or other aromatics is unclear – was it an integral part of the mortuary ritual, using the memory assigned to this smell to transport the living (or the dead) into a funerary space? Or was it simply for practical purposes, covering up smells that may have been considered unpleasant? Other evidence

for protecting visitors from the smell of a decaying corpse has indeed been noted within the other Petra tombs. The Nabataeans in some cases sealed cover stones and shaft graves with quicklime mortar and plaster (Wadson 2012a; Horsfield and Horsfield 1939; Zayadine 1974). Quicklime's properties make it ideal for quick consumption of a corpse and masking of smells related to decomposition (Schotsmans *et al.* 2012). This evidence suggests that the Nabataeans may have had adverse reactions to the olfactory experience of decomposition, and provides a more practical role for the prominence of incense and perfumed oils in their mortuary rituals.

Another enigmatic class of objects discovered from Nabataean tombs within and outside of Petra is copper alloy bell-shaped objects. Some discovered seem to be actual bells, containing clappers and a hook or other implement for attachment (*e.g.* Horsfield and Horsfield



10. Examples of complete *unguentaria* recovered from Tombs B.4 and B.5 (left-right objects #371, 537, 372, 536 and 533).



11. Examples of complete lamps found within Trench B.1 and Tombs B.4 and B.5 (left-right objects #370, 535, 373, 367 and 534).

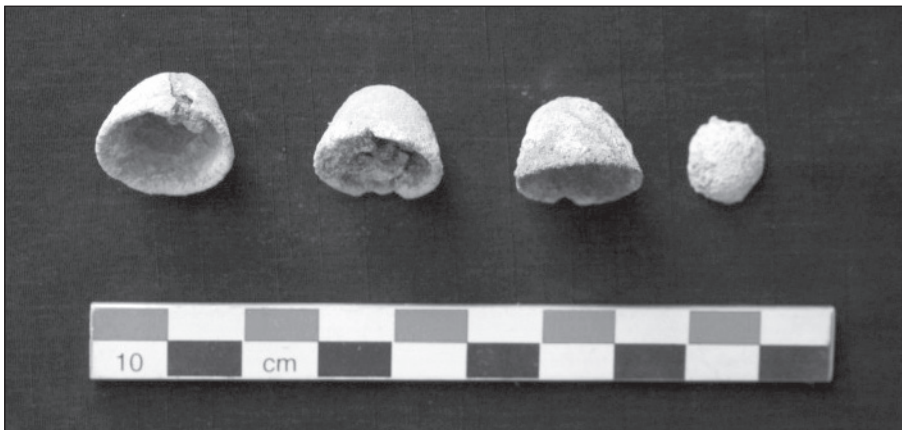
1939: pl. XXIV; Delhospital and Sachet 2011: 205, fig. 32). Most others, however, contain no evidence for an attachment, or fitting or hole for an attachment, at the ‘top’ of the bell (e.g. Zayadine 1970: fig. 12; Murray and Ellis 1940: 45). The 18 bell-shaped objects found in Tombs 1 and 2, and another seven from Tomb B.5 on the North Ridge fit this category (FIG. 12). Zayadine’s bells from Dhāt Rās, outside of Petra, appear to contain a clapper based on the image (Zayadine 1970: fig. 12). The other bell-shaped objects most closely similar to those from the North Ridge were excavated just over the top of the ridge on the southern slope (Murray and Ellis 1940: 45) and from Tomb I.1 on al-Khubtha (Zayadine 1979). The North Ridge ‘bells’ contain no evidence for an attachment at the ‘top’ of the bell and contain corrosion within its interior (FIG. 12). Rosenthal-Heginbottom (2003: 28) suggested that these bells were apotropaic objects that presumably could be jingled within one’s hand (since there is not means for attaching them to a necklace or to clothing), perhaps by the deceased or by someone entering the tomb. Our conservator, Susanne Grieve, noticed as she was cleaning the bells that the interior corrosion actually seemed to be part of an iron ridge or lip within the inside of the object, and the deepest portion of the interior contained a soapy, waxy substance. Residue analysis to explore this material, in addition to FTIR to determine the alloys used in the object, are planned for this coming year. We have hypothesized that instead

these were small cups that meant to be set upright. It is possible that what we have been thinking of as objects to be heard were instead objects to be seen or smelled.

### Conclusions

The material evidence for mortuary practices from the first century AD North Ridge tombs clearly emphasizes the importance of commemoration and remembrance of the deceased for the inhabitants of Petra. Nabataean visits to their familial tombs included ritual feasting and reorganization of the mortuary space, accompanied by the scents of incense, perfumed oils and quicklime. In addition, mourners left behind material goods that served to illuminate, bedazzle and entertain the dead. Through this repeated exchange of sensory stimulation, the Nabataeans established and preserved a dynamic relationship with their deceased ancestors.

The end of the first century AD and beginning of the second century AD signaled a change in the relationship between the Nabataean living and the dead on the North Ridge. The northern and, presumably, southern parts of the city center were demarcated by the construction of a city wall, and it was at this point that residents ceased burying their deceased within the urban confines. In fact, there is little clear evidence of where post-first century AD burials were interred, although some tombs outside of the city show use after this period (e.g. Sachet 2009). The reasons for this shift



12. Examples of copper alloy ‘bells’ found within Tombs B.5 and B.6 (objects #529, 530 and 531).

are unclear, but it happens to coincide with Roman annexation of the Nabataean kingdom in AD 106. Roman law had clear stipulations surrounding treatment of dead, tradespeople associated with mortuary activities and location of tombs (Lindsay 2000). Did the long arm of the law reach from the Nabataean's new capital of Rome to Petra, prohibiting burials within the city and its *pomerium*? Evidence from other sites, such as Khirbat adh-Dharīḥ, suggests that Nabataean religious and mortuary rituals continued relatively unchanged after the annexation (Lenoble *et al.* 2001). Many Nabataean traditions, such as the use of incense and perfumed oils in ritual contexts, communal burial and commemorative funerary feasts were mirrored in Roman mortuary rituals and were likely maintained. What is less clear is whether or not Roman notions of the polluting corpse regulated commemoration to its more intangible form, restricting the intimacy and tangibility of the Nabataeans' experiences with their dead.

### Acknowledgements

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